

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	-1774.	-4366.	1110.	-101.	354.	1523.	.0403	-.0047	.0803	-.0342	.0117	-.0305	629.
.1760	-1186.	-3817.	936.	-37.	337.	1257.	.0380	.0016	.0773	-.0261	.0117	-.0306	523.
.1770	-933.	-3196.	659.	105.	298.	978.	.0357	.0085	.0736	-.0177	.0112	-.0297	412.
.1780	-808.	-2527.	400.	222.	224.	560.	.0331	.0159	.0697	-.0090	.0092	-.0275	258.
.1790	-811.	-1810.	256.	212.	144.	27.	.0305	.0234	.0663	-.0001	.0051	-.0241	103.
.1800	-739.	-1051.	202.	79.	71.	-446.	.0283	.0305	.0635	.0090	-.0014	-.0201	184.
.1810	-530.	-346.	193.	-112.	-10.	-760.	.0268	.0367	.0615	.0176	-.0102	-.0158	308.
.1820	-315.	180.	237.	-323.	-47.	-960.	.0257	.0419	.0603	.0257	-.0194	-.0112	407.
.1830	-208.	506.	284.	-479.	-60.	-1128.	.0250	.0462	.0597	.0326	-.0282	-.0063	492.
.1840	-141.	722.	261.	-524.	-68.	-1240.	.0245	.0490	.0598	.0382	-.0361	-.0012	544.
.1850	-76.	849.	204.	-503.	-68.	-1287.	.0242	.0503	.0605	.0425	-.0434	.0038	555.

ADLPIPE PAGE 1651

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.28.46.

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	41	MEMBER	1	SEQUENCE	161	LOCATION	BEG	TYPE	EL						
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	-80.	803.	230.	-516.	-61.	-1245.	.0241	.0500	.0619	.0458	-.0506	.0086	541.		
.1870	-86.	576.	384.	-617.	-18.	-1054.	.0242	.0481	.0641	.0483	-.0578	.0128	490.		
.1880	27.	256.	576.	-741.	27.	-667.	.0246	.0445	.0666	.0500	-.0649	.0161	400.		
.1890	212.	-99.	742.	-819.	78.	-158.	.0249	.0393	.0690	.0508	-.0705	.0185	336.		
.1900	271.	-518.	885.	-828.	139.	311.	.0249	.0330	.0709	.0507	-.0734	.0202	359.		
.1910	162.	-1009.	987.	-744.	186.	695.	.0244	.0260	.0721	.0499	-.0735	.0214	415.		
.1920	81.	-1517.	1020.	-573.	234.	1111.	.0235	.0185	.0723	.0484	-.0711	.0214	510.		
.1930	115.	-2018.	1013.	-370.	281.	1609.	.0225	.0110	.0714	.0466	-.0669	.0201	672.		
.1940	164.	-2510.	1036.	-206.	321.	2102.	.0212	.0036	.0693	.0447	-.0516	.0176	857.		
.1950	166.	-2920.	1090.	-94.	354.	2495.	.0195	-.0031	.0661	.0427	-.0550	.0143	1012.		
.1960	159.	-3154.	1104.	15.	378.	2756.	.0174	-.0092	.0616	.0406	-.0469	.0101	1116.		
.1970	123.	-3217.	1042.	159.	392.	2854.	.0148	-.0142	.0558	.0383	-.0370	.0053	1158.		
.1980	14.	-3182.	928.	327.	406.	2779.	.0119	-.0179	.0488	.0357	-.0256	.0002	1135.		
.1990	-98.	-3073.	776.	498.	429.	2594.	.0089	-.0199	.0408	.0330	-.0134	-.0053	1074.		
.2000	-122.	-2864.	590.	650.	459.	2361.	.0061	-.0203	.0322	.0303	-.0012	-.0110	1000.		
.2010	-105.	-2556.	409.	744.	492.	2051.	.0035	-.0192	.0232	.0276	.0102	-.0165	898.		
.2020	-153.	-2160.	270.	756.	533.	1598.	.0009	-.0166	.0143	.0248	.0205	-.0214	741.		
.2030	-272.	-1667.	155.	705.	575.	1002.	-.0015	-.0129	.0058	.0217	.0296	-.0253	543.		
.2040	-392.	-1079.	19.	635.	603.	332.	-.0035	-.0083	-.0021	.0181	.0370	-.0281	376.		
.2050	-488.	-460.	-133.	552.	606.	-350.	-.0049	-.0031	-.0091	.0140	.0424	-.0297	358.		
.2060	-584.	105.	-255.	434.	591.	-1008.	-.0057	.0025	-.0151	.0093	.0453	-.0299	500.		
.2070	-674.	583.	-328.	271.	563.	-1607.	-.0058	.0083	-.0197	.0042	.0457	-.0289	692.		
.2080	-746.	983.	-361.	79.	530.	-2129.	-.0053	.0141	-.0230	-.0012	.0438	-.0266	881.		
.2090	-829.	1325.	-361.	-129.	505.	-2593.	-.0044	.0194	-.0249	-.0069	.0405	-.0231	1061.		
.2100	-951.	1617.	-334.	-337.	505.	-3012.	-.0032	.0241	-.0254	-.0127	.0365	-.0184	1233.		
.2110	-1077.	1851.	-298.	-522.	528.	-3351.	-.0017	.0279	-.0248	-.0183	.0322	-.0129	1377.		
.2120	-1157.	1993.	-267.	-667.	561.	-3549.	.0000	.0309	-.0231	-.0237	.0277	-.0068	1466.		
.2130	-1192.	2007.	-224.	-778.	594.	-3592.	.0018	.0331	-.0207	-.0286	.0229	-.0006	1494.		
.2140	-1221.	1896.	-150.	-869.	618.	-3510.	.0036	.0344	-.0175	-.0327	.0180	.0056	1472.		
.2150	-1244.	1713.	-62.	-932.	624.	-3334.	.0051	.0350	-.0138	-.0360	.0133	.0116	1411.		
.2160	-1239.	1506.	8.	-941.	609.	-3073.	.0063	.0347	-.0099	-.0385	.0091	.0172	1313.		
.2170	-1213.	1267.	47.	-886.	575.	-2738.	.0071	.0335	-.0061	-.0401	.0059	.0221	1178.		
.2180	-1189.	967.	69.	-775.	527.	-2340.	.0075	.0316	-.0023	-.0409	.0037	.0262	1012.		
.2190	-1146.	621.	78.	-623.	471.	-1878.	.0076	.0289	.0012	-.0407	.0026	.0293	816.		
.2200	-1041.	290.	69.	-446.	412.	-1356.	.0074	.0257	.0044	-.0397	.0024	.0314	596.		
.2210	-897.	2.	53.	-263.	349.	-819.	.0069	.0222	.0073	-.0379	.0028	.0325	373.		
.2220	-784.	-270.	47.	-86.	277.	-322.	.0061	.0186	.0098	-.0354	.0037	.0327	174.		
.2230	-713.	-552.	44.	93.	192.	123.	.0051	.0152	.0121	-.0324	.0047	.0322	99.		

ADLPIPE PAGE 1652

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.28.46.

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

CONDITION 24

LOADS

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ENGLISH UNITS

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



.2130	-1192.	2007.	-224.	-778.	594.	-3592.	.0018	.0331	-.0207	-.0286	.0229	-.0006	1468.
.2140	-1221.	1896.	-150.	-869.	618.	-3510.	.0036	.0344	-.0175	-.0327	.0180	.0056	1472.
.2150	-1244.	1713.	-62.	-932.	624.	-3334.	.0051	.0350	-.0138	-.0360	.0133	.0116	1411.
.2160	-1239.	1506.	7.	-941.	609.	-3073.	.0063	.0347	-.0099	-.0385	.0091	.0172	1313.
.2170	-1213.	1267.	47.	-826.	575.	-2738.	.0071	.0335	-.0061	-.0401	.0059	.0221	1178.
.2180	-1189.	967.	69.	-775.	527.	-2340.	.0075	.0316	-.0023	-.0409	.0037	.0262	1012.
.2190	-1146.	621.	78.	-623.	471.	-1878.	.0076	.0289	.0012	-.0407	.0026	.0293	816.
.2200	-1041.	290.	69.	-446.	412.	-1356.	.0074	.0257	.0044	-.0397	.0024	.0314	596.
.2210	-897.	2.	53.	-263.	349.	-819.	.0069	.0222	.0073	-.0379	.0028	.0325	373.
.2220	-784.	-270.	47.	-86.	277.	-322.	.0061	.0186	.0098	-.0354	.0037	.0327	174.
.2230	-713.	-552.	44.	92.	192.	123.	.0051	.0152	.0121	-.0324	.0047	.0322	99.

ADLPIPE PAGE 1652

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.46.

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

CONDITION 24

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ENGLISH UNITS

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

SECTION	41	MEMBER	1	SEQUENCE	161	LOCATION	BEG	TYPE	EL						
TIME	FX	FY	FZ	MX	MY	MZ			DY	DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)			(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.2240	-631.	-823.	14.	288.	90.	538.		.0041	.0120	.0139	-.0293	.0058	.0310	248.	
.2250	-508.	-1043.	-49.	487.	-25.	924.		.0033	.0091	.0155	-.0262	.0064	.0292	419.	
.2260	-381.	-1199.	-112.	652.	-143.	1239.		.0027	.0067	.0170	-.0232	.0064	.0270	565.	
.2270	-289.	-1296.	-143.	749.	-255.	1452.		.0024	.0049	.0185	-.0204	.0054	.0247	663.	
.2280	-229.	-1333.	-141.	775.	-355.	1561.		.0023	.0037	.0200	-.0179	.0034	.0223	714.	
.2290	-193.	-1317.	-118.	745.	-438.	1572.		.0026	.0033	.0217	-.0159	.0004	.0200	720.	
.2300	-176.	-1272.	-89.	678.	-496.	1501.		.0034	.0036	.0234	-.0144	-.0033	.0178	690.	
.2310	-160.	-1212.	-70.	596.	-526.	1375.		.0046	.0046	.0251	-.0134	-.0075	.0157	637.	
.2320	-129.	-1132.	-67.	505.	-531.	1208.		.0063	.0061	.0268	-.0129	-.0122	.0138	567.	
.2330	-122.	-1015.	-52.	382.	-516.	976.		.0082	.0080	.0285	-.0126	-.0173	.0122	469.	
.2340	-177.	-848.	10.	196.	-485.	656.		.0102	.0103	.0304	-.0124	-.0231	.0110	337.	
.2350	-263.	-630.	115.	-50.	-445.	285.		.0123	.0128	.0323	-.0122	-.0294	.0102	213.	
.2360	-315.	-391.	230.	-314.	-402.	-68.		.0145	.0154	.0341	-.0119	-.0359	.0095	207.	
.2370	-332.	-179.	332.	-557.	-356.	-370.		.0167	.0180	.0356	-.0116	-.0420	.0088	304.	
.2380	-370.	-8.	419.	-761.	-305.	-654.		.0187	.0204	.0366	-.0112	-.0471	.0084	421.	
.2390	-448.	163.	482.	-917.	-247.	-947.		.0204	.0227	.0372	-.0107	-.0507	.0081	538.	
.2400	-531.	365.	515.	-1026.	-187.	-1228.		.0216	.0247	.0372	-.0102	-.0526	.0080	646.	
.2410	-604.	564.	534.	-1100.	-124.	-1462.		.0225	.0264	.0368	-.0094	-.0530	.0078	736.	
.2420	-677.	700.	563.	-1152.	-60.	-1627.		.0229	.0277	.0359	-.0085	-.0519	.0075	800.	
.2430	-751.	767.	600.	-1177.	-0.	-1718.		.0230	.0284	.0346	-.0074	-.0495	.0071	836.	
.2440	-806.	815.	616.	-1158.	53.	-1744.		.0229	.0286	.0328	-.0064	-.0455	.0066	840.	
.2450	-841.	863.	593.	-1081.	97.	-1717.		.0224	.0283	.0307	-.0055	-.0400	.0061	815.	
.2460	-893.	856.	545.	-950.	128.	-1652.		.0217	.0273	.0283	-.0050	-.0332	.0056	766.	
.2470	-976.	777.	493.	-784.	148.	-1544.		.0208	.0258	.0259	-.0049	-.0256	.0051	698.	
.2480	-1077.	616.	458.	-612.	162.	-1394.		.0199	.0238	.0235	-.0053	-.0176	.0047	614.	
.2490	-1171.	437.	442.	-458.	172.	-1211.		.0191	.0213	.0212	-.0062	-.0097	.0046	524.	
.2500	-1232.	249.	432.	-317.	174.	-987.		.0186	.0184	.0192	-.0077	-.0022	.0046	422.	
.2510	-1268.	5.	417.	-174.	165.	-718.		.0183	.0152	.0175	-.0099	.0047	.0048	304.	
.2520	-1331.	-318.	408.	-31.	144.	-447.		.0181	.0119	.0161	-.0128	.0108	.0054	189.	
.2530	-1447.	-666.	414.	92.	113.	-223.		.0180	.0085	.0150	-.0163	.0159	.0064	107.	
.2540	-1574.	-959.	431.	180.	75.	-51.		.0181	.0052	.0142	-.0202	.0197	.0080	81.	
.2550	-1669.	-1192.	465.	220.	34.	99.		.0185	.0020	.0136	-.0242	.0219	.0100	98.	
.2560	-1727.	-1426.	526.	212.	-4.	256.		.0192	-.0010	.0131	-.0282	.0225	.0125	133.	
.2570	-1767.	-1696.	607.	171.	-39.	420.		.0201	-.0039	.0125	-.0321	.0217	.0152	183.	
.2580	-1870.	-1940.	718.	94.	-71.	504.		.0211	-.0067	.0116	-.0356	.0198	.0185	208.	
.2590	-2078.	-2062.	860.	-31.	-99.	434.		.0221	-.0092	.0100	-.0385	.0172	.0226	179.	
.2600	-2297.	-2062.	998.	-174.	-126.	286.		.0233	-.0115	.0076	-.0406	.0141	.0273	144.	
.2610	-2453.	-2067.	1119.	-304.	-154.	173.		.0245	-.0138	.0041	-.0417	.0105	.0319	153.	

ADLPIPE PAGE 1653

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.46.

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

.2510	-1268.	5.	417.	-174.	165.	-718.	.0183	.0152	.0175	-.0099	.0047	.0048	304.
.2520	-1331.	-318.	408.	-31.	144.	-447.	.0181	.0119	.0161	-.0128	.0108	.0054	189.
.2530	-1447.	-666.	414.	92.	113.	-223.	.0180	.0085	.0150	-.0163	.0159	.0064	107.
.2540	-1574.	-959.	431.	180.	75.	-51.	.0181	.0052	.0142	-.0202	.0197	.0080	81.
.2550	-1669.	-1192.	465.	220.	34.	99.	.0185	.0020	.0136	-.0242	.0219	.0100	98.
.2560	-1727.	-1426.	526.	212.	-4.	256.	.0192	-.0010	.0131	-.0282	.0225	.0125	133.
.2570	-1767.	-1696.	607.	171.	-39.	420.	.0201	-.0039	.0125	-.0321	.0217	.0152	183.
.2580	-1870.	-1940.	718.	94.	-71.	504.	.0211	-.0067	.0116	-.0356	.0198	.0185	208.
.2590	-2078.	-2062.	860.	-31.	-99.	434.	.0221	-.0092	.0100	-.0385	.0172	.0226	179.
.2600	-2297.	-2062.	998.	-174.	-126.	286.	.0233	-.0115	.0076	-.0406	.0141	.0273	144.
.2610	-2453.	-2067.	1119.	-204.	-154.	173.	.0245	-.0138	.0041	-.0417	.0105	.0319	153.

ADLPIPE PAGE 1653

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02.

18.28.46.

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

CONDITION 24  
LOADS  
SHOCK  
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INTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	41	MEMBER	1	SEQUENCE	161	LOCATION	BEG	TYPE	EL					
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)	
.2620	-2630.	-2183.	1261.	-428.	-183.	80.	.0256	-.0158	-.0007	-.0417	.0066	.0362	189.	
.2630	-2888.	-2296.	1430.	-561.	-215.	-88.	.0262	-.0178	-.0068	-.0404	.0030	.0404	244.	
.2640	-3137.	-2171.	1566.	-690.	-254.	-359.	.0261	-.0198	-.0144	-.0376	.0000	.0445	328.	
.2650	-3327.	-1831.	1649.	-798.	-302.	-687.	.0252	-.0219	-.0236	-.0332	-.0020	.0480	440.	
.2660	-3454.	-1516.	1695.	-859.	-357.	-970.	.0232	-.0240	-.0341	-.0274	-.0030	.0503	539.	
.2670	-3545.	-1332.	1716.	-868.	-419.	-1186.	.0197	-.0260	-.0459	-.0203	-.0028	.0509	613.	
.2680	-3631.	-1100.	1707.	-845.	-489.	-1438.	.0147	-.0278	-.0588	-.0119	-.0011	.0503	697.	
.2690	-3641.	-614.	1619.	-786.	-569.	-1762.	.0082	-.0293	-.0725	-.0023	.0021	.0487	807.	
.2700	-3482.	51.	1418.	-654.	-659.	-2054.	.0003	-.0306	-.0868	.0081	.0067	.0457	905.	
.2710	-3188.	630.	1137.	-433.	-753.	-2216.	-.0085	-.0319	-.1013	.0188	.0124	.0411	955.	
.2720	-2921.	1051.	859.	-181.	-844.	-2334.	-.0183	-.0332	-.1154	.0298	.0188	.0355	999.	
.2730	-2714.	1563.	603.	38.	-927.	-2533.	-.0284	-.0343	-.1289	.0410	.0255	.0299	1082.	
.2740	-2394.	2339.	308.	236.	-1001.	-2751.	-.0383	-.0351	-.1413	.0520	.0320	.0244	1178.	
.2750	-1914.	3146.	-31.	451.	-1061.	-2848.	-.0473	-.0358	-.1524	.0624	.0377	.0189	1233.	
.2760	-1483.	3602.	-323.	675.	-1101.	-2821.	-.0553	-.0361	-.1615	.0717	.0423	.0135	1245.	
.2770	-1254.	3714.	-522.	880.	-1119.	-2789.	-.0620	-.0360	-.1685	.0796	.0456	.0090	1256.	
.2780	-1085.	3870.	-703.	1054.	-1117.	-2806.	-.0669	-.0358	-.1729	.0860	.0471	.0059	1283.	
.2790	-802.	4245.	-913.	1191.	-1091.	-2812.	-.0698	-.0356	-.1747	.0904	.0462	.0042	1301.	
.2800	-502.	4543.	-1058.	1251.	-1037.	-2754.	-.0706	-.0354	-.1733	.0927	.0423	.0035	1283.	
.2810	-350.	4440.	-1041.	1200.	-954.	-2627.	-.0696	-.0351	-.1688	.0928	.0350	.0036	1220.	
.2820	-287.	4069.	-914.	1062.	-844.	-2450.	-.0670	-.0345	-.1611	.0906	.0246	.0043	1124.	
.2830	-150.	3800.	-800.	883.	-712.	-2268.	-.0629	-.0338	-.1507	.0861	.0118	.0059	1018.	
.2840	42.	3692.	-725.	683.	-561.	-2130.	-.0575	-.0328	-.1379	.0793	-.0029	.0082	925.	
.2850	160.	3443.	-622.	464.	-395.	-2009.	-.0513	-.0315	-.1229	.0707	-.0191	.0108	843.	
.2860	212.	2867.	-466.	237.	-215.	-1817.	-.0446	-.0298	-.1062	.0606	-.0367	.0130	741.	
.2870	323.	2177.	-300.	-1.	-27.	-1544.	-.0375	-.0279	-.0883	.0494	-.0552	.0146	620.	
.2880	496.	1695.	-142.	-280.	162.	-1318.	-.0304	-.0260	-.0698	.0379	-.0742	.0161	545.	
.2890	627.	1452.	32.	-612.	342.	-1227.	-.0235	-.0237	-.0514	.0267	-.0927	.0178	567.	
.2900	694.	1204.	220.	-940.	503.	-1175.	-.0169	-.0212	-.0335	.0161	-.1103	.0192	637.	
.2910	759.	783.	384.	-1193.	637.	-1037.	-.0106	-.0186	-.0170	.0065	-.1261	.0198	684.	
.2920	807.	302.	508.	-1360.	740.	-869.	-.0047	-.0158	-.0024	-.0017	-.1396	.0200	713.	
.2930	763.	-1.	609.	-1485.	811.	-821.	.0008	-.0129	.0100	-.0079	-.1502	.0205	755.	
.2940	631.	-72.	697.	-1586.	855.	-902.	.0059	-.0098	.0199	-.0118	-.1578	.0215	808.	
.2950	471.	-99.	780.	-1641.	877.	-981.	.0106	-.0069	.0272	-.0134	-.1622	.0223	844.	
.2960	263.	-253.	881.	-1644.	888.	-997.	.0148	-.0043	.0319	-.0128	-.1634	.0229	850.	
.2970	-47.	-455.	1006.	-1612.	888.	-1028.	.0185	-.0020	.0341	-.0099	-.1613	.0234	846.	
.2980	-419.	-490.	1107.	-1542.	879.	-1141.	.0217	.0000	.0340	-.0049	-.1559	.0244	847.	
.2990	-770.	-335.	1149.	-1414.	859.	-1289.	.0244	.0016	.0318	.0016	-.1475	.0256	842.	

ADLPIPE PAGE 1654

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02.

18.28.47.

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	627.	1452.	32.	-612.	342.	-1227.	-.0235	-.0237	-.0514	.0267	-.0927	.0178	567.
.2900	694.	1204.	220.	-940.	503.	-1175.	-.0169	-.0212	-.0335	.0161	-.1103	.0192	637.
.2910	759.	783.	384.	-1193.	637.	-1037.	-.0106	-.0186	-.0170	.0065	-.1261	.0198	684.
.2920	807.	302.	508.	-1360.	740.	-869.	-.0047	-.0159	-.0024	-.0017	-.1396	.0200	713.
.2930	763.	-1.	609.	-1485.	811.	-821.	.0008	-.0129	.0100	-.0079	-.1502	.0205	755.
.2940	631.	-72.	697.	-1586.	855.	-902.	.0059	-.0098	.0199	-.0118	-.1578	.0215	808.
.2950	471.	-99.	780.	-1641.	877.	-981.	.0106	-.0069	.0272	-.0134	-.1522	.0223	844.
.2960	263.	-253.	881.	-1644.	888.	-997.	.0148	-.0043	.0319	-.0128	-.1634	.0229	850.
.2970	-47.	-455.	1006.	-1612.	888.	-1028.	.0185	-.0020	.0341	-.0099	-.1613	.0234	846.
.2980	-419.	-490.	1107.	-1542.	879.	-1141.	.0217	.0000	.0340	-.0049	-.1559	.0244	847.
.2990	-770.	-335.	1149.	-1414.	859.	-1289.	.0244	.0016	.0318	.0016	-.1475	.0256	842.

ADLPIPE PAGE 1654

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.47.

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	41	MEMBER	1	SEQUENCE	161	LOCATION	BEG	TYPE	EL						
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	-1111.	-214.	1164.	-1232.	833.	-1395.	.0264	.0026	.0280	.0093	-.1368	.0266	818.		
.3010	-1506.	-297.	1211.	-1026.	802.	-1443.	.0277	.0031	.0230	.0177	-.1246	.0273	780.		
.3020	-1917.	-469.	1280.	-825.	766.	-1463.	.0284	.0032	.0175	.0265	-.1116	.0278	741.		
.3030	-2240.	-509.	1320.	-633.	726.	-1475.	.0284	.0026	.0117	.0353	-.0983	.0283	707.		
.3040	-2470.	-423.	1328.	-454.	687.	-1483.	.0280	.0013	.0061	.0435	-.0853	.0287	681.		
.3050	-2687.	-426.	1349.	-296.	654.	-1461.	.0271	-.0005	.0010	.0509	-.0729	.0289	653.		
.3060	-2900.	-626.	1394.	-156.	631.	-1377.	.0259	-.0028	-.0034	.0572	-.0617	.0288	611.		
.3070	-3046.	-893.	1437.	-37.	617.	-1243.	.0247	-.0055	-.0070	.0622	-.0521	.0285	557.		
.3080	-3117.	-1062.	1470.	39.	613.	-1125.	.0235	-.0085	-.0096	.0660	-.0443	.0284	514.		
.3090	-3172.	-1160.	1522.	55.	618.	-1057.	.0226	-.0115	-.0114	.0685	-.0386	.0286	492.		
.3100	-3228.	-1336.	1605.	25.	628.	-986.	.0220	-.0145	-.0123	.0699	-.0351	.0289	469.		
.3110	-3250.	-1642.	1703.	-25.	642.	-863.	.0218	-.0175	-.0127	.0701	-.0337	.0291	432.		
.3120	-3245.	-1952.	1801.	-100.	655.	-748.	.0221	-.0203	-.0126	.0692	-.0342	.0294	401.		
.3130	-3254.	-2113.	1900.	-222.	669.	-733.	.0227	-.0228	-.0124	.0676	-.0363	.0301	408.		
.3140	-3265.	-2124.	1996.	-383.	683.	-812.	.0235	-.0248	-.0121	.0655	-.0396	.0310	453.		
.3150	-3233.	-2113.	2079.	-552.	695.	-895.	.0243	-.0264	-.0122	.0628	-.0440	.0316	506.		
.3160	-3159.	-2161.	2144.	-707.	707.	-951.	.0249	-.0273	-.0127	.0597	-.0489	.0317	554.		
.3170	-3076.	-2176.	2182.	-847.	715.	-1044.	.0250	-.0276	-.0138	.0565	-.0539	.0312	611.		
.3180	-2959.	-2010.	2158.	-965.	714.	-1218.	.0243	-.0273	-.0157	.0531	-.0584	.0304	686.		
.3190	-2761.	-1657.	2051.	-1042.	702.	-1434.	.0228	-.0265	-.0185	.0498	-.0621	.0291	765.		
.3200	-2488.	-1253.	1885.	-1079.	680.	-1634.	.0201	-.0253	-.0220	.0466	-.0651	.0268	832.		
.3210	-2182.	-880.	1697.	-1094.	650.	-1806.	.0163	-.0239	-.0262	.0435	-.0673	.0236	887.		
.3220	-1831.	-457.	1483.	-1097.	614.	-1970.	.0113	-.0222	-.0311	.0407	-.0686	.0197	938.		
.3230	-1390.	120.	1214.	-1075.	573.	-2130.	.0054	-.0204	-.0366	.0382	-.0687	.0155	984.		
.3240	-886.	793.	891.	-1013.	530.	-2273.	-.0013	-.0187	-.0425	.0359	-.0675	.0110	1021.		
.3250	-398.	1402.	548.	-908.	486.	-2384.	-.0087	-.0171	-.0489	.0339	-.0650	.0065	1042.		
.3260	46.	1880.	207.	-765.	443.	-2445.	-.0162	-.0157	-.0555	.0320	-.0614	.0021	1043.		
.3270	489.	2308.	-138.	-596.	398.	-2450.	-.0237	-.0147	-.0622	.0302	-.0570	-.0019	1025.		
.3280	936.	2760.	-473.	-429.	355.	-2414.	-.0308	-.0143	-.0688	.0287	-.0521	-.0050	994.		
.3290	1319.	3179.	-751.	-293.	314.	-2358.	-.0371	-.0145	-.0751	.0275	-.0471	-.0070	962.		
.3300	1593.	3464.	-947.	-192.	277.	-2269.	-.0426	-.0154	-.0810	.0265	-.0421	-.0080	920.		
.3310	1785.	3597.	-1074.	-110.	243.	-2121.	-.0470	-.0171	-.0865	.0256	-.0373	-.0080	858.		
.3320	1927.	3635.	-1160.	-32.	214.	-1920.	-.0503	-.0195	-.0915	.0247	-.0326	-.0069	775.		
.3330	1997.	3614.	-1208.	40.	190.	-1704.	-.0526	-.0224	-.0960	.0238	-.0279	-.0047	688.		
.3340	1965.	3510.	-1204.	94.	173.	-1492.	-.0538	-.0259	-.1001	.0229	-.0232	-.0017	604.		
.3350	1860.	3296.	-1148.	132.	161.	-1260.	-.0543	-.0299	-.1037	.0221	-.0187	.0019	512.		
.3360	1727.	3004.	-1053.	151.	153.	-993.	-.0542	-.0342	-.1069	.0213	-.0143	.0057	408.		
.3370	1574.	2699.	-926.	145.	150.	-726.	-.0537	-.0388	-.1098	.0206	-.0100	.0094	303.		

ADLPIPE PAGE 1655

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.47.

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	489.	2308.	-138.	-596.	398.	-2450.	-.0237	-.0147	-.0622	.0302	-.0570	-.0019	1025.
.3280	936.	2760.	-473.	-429.	355.	-2414.	-.0308	-.0143	-.0688	.0287	-.0521	-.0050	994.
.3290	1319.	3179.	-751.	-293.	314.	-2358.	-.0371	-.0145	-.0751	.0275	-.0471	-.0070	962.
.3300	1593.	3464.	-947.	-192.	277.	-2269.	-.0426	-.0154	-.0810	.0265	-.0421	-.0080	920.
.3310	1785.	3597.	-1074.	-110.	243.	-2121.	-.0470	-.0171	-.0865	.0256	-.0373	-.0080	858.
.3320	1927.	3635.	-1160.	-37.	214.	-1920.	-.0503	-.0195	-.0915	.0247	-.0326	-.0069	775.
.3330	1997.	3614.	-1208.	40.	190.	-1704.	-.0526	-.0224	-.0960	.0238	-.0279	-.0047	688.
.3340	1965.	3510.	-1204.	94.	173.	-1492.	-.0538	-.0259	-.1001	.0229	-.0232	-.0017	604.
.3350	1860.	3296.	-1148.	132.	161.	-1260.	-.0543	-.0299	-.1037	.0221	-.0187	-.0019	512.
.3360	1727.	3004.	-1053.	151.	153.	-993.	-.0542	-.0342	-.1069	.0213	-.0143	.0057	408.
.3370	1574.	2699.	-926.	145.	150.	-726.	-.0537	-.0388	-.1098	.0206	-.0100	.0094	303.

ADLPIPE PAGE 1655

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.47.

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	41	MEMBER	1	SEQUENCE	161	LOCATION	BEG	TYPE	EL	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)										
.3380	1392.	2424.	-779.	121.	147.	-494.	-.0531	-.0433	-.1126	.0201	-.0054	.0130	212.										
.3390	1190.	2175.	-633.	97.	143.	-299.	-.0526	-.0477	-.1153	.0199	-.0005	.0161	139.										
.3400	992.	1933.	-508.	96.	137.	-124.	-.0522	-.0518	-.1182	.0201	.0051	.0185	84.										
.3410	797.	1701.	-407.	121.	129.	23.	-.0521	-.0553	-.1213	.0206	.0116	.0201	72.										
.3420	594.	1519.	-325.	161.	118.	114.	-.0524	-.0583	-.1249	.0218	.0190	.0207	92.										
.3430	393.	1428.	-263.	207.	103.	137.	-.0529	-.0604	-.1288	.0236	.0272	.0205	108.										
.3440	210.	1426.	-223.	261.	83.	106.	-.0536	-.0619	-.1330	.0261	.0361	.0195	118.										
.3450	35.	1466.	-200.	326.	58.	37.	-.0543	-.0627	-.1376	.0291	.0457	.0175	134.										
.3460	-157.	1528.	-188.	400.	26.	-83.	-.0549	-.0627	-.1423	.0327	.0557	.0148	164.										
.3470	-369.	1643.	-188.	481.	-12.	-268.	-.0554	-.0621	-.1469	.0365	.0660	.0115	221.										
.3480	-573.	1833.	-209.	566.	-57.	-504.	-.0556	-.0609	-.1512	.0406	.0764	.0077	305.										
.3490	-752.	2044.	-245.	654.	-105.	-755.	-.0552	-.0591	-.1549	.0444	.0864	.0034	403.										
.3500	-913.	2202.	-280.	737.	-154.	-992.	-.0544	-.0570	-.1577	.0480	.0956	-.0013	500.										
.3510	-1065.	2294.	-306.	804.	-201.	-1215.	-.0531	-.0545	-.1591	.0508	.1037	-.0064	590.										
.3520	-1189.	2371.	-328.	848.	-244.	-1432.	-.0513	-.0519	-.1588	.0528	.1104	-.0117	675.										
.3530	-1254.	2466.	-358.	867.	-282.	-1632.	-.0490	-.0491	-.1565	.0536	.1153	-.0171	750.										
.3540	-1246.	2522.	-392.	863.	-313.	-1777.	-.0463	-.0465	-.1520	.0530	.1182	-.0227	802.										
.3550	-1173.	2454.	-419.	837.	-336.	-1837.	-.0434	-.0439	-.1451	.0509	.1188	-.0283	821.										
.3560	-1048.	2261.	-433.	784.	-349.	-1817.	-.0401	-.0414	-.1358	.0472	.1170	-.0340	807.										
.3570	-870.	2023.	-438.	700.	-352.	-1747.	-.0367	-.0389	-.1240	.0420	.1127	-.0393	768.										
.3580	-626.	1786.	-446.	586.	-344.	-1629.	-.0330	-.0366	-.1100	.0355	.1062	-.0441	708.										
.3590	-306.	1502.	-458.	457.	-322.	-1429.	-.0290	-.0344	-.0941	.0278	.0976	-.0483	616.										
.3600	73.	1100.	-466.	326.	-289.	-1121.	-.0248	-.0324	-.0765	.0192	.0870	-.0520	483.										
.3610	476.	595.	-462.	191.	-244.	-733.	-.0204	-.0304	-.0576	.0101	.0748	-.0550	319.										
.3620	869.	97.	-443.	42.	-190.	-331.	-.0159	-.0285	-.0380	.0008	.0514	-.0570	154.										
.3630	1244.	-314.	-410.	125.	-132.	52.	-.0114	-.0265	-.0181	-.0081	.0472	-.0578	76.										
.3640	1624.	-670.	-371.	-295.	-72.	448.	-.0068	-.0245	.0015	-.0163	.0324	-.0576	217.										
.3650	2011.	-1061.	-328.	-443.	-15.	900.	-.0022	-.0224	.0203	-.0236	.0176	-.0568	402.										
.3660	2376.	-1495.	-283.	-559.	37.	1387.	.0022	-.0201	.0379	-.0295	.0033	-.0554	600.										
.3670	2684.	-1863.	-244.	-647.	79.	1833.	.0062	-.0177	.0538	-.0339	-.0099	-.0534	781.										
.3680	2936.	-2056.	-223.	-711.	110.	2188.	.0097	-.0150	.0677	-.0367	-.0216	-.0508	924.										
.3690	3171.	-2097.	-228.	-744.	131.	2486.	.0124	-.0123	.0794	-.0376	-.0315	-.0479	1043.										
.3700	3404.	-2102.	-251.	-739.	141.	2783.	.0144	-.0094	.0887	-.0369	-.0395	-.0454	1157.										
.3710	3611.	-2122.	-279.	-698.	142.	3079.	.0155	-.0065	.0955	-.0346	-.0453	-.0434	1268.										
.3720	3771.	-2070.	-318.	-631.	133.	3311.	.0157	-.0037	.1000	-.0308	-.0488	-.0420	1354.										
.3730	3901.	-1838.	-390.	-540.	110.	3444.	.0148	-.0010	.1021	-.0257	-.0498	-.0409	1399.										
.3740	4035.	-1475.	-504.	-413.	75.	3517.	.0132	.0015	.1019	-.0196	-.0484	-.0405	1422.										
.3750	4159.	-1145.	-637.	-250.	27.	3591.	.0108	.0036	.0998	-.0129	-.0448	-.0410	1444.										

ADLPIPE PAGE 1656

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.47.

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

.3640	1624.	-670.	-371.	-295.	-72.	448.	-0068	-0245	.0015	-0163	.0324	-0576	217.
.3650	2011.	-1061.	-328.	-443.	-15.	900.	-0022	-0224	.0203	-0236	.0176	-0568	402.
.3660	2376.	-1495.	-283.	-559.	37.	1387.	.0022	-0201	.0379	-0295	.0033	-0554	600.
.3670	2684.	-1863.	-244.	-647.	79.	1833.	.0062	-0177	.0538	-0339	-0099	-0534	781.
.3680	2936.	-2056.	-223.	-711.	110.	2188.	.0097	-0150	.0677	-0367	-0216	-0508	924.
.3690	3171.	-2097.	-228.	-744.	131.	2436.	.0124	-0123	.0794	-0376	-0315	-0479	1043.
.3700	3404.	-2102.	-251.	-779.	141.	2783.	.0144	-0094	.0887	-0369	-0395	-0454	1157.
.3710	3611.	-2122.	-279.	-698.	142.	3079.	.0155	-0065	.0955	-0346	-0453	-0434	1268.
.3720	3771.	-2070.	-318.	-631.	133.	3311.	.0157	-0037	.1000	-0308	-0488	-0420	1354.
.3730	3901.	-1838.	-390.	-540.	110.	3444.	.0148	-0010	.1021	-0257	-0498	-0409	1399.
.3740	4035.	-1475.	-504.	-413.	75.	3517.	.0132	.0015	.1019	-0196	-0484	-0405	1422.
.3750	4159.	-1145.	-637.	-250.	27.	3591.	.0108	.0036	.0998	-0129	-0448	-0410	1444.

ADLPIPE PAGE 1656 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 83/12/02. 18.28.47.

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	41	MEMBER	1	SEQUENCE	161	LOCATION	BEG	TYPE	EL						
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	4227.	-927.	-756.	-69.	-34.	3663.	.0079	.0052	.0961	-0058	-0394	-0423	1470.		
.3770	4232.	-717.	-855.	104.	-106.	3688.	.0046	.0063	.0910	.0014	-0325	-0441	1481.		
.3780	4209.	-389.	-948.	254.	-189.	3637.	.0012	.0067	.0848	.0086	-0242	-0461	1465.		
.3790	4175.	-6.	-1036.	388.	-280.	3552.	-0019	.0065	.0777	.0154	-0149	-0481	1438.		
.3800	4118.	234.	-1105.	523.	-376.	3504.	-0048	.0058	.0702	.0214	-0048	-0505	1430.		
.3810	4015.	236.	-1148.	670.	-473.	3518.	-0072	.0044	.0626	.0264	.0059	-0532	1450.		
.3820	3833.	141.	-1162.	804.	-568.	3508.	-0092	.0024	.0549	.0302	.0170	-0557	1462.		
.3830	3579.	144.	-1150.	895.	-656.	3399.	-0107	-0002	.0476	.0329	.0284	-0575	1435.		
.3840	3327.	232.	-1121.	943.	-733.	3257.	-0114	-0033	.0408	.0344	.0397	-0586	1392.		
.3850	3104.	195.	-1058.	964.	-796.	3194.	-0114	-0068	.0346	.0347	.0504	-0595	1376.		
.3860	2855.	-88.	-939.	960.	-843.	3213.	-0108	-0105	.0290	.0337	.0604	-0603	1388.		
.3870	2539.	-471.	-781.	930.	-877.	3215.	-0098	-0141	.0242	.0315	.0701	-0604	1388.		
.3880	2204.	-727.	-642.	887.	-899.	3132.	-0085	-0174	.0199	.0283	.0796	-0598	1355.		
.3890	1919.	-867.	-555.	862.	-911.	3018.	-0071	-0203	.0162	.0240	.0889	-0585	1312.		
.3900	1683.	-1099.	-494.	864.	-913.	2960.	-0057	-0227	.0129	.0188	.0977	-0571	1291.		
.3910	1460.	-1501.	-426.	875.	-903.	2965.	-0045	-0246	.0102	.0127	.1058	-0559	1292.		
.3920	1263.	-1866.	-359.	867.	-883.	2952.	-0037	-0259	.0080	.0061	.1132	-0545	1284.		
.3930	1137.	-1957.	-327.	829.	-858.	2854.	-0034	-0264	.0062	-0008	.1198	-0527	1241.		
.3940	1088.	-1830.	-341.	784.	-830.	2696.	-0036	-0261	.0046	-0078	.1258	-0506	1175.		
.3950	1078.	-1743.	-387.	764.	-801.	2558.	-0044	-0249	.0032	-0149	.1312	-0487	1119.		
.3960	1095.	-1802.	-466.	796.	-774.	2478.	-0057	-0227	.0018	-0220	.1361	-0472	1090.		
.3970	1160.	-1829.	-598.	869.	-750.	2399.	-0074	-0196	.0004	-0289	.1404	-0457	1067.		
.3980	1280.	-1625.	-786.	952.	-731.	2247.	-0094	-0158	-0010	-0354	.1442	-0438	1022.		
.3990	1429.	-1235.	-993.	1019.	-715.	2033.	-0116	-0115	-0023	-0412	.1470	-0415	956.		
.4000	1583.	-871.	-1175.	1066.	-700.	1834.	-0139	-0068	-0033	-0465	.1485	-0392	896.		

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)
.1310	1346.	-3875.	1066.	35.	642.	4499.	-0015	.0618	-0210	-0047	.0339	-0044	1824.

SECTION	41	MEMBER	1	SEQUENCE	819	LOCATION	END	TYPE	EL						
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 1657 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 83/12/02. 18.28.47.

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



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)
.1310	1346.	-3875.	1066.	35.	642.	4499.	-.0015	.0618	-.0210	-.0047	.0339	-.0044	1824.

SECTION	41	MEMBER	1	SEQUENCE	819	LOCATION	END	TYPE	EL	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 1657

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.28.47.

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	41	MEMBER	1	SEQUENCE	819	LOCATION	END	TYPE	EL	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	-1.	-1.	0.	0.	0.	0.	.0000	-.0000	-.0000	-.0000	-.0000	.0000	.0000	.0000	.0000	0.
.0030	-2.	-2.	1.	0.	0.	0.	-.0000	.0000	.0000	-.0000	-.0000	-.0000	.0000	.0000	.0000	0.
.0040	-3.	-2.	1.	0.	1.	1.	-.0000	.0000	.0000	-.0000	-.0000	-.0000	.0000	.0000	.0000	0.
.0050	-3.	-2.	2.	0.	1.	1.	-.0000	.0000	.0000	-.0000	-.0000	-.0000	.0000	.0000	.0000	1.
.0060	-4.	-2.	2.	1.	1.	1.	-.0000	-.0000	.0000	-.0000	-.0000	-.0000	.0000	.0000	.0000	1.
.0070	-4.	0.	2.	0.	2.	1.	-.0000	-.0000	.0000	-.0000	-.0000	-.0000	.0000	.0000	.0000	1.
.0080	-1.	7.	2.	-0.	4.	-0.	-.0000	-.0000	.0000	-.0001	-.0001	-.0001	.0000	.0000	.0000	2.
.0090	4.	17.	-1.	-1.	6.	-3.	-.0000	-.0001	.0000	-.0001	-.0001	-.0001	.0000	.0000	.0000	3.
.0100	7.	25.	-5.	-2.	3.	-6.	-.0000	-.0001	.0000	-.0001	-.0001	-.0001	.0000	.0000	.0000	3.
.0110	3.	28.	-10.	-2.	-9.	-9.	.0000	-.0002	-.0000	.0000	.0001	-.0003	.0000	.0000	.0000	5.
.0120	-1.	32.	-16.	-4.	-30.	-12.	.0000	-.0003	-.0000	.0002	.0003	-.0004	.0000	.0000	.0000	13.
.0130	3.	48.	-26.	-7.	-64.	-18.	.0000	-.0005	-.0001	.0004	.0009	-.0006	.0000	.0000	.0000	27.
.0140	14.	75.	-36.	-12.	-107.	-26.	-.0000	-.0007	-.0001	.0005	.0016	-.0009	.0000	.0000	.0000	44.
.0150	24.	101.	-43.	-19.	-156.	-33.	-.0000	-.0009	-.0003	.0007	.0024	-.0012	.0000	.0000	.0000	65.
.0160	26.	118.	-44.	-26.	-205.	-39.	-.0001	-.0012	-.0004	.0009	.0034	-.0015	.0000	.0000	.0000	84.
.0170	25.	124.	-45.	-31.	-245.	-44.	-.0002	-.0015	-.0006	.0011	.0042	-.0018	.0000	.0000	.0000	101.
.0180	26.	126.	-49.	-36.	-272.	-48.	-.0003	-.0017	-.0009	.0013	.0049	-.0020	.0000	.0000	.0000	112.
.0190	24.	121.	-56.	-38.	-288.	-50.	-.0005	-.0020	-.0013	.0017	.0054	-.0022	.0000	.0000	.0000	118.
.0200	5.	91.	-58.	-37.	-300.	-45.	-.0008	-.0022	-.0018	.0021	.0059	-.0024	.0000	.0000	.0000	123.
.0210	-20.	32.	-55.	-34.	-321.	-32.	-.0010	-.0022	-.0023	.0026	.0066	-.0024	.0000	.0000	.0000	130.
.0220	-35.	-39.	-62.	-31.	-377.	-13.	-.0013	-.0020	-.0029	.0035	.0080	-.0022	.0000	.0000	.0000	152.
.0230	-40.	-104.	-56.	-30.	-455.	14.	-.0017	-.0015	-.0036	.0043	.0100	-.0019	.0000	.0000	.0000	183.
.0240	-28.	-139.	-19.	-35.	-515.	45.	-.0020	-.0008	-.0042	.0046	.0120	-.0014	.0000	.0000	.0000	208.
.0250	8.	-133.	44.	-45.	-520.	75.	-.0023	.0001	-.0049	.0042	.0134	-.0008	.0000	.0000	.0000	211.
.0260	30.	-97.	99.	-51.	-480.	98.	-.0024	.0009	-.0055	.0036	.0139	-.0005	.0000	.0000	.0000	198.
.0270	-2.	-74.	104.	-45.	-450.	111.	-.0025	.0013	-.0059	.0037	.0138	-.0007	.0000	.0000	.0000	187.
.0280	-70.	-141.	95.	-29.	-397.	123.	-.0026	.0012	-.0062	.0040	.0129	-.0007	.0000	.0000	.0000	167.
.0290	-124.	-352.	119.	-9.	-266.	146.	-.0025	.0011	-.0062	.0039	.0108	.0005	.0000	.0000	.0000	122.
.0300	-128.	-618.	107.	18.	-147.	172.	-.0025	.0013	-.0060	.0042	.0087	.0027	.0000	.0000	.0000	91.
.0310	-32.	-711.	31.	38.	-75.	176.	-.0024	.0022	-.0056	.0047	.0071	.0047	.0000	.0000	.0000	78.
.0320	41.	-581.	7.	46.	-2.	170.	-.0021	.0037	-.0050	.0040	.0057	.0056	.0000	.0000	.0000	71.
.0330	-54.	-415.	113.	48.	61.	184.	-.0016	.0053	-.0042	.0018	.0048	.0054	.0000	.0000	.0000	80.
.0340	-215.	-399.	271.	51.	85.	217.	-.0010	.0068	-.0031	-.0006	.0045	.0058	.0000	.0000	.0000	96.
.0350	-204.	-513.	357.	53.	124.	238.	-.0002	.0081	-.0016	-.0025	.0035	.0084	.0000	.0000	.0000	110.
.0360	-12.	-601.	330.	57.	230.	226.	.0004	.0092	.0004	-.0040	.0009	.0120	.0000	.0000	.0000	131.
.0370	111.	-568.	226.	80.	348.	191.	.0011	.0101	.0027	-.0049	-.0030	.0139	.0000	.0000	.0000	163.

ADLPIPE PAGE 1658

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.28.47.

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



.0270	-2.	-74.	104.	-45.	-450.	111.	-.0025	.0013	-.0055	.0037	.0138	-.0007	198.
.0280	-70.	-141.	95.	-29.	-397.	123.	-.0026	.0012	-.0062	.0040	.0129	-.0007	167.
.0290	-124.	-352.	119.	-9.	-266.	146.	-.0025	.0011	-.0062	.0039	.0108	.0005	122.
.0300	-128.	-618.	107.	18.	-147.	172.	-.0025	.0013	-.0060	.0042	.0087	.0027	91.
.0310	-32.	-711.	31.	38.	-75.	176.	-.0024	.0022	-.0056	.0047	.0071	.0047	78.
.0320	41.	-581.	7.	46.	-2.	170.	-.0021	.0037	-.0050	.0040	.0057	.0056	71.
.0330	-54.	-415.	113.	48.	61.	184.	-.0016	.0053	-.0042	.0018	.0048	.0054	80.
.0340	-215.	-399.	271.	51.	85.	217.	-.0010	.0068	-.0031	-.0006	.0045	.0058	96.
.0350	-204.	-513.	357.	53.	124.	238.	-.0002	.0081	-.0016	-.0025	.0035	.0084	110.
.0360	-12.	-601.	330.	57.	230.	226.	.0004	.0092	.0004	-.0040	.0009	.0120	131.
.0370	111.	-568.	226.	80.	348.	191.	.0011	.0101	.0027	-.0049	-.0030	.0139	163.

ADLPIPE PAGE 1658

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.47.

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	41	MEMBER	1	SEQUENCE	819	LOCATION	END	TYPE	EL							
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	27.	-460.	122.	120.	416.	156.	.0020	.0107	.0051	-.0055	-.0068	.0135	185.			
.0390	-141.	-395.	103.	155.	465.	133.	.0033	.0110	.0077	-.0068	-.0099	.0128	204.			
.0400	-231.	-434.	183.	168.	528.	129.	.0046	.0113	.0104	-.0094	-.0124	.0134	228.			
.0410	-160.	-446.	231.	165.	534.	121.	.0058	.0117	.0132	-.0117	-.0137	.0148	229.			
.0420	76.	-219.	170.	149.	507.	79.	.0067	.0123	.0160	-.0136	-.0145	.0153	214.			
.0430	315.	251.	64.	131.	521.	3.	.0076	.0126	.0188	-.0157	-.0163	.0140	216.			
.0440	222.	571.	47.	138.	563.	-40.	.0088	.0119	.0213	-.0178	-.0188	.0106	233.			
.0450	-125.	500.	86.	175.	567.	-31.	.0100	.0102	.0235	-.0188	-.0209	.0072	239.			
.0460	-187.	347.	12.	200.	548.	-44.	.0110	.0083	.0255	-.0185	-.0225	.0059	235.			
.0470	209.	540.	-191.	182.	562.	-127.	.0114	.0066	.0272	-.0181	-.0237	.0055	243.			
.0480	535.	1008.	-339.	145.	572.	-223.	.0114	.0049	.0283	-.0186	-.0242	.0024	253.			
.0490	386.	1333.	-324.	125.	496.	-259.	.0115	.0027	.0287	-.0188	-.0231	-.0034	230.			
.0500	70.	1342.	-253.	113.	357.	-255.	.0118	.0003	.0283	-.0177	-.0206	-.0086	182.			
.0510	28.	1233.	-275.	84.	212.	-266.	.0117	-.0018	.0272	-.0151	-.0176	-.0119	141.			
.0520	198.	1198.	-376.	43.	75.	-295.	.0108	-.0035	.0255	-.0116	-.0142	-.0123	123.			
.0530	339.	1244.	-473.	5.	-58.	-315.	.0093	-.0046	.0234	-.0078	-.0105	-.0142	129.			
.0540	447.	1317.	-540.	-33.	-175.	-330.	.0077	-.0052	.0205	-.0040	-.0065	-.0160	151.			
.0550	478.	1324.	-537.	-74.	-279.	-333.	.0064	-.0055	.0169	-.0003	-.0021	-.0174	177.			
.0560	261.	1172.	-398.	-107.	-382.	-293.	.0052	-.0058	.0127	.0028	.0026	-.0191	198.			
.0570	-27.	946.	-220.	-137.	-486.	-231.	.0037	-.0062	.0084	.0057	.0074	-.0207	223.			
.0580	59.	817.	-210.	-183.	-584.	-211.	.0016	-.0063	.0042	.0095	.0119	-.0202	260.			
.0590	430.	672.	-341.	-230.	-667.	-217.	-.0006	-.0060	.0000	.0144	.0158	-.0172	296.			
.0600	478.	227.	-363.	-238.	-738.	-155.	-.0024	-.0055	-.0042	.0193	.0192	-.0141	317.			
.0610	94.	-403.	-211.	-204.	-793.	-15.	-.0037	-.0044	-.0084	.0233	.0220	-.0124	329.			
.0620	-155.	-731.	-82.	-178.	-824.	104.	-.0049	-.0021	-.0122	.0262	.0246	-.0108	341.			
.0630	-21.	-651.	-42.	-183.	-823.	170.	-.0061	.0014	-.0154	.0278	.0269	-.0083	345.			
.0640	98.	-636.	70.	-188.	-800.	261.	-.0072	.0051	-.0177	.0276	.0288	-.0049	346.			
.0650	-6.	-1001.	277.	-165.	-766.	408.	-.0078	.0083	-.0190	.0267	.0297	-.0003	354.			
.0660	-63.	-1478.	391.	-123.	-720.	535.	-.0077	.0112	-.0193	.0260	.0291	.0054	363.			
.0670	-8.	-1703.	354.	-71.	-653.	595.	-.0071	.0137	-.0186	.0252	.0266	.0103	356.			
.0680	-98.	-1653.	310.	-7.	-583.	619.	-.0063	.0157	-.0166	.0231	.0230	.0123	341.			
.0690	-287.	-1481.	323.	54.	-543.	623.	-.0050	.0171	-.0135	.0194	.0195	.0126	332.			
.0700	-263.	-1293.	332.	84.	-537.	582.	-.0033	.0179	-.0095	.0145	.0166	.0144	320.			
.0710	-74.	-1144.	332.	88.	-545.	506.	-.0012	.0179	-.0046	.0089	.0141	.0176	300.			
.0720	-34.	-964.	349.	94.	-552.	414.	.0010	.0170	.0008	.0027	.0110	.0192	279.			
.0730	-112.	-560.	307.	105.	-524.	282.	.0032	.0154	.0066	-.0037	.0065	.0177	242.			
.0740	-62.	67.	142.	112.	-417.	85.	.0053	.0131	.0124	-.0098	.0005	.0152	177.			
.0750	49.	611.	-44.	116.	-239.	-130.	.0074	.0101	.0180	-.0156	-.0062	.0132	119.			

ADLPIPE PAGE 1659

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.47.

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

.0650	-6.	-1001.	277.	-165.	-766.	408.	-.0078	.0083	-.0190	.0267	.0297	-.0003	354.
.0660	-63.	-1478.	391.	-123.	-720.	535.	-.0077	.0112	-.0193	.0260	.0291	.0054	363.
.0670	-8.	-1703.	354.	-71.	-653.	595.	-.0071	.0137	-.0186	.0252	.0266	.0103	356.
.0680	-98.	-1653.	310.	-7.	-583.	619.	-.0063	.0157	-.0166	.0231	.0230	.0123	341.
.0690	-287.	-1481.	323.	54.	-543.	623.	-.0050	.0171	-.0135	.0194	.0195	.0126	332.
.0700	-263.	-1293.	332.	24.	-537.	582.	-.0033	.0179	-.0095	.0145	.0166	.0144	320.
.0710	-74.	-1144.	332.	88.	-545.	506.	-.0012	.0179	-.0046	.0089	.0141	.0176	300.
.0720	-34.	-964.	349.	94.	-552.	414.	.0010	.0170	.0008	.0027	.0110	.0192	279.
.0730	-112.	-560.	307.	105.	-524.	282.	.0032	.0154	.0066	-.0037	.0065	.0177	242.
.0740	-62.	67.	142.	112.	-417.	85.	.0053	.0131	.0124	-.0098	.0005	.0152	177.
.0750	49.	611.	-44.	116.	-239.	-130.	.0074	.0101	.0180	-.0156	-.0062	.0132	119.

ADLPIPE PAGE 1659

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.47.

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	41	MEMBER	1	SEQUENCE	819	LOCATION	END	TYPE	EL						
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)		
.0760	27.	887.	-136.	127.	-45.	-311.	.0092	.0063	.0230	-.0212	-.0125	.0113	136.		
.0770	-10.	1119.	-184.	128.	133.	-478.	.0106	.0021	.0271	-.0266	-.0174	.0088	205.		
.0780	127.	1547.	-284.	103.	286.	-664.	.0114	-.0020	.0302	-.0311	-.0208	.0056	293.		
.0790	285.	2017.	-397.	66.	394.	-831.	.0116	-.0057	.0320	-.0344	-.0225	.0015	370.		
.0800	244.	2235.	-437.	38.	437.	-919.	.0113	-.0091	.0322	-.0359	-.0222	-.0030	409.		
.0810	125.	2199.	-422.	15.	434.	-936.	.0105	-.0119	.0307	-.0355	-.0200	-.0069	414.		
.0820	160.	2123.	-421.	-20.	414.	-921.	.0091	-.0137	.0276	-.0335	-.0162	-.0096	405.		
.0830	295.	2091.	-419.	-64.	386.	-879.	.0071	-.0145	.0231	-.0304	-.0110	-.0120	386.		
.0840	351.	1992.	-353.	-100.	367.	-756.	.0046	-.0145	.0173	-.0264	-.0052	-.0145	350.		
.0850	328.	1717.	-228.	-124.	392.	-643.	.0019	-.0139	.0105	-.0216	.0005	-.0161	306.		
.0860	313.	1276.	-109.	-140.	463.	-471.	-.0007	-.0128	.0028	-.0156	.0053	-.0162	271.		
.0870	301.	767.	-33.	-145.	539.	-286.	-.0033	-.0112	-.0051	-.0085	.0095	-.0154	252.		
.0880	275.	288.	14.	-146.	592.	-97.	-.0059	-.0093	-.0130	-.0009	.0133	-.0145	248.		
.0890	301.	-148.	56.	-153.	613.	87.	-.0084	-.0070	-.0204	.0066	.0169	-.0129	256.		
.0900	394.	-606.	115.	-165.	593.	266.	-.0104	-.0043	-.0271	.0139	.0207	-.0099	269.		
.0910	458.	-1100.	212.	-174.	532.	447.	-.0119	-.0012	-.0328	.0207	.0243	-.0060	287.		
.0920	452.	-1504.	323.	-173.	456.	617.	-.0128	.0022	-.0372	.0267	.0268	-.0024	315.		
.0930	469.	-1692.	373.	-165.	392.	749.	-.0133	.0061	-.0399	.0320	.0276	.0006	346.		
.0940	569.	-1738.	330.	-150.	338.	841.	-.0132	.0103	-.0407	.0367	.0266	.0039	369.		
.0950	702.	-1826.	237.	-122.	282.	918.	-.0126	.0146	-.0395	.0409	.0240	.0084	388.		
.0960	808.	-1989.	157.	-83.	213.	993.	-.0112	.0193	-.0363	.0438	.0205	.0138	409.		
.0970	925.	-2031.	92.	-43.	127.	1048.	-.0091	.0244	-.0311	.0448	.0164	.0192	424.		
.0980	1075.	-1791.	33.	-7.	17.	1067.	-.0064	.0302	-.0237	.0436	.0121	.0234	428.		
.0990	1152.	-1382.	17.	31.	-117.	1065.	-.0031	.0363	-.0143	.0403	.0077	.0264	430.		
.1000	1051.	-1065.	80.	82.	-262.	1071.	.0011	.0420	-.0031	.0351	.0029	.0288	444.		
.1010	831.	-950.	176.	145.	-394.	1073.	.0059	.0468	.0098	.0288	-.0028	.0314	462.		
.1020	668.	-902.	202.	211.	-481.	1034.	.0113	.0506	.0242	.0218	-.0100	.0343	466.		
.1030	589.	-751.	125.	277.	-498.	934.	.0170	.0534	.0399	.0143	-.0189	.0366	439.		
.1040	410.	-477.	33.	348.	-446.	792.	.0230	.0553	.0563	.0058	-.0291	.0366	390.		
.1050	143.	-82.	-41.	413.	-355.	609.	.0292	.0561	.0731	-.0037	-.0398	.0346	328.		
.1060	-18.	467.	-137.	451.	-265.	367.	.0357	.0561	.0898	-.0137	-.0496	.0318	256.		
.1070	-11.	1180.	-267.	454.	-206.	70.	.0421	.0553	.1061	-.0240	-.0578	.0283	202.		
.1080	-139.	1914.	-309.	436.	-179.	-233.	.0481	.0531	.1215	-.0349	-.0645	.0228	211.		
.1090	-573.	2510.	-225.	408.	-179.	-526.	.0535	.0484	.1357	-.0460	-.0698	.0145	276.		
.1100	-134.	3356.	-592.	329.	-235.	-954.	.0582	.0437	.1481	-.0529	-.0737	.0099	416.		
.1110	526.	4183.	-1097.	244.	-273.	-1394.	.0619	.0390	.1582	-.0571	-.0768	.0064	579.		
.1120	354.	4658.	-1228.	206.	-258.	-1676.	.0648	.0340	.1656	-.0618	-.0790	-.0012	686.		
.1130	-3.	5113.	-1216.	165.	-245.	-1892.	.0666	.0295	.1700	-.0660	-.0789	-.0103	768.		

ADLPIPE PAGE 1660

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.47.

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



.1030	589.	-751.	125.	277.	-498.	934.	.0170	.0534	.0399	.0143	-.0189	.0366	439.
.1040	410.	-477.	33.	348.	-446.	792.	.0230	.0553	.0563	.0058	-.0291	.0366	390.
.1050	143.	-82.	-41.	413.	-355.	609.	.0292	.0561	.0731	-.0037	-.0398	.0346	328.
.1060	-14.	467.	-137.	451.	-265.	367.	.0357	.0561	.0898	-.0137	-.0496	.0318	256.
.1070	-11.	1180.	-267.	454.	-206.	70.	.0421	.0553	.1061	-.0240	-.0578	.0283	202.
.1080	-139.	1914.	-309.	476.	-179.	-233.	.0461	.0531	.1215	-.0349	-.0545	.0228	211.
.1090	-573.	2510.	-225.	408.	-179.	-526.	.0535	.0484	.1357	-.0460	-.0698	.0145	276.
.1100	-134.	3356.	-592.	329.	-235.	-954.	.0582	.0457	.1481	-.0529	-.0737	.0099	416.
.1110	526.	4183.	-1097.	244.	-273.	-1394.	.0619	.0390	.1582	-.0571	-.0768	.0064	579.
.1120	354.	4658.	-1228.	206.	-258.	-1676.	.0648	.0340	.1656	-.0618	-.0790	-.0012	686.
.1130	-3.	5113.	-1216.	165.	-245.	-1892.	.0666	.0295	.1700	-.0660	-.0789	-.0103	768.

ADLPIPE PAGE 1660

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.47.

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	41	MEMBER	1	SEQUENCE	819	LOCATION	END	TYPE	EL							
TIME	FX	FY	FZ	MX	MY	MZ				DZ	RX	RY	RZ	STRESS		
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)			(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		
.1140	430.	5891.	-1432.	58.	-264.	-2176.	.0673	.0263	.1713	-.0677	-.0758	-.0157	880.			
.1150	1073.	6569.	-1633.	-75.	-295.	-2420.	.0669	.0235	.1694	-.0678	-.0702	-.0191	979.			
.1160	916.	6497.	-1470.	-150.	-339.	-2451.	.0654	.0202	.1644	-.0672	-.0630	-.0237	995.			
.1170	424.	5777.	-1212.	-174.	-388.	-2335.	.0229	.0170	.1565	-.0639	-.0550	-.0268	953.			
.1180	873.	5135.	-1416.	-210.	-425.	-2270.	.0594	.0160	.1458	-.0553	-.0466	-.0232	930.			
.1190	1664.	4678.	-1719.	-244.	-364.	-2180.	.0549	.0173	.1325	-.0455	-.0384	-.0173	892.			
.1200	1514.	4035.	-1500.	-224.	-228.	-1884.	.0500	.0199	.1171	-.0389	-.0297	-.0160	767.			
.1210	881.	3208.	-948.	-183.	-117.	-1450.	.0449	.0234	.1001	-.0340	-.0193	-.0162	588.			
.1220	1025.	2433.	-594.	-186.	-18.	-1059.	.0398	.0280	.0823	-.0282	-.0079	-.0101	432.			
.1230	1597.	1494.	-414.	-193.	77.	-677.	.0344	.0330	.0643	-.0208	.0029	.0006	284.			
.1240	1517.	91.	-96.	-122.	176.	-175.	.0288	.0372	.0471	-.0133	.0116	.0095	111.			
.1250	1090.	-1421.	180.	14.	258.	365.	.0234	.0414	.0310	-.0050	.0180	.0166	180.			
.1260	1251.	-2429.	107.	136.	289.	774.	.0184	.0465	.0164	.0044	.0232	.0254	336.			
.1270	1631.	-2944.	37.	223.	304.	1096.	.0143	.0520	.0039	.0108	.0282	.0336	465.			
.1280	1261.	-3412.	431.	312.	257.	1474.	.0111	.0562	-.0062	.0113	.0337	.0367	613.			
.1290	617.	-3843.	1031.	385.	156.	1835.	.0084	.0587	-.0132	.0077	.0390	.0378	755.			
.1300	780.	-3951.	1243.	410.	84.	1999.	.0061	.0598	-.0170	.0038	.0414	.0426	820.			
.1310	1346.	-3875.	1066.	439.	94.	1997.	.0044	.0591	-.0177	.0007	.0390	.0487	821.			
.1320	1172.	-3908.	935.	543.	220.	1975.	.0035	.0557	-.0155	-.0037	.0312	.0494	827.			
.1330	429.	-3804.	855.	688.	373.	1904.	.0033	.0503	-.0109	-.0096	.0205	.0445	826.			
.1340	170.	-3120.	598.	771.	479.	1656.	.0037	.0441	-.0044	-.0169	.0101	.0392	758.			
.1350	351.	-2067.	356.	768.	502.	1291.	.0043	.0371	.0035	-.0267	.0024	.0345	635.			
.1360	167.	-1210.	450.	731.	431.	970.	.0049	.0291	.0124	-.0394	-.0024	.0282	517.			
.1370	-207.	-536.	664.	680.	349.	672.	.0054	.0204	.0213	-.0527	-.0062	.0212	408.			
.1380	-123.	333.	532.	612.	311.	275.	.0056	.0121	.0298	-.0626	-.0111	.0158	297.			
.1390	72.	1307.	154.	562.	368.	-166.	.0055	.0045	.0369	-.0691	-.0179	.0099	278.			
.1400	-380.	1946.	-42.	566.	495.	-498.	.0051	-.0029	.0424	-.0743	-.0251	.0011	362.			
.1410	-1084.	2227.	-36.	578.	606.	-724.	.0041	-.0094	.0457	-.0784	-.0297	-.0074	444.			
.1420	-1091.	2479.	-60.	520.	692.	-951.	.0024	-.0139	.0468	-.0812	-.0302	-.0101	516.			
.1430	-646.	2693.	-49.	406.	737.	-1141.	-.0000	-.0162	.0454	-.0827	-.0268	-.0088	569.			
.1440	-668.	2626.	206.	311.	748.	-1180.	-.0030	-.0169	.0414	-.0832	-.0209	-.0089	574.			
.1450	-1118.	2338.	532.	257.	730.	-1098.	-.0062	-.0160	.0350	-.0807	-.0142	-.0104	539.			
.1460	-1295.	2013.	614.	215.	683.	-1002.	-.0095	-.0133	.0265	-.0737	-.0070	-.0095	494.			
.1470	-1178.	1505.	583.	175.	651.	-874.	-.0130	-.0091	.0165	-.0637	.0004	-.0048	443.			
.1480	-1256.	606.	736.	153.	601.	-635.	-.0167	-.0042	.0055	-.0534	.0090	.0015	356.			
.1490	-1373.	-442.	1032.	133.	534.	-332.	-.0202	.0015	-.0059	-.0435	.0187	.0091	258.			
.1500	-1123.	-1276.	1234.	95.	475.	-65.	-.0231	.0082	-.0173	-.0335	.0283	.0189	196.			
.1510	-833.	-1971.	1353.	71.	419.	191.	-.0253	.0155	-.0281	-.0231	.0366	.0286	187.			

ADLPIPE PAGE 1661

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.47.

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



.1400	-780.	1946.	-42.	566.	495.	1948.	-498.	.0051	-.0029	.0424	-.0743	-.0251	.0011	362.
.1410	-1084.	2227.	-36.	578.	606.	-724.	.0041	-.0094	.0457	-.0724	-.0297	-.0074	444.	
.1420	-1091.	2479.	-60.	520.	692.	-951.	.0024	-.0139	.0468	-.0812	-.0302	-.0101	516.	
.1430	-646.	2693.	-49.	406.	737.	-1141.	-.0000	-.0162	.0454	-.0827	-.0268	-.0088	569.	
.1440	-668.	2626.	206.	311.	748.	-1180.	-.0030	-.0169	.0414	-.0832	-.0209	-.0089	574.	
.1450	-1118.	2338.	532.	257.	730.	-1098.	-.0062	-.0160	.0350	-.0807	-.0142	-.0104	539.	
.1460	-1295.	2013.	614.	215.	683.	-1002.	-.0095	-.0133	.0265	-.0737	-.0070	-.0095	494.	
.1470	-1178.	1505.	583.	175.	651.	-874.	-.0130	-.0091	.0165	-.0637	.0004	-.0048	443.	
.1480	-1256.	606.	736.	153.	601.	-635.	-.0167	-.0042	.0055	-.0534	.0090	.0015	356.	
.1490	-1373.	-442.	1032.	133.	534.	-332.	-.0202	.0015	-.0059	-.0435	.0187	.0091	258.	
.1500	-1127.	-1276.	1234.	95.	475.	-65.	-.0231	.0082	-.0173	-.0335	.0283	.0189	196.	
.1510	-833.	-1971.	1353.	71.	419.	191.	-.0253	.0155	-.0281	-.0231	.0366	.0286	187.	

ADLPIPE PAGE 1661

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.47.

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

CONDITION 24  
LOADS  
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ENGLISH UNITS

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

SECTION	41	MEMBER	1	SEQUENCE	819	LOCATION	END	TYPE	EL						
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	-994.	-2780.	1541.	97.	375.	503.	-.0264	.0229	-.0378	-.0132	.0428	.0362	255.		
.1530	-1273.	-3614.	1682.	150.	307.	821.	-.0268	.0299	-.0457	-.0037	.0473	.0433	357.		
.1540	-1035.	-4205.	1612.	174.	209.	1048.	-.0263	.0368	-.0513	.0052	.0509	.0526	435.		
.1550	-476.	-4567.	1471.	171.	70.	1201.	-.0249	.0430	-.0544	.0120	.0542	.0626	488.		
.1560	-232.	-4840.	1483.	179.	-125.	1345.	-.0224	.0477	-.0548	.0155	.0574	.0692	547.		
.1570	-258.	-4910.	1580.	198.	-310.	1448.	-.0186	.0507	-.0526	.0159	.0590	.0717	600.		
.1580	-116.	-4624.	1495.	217.	-461.	1436.	-.0138	.0522	-.0477	.0152	.0581	.0721	612.		
.1590	159.	-4128.	1209.	239.	-574.	1327.	-.0084	.0519	-.0402	.0139	.0546	.0707	588.		
.1600	344.	-3619.	880.	271.	-627.	1177.	-.0026	.0497	-.0303	.0110	.0489	.0670	546.		
.1610	518.	-3016.	550.	289.	-635.	979.	.0034	.0457	-.0186	.0060	.0420	.0613	483.		
.1620	853.	-2144.	180.	274.	-647.	700.	.0095	.0405	-.0055	-.0007	.0354	.0538	398.		
.1630	1183.	-1041.	-129.	231.	-637.	370.	.0156	.0341	.0084	-.0094	.0293	.0437	310.		
.1640	1232.	101.	-298.	190.	-605.	46.	.0216	.0269	.0226	-.0197	.0236	.0302	255.		
.1650	1173.	1200.	-453.	154.	-556.	-277.	.0268	.0192	.0365	-.0296	.0181	.0152	257.		
.1660	1365.	2250.	-747.	109.	-470.	-625.	.0311	.0117	.0497	-.0376	.0126	.0016	317.		
.1670	1696.	3164.	-1128.	59.	-376.	-963.	.0344	.0048	.0617	-.0434	.0075	-.0103	415.		
.1680	1821.	3881.	-1390.	10.	-281.	-1232.	.0368	-.0012	.0721	-.0482	.0036	-.0224	507.		
.1690	1698.	4472.	-1470.	-44.	-213.	-1423.	.0384	-.0061	.0804	-.0525	.0016	-.0347	578.		
.1700	1593.	5001.	-1448.	-115.	-171.	-1563.	.0392	-.0093	.0866	-.0557	.0016	-.0455	633.		
.1710	1614.	5382.	-1382.	-194.	-136.	-1649.	.0391	-.0106	.0906	-.0573	.0029	-.0532	669.		
.1720	1599.	5462.	-1295.	-252.	-137.	-1653.	.0382	-.0103	.0925	-.0560	.0050	-.0580	673.		
.1730	1518.	5243.	-1210.	-279.	-141.	-1576.	.0366	-.0084	.0925	-.0520	.0068	-.0600	645.		
.1740	1453.	4847.	-1165.	-282.	-147.	-1443.	.0347	-.0049	.0907	-.0453	.0080	-.0592	593.		
.1750	1374.	4366.	-1110.	-273.	-169.	-1258.	.0327	-.0001	.0874	-.0371	.0089	-.0563	521.		
.1760	1186.	3817.	-936.	-260.	-184.	-1013.	.0308	.0057	.0830	-.0289	.0094	-.0520	426.		
.1770	933.	3196.	-659.	-244.	-204.	-720.	.0290	.0122	.0778	-.0210	.0095	-.0462	316.		
.1780	808.	2527.	-400.	-225.	-200.	-418.	.0274	.0188	.0723	-.0126	.0083	-.0379	207.		
.1790	811.	1810.	-256.	-186.	-170.	-130.	.0260	.0254	.0669	-.0030	.0050	-.0275	114.		
.1800	739.	1051.	-202.	-112.	-105.	149.	.0250	.0315	.0619	.0078	-.0010	-.0169	86.		
.1810	530.	346.	-193.	-11.	2.	409.	.0245	.0368	.0575	.0186	-.0094	-.0074	164.		
.1820	315.	-180.	-237.	88.	83.	621.	.0243	.0413	.0538	.0289	-.0186	.0010	254.		
.1830	208.	-506.	-284.	158.	127.	773.	.0245	.0448	.0511	.0375	-.0274	.0088	321.		
.1840	141.	-722.	-261.	193.	137.	879.	.0249	.0470	.0495	.0438	-.0352	.0159	365.		
.1850	76.	-849.	-204.	204.	127.	932.	.0253	.0477	.0489	.0481	-.0424	.0218	386.		
.1860	80.	-803.	-230.	201.	127.	902.	.0258	.0470	.0492	.0514	-.0497	.0260	374.		
.1870	86.	-576.	-384.	198.	137.	783.	.0263	.0449	.0503	.0545	-.0574	.0276	329.		
.1880	-27.	-256.	-576.	196.	171.	604.	.0265	.0412	.0518	.0568	-.0650	.0263	264.		
.1890	-212.	99.	-742.	178.	203.	379.	.0266	.0362	.0536	.0576	-.0712	.0229	187.		

ADLPIPE PAGE 1662

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.47.

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

.1780	808.	2527.	-400.	-275.	-200.	-418.	.0274	.0188	.0723	-.0126	.0083	-.0379	207.
.1790	811.	1810.	-256.	-186.	-170.	-130.	.0260	.0254	.0669	-.0030	.0050	-.0275	114.
.1800	739.	1051.	-202.	-112.	-105.	149.	.0250	.0315	.0619	.0078	-.0010	-.0169	86.
.1810	530.	346.	-193.	-11.	2.	409.	.0245	.0368	.0575	.0186	-.0094	-.0074	164.
.1820	315.	-180.	-237.	83.	83.	621.	.0243	.0413	.0538	.0289	-.0186	.0010	254.
.1830	202.	-506.	-284.	158.	127.	773.	.0245	.0448	.0511	.0375	-.0274	.0088	321.
.1840	141.	-722.	-261.	193.	137.	879.	.0249	.0470	.0495	.0438	-.0352	.0159	365.
.1850	76.	-849.	-204.	204.	127.	932.	.0253	.0477	.0489	.0481	-.0424	.0218	386.
.1860	80.	-803.	-230.	201.	127.	902.	.0258	.0470	.0492	.0514	-.0497	.0260	374.
.1870	86.	-576.	-384.	198.	137.	783.	.0263	.0449	.0503	.0545	-.0574	.0276	329.
.1880	-27.	-256.	-576.	196.	171.	604.	.0265	.0412	.0518	.0568	-.0650	.0263	264.
.1890	-212.	99.	-742.	178.	203.	379.	.0266	.0362	.0536	.0576	-.0712	.0229	187.

ADLPIPE PAGE 1662

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.28.47.

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	41	MEMBER	1	SEQUENCE	819	LOCATION	END	TYPE	EL						
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)		
.1900	-271.	518.	-885.	116.	199.	104.	.0261	.0301	.0553	.0569	-.0747	.0186	102.		
.1910	-162.	1009.	-987.	11.	171.	-210.	.0253	.0234	.0568	.0545	-.0752	.0138	109.		
.1920	-81.	1517.	-1020.	-118.	123.	-526.	.0239	.0163	.0576	.0507	-.0730	.0077	222.		
.1930	-115.	2018.	-1013.	-245.	78.	-824.	.0221	.0093	.0576	.0463	-.0690	-.0003	346.		
.1940	-164.	2510.	-1036.	-361.	52.	-1107.	.0199	.0026	.0565	.0421	-.0639	-.0093	468.		
.1950	-166.	2920.	-1090.	-464.	38.	-1359.	.0172	-.0035	.0542	.0384	-.0575	-.0180	576.		
.1960	-159.	3154.	-1104.	-553.	18.	-1547.	.0142	-.0090	.0509	.0348	-.0494	-.0259	659.		
.1970	-123.	3217.	-1042.	-633.	-22.	-1656.	.0109	-.0135	.0464	.0309	-.0395	-.0324	711.		
.1980	-14.	3182.	-928.	-705.	-89.	-1689.	.0074	-.0167	.0409	.0269	-.0279	-.0374	735.		
.1990	98.	3073.	-776.	-757.	-179.	-1639.	.0040	-.0183	.0344	.0230	-.0154	-.0412	728.		
.2000	122.	2864.	-590.	-773.	-276.	-1498.	.0008	-.0184	.0273	.0196	-.0030	-.0440	686.		
.2010	105.	2556.	-409.	-751.	-368.	-1278.	-.0021	-.0170	.0197	.0169	.0085	-.0454	613.		
.2020	153.	2160.	-270.	-694.	-463.	-1001.	-.0047	-.0144	.0120	.0151	.0189	-.0444	523.		
.2030	272.	1667.	-155.	-610.	-561.	-678.	-.0068	-.0107	.0047	.0137	.0280	-.0410	430.		
.2040	392.	1079.	-19.	-501.	-651.	-313.	-.0082	-.0063	-.0022	.0121	.0356	-.0355	353.		
.2050	488.	460.	133.	-371.	-719.	74.	-.0089	-.0014	-.0082	.0102	.0411	-.0284	326.		
.2060	584.	-105.	255.	-223.	-758.	456.	-.0088	.0038	-.0133	.0079	.0442	-.0202	366.		
.2070	674.	-583.	328.	-62.	-768.	814.	-.0079	.0093	-.0172	.0056	.0447	-.0113	450.		
.2080	746.	-983.	361.	104.	-756.	1136.	-.0064	.0146	-.0198	.0029	.0429	-.0022	549.		
.2090	829.	-1325.	361.	264.	-743.	1411.	-.0043	.0194	-.0212	.0000	.0395	.0074	648.		
.2100	951.	-1617.	334.	407.	-750.	1624.	-.0018	.0236	-.0212	-.0030	.0353	.0172	736.		
.2110	1077.	-1851.	298.	528.	-778.	1772.	.0010	.0270	-.0201	-.0063	.0307	.0267	805.		
.2120	1157.	-1993.	267.	626.	-812.	1852.	.0039	.0295	-.0180	-.0097	.0258	.0350	849.		
.2130	1192.	-2007.	224.	697.	-835.	1858.	.0068	.0313	-.0151	-.0132	.0206	.0416	864.		
.2140	1221.	-1896.	150.	739.	-838.	1789.	.0095	.0324	-.0116	-.0165	.0153	.0466	846.		
.2150	1244.	-1713.	62.	748.	-818.	1654.	.0117	.0327	-.0077	-.0195	.0102	.0501	799.		
.2160	1239.	-1506.	-8.	725.	-779.	1468.	.0135	.0323	-.0037	-.0224	.0059	.0522	728.		
.2170	1213.	-1267.	-47.	668.	-728.	1237.	.0147	.0311	.0004	-.0253	.0026	.0526	635.		
.2180	1189.	-967.	-69.	579.	-669.	962.	.0153	.0292	.0043	-.0280	.0006	.0513	524.		
.2190	1146.	-621.	-78.	468.	-604.	655.	.0153	.0267	.0079	-.0303	-.0003	.0483	404.		
.2200	1041.	-290.	-69.	345.	-533.	338.	.0148	.0238	.0112	-.0320	-.0003	.0437	289.		
.2210	897.	-2.	-53.	216.	-456.	26.	.0138	.0205	.0140	-.0329	.0005	.0382	203.		
.2220	784.	270.	-47.	82.	-370.	-279.	.0124	.0172	.0164	-.0332	.0017	.0321	189.		
.2230	713.	552.	-44.	-55.	-276.	-566.	.0108	.0141	.0185	-.0332	.0032	.0259	254.		
.2240	631.	823.	-14.	-186.	-173.	-818.	.0091	.0112	.0201	-.0330	.0048	.0194	344.		
.2250	508.	1043.	49.	-299.	-62.	-1019.	.0075	.0087	.0215	-.0327	.0062	.0131	427.		
.2260	381.	1199.	112.	-386.	53.	-1170.	.0062	.0066	.0226	-.0321	.0068	.0074	495.		
.2270	289.	1296.	143.	-443.	167.	-1268.	.0051	.0050	.0237	-.0309	.0064	.0028	543.		

ADLPIPE PAGE 1663

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.28.47.

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



.2170	1213.	-1267.	-47.	668.	-728.	1237.	.0147	.0311	.0004	-.0253	.0026	.0526	635.
.2180	1189.	-967.	-69.	579.	-669.	962.	.0153	.0292	.0043	-.0280	.0006	.0513	524.
.2190	1146.	-621.	-72.	468.	-604.	655.	.0153	.0267	.0079	-.0303	-.0003	.0483	404.
.2200	1041.	-290.	-69.	345.	-533.	338.	.0148	.0238	.0112	-.0320	-.0003	.0437	289.
.2210	897.	-2.	-53.	216.	-456.	26.	.0138	.0205	.0140	-.0329	.0005	.0382	203.
.2220	784.	270.	-47.	82.	-370.	-279.	.0124	.0172	.0164	-.0332	.0017	.0321	189.
.2230	713.	552.	-44.	-55.	-276.	-566.	.0108	.0141	.0185	-.0332	.0032	.0259	254.
.2240	631.	823.	-14.	-186.	-173.	-818.	.0091	.0112	.0201	-.0330	.0048	.0194	344.
.2250	508.	1043.	49.	-299.	-62.	-1019.	.0075	.0087	.0215	-.0327	.0062	.0131	427.
.2260	381.	1199.	112.	-386.	53.	-1170.	.0062	.0066	.0226	-.0321	.0068	.0074	495.
.2270	289.	1296.	143.	-443.	167.	-1268.	.0051	.0050	.0237	-.0309	.0064	.0028	543.

ADLPIPE PAGE 1663

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.47.

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	41	MEMBER	1	SEQUENCE	819	LOCATION	END	TYPE	EL							
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)			
.2280	229.	1333.	141.	-466.	275.	-1311.	.0045	.0041	.0247	-.0292	.0049	-.0006	569.			
.2290	193.	1317.	118.	-457.	371.	-1296.	.0043	.0037	.0258	-.0273	.0023	-.0028	571.			
.2300	176.	1272.	89.	-422.	442.	-1226.	.0046	.0041	.0269	-.0252	-.0012	-.0038	550.			
.2310	160.	1212.	70.	-365.	480.	-1105.	.0055	.0051	.0280	-.0233	-.0053	-.0038	505.			
.2320	129.	1132.	67.	-289.	491.	-939.	.0069	.0065	.0292	-.0215	-.0099	-.0030	441.			
.2330	122.	1015.	52.	-195.	482.	-740.	.0087	.0083	.0304	-.0195	-.0152	-.0012	363.			
.2340	177.	848.	-10.	-87.	464.	-526.	.0107	.0104	.0315	-.0169	-.0212	.0019	284.			
.2350	263.	630.	-115.	36.	448.	-303.	.0130	.0127	.0326	-.0138	-.0278	.0058	218.			
.2360	315.	391.	-230.	165.	437.	-78.	.0153	.0150	.0335	-.0104	-.0347	.0098	190.			
.2370	332.	179.	-332.	288.	423.	138.	.0176	.0173	.0342	-.0072	-.0413	.0133	213.			
.2380	370.	8.	-419.	392.	395.	330.	.0197	.0196	.0345	-.0044	-.0467	.0167	260.			
.2390	448.	-163.	-482.	469.	348.	496.	.0216	.0216	.0345	-.0019	-.0506	.0200	307.			
.2400	531.	-365.	-515.	520.	287.	634.	.0231	.0234	.0342	.0002	-.0528	.0232	349.			
.2410	604.	-564.	-534.	550.	221.	737.	.0242	.0249	.0334	.0021	-.0534	.0256	379.			
.2420	677.	-700.	-563.	557.	157.	791.	.0248	.0260	.0324	.0038	-.0526	.0270	393.			
.2430	751.	-767.	-600.	540.	99.	794.	.0250	.0267	.0310	.0052	-.0504	.0272	387.			
.2440	806.	-815.	-616.	501.	44.	755.	.0249	.0270	.0293	.0061	-.0466	.0266	364.			
.2450	841.	-863.	-593.	437.	-13.	681.	.0245	.0266	.0275	.0062	-.0412	.0252	325.			
.2460	893.	-866.	-545.	348.	-68.	570.	.0237	.0258	.0257	.0053	-.0344	.0232	269.			
.2470	976.	-777.	-493.	240.	-117.	419.	.0228	.0245	.0239	.0035	-.0266	.0205	199.			
.2480	1077.	-616.	-458.	122.	-156.	233.	.0219	.0227	.0224	.0010	-.0185	.0172	123.			
.2490	1171.	-437.	-442.	7.	-185.	27.	.0210	.0204	.0211	-.0019	-.0105	.0138	75.			
.2500	1232.	-249.	-432.	-99.	-199.	-187.	.0204	.0178	.0201	-.0053	-.0029	.0102	117.			
.2510	1268.	-5.	-417.	-196.	-200.	-404.	.0199	.0149	.0195	-.0094	.0040	.0065	197.			
.2520	1331.	318.	-408.	-285.	-191.	-621.	.0196	.0118	.0192	-.0143	.0102	.0029	285.			
.2530	1447.	666.	-414.	-366.	-174.	-830.	.0196	.0087	.0193	-.0196	.0155	.0003	371.			
.2540	1574.	959.	-431.	-428.	-147.	-1015.	.0198	.0056	.0196	-.0248	.0194	-.0011	446.			
.2550	1669.	1192.	-465.	-466.	-109.	-1170.	.0205	.0025	.0200	-.0298	.0218	-.0016	507.			
.2560	1727.	1426.	-526.	-478.	-58.	-1299.	.0214	-.0004	.0203	-.0342	.0224	-.0014	556.			
.2570	1767.	1696.	-607.	-473.	-1.	-1408.	.0225	-.0033	.0204	-.0382	.0215	-.0010	596.			
.2580	1870.	1940.	-718.	-459.	55.	-1500.	.0240	-.0061	.0199	-.0414	.0196	.0008	630.			
.2590	2078.	2062.	-860.	-442.	102.	-1573.	.0258	-.0089	.0186	-.0435	.0169	.0049	657.			
.2600	2297.	2062.	-998.	-421.	145.	-1618.	.0278	-.0116	.0162	-.0446	.0138	.0104	674.			
.2610	2453.	2067.	-1119.	-398.	192.	-1642.	.0299	-.0141	.0125	-.0448	.0101	.0157	682.			
.2620	2630.	2183.	-1261.	-384.	245.	-1665.	.0318	-.0166	.0073	-.0441	.0063	.0205	693.			
.2630	2888.	2296.	-1430.	-384.	298.	-1687.	.0332	-.0190	.0005	-.0421	.0028	.0257	705.			
.2640	3137.	2171.	-1566.	-392.	349.	-1679.	.0342	-.0215	-.0080	-.0384	.0000	.0320	706.			
.2650	3327.	1831.	-1649.	-405.	398.	-1633.	.0342	-.0242	-.0181	-.0334	-.0017	.0387	694.			

ADLPIPE PAGE 1664

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.47.

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



.2550	1669.	1192.	-465.	-466.	-109.	-1170.	.0205	.0025	.0200	-.0298	.0218	-.0016	507.
.2560	1727.	1426.	-526.	-478.	-58.	-1299.	.0214	-.0004	.0203	-.0342	.0224	-.0014	556.
.2570	1767.	1696.	-607.	-473.	-1.	-1408.	.0225	-.0033	.0204	-.0382	.0215	-.0010	596.
.2580	1870.	1940.	-718.	-459.	55.	-1500.	.0240	-.0061	.0199	-.0414	.0196	.0008	630.
.2590	2078.	2062.	-860.	-442.	102.	-1573.	.0258	-.0089	.0186	-.0435	.0169	.0049	657.
.2600	2297.	2062.	-998.	-421.	145.	-1618.	.0278	-.0116	.0162	-.0446	.0138	.0104	674.
.2610	2453.	2067.	-1119.	-398.	192.	-1642.	.0299	-.0141	.0125	-.0448	.0101	.0157	682.
.2620	2630.	2183.	-1261.	-384.	245.	-1665.	.0318	-.0166	.0073	-.0441	.0063	.0205	693.
.2630	2888.	2296.	-1430.	-384.	298.	-1687.	.0332	-.0190	.0005	-.0421	.0028	.0257	705.
.2640	3137.	2171.	-1566.	-392.	349.	-1679.	.0342	-.0215	-.0080	-.0384	.0000	.0320	706.
.2650	3327.	1831.	-1649.	-405.	398.	-1633.	.0342	-.0242	-.0181	-.0334	-.0017	.0387	694.

ADLPIPE PAGE 1664

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

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SHOCK  
PRESSURE  
ENGLISH UNITS

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

SECTION	41	MEMBER	1	SEQUENCE	819	LOCATION	END	TYPE	EL						
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	3454.	1516.	-1695.	-428.	451.	-1569.	.0329	-.0269	-.0299	-.0273	-.0022	.0439	677.		
.2670	3545.	1332.	-1716.	-465.	508.	-1497.	.0299	-.0293	-.0429	-.0204	-.0014	.0469	661.		
.2680	3631.	1100.	-1707.	-512.	563.	-1399.	.0251	-.0314	-.0572	-.0125	.0009	.0492	639.		
.2690	3641.	614.	-1619.	-560.	612.	-1248.	.0188	-.0333	-.0723	-.0036	.0050	.0517	601.		
.2700	3482.	-51.	-1418.	-607.	655.	-1041.	.0110	-.0349	-.0880	.0058	.0106	.0532	551.		
.2710	3188.	-630.	-1137.	-659.	695.	-815.	.0018	-.0363	-.1038	.0148	.0174	.0522	505.		
.2720	2921.	-1051.	-859.	-724.	729.	-604.	-.0086	-.0377	-.1193	.0237	.0249	.0495	478.		
.2730	2714.	-1563.	-603.	-788.	755.	-395.	-.0192	-.0388	-.1340	.0331	.0326	.0475	466.		
.2740	2394.	-2339.	-308.	-833.	773.	-158.	-.0296	-.0398	-.1478	.0428	.0400	.0462	460.		
.2750	1914.	-3146.	31.	-860.	785.	91.	-.0392	-.0405	-.1601	.0519	.0466	.0442	469.		
.2760	1483.	-3602.	323.	-891.	786.	291.	-.0480	-.0407	-.1704	.0597	.0519	.0406	491.		
.2770	1254.	-3714.	522.	-934.	788.	422.	-.0554	-.0405	-.1783	.0661	.0556	.0369	514.		
.2780	1085.	-3870.	703.	-970.	728.	536.	-.0608	-.0403	-.1836	.0712	.0575	.0349	532.		
.2790	802.	-4245.	913.	-974.	671.	665.	-.0639	-.0402	-.1861	.0750	.0567	.0346	544.		
.2800	502.	-4543.	1058.	-946.	609.	772.	-.0650	-.0400	-.1855	.0775	.0526	.0345	548.		
.2810	350.	-4440.	1041.	-897.	553.	813.	-.0644	-.0396	-.1816	.0785	.0448	.0338	534.		
.2820	287.	-4069.	914.	-819.	494.	818.	-.0622	-.0389	-.1745	.0779	.0335	.0329	505.		
.2830	150.	-3800.	800.	-703.	420.	848.	-.0583	-.0381	-.1644	.0757	.0196	.0331	473.		
.2840	-42.	-3692.	725.	-555.	322.	917.	-.0531	-.0371	-.1517	.0718	.0036	.0348	449.		
.2850	-160.	-3443.	622.	-393.	207.	984.	-.0471	-.0357	-.1366	.0662	-.0140	.0367	433.		
.2860	-212.	-2867.	466.	-223.	87.	1033.	-.0407	-.0338	-.1196	.0591	-.0330	.0372	426.		
.2870	-323.	-2177.	300.	-36.	-30.	1092.	-.0343	-.0316	-.1014	.0510	-.0532	.0365	439.		
.2880	-496.	-1695.	142.	170.	-141.	1183.	-.0278	-.0294	-.0826	.0432	-.0738	.0366	483.		
.2890	-627.	-1452.	-32.	382.	-244.	1289.	-.0212	-.0270	-.0638	.0362	-.0939	.0362	548.		
.2900	-694.	-1204.	-220.	579.	-332.	1380.	-.0149	-.0243	-.0458	.0296	-.1130	.0397	615.		
.2910	-759.	-783.	-384.	744.	-402.	1444.	-.0092	-.0214	-.0290	.0231	-.1301	.0394	671.		
.2920	-807.	-302.	-508.	869.	-456.	1480.	-.0038	-.0184	-.0141	.0170	-.1445	.0382	713.		
.2930	-763.	1.	-609.	947.	-499.	1495.	.0014	-.0152	-.0015	.0122	-.1558	.0382	738.		
.2940	-631.	72.	-697.	980.	-531.	1484.	.0065	-.0122	.0085	.0093	-.1637	.0395	745.		
.2950	-471.	99.	-780.	965.	-548.	1431.	.0113	-.0094	.0157	.0081	-.1682	.0405	727.		
.2960	-263.	253.	-881.	900.	-552.	1316.	.0156	-.0068	.0202	.0082	-.1695	.0400	677.		
.2970	47.	455.	-1006.	786.	-554.	1140.	.0194	-.0045	.0221	.0099	-.1672	.0391	599.		
.2980	419.	490.	-1107.	631.	-562.	936.	.0230	-.0026	.0216	.0132	-.1615	.0391	506.		
.2990	770.	335.	-1149.	445.	-577.	722.	.0262	-.0014	.0190	.0176	-.1525	.0397	412.		
.3000	1111.	214.	-1164.	232.	-593.	486.	.0288	-.0006	.0148	.0225	-.1412	.0396	321.		
.3010	1506.	297.	-1211.	-2.	-601.	213.	.0306	-.0003	.0095	.0278	-.1283	.0383	256.		
.3020	1917.	469.	-1280.	-241.	-599.	-73.	.0317	-.0004	.0036	.0333	-.1146	.0363	261.		
.3030	2240.	509.	-1320.	-463.	-590.	-332.	.0321	-.0011	-.0026	.0389	-.1007	.0346	329.		

ADLPIPE PAGE 1665

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.47.

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

.2930	-763.	1.	-609.	947.	-499.	1495.	.0014	-.0152	-.0015	.0122	-.1558	.0382	738.
.2940	-631.	72.	-697.	980.	-531.	1484.	.0065	-.0122	.0085	.0093	-.1637	.0395	715.
.2950	-471.	99.	-780.	965.	-548.	1431.	.0113	-.0094	.0157	.0081	-.1682	.0405	727.
.2960	-263.	253.	-881.	900.	-552.	1316.	.0156	-.0068	.0202	.0082	-.1695	.0400	677.
.2970	47.	455.	-1006.	786.	-554.	1140.	.0194	-.0045	.0221	.0099	-.1672	.0391	599.
.2980	419.	490.	-1107.	631.	-562.	936.	.0230	-.0026	.0216	.0132	-.1615	.0391	506.
.2990	770.	335.	-1149.	445.	-577.	722.	.0262	-.0014	.0190	.0176	-.1525	.0397	412.
.3000	1111.	214.	-1164.	232.	-593.	486.	.0288	-.0006	.0148	.0225	-.1412	.0396	321.
.3010	1506.	297.	-1211.	-2.	-601.	213.	.0306	-.0003	.0095	.0278	-.1283	.0383	256.
.3020	1917.	469.	-1280.	-241.	-599.	-73.	.0317	-.0004	.0036	.0333	-.1146	.0363	261.
.3030	2240.	509.	-1320.	-463.	-590.	-332.	.0321	-.0011	-.0026	.0389	-.1007	.0346	329.

ADLPIPE PAGE 1665

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.47.

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	41	MEMBER	1	SEQUENCE	219	LOCATION	END	TYPE	EL						
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)		
.3040	2470.	423.	-1328.	-661.	-580.	-557.	.0321	-.0026	-.0086	.0444	-.0871	.0333	418.		
.3050	2687.	426.	-1349.	-837.	-571.	-770.	.0316	-.0045	-.0140	.0494	-.0742	.0315	510.		
.3060	2900.	626.	-1394.	-989.	-562.	-974.	.0305	-.0068	-.0185	.0534	-.0526	.0289	601.		
.3070	3046.	893.	-1437.	-1109.	-554.	-1147.	.0293	-.0095	-.0221	.0565	-.0527	.0259	678.		
.3080	3117.	1062.	-1470.	-1191.	-549.	-1271.	.0281	-.0124	-.0248	.0590	-.0448	.0237	733.		
.3090	3172.	1160.	-1522.	-1239.	-543.	-1354.	.0273	-.0155	-.0266	.0611	-.0390	.0227	768.		
.3100	3228.	1336.	-1605.	-1259.	-533.	-1415.	.0268	-.0185	-.0276	.0624	-.0356	.0218	789.		
.3110	3250.	1642.	-1703.	-1252.	-516.	-1453.	.0266	-.0214	-.0279	.0628	-.0344	.0205	797.		
.3120	3245.	1952.	-1801.	-1220.	-496.	-1460.	.0267	-.0241	-.0278	.0625	-.0352	.0196	789.		
.3130	3254.	2113.	-1900.	-1164.	-478.	-1427.	.0274	-.0266	-.0276	.0621	-.0375	.0204	764.		
.3140	3265.	2124.	-1996.	-1087.	-460.	-1354.	.0283	-.0288	-.0274	.0616	-.0412	.0225	721.		
.3150	3233.	2113.	-2079.	-992.	-440.	-1246.	.0292	-.0304	-.0275	.0608	-.0458	.0247	663.		
.3160	3159.	2161.	-2144.	-888.	-419.	-1109.	.0298	-.0314	-.0279	.0595	-.0510	.0263	595.		
.3170	3076.	2176.	-2182.	-779.	-403.	-938.	.0298	-.0316	-.0290	.0580	-.0562	.0280	515.		
.3180	2959.	2010.	-2158.	-663.	-394.	-717.	.0291	-.0313	-.0308	.0565	-.0608	.0305	423.		
.3190	2761.	1657.	-2051.	-540.	-391.	-445.	.0275	-.0306	-.0333	.0548	-.0645	.0333	322.		
.3200	2488.	1253.	-1885.	-413.	-387.	-141.	.0247	-.0294	-.0365	.0530	-.0674	.0354	234.		
.3210	2182.	880.	-1697.	-283.	-378.	176.	.0205	-.0278	-.0404	.0512	-.0694	.0364	202.		
.3220	1831.	457.	-1483.	-150.	-366.	507.	.0151	-.0260	-.0449	.0497	-.0704	.0369	258.		
.3230	1390.	-120.	-1214.	-15.	-355.	861.	.0087	-.0241	-.0499	.0483	-.0703	.0373	374.		
.3240	886.	-793.	-891.	115.	-351.	1222.	.0015	-.0222	-.0553	.0469	-.0688	.0375	512.		
.3250	398.	-1402.	-548.	228.	-356.	1557.	-.0063	-.0204	-.0611	.0452	-.0660	.0371	648.		
.3260	-46.	-1880.	-207.	320.	-366.	1850.	-.0144	-.0188	-.0669	.0433	-.0620	.0360	768.		
.3270	-489.	-2308.	138.	397.	-377.	2101.	-.0224	-.0175	-.0728	.0412	-.0572	.0346	871.		
.3280	-936.	-2760.	473.	463.	-385.	2306.	-.0298	-.0169	-.0786	.0392	-.0519	.0333	957.		
.3290	-1319.	-3179.	751.	515.	-385.	2446.	-.0364	-.0170	-.0842	.0375	-.0466	.0324	1015.		
.3300	-1593.	-3464.	947.	547.	-376.	2503.	-.0420	-.0178	-.0895	.0361	-.0415	.0315	1039.		
.3310	-1785.	-3597.	1074.	559.	-359.	2480.	-.0464	-.0193	-.0943	.0346	-.0366	.0305	1030.		
.3320	-1927.	-3635.	1160.	552.	-339.	2392.	-.0496	-.0216	-.0987	.0330	-.0319	.0295	994.		
.3330	-1997.	-3614.	1208.	526.	-322.	2244.	-.0516	-.0246	-.1027	.0312	-.0272	.0289	934.		
.3340	-1965.	-3510.	1204.	482.	-307.	2040.	-.0524	-.0281	-.1062	.0294	-.0226	.0287	850.		
.3350	-1860.	-3296.	1148.	425.	-291.	1787.	-.0525	-.0321	-.1092	.0276	-.0181	.0283	746.		
.3360	-1727.	-3004.	1053.	362.	-270.	1502.	-.0519	-.0364	-.1119	.0258	-.0139	.0276	630.		
.3370	-1574.	-2699.	926.	298.	-245.	1203.	-.0510	-.0410	-.1144	.0243	-.0098	.0267	507.		
.3380	-1392.	-2424.	779.	232.	-218.	903.	-.0499	-.0455	-.1167	.0232	-.0056	.0259	384.		
.3390	-1190.	-2175.	633.	161.	-192.	614.	-.0490	-.0499	-.1191	.0223	-.0008	.0251	266.		
.3400	-992.	-1933.	508.	84.	-172.	346.	-.0483	-.0540	-.1216	.0216	.0047	.0239	159.		
.3410	-797.	-1701.	407.	2.	-156.	106.	-.0480	-.0575	-.1243	.0211	.0112	.0222	76.		

ADLPIPE PAGE 1666

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.47.

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	-1785.	-3597.	1074.	559.	-359.	2480.	-.0464	-.0193	-.0943	.0346	-.0366	.0305	1039.
.3320	-1927.	-3635.	1160.	552.	-339.	2392.	-.0496	-.0216	-.0987	.0330	-.0319	.0295	994.
.3330	-1997.	-3614.	1208.	526.	-322.	2244.	-.0516	-.0246	-.1027	.0312	-.0272	.0289	934.
.3340	-1965.	-3510.	1204.	482.	-307.	2040.	-.0524	-.0281	-.1062	.0294	-.0226	.0287	850.
.3350	-1860.	-3296.	1148.	425.	-291.	1757.	-.0525	-.0321	-.1092	.0276	-.0181	.0283	746.
.3360	-1727.	-3004.	1053.	362.	-270.	1502.	-.0519	-.0364	-.1119	.0258	-.0139	.0276	630.
.3370	-1574.	-2699.	926.	298.	-245.	1203.	-.0510	-.0410	-.1144	.0243	-.0098	.0267	507.
.3380	-1392.	-2424.	779.	232.	-218.	903.	-.0499	-.0455	-.1167	.0232	-.0056	.0259	384.
.3390	-1190.	-2175.	633.	161.	-192.	614.	-.0490	-.0499	-.1191	.0223	-.0008	.0251	266.
.3400	-.992.	-1933.	508.	84.	-172.	346.	-.0483	-.0540	-.1216	.0216	.0047	.0239	159.
.3410	-.797.	-1701.	407.	2.	-156.	106.	-.0480	-.0575	-.1243	.0211	.0112	.0222	76.

ADLPIPE PAGE 1666

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.47.

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	41	MEMBER	1	SEQUENCE	B19	LOCATION	END	TYPE	EL						
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)		
.3420	-594.	-1519.	325.	-85.	-145.	-103.	-.0480	-.0604	-.1274	.0211	.0186	.0203	79.		
.3430	-393.	-1428.	263.	-173.	-137.	-273.	-.0484	-.0625	-.1310	.0218	.0270	.0184	141.		
.3440	-210.	-1426.	223.	-262.	-129.	-404.	-.0490	-.0640	-.1350	.0232	.0361	.0165	200.		
.3450	-35.	-1466.	200.	-352.	-121.	-503.	-.0498	-.0647	-.1393	.0251	.0460	.0143	251.		
.3460	157.	-1528.	188.	-447.	-112.	-573.	-.0506	-.0646	-.1438	.0275	.0565	.0119	295.		
.3470	369.	-1643.	188.	-543.	-103.	-615.	-.0511	-.0640	-.1483	.0301	.0673	.0096	332.		
.3480	573.	-1833.	209.	-636.	-93.	-623.	-.0514	-.0627	-.1525	.0329	.0783	.0077	359.		
.3490	752.	-2044.	245.	-721.	-82.	-602.	-.0513	-.0609	-.1561	.0357	.0889	.0056	378.		
.3500	913.	-2202.	280.	-795.	-68.	-561.	-.0508	-.0586	-.1587	.0382	.0987	.0030	391.		
.3510	1065.	-2294.	306.	-853.	-51.	-503.	-.0499	-.0560	-.1599	.0402	.1074	.0001	398.		
.3520	1189.	-2371.	328.	-888.	-32.	-422.	-.0486	-.0531	-.1595	.0416	.1146	-.0029	395.		
.3530	1254.	-2466.	358.	-893.	-14.	-312.	-.0469	-.0502	-.1569	.0423	.1199	-.0059	380.		
.3540	1246.	-2522.	392.	-866.	7.	-178.	-.0450	-.0472	-.1522	.0419	.1231	-.0092	355.		
.3550	1173.	-2454.	419.	-807.	31.	-31.	-.0429	-.0442	-.1449	.0404	.1238	-.0132	324.		
.3560	1048.	-2261.	433.	-716.	57.	125.	-.0408	-.0412	-.1350	.0376	.1219	-.0179	293.		
.3570	870.	-2023.	438.	-593.	83.	292.	-.0385	-.0383	-.1227	.0338	.1175	-.0225	268.		
.3580	626.	-1786.	446.	-440.	106.	470.	-.0360	-.0355	-.1082	.0290	.1106	-.0268	262.		
.3590	306.	-1502.	458.	-261.	125.	649.	-.0332	-.0327	-.0916	.0234	.1014	-.0312	285.		
.3600	-73.	-1100.	466.	-66.	141.	813.	-.0303	-.0300	-.0733	.0169	.0901	-.0361	332.		
.3610	-476.	-595.	462.	135.	154.	952.	-.0272	-.0274	-.0539	.0099	.0771	-.0412	391.		
.3620	-869.	-97.	447.	336.	161.	1066.	-.0240	-.0249	-.0338	.0028	.0528	-.0455	453.		
.3630	-1244.	314.	410.	532.	166.	1155.	-.0204	-.0225	-.0135	-.0037	.0476	-.0487	514.		
.3640	-1624.	670.	371.	716.	172.	1215.	-.0167	-.0201	.0063	-.0096	.0319	-.0512	570.		
.3650	-2011.	1061.	328.	880.	183.	1237.	-.0129	-.0176	.0252	-.0149	.0161	-.0538	614.		
.3660	-2376.	1495.	283.	1017.	197.	1220.	-.0092	-.0150	.0427	-.0193	.0009	-.0564	642.		
.3670	-2684.	1863.	244.	1121.	211.	1170.	-.0057	-.0123	.0583	-.0227	-.0131	-.0583	656.		
.3680	-2936.	2056.	223.	1194.	222.	1104.	-.0026	-.0096	.0718	-.0246	-.0253	-.0589	659.		
.3690	-3171.	2097.	228.	1238.	233.	1028.	.0001	-.0068	.0829	-.0252	-.0357	-.0589	652.		
.3700	-3404.	2102.	251.	1253.	246.	937.	.0020	-.0040	.0915	-.0245	-.0439	-.0592	636.		
.3710	-3611.	2122.	279.	1239.	265.	832.	.0029	-.0012	.0975	-.0227	-.0499	-.0603	608.		
.3720	-3771.	2070.	318.	1200.	283.	722.	.0029	.0016	.1011	-.0198	-.0534	-.0613	573.		
.3730	-3901.	1838.	390.	1140.	300.	627.	.0021	.0042	.1023	-.0158	-.0542	-.0618	536.		
.3740	-4035.	1475.	504.	1064.	315.	549.	.0005	.0065	.1013	-.0111	-.0524	-.0622	497.		
.3750	-4159.	1145.	637.	972.	335.	473.	-.0019	.0085	.0985	-.0062	-.0483	-.0635	454.		
.3760	-4227.	927.	756.	866.	365.	386.	-.0050	.0101	.0940	-.0012	-.0423	-.0659	408.		
.3770	-4232.	717.	855.	751.	404.	296.	-.0084	.0111	.0883	.0040	-.0347	-.0684	362.		
.3780	-4209.	389.	948.	638.	453.	215.	-.0118	.0115	.0816	.0092	-.0257	-.0703	326.		
.3790	-4175.	6.	1036.	529.	509.	141.	-.0150	.0112	.0742	.0142	-.0156	-.0719	300.		

ADLPIPE PAGE 1667

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.47.

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

.3690	-3171.	2097.	228.	1238.	233.	1028.	.0001	-.0068	.0829	-.0252	-.0357	-.0589	652.
.3700	-3404.	2102.	251.	1253.	246.	937.	.0020	-.0040	.0915	-.0245	-.0439	-.0592	636.
.3710	-3611.	2122.	279.	1239.	265.	832.	.0029	-.0012	.0975	-.0227	-.0499	-.0603	608.
.3720	-3771.	2070.	318.	1200.	283.	722.	.0029	.0016	.1011	-.0190	-.0534	-.0613	573.
.3730	-3901.	1838.	390.	1140.	300.	627.	.0021	.0042	.1023	-.0158	-.0542	-.0618	536.
.3740	-4035.	1475.	504.	1064.	315.	549.	.0005	.0065	.1013	-.0111	-.0524	-.0622	497.
.3750	-4159.	1145.	637.	972.	335.	473.	-.0019	.0085	.0985	-.0062	-.0483	-.0635	454.
.3760	-4227.	927.	756.	866.	365.	386.	-.0050	.0101	.0940	-.0012	-.0423	-.0659	408.
.3770	-4232.	717.	855.	751.	404.	296.	-.0034	.0111	.0883	.0040	-.0347	-.0684	362.
.3780	-4209.	389.	948.	638.	453.	215.	-.0118	.0115	.0816	.0092	-.0257	-.0703	326.
.3790	-4175.	6.	1036.	529.	509.	141.	-.0150	.0112	.0742	.0142	-.0156	-.0719	300.

ADLPIPE PAGE 1667

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.28.47.

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	41	MEMBER	1	SEQUENCE	819	LOCATION	END	TYPE	EL						
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)		
.3800	-4118.	-234.	1105.	422.	574.	56.	-.0179	.0105	.0665	.0183	-.0047	-.0743	287.		
.3810	-4015.	-236.	1148.	312.	642.	-49.	-.0206	.0092	.0589	.0211	.0067	-.0779	287.		
.3820	-3833.	-141.	1162.	203.	707.	-168.	-.0228	.0074	.0516	.0228	.0186	-.0813	303.		
.3830	-3579.	-144.	1150.	102.	763.	-285.	-.0241	.0048	.0448	.0239	.0307	-.0832	329.		
.3840	-3327.	-232.	1121.	15.	816.	-395.	-.0246	.0017	.0385	.0243	.0425	-.0841	364.		
.3850	-3104.	-195.	1058.	-56.	869.	-516.	-.0244	-.0017	.0321	.0236	.0535	-.0855	406.		
.3860	-2855.	88.	939.	-118.	922.	-660.	-.0237	-.0053	.0285	.0218	.0539	-.0878	457.		
.3870	-2539.	471.	781.	-174.	955.	-811.	-.0225	-.0087	.0247	.0191	.0736	-.0895	511.		
.3880	-2204.	727.	642.	-219.	988.	-938.	-.0208	-.0120	.0217	.0157	.0832	-.0894	554.		
.3890	-1919.	867.	555.	-251.	990.	-1028.	-.0188	-.0148	.0194	.0112	.0926	-.0882	582.		
.3900	-1683.	1099.	494.	-274.	979.	-1100.	-.0168	-.0172	.0178	.0057	.1014	-.0872	601.		
.3910	-1460.	1501.	426.	-290.	961.	-1166.	-.0152	-.0189	.0168	-.0007	.1094	-.0870	617.		
.3920	-1263.	1866.	359.	-291.	937.	-1204.	-.0140	-.0201	.0164	-.0074	.1166	-.0862	623.		
.3930	-1137.	1957.	327.	-269.	905.	-1186.	-.0130	-.0206	.0162	-.0138	.1231	-.0836	608.		
.3940	-1088.	1830.	341.	-228.	866.	-1114.	-.0125	-.0204	.0163	-.0199	.1289	-.0797	574.		
.3950	-1078.	1743.	387.	-180.	820.	-1015.	-.0126	-.0192	.0165	-.0263	.1341	-.0760	529.		
.3960	-1095.	1802.	466.	-134.	768.	-900.	-.0134	-.0169	.0168	-.0331	.1389	-.0731	478.		
.3970	-1160.	1829.	598.	-86.	709.	-754.	-.0146	-.0138	.0170	-.0399	.1433	-.0699	417.		
.3980	-1280.	1625.	786.	-31.	643.	-566.	-.0159	-.0101	.0171	-.0462	.1471	-.0653	344.		
.3990	-1429.	1235.	993.	30.	577.	-351.	-.0173	-.0060	.0172	-.0516	.1499	-.0594	271.		
.4000	-1583.	871.	1175.	94.	521.	-139.	-.0188	-.0014	.0173	-.0563	.1515	-.0537	220.		

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)
.3300	-1593.	-3464.	947.	547.	-376.	2503.	-.0420	-.0178	-.0895	.0361	-.0415	.0315	1039.

SECTION	41	MEMBER	2	SEQUENCE	62	LOCATION	END	TYPE	EL						
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	-0.	-0.	0.	-0.	0.	-0.	.0000	-.0000	-.0000	-.0000	-.0000	.0000	0.		
.0020	-1.	-1.	0.	-0.	0.	-0.	.0000	-.0000	-.0000	-.0000	-.0000	.0000	0.		
.0030	-2.	-2.	1.	-0.	0.	-0.	-.0000	-.0000	-.0000	-.0000	-.0000	.0000	0.		

ADLPIPE PAGE 1668

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.28.47.

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



.3300 -1593. -3464. 947. 547. -376. 2503. -.420 -.0178 -.0895 .0361 -.0415 .0315 1039.

SECTION	41	MEMBER	2	SEQUENCE	62	LOCATION	END	TYPE	EL						
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	-0.	-0.	0.	-0.	0.	-0.		.0000	-.0000	-.0000	-.0000	-.0000	.0000	0.	
.0020	-1.	-1.	0.	-0.	0.	-0.		.0000	-.0000	-.0000	-.0000	-.0000	.0000	0.	
.0030	-2.	-2.	1.	-0.	0.	-0.		-.0000	-.0000	-.0000	-.0000	-.0000	.0000	0.	

ADLPIPE PAGE 1068 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 83/12/02. 18.28.47.

S/RV PIPING KEWAUNEE GKWOEF 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	41	MEMBER	2	SEQUENCE	62	LOCATION	END	TYPE	EL						
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	-3.	-2.	1.	0.	1.	-0.		-.0000	.0000	.0000	-.0000	-.0000	.0000	0.	
.0050	-3.	-2.	2.	0.	1.	1.		-.0000	.0000	.0000	-.0000	-.0000	.0000	0.	
.0060	-4.	-2.	2.	1.	1.	1.		-.0000	.0000	.0000	-.0000	-.0000	.0000	1.	
.0070	-4.	0.	2.	1.	2.	2.		-.0000	-.0000	.0000	-.0000	-.0000	-.0000	1.	
.0080	-1.	7.	2.	3.	3.	5.		-.0000	-.0000	.0000	-.0001	-.0000	-.0000	3.	
.0090	4.	17.	-1.	4.	5.	10.		-.0000	-.0000	.0000	-.0001	-.0000	-.0001	5.	
.0100	7.	25.	-5.	5.	4.	12.		-.0000	-.0001	.0000	-.0001	-.0000	-.0001	6.	
.0110	3.	28.	-10.	3.	-1.	13.		-.0000	-.0002	-.0000	.0001	-.0000	-.0003	5.	
.0120	-1.	32.	-16.	1.	-17.	14.		-.0000	-.0003	-.0000	.0003	.0000	-.0005	9.	
.0130	3.	48.	-26.	-0.	-43.	20.		.0000	-.0004	-.0000	.0005	.0002	-.0008	19.	
.0140	14.	75.	-36.	-0.	-82.	30.		-.0000	-.0005	-.0000	.0009	.0004	-.0011	35.	
.0150	24.	101.	-43.	-0.	-130.	41.		-.0000	-.0007	-.0001	.0012	.0006	-.0015	54.	
.0160	26.	118.	-44.	-2.	-178.	47.		-.0001	-.0009	-.0001	.0016	.0009	-.0019	74.	
.0170	25.	124.	-45.	-6.	-217.	48.		-.0002	-.0012	-.0003	.0019	.0012	-.0023	89.	
.0180	26.	126.	-49.	-11.	-241.	45.		-.0003	-.0014	-.0005	.0022	.0016	-.0026	98.	
.0190	24.	121.	-56.	-18.	-251.	40.		-.0005	-.0017	-.0008	.0025	.0020	-.0029	102.	
.0200	5.	91.	-58.	-28.	-255.	28.		-.0007	-.0018	-.0013	.0029	.0024	-.0031	103.	
.0210	-20.	32.	-55.	-44.	-269.	2.		-.0009	-.0019	-.0017	.0035	.0029	-.0032	109.	
.0220	-35.	-39.	-62.	-67.	-315.	-32.		-.0011	-.0018	-.0022	.0045	.0037	-.0032	130.	
.0230	-40.	-104.	-56.	-86.	-396.	-56.		-.0013	-.0015	-.0027	.0055	.0046	-.0030	164.	
.0240	-28.	-139.	-19.	-89.	-490.	-58.		-.0015	-.0009	-.0031	.0061	.0056	-.0025	201.	
.0250	8.	-133.	44.	-74.	-559.	-36.		-.0016	-.0001	-.0035	.0059	.0065	-.0016	227.	
.0260	30.	-97.	99.	-48.	-571.	8.		-.0017	.0006	-.0039	.0055	.0072	-.0007	230.	
.0270	-2.	-74.	104.	-32.	-534.	51.		-.0018	.0010	-.0044	.0056	.0076	-.0005	216.	
.0280	-70.	-141.	95.	-41.	-451.	34.		-.0019	.0009	-.0048	.0057	.0076	-.0003	182.	
.0290	-124.	-352.	119.	-83.	-322.	-96.		-.0018	.0006	-.0050	.0049	.0072	.0005	139.	
.0300	-128.	-618.	107.	-150.	-192.	-286.		-.0017	.0004	-.0050	.0043	.0066	.0018	151.	
.0310	-32.	-711.	31.	-189.	-90.	-394.		-.0015	.0009	-.0049	.0043	.0061	.0031	179.	
.0320	41.	-581.	7.	-146.	-22.	-320.		-.0012	.0023	-.0044	.0036	.0056	.0046	142.	
.0330	-54.	-415.	113.	-49.	-13.	-136.		-.0008	.0040	-.0035	.0019	.0052	.0060	58.	
.0340	-215.	-399.	271.	17.	-64.	-30.		-.0001	.0055	-.0022	.0000	.0046	.0077	29.	
.0350	-204.	-513.	357.	11.	-100.	-107.		.0008	.0065	-.0007	-.0021	.0036	.0099	59.	
.0360	-12.	-601.	330.	-24.	-36.	-262.		.0016	.0072	.0010	-.0044	.0020	.0123	106.	
.0370	111.	-568.	226.	-28.	126.	-314.		.0022	.0079	.0029	-.0059	-.0001	.0138	136.	
.0380	27.	-460.	122.	10.	307.	-230.		.0028	.0086	.0048	-.0066	-.0023	.0140	154.	
.0390	-141.	-395.	103.	60.	428.	-138.		.0038	.0091	.0070	-.0078	-.0045	.0141	182.	
.0400	-231.	-434.	183.	90.	456.	-141.		.0051	.0094	.0095	-.0103	-.0065	.0150	195.	
.0410	-160.	-446.	231.	99.	399.	-185.		.0062	.0098	.0122	-.0127	-.0081	.0159	181.	

ADLPIPE PAGE 1069 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 83/12/02. 18.28.47.

S/RV PIPING KEWAUNEE GKWOEF 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

.0300	-170.	-618.	108.	-150.	-192.	-286.	-.0017	.0004	-.0050	.0043	.0066	.0018	151.
.0310	-32.	-711.	31.	-189.	-90.	-394.	-.0015	.0009	-.0049	.0043	.0061	.0031	179.
.0320	41.	-581.	7.	-146.	-22.	-320.	-.0012	.0023	-.0044	.0036	.0056	.0046	142.
.0330	-54.	-415.	113.	-49.	-13.	-136.	-.0008	.0040	-.0035	.0017	.0052	.0060	58.
.0340	-215.	-399.	271.	17.	-64.	-30.	-.0001	.0055	-.0022	.0000	.0046	.0077	29.
.0350	-204.	-513.	357.	11.	-100.	-107.	.0008	.0065	-.0007	-.0021	.0036	.0099	59.
.0360	-12.	-601.	330.	-24.	-36.	-262.	.0016	.0072	.0010	-.0044	.0020	.0123	106.
.0370	111.	-568.	226.	-28.	126.	-314.	.0022	.0079	.0029	-.0059	-.0001	.0138	136.
.0380	27.	-460.	122.	10.	307.	-230.	.0028	.0086	.0048	-.0066	-.0023	.0140	154.
.0390	-141.	-395.	103.	60.	428.	-138.	.0038	.0091	.0070	-.0078	-.0045	.0141	182.
.0400	-231.	-474.	187.	90.	456.	-141.	.0051	.0094	.0095	-.0103	-.0065	.0150	195.
.0410	-160.	-446.	231.	99.	399.	-185.	.0062	.0098	.0122	-.0127	-.0081	.0159	181.

ADLPIPE PAGE 1669

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.47.

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	41	MEMBER	2	SEQUENCE	62	LOCATION	END	TYPE	EL						
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)		
.0420	76.	-219.	170.	138.	342.	-129.	.0071	.0105	.0151	-.0145	-.0096	.0163	157.		
.0430	315.	251.	64.	238.	363.	93.	.0078	.0112	.0177	-.0162	-.0111	.0157	178.		
.0440	222.	571.	47.	347.	451.	346.	.0085	.0112	.0200	-.0179	-.0128	.0141	267.		
.0450	-125.	500.	86.	374.	539.	423.	.0094	.0101	.0220	-.0185	-.0144	.0118	313.		
.0460	-187.	347.	12.	320.	601.	308.	.0101	.0084	.0236	-.0185	-.0157	.0096	300.		
.0470	209.	540.	-191.	293.	648.	238.	.0104	.0070	.0251	-.0188	-.0165	.0077	301.		
.0480	535.	1008.	-339.	360.	670.	406.	.0101	.0059	.0262	-.0193	-.0168	.0048	346.		
.0490	396.	1333.	-324.	454.	632.	690.	.0098	.0047	.0267	-.0186	-.0164	.0006	417.		
.0500	70.	1342.	-253.	470.	541.	817.	.0098	.0030	.0265	-.0166	-.0154	-.0035	436.		
.0510	28.	1233.	-275.	397.	427.	733.	.0096	.0011	.0255	-.0140	-.0139	-.0069	376.		
.0520	198.	1198.	-376.	307.	316.	613.	.0088	-.0004	.0241	-.0108	-.0120	-.0098	303.		
.0530	339.	1244.	-473.	249.	215.	578.	.0074	-.0014	.0221	-.0070	-.0097	-.0126	267.		
.0540	447.	1317.	-540.	211.	116.	583.	.0058	-.0019	.0195	-.0030	-.0069	-.0150	253.		
.0550	478.	1324.	-537.	174.	-1.	574.	.0047	-.0021	.0163	.0008	-.0039	-.0168	241.		
.0560	261.	1172.	-398.	141.	-144.	569.	.0037	-.0025	.0126	.0043	-.0006	-.0183	242.		
.0570	-27.	946.	-220.	100.	-297.	552.	.0023	-.0029	.0088	.0077	.0026	-.0196	255.		
.0580	59.	817.	-210.	14.	-432.	436.	.0006	-.0033	.0049	.0113	.0058	-.0202	246.		
.0590	430.	672.	-341.	-130.	-532.	175.	-.0011	-.0037	.0010	.0152	.0086	-.0198	231.		
.0600	478.	227.	-363.	-295.	-602.	-145.	-.0025	-.0040	-.0032	.0194	.0112	-.0189	275.		
.0610	94.	-403.	-211.	-417.	-652.	-379.	-.0035	-.0037	-.0072	.0234	.0135	-.0175	346.		
.0620	-155.	-731.	-82.	-454.	-704.	-437.	-.0043	-.0020	-.0109	.0267	.0156	-.0151	379.		
.0630	-21.	-651.	-42.	-417.	-782.	-755.	-.0052	.0009	-.0138	.0287	.0174	-.0117	383.		
.0640	98.	-636.	70.	-376.	-889.	-296.	-.0059	.0039	-.0157	.0290	.0187	-.0073	405.		
.0650	-6.	-1001.	277.	-400.	-991.	-409.	-.0060	.0063	-.0168	.0203	.0192	-.0023	459.		
.0660	-63.	-1478.	391.	-476.	-1019.	-651.	-.0054	.0081	-.0172	.0273	.0186	.0029	521.		
.0670	-8.	-1703.	354.	-513.	-940.	-795.	-.0046	.0098	-.0167	.0262	.0170	.0073	535.		
.0680	-98.	-1653.	310.	-448.	-803.	-697.	-.0038	.0115	-.0151	.0244	.0146	.0106	463.		
.0690	-287.	-1481.	323.	-324.	-711.	-483.	-.0028	.0130	-.0123	.0215	.0118	.0130	369.		
.0700	-263.	-1293.	332.	-228.	-720.	-379.	-.0011	.0138	-.0084	.0171	.0087	.0154	339.		
.0710	-74.	-1144.	332.	-174.	-792.	-403.	.0010	.0138	-.0037	.0115	.0055	.0178	363.		
.0720	-34.	-964.	349.	-102.	-826.	-361.	.0031	.0131	.0017	.0054	.0019	.0190	364.		
.0730	-112.	-560.	307.	30.	-737.	-135.	.0048	.0122	.0072	-.0005	-.0019	.0185	301.		
.0740	-62.	67.	142.	186.	-513.	163.	.0063	.0110	.0126	-.0066	-.0060	.0169	228.		
.0750	49.	611.	-44.	305.	-220.	351.	.0078	.0089	.0177	-.0130	-.0099	.0149	207.		
.0760	27.	887.	-136.	375.	57.	405.	.0091	.0060	.0223	-.0196	-.0132	.0125	222.		
.0770	-10.	1119.	-184.	436.	287.	441.	.0100	.0028	.0263	-.0257	-.0157	.0095	274.		
.0780	127.	1547.	-284.	517.	476.	554.	.0103	-.0002	.0293	-.0310	-.0170	.0058	359.		
.0790	285.	2017.	-397.	597.	623.	714.	.0100	-.0028	.0312	-.0347	-.0171	.0016	449.		

ADLPIPE PAGE 1670

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.47.

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



.0690	-267.	-1481.	323.	-324.	-711.	-483.	-0028	.0130	-.0123	.0215	.0118	.0130	369.
.0700	-263.	-1293.	332.	-226.	-720.	-379.	-0011	.0138	-.0084	.0171	.0087	.0154	339.
.0710	-74.	-1144.	332.	-174.	-792.	-403.	.0010	.0138	-.0037	.0115	.0055	.0178	363.
.0720	-34.	-924.	349.	-102.	-826.	-361.	.0031	.0131	.0017	.0054	.0019	.0190	364.
.0730	-112.	-560.	307.	30.	-737.	-135.	.0048	.0122	.0072	-.0005	-.0019	.0185	301.
.0740	-62.	67.	142.	186.	-517.	163.	.0063	.0110	.0126	-.0066	-.0060	.0169	228.
.0750	49.	611.	-44.	305.	-220.	351.	.0078	.0089	.0177	-.0130	-.0099	.0149	207.
.0760	27.	887.	-136.	375.	57.	405.	.0091	.0060	.0223	-.0196	-.0132	.0125	222.
.0770	-10.	1119.	-184.	436.	287.	441.	.0100	.0028	.0263	-.0257	-.0157	.0095	274.
.0780	127.	1547.	-284.	517.	476.	554.	.0103	-.0002	.0293	-.0310	-.0170	.0058	359.
.0790	285.	2017.	-397.	597.	623.	714.	.0100	-.0020	.0312	-.0347	-.0171	.0016	449.

ADLPIPE PAGE 1670

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.28.47.

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	41	MEMBER	2	SEQUENCE	62	LOCATION	END	TYPE	EL						
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	244.	2235.	-437.	628.	713.	819.	.0094	-.0053	.0316	-.0364	-.0160	-.0027	503.		
.0810	125.	2199.	-422.	598.	737.	816.	.0085	-.0074	.0305	-.0362	-.0135	-.0067	502.		
.0820	160.	2123.	-421.	538.	705.	756.	.0072	-.0089	.0279	-.0346	-.0099	-.0100	467.		
.0830	295.	2091.	-419.	484.	630.	723.	.0053	-.0095	.0240	-.0316	-.0052	-.0127	431.		
.0840	351.	1992.	-353.	439.	538.	715.	.0030	-.0094	.0189	-.0275	.0001	-.0148	400.		
.0850	328.	1717.	-228.	368.	469.	641.	.0007	-.0090	.0127	-.0228	.0057	-.0159	351.		
.0860	313.	1276.	-109.	248.	447.	457.	-.0015	-.0084	.0055	-.0173	.0111	-.0161	275.		
.0870	301.	767.	-33.	100.	465.	231.	-.0036	-.0076	-.0021	-.0110	.0161	-.0155	212.		
.0880	275.	288.	14.	-45.	487.	38.	-.0058	-.0065	-.0099	-.0039	.0206	-.0147	197.		
.0890	301.	-148.	56.	-182.	466.	-144.	-.0078	-.0052	-.0172	.0032	.0246	-.0132	209.		
.0900	394.	-606.	115.	-326.	366.	-374.	-.0093	-.0036	-.0238	.0102	.0278	-.0108	248.		
.0910	458.	-1100.	212.	-465.	204.	-620.	-.0102	-.0018	-.0295	.0168	.0301	-.0077	322.		
.0920	452.	-1504.	323.	-559.	40.	-778.	-.0107	.0004	-.0340	.0230	.0313	-.0042	385.		
.0930	469.	-1692.	373.	-596.	-71.	-806.	-.0108	.0033	-.0370	.0287	.0310	-.0005	403.		
.0940	569.	-1738.	330.	-612.	-122.	-788.	-.0106	.0064	-.0385	.0338	.0294	.0034	403.		
.0950	702.	-1826.	237.	-648.	-148.	-833.	-.0098	.0097	-.0382	.0381	.0263	.0079	428.		
.0960	808.	-1989.	157.	-693.	-186.	-930.	-.0082	.0132	-.0359	.0412	.0221	.0130	472.		
.0970	925.	-2031.	92.	-690.	-259.	-952.	-.0061	.0173	-.0315	.0427	.0169	.0185	483.		
.0980	1075.	-1791.	33.	-596.	-371.	-792.	-.0034	.0223	-.0249	.0426	.0111	.0238	424.		
.0990	1152.	-1382.	17.	-426.	-517.	-486.	-.0002	.0280	-.0163	.0409	.0046	.0289	332.		
.1000	1051.	-1065.	80.	-246.	-679.	-185.	.0037	.0335	-.0057	.0376	-.0024	.0336	299.		
.1010	831.	-950.	176.	-109.	-817.	-8.	.0083	.0382	.0065	.0328	-.0101	.0378	331.		
.1020	668.	-902.	202.	-18.	-870.	52.	.0134	.0419	.0201	.0268	-.0185	.0411	350.		
.1030	589.	-751.	125.	71.	-798.	104.	.0186	.0450	.0348	.0196	-.0273	.0434	324.		
.1040	410.	-477.	33.	200.	-610.	251.	.0238	.0475	.0502	.0114	-.0363	.0440	277.		
.1050	143.	-82.	-41.	370.	-369.	489.	.0292	.0494	.0660	.0022	-.0452	.0431	287.		
.1060	-18.	467.	-137.	558.	-147.	755.	.0347	.0507	.0818	-.0076	-.0533	.0409	381.		
.1070	-11.	1180.	-267.	752.	16.	1039.	.0402	.0515	.0975	-.0178	-.0505	.0376	515.		
.1080	-139.	1914.	-309.	965.	120.	1383.	.0451	.0512	.1127	-.0283	-.0666	.0327	678.		
.1090	-573.	2510.	-225.	1167.	198.	1736.	.0495	.0490	.1268	-.0388	-.0717	.0253	843.		
.1100	-134.	3356.	-592.	1238.	294.	1839.	.0533	.0460	.1390	-.0465	-.0755	.0177	898.		
.1110	526.	4183.	-1097.	1246.	448.	1834.	.0565	.0429	.1489	-.0523	-.0780	.0100	908.		
.1120	354.	4658.	-1228.	1318.	628.	2003.	.0585	.0398	.1564	-.0575	-.0790	.0017	995.		
.1130	-3.	5113.	-1216.	1435.	750.	2291.	.0596	.0373	.1612	-.0614	-.0780	-.0065	1126.		
.1140	430.	5891.	-1432.	1509.	763.	2485.	.0600	.0355	.1632	-.0636	-.0750	-.0133	1206.		
.1150	1073.	6569.	-1633.	1531.	680.	2559.	.0596	.0337	.1623	-.0646	-.0701	-.0189	1227.		
.1160	916.	6497.	-1470.	1491.	556.	2527.	.0583	.0312	.1584	-.0641	-.0639	-.0241	1198.		
.1170	424.	5777.	-1212.	1319.	462.	2234.	.0561	.0282	.1516	-.0612	-.0566	-.0282	1057.		

ADLPIPE PAGE 1671

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.28.48.

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

.1100	-17.	467.	-137.	558.	-147.	755.	1039.	.0347	.0507	.0818	-.0076	-.0533	.0409	381.
.1070	-11.	1180.	-267.	752.	16.	1039.	.0402	.0515	.0775	-.0178	-.0505	.0376	515.	
.1080	-139.	1914.	-309.	965.	120.	1383.	.0451	.0512	.1127	-.0283	-.0566	.0327	678.	
.1090	-573.	2510.	-225.	1167.	198.	1736.	.0495	.0490	.1268	-.0388	-.0717	.0253	843.	
.1100	-134.	3356.	-592.	1270.	294.	1639.	.0533	.0460	.1390	-.0465	-.0755	.0177	898.	
.1110	526.	4183.	-1097.	1246.	448.	1634.	.0565	.0429	.1489	-.0523	-.0780	.0100	908.	
.1120	354.	4658.	-1228.	1318.	628.	2003.	.0585	.0398	.1564	-.0575	-.0790	.0017	995.	
.1130	-3.	5113.	-1216.	1435.	750.	2291.	.0596	.0373	.1612	-.0614	-.0780	-.0065	1126.	
.1140	430.	5891.	-1432.	1509.	763.	2485.	.0600	.0355	.1632	-.0636	-.0750	-.0133	1206.	
.1150	1073.	6569.	-1633.	1531.	680.	2559.	.0596	.0337	.1623	-.0646	-.0701	-.0189	1227.	
.1160	916.	6497.	-1470.	1491.	556.	2527.	.0583	.0312	.1584	-.0641	-.0539	-.0241	1198.	
.1170	424.	5777.	-1212.	1319.	462.	2234.	.0561	.0282	.1516	-.0612	-.0566	-.0282	1057.	

ADLPIPE PAGE 1671

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.28.48.

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	41	MEMBER	2	SEQUENCE	62	LOCATION	END	TYPE	EL						
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)	
.1180	873.	5135.	-1416.	994.	440.	1610.		.0534	.0262	.1416	-.0548	-.0483	-.0294	779.	
.1190	1664.	4678.	-1719.	696.	483.	1036.		.0500	.0260	.1291	-.0474	-.0392	-.0280	537.	
.1200	1514.	4035.	-1500.	580.	491.	861.		.0460	.0276	.1149	-.0410	-.0293	-.0255	461.	
.1210	881.	3208.	-948.	546.	363.	851.		.0418	.0301	.0994	-.0351	-.0187	-.0217	431.	
.1220	1025.	2433.	-594.	413.	124.	556.		.0381	.0330	.0831	-.0293	-.0080	-.0150	282.	
.1230	1597.	1494.	-414.	156.	-120.	-40.		.0344	.0354	.0665	-.0231	.0021	-.0064	81.	
.1240	1517.	91.	-96.	-126.	-254.	-656.		.0303	.0372	.0502	-.0163	.0108	.0020	287.	
.1250	1090.	-1421.	180.	-396.	-254.	-1196.		.0261	.0390	.0346	-.0082	.0180	.0099	516.	
.1260	1251.	-2429.	107.	-639.	-218.	-1671.		.0224	.0416	.0203	.0006	.0238	.0183	723.	
.1270	1631.	-2944.	37.	-751.	-273.	-1909.		.0194	.0449	.0080	.0071	.0286	.0269	830.	
.1280	1261.	-3412.	431.	-675.	-519.	-1778.		.0168	.0479	-.0012	.0098	.0322	.0342	791.	
.1290	617.	-3843.	1031.	-526.	-894.	-1533.		.0146	.0499	-.0073	.0091	.0343	.0405	743.	
.1300	780.	-3951.	1243.	-461.	-1194.	-1518.		.0129	.0503	-.0106	.0064	.0343	.0465	797.	
.1310	1346.	-3875.	1066.	-471.	-1230.	-1665.		.0115	.0488	-.0114	.0029	.0316	.0510	852.	
.1320	1172.	-3908.	935.	-426.	-938.	-1650.		.0102	.0456	-.0101	-.0017	.0262	.0524	781.	
.1330	429.	-3804.	855.	-275.	-470.	-1364.		.0089	.0413	-.0067	-.0071	.0193	.0505	589.	
.1340	170.	-3120.	598.	-56.	-67.	-958.		.0081	.0365	-.0013	-.0139	.0118	.0470	386.	
.1350	351.	-2067.	356.	205.	93.	-528.		.0077	.0314	.0061	-.0233	.0049	.0428	230.	
.1360	167.	-1210.	450.	490.	7.	-80.		.0074	.0255	.0150	-.0348	-.0013	.0376	199.	
.1370	-207.	-536.	664.	743.	-124.	309.		.0069	.0191	.0242	-.0468	-.0068	.0316	327.	
.1380	-123.	333.	532.	918.	-83.	592.		.0062	.0129	.0325	-.0567	-.0120	.0251	440.	
.1390	72.	1307.	154.	1057.	218.	876.		.0051	.0072	.0392	-.0640	-.0166	.0180	558.	
.1400	-380.	1946.	-42.	1203.	656.	1233.		.0034	.0020	.0440	-.0695	-.0203	.0100	740.	
.1410	-1084.	2227.	-36.	1312.	999.	1494.		.0015	-.0027	.0471	-.0738	-.0221	.0028	893.	
.1420	-1091.	2479.	-60.	1329.	1106.	1475.		-.0005	-.0063	.0484	-.0775	-.0215	-.0017	912.	
.1430	-646.	2693.	-49.	1291.	994.	1297.		-.0027	-.0084	.0477	-.0804	-.0185	-.0037	836.	
.1440	-668.	2626.	206.	1267.	804.	1212.		-.0052	-.0089	.0448	-.0812	-.0137	-.0048	774.	
.1450	-1118.	2338.	532.	1236.	670.	1224.		-.0080	-.0081	.0393	-.0784	-.0078	-.0054	748.	
.1460	-1295.	2013.	614.	1115.	615.	1118.		-.0108	-.0060	.0315	-.0715	-.0010	-.0047	680.	
.1470	-1178.	1505.	583.	893.	569.	788.		-.0134	-.0033	.0220	-.0626	.0063	-.0019	530.	
.1480	-1256.	606.	736.	626.	421.	321.		-.0159	-.0003	.0116	-.0531	.0139	.0026	329.	
.1490	-1373.	-442.	1032.	363.	151.	-191.		-.0181	.0031	.0010	-.0438	.0218	.0086	175.	
.1500	-1123.	-1276.	1234.	119.	-158.	-697.		-.0196	.0073	-.0095	-.0345	.0292	.0161	291.	
.1510	-833.	-1971.	1353.	-95.	-408.	-1116.		-.0204	.0122	-.0198	-.0246	.0358	.0241	478.	
.1520	-994.	-2780.	1541.	-271.	-552.	-1407.		-.0205	.0172	-.0292	-.0147	.0410	.0319	616.	
.1530	-1273.	-3614.	1682.	-447.	-642.	-1669.		-.0199	.0220	-.0372	-.0050	.0447	.0395	740.	
.1540	-1035.	-4205.	1612.	-646.	-762.	-2012.		-.0184	.0266	-.0430	.0035	.0471	.0475	901.	
.1550	-476.	-4567.	1471.	-822.	-973.	-2359.		-.0160	.0306	-.0462	.0098	.0484	.0552	1076.	

ADLPIPE PAGE 1672

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.28.48.

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





.1720	311.	-186.	-277.	-79.	172.	158.	.0234	.0363	.0485	.0303	-.0162	.0078	161.
.1730	208.	-506.	-284.	-116.	289.	283.	.0236	.0796	.0438	.0389	-.0239	.0165	169.
.1840	141.	-722.	-261.	-144.	303.	237.	.0241	.0401	.0403	.0453	-.0315	.0242	165.
.1850	76.	-849.	-204.	-155.	268.	210.	.0245	.0394	.0381	.0498	-.0390	.0303	150.
.1360	80.	-303.	-230.	-153.	289.	215.	.0248	.0378	.0370	.0530	-.0462	.0343	157.
.1870	86.	-576.	-304.	-136.	422.	290.	.0248	.0353	.0365	.0558	-.0529	.0355	211.
.1880	-27.	-256.	-576.	-101.	652.	404.	.0244	.0319	.0366	.0576	-.0589	.0340	310.
.1890	-212.	99.	-742.	-61.	881.	538.	.0236	.0276	.0374	.0580	-.0635	.0301	415.
.1900	-271.	518.	-885.	-33.	1014.	627.	.0226	.0226	.0386	.0566	-.0661	.0243	478.
.1910	-162.	1009.	-987.	-12.	1033.	674.	.0212	.0173	.0402	.0533	-.0667	.0173	495.
.1920	-81.	1517.	-1020.	18.	984.	745.	.0193	.0120	.0417	.0488	-.0651	.0089	495.
.1930	-115.	2018.	-1013.	61.	945.	868.	.0171	.0070	.0426	.0439	-.0617	-.0007	516.

ADLPIPE PAGE 1673

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.28.48.

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	41	MEMBER	2	SEQUENCE	62	LOCATION	END	TYPE	EL						
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)	
.1940	-164.	2510.	-1036.	101.	954.	1005.		.0144	.0024	.0427	.0393	-.0566	-.0110	558.	
.1950	-166.	2920.	-1090.	116.	985.	1089.		.0115	-.0017	.0419	.0349	-.0501	-.0212	591.	
.1960	-159.	3154.	-1104.	101.	974.	1090.		.0084	-.0053	.0402	.0306	-.0422	-.0307	588.	
.1970	-123.	3217.	-1042.	64.	871.	1020.		.0052	-.0082	.0377	.0262	-.0331	-.0388	539.	
.1980	-14.	3182.	-928.	22.	674.	918.		.0021	-.0101	.0344	.0220	-.0231	-.0452	457.	
.1990	98.	3073.	-776.	-10.	422.	838.		-.0008	-.0109	.0303	.0184	-.0128	-.0495	377.	
.2000	122.	2864.	-590.	-29.	166.	800.		-.0034	-.0104	.0254	.0157	-.0026	-.0519	328.	
.2010	105.	2556.	-409.	-43.	-69.	773.		-.0056	-.0088	.0198	.0140	.0068	-.0519	312.	
.2020	153.	2160.	-270.	-69.	-293.	709.		-.0073	-.0065	.0139	.0133	.0152	-.0495	309.	
.2030	272.	1667.	-155.	-108.	-525.	586.		-.0084	-.0037	.0080	.0130	.0222	-.0447	319.	
.2040	392.	1079.	-19.	-146.	-767.	426.		-.0088	-.0006	.0024	.0126	.0276	-.0377	357.	
.2050	488.	460.	133.	-168.	-991.	272.		-.0085	.0028	-.0027	.0120	.0311	-.0287	418.	
.2060	584.	-105.	255.	-165.	-1163.	156.		-.0074	.0064	-.0072	.0112	.0327	-.0184	475.	
.2070	674.	-583.	328.	-138.	-1262.	91.		-.0057	.0100	-.0109	.0101	.0323	-.0071	511.	
.2080	746.	-983.	361.	-94.	-1301.	60.		-.0035	.0135	-.0138	.0088	.0302	.0046	524.	
.2090	829.	-1325.	361.	-48.	-1316.	24.		-.0008	.0165	-.0155	.0070	.0265	.0163	529.	
.2100	951.	-1617.	334.	-13.	-1342.	-46.		.0022	.0189	-.0161	.0048	.0219	.0274	539.	
.2110	1077.	-1851.	298.	16.	-1383.	-136.		.0054	.0207	-.0156	.0023	.0165	.0375	558.	
.2120	1157.	-1993.	267.	5.	-1418.	-202.		.0087	.0220	-.0142	-.0006	.0109	.0461	575.	
.2130	1192.	-2007.	224.	106.	-1418.	-220.		.0117	.0229	-.0120	-.0037	.0054	.0528	577.	
.2140	1221.	-1896.	150.	158.	-1370.	-209.		.0143	.0234	-.0092	-.0069	.0001	.0575	560.	
.2150	1244.	-1713.	62.	196.	-1286.	-202.		.0165	.0235	-.0059	-.0102	-.0044	.0601	528.	
.2160	1239.	-1506.	-8.	217.	-1188.	-217.		.0180	.0231	-.0024	-.0137	-.0080	.0608	492.	
.2170	1213.	-1267.	-47.	226.	-1096.	-243.		.0189	.0223	.0014	-.0175	-.0104	.0593	459.	
.2180	1189.	-967.	-69.	230.	-1011.	-264.		.0192	.0212	.0053	-.0213	-.0115	.0559	429.	
.2190	1146.	-621.	-78.	231.	-924.	-272.		.0189	.0198	.0091	-.0248	-.0114	.0505	398.	
.2200	1041.	-290.	-69.	223.	-826.	-280.		.0179	.0181	.0126	-.0279	-.0103	.0435	361.	
.2210	897.	-2.	-53.	196.	-713.	-305.		.0165	.0163	.0158	-.0303	-.0083	.0354	321.	
.2220	784.	270.	-47.	155.	-594.	-345.		.0147	.0145	.0187	-.0322	-.0057	.0268	283.	
.2230	713.	552.	-44.	114.	-479.	-376.		.0126	.0129	.0211	-.0337	-.0026	.0181	249.	
.2240	631.	823.	-14.	85.	-373.	-376.		.0105	.0114	.0232	-.0349	.0005	.0097	215.	
.2250	508.	1043.	49.	69.	-273.	-353.		.0085	.0102	.0250	-.0358	.0033	.0021	181.	
.2260	381.	1199.	112.	57.	-167.	-328.		.0068	.0092	.0264	-.0361	.0054	-.0044	150.	
.2270	289.	1296.	143.	44.	-47.	-314.		.0054	.0085	.0275	-.0357	.0067	-.0095	129.	
.2280	229.	1333.	141.	33.	83.	-305.		.0044	.0080	.0283	-.0347	.0068	-.0130	128.	
.2290	193.	1317.	118.	28.	210.	-290.		.0039	.0079	.0288	-.0331	.0056	-.0148	144.	
.2300	176.	1272.	89.	37.	310.	-251.		.0040	.0082	.0293	-.0310	.0033	-.0147	161.	
.2310	160.	1212.	70.	67.	369.	-173.		.0047	.0088	.0296	-.0286	-.0001	-.0131	166.	

ADLPIPE PAGE 1674

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.28.48.

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



.2210	897.	-2.	-53.	196.	-713.	-305.	.0165	.0163	.0158	-.0303	-.0083	.0354	321.
.2220	784.	270.	-47.	155.	-594.	-345.	.0147	.0145	.0187	-.0322	-.0057	.0268	283.
.2230	713.	552.	-44.	114.	-479.	-376.	.0126	.0129	.0211	-.0337	-.0026	.0181	249.
.2240	631.	823.	-14.	85.	-373.	-376.	.0105	.0114	.0232	-.0349	.0005	.0097	215.
.2250	508.	1043.	49.	69.	-273.	-353.	.0085	.0102	.0250	-.0358	.0033	.0021	181.
.2260	381.	1199.	112.	57.	-167.	-328.	.0063	.0092	.0264	-.0361	.0054	-.0044	150.
.2270	289.	1296.	143.	44.	-47.	-314.	.0054	.0085	.0275	-.0357	.0067	-.0095	129.
.2280	229.	1333.	141.	33.	83.	-305.	.0044	.0080	.0283	-.0347	.0068	-.0130	128.
.2290	193.	1317.	118.	28.	210.	-290.	.0039	.0079	.0288	-.0331	.0056	-.0148	144.
.2300	176.	1272.	89.	37.	310.	-251.	.0040	.0082	.0293	-.0310	.0033	-.0147	161.
.2310	160.	1212.	70.	67.	369.	-173.	.0047	.0088	.0296	-.0286	-.0001	-.0131	166.

ADLPIPE PAGE 1674

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.48.

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	41	MEMBER	2	SEQUENCE	62	LOCATION	END	TYPE	EL						
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	129.	1132.	67.	115.	392.	-60.	.0059	.0098	.0298	-.0259	-.0046	-.0100	166.		
.2330	122.	1015.	52.	164.	398.	45.	.0075	.0108	.0299	-.0228	-.0099	-.0058	174.		
.2340	177.	848.	-10.	194.	413.	103.	.0094	.0119	.0298	-.0193	-.0160	-.0006	188.		
.2350	263.	630.	-115.	205.	454.	116.	.0116	.0130	.0294	-.0153	-.0225	.0052	205.		
.2360	315.	391.	-230.	212.	519.	126.	.0138	.0141	.0288	-.0111	-.0291	.0111	231.		
.2370	332.	179.	-332.	227.	583.	163.	.0160	.0153	.0281	-.0071	-.0354	.0167	259.		
.2380	370.	8.	-419.	241.	613.	202.	.0181	.0165	.0272	-.0034	-.0408	.0219	277.		
.2390	448.	-163.	-482.	238.	592.	199.	.0200	.0176	.0263	-.0002	-.0452	.0264	268.		
.2400	531.	-365.	-515.	209.	530.	141.	.0216	.0185	.0253	.0024	-.0482	.0301	236.		
.2410	604.	-564.	-534.	165.	455.	54.	.0228	.0193	.0242	.0045	-.0497	.0325	195.		
.2420	677.	-700.	-563.	115.	391.	-29.	.0236	.0201	.0230	.0063	-.0497	.0335	164.		
.2430	751.	-767.	-600.	63.	338.	-108.	.0240	.0207	.0219	.0075	-.0481	.0329	144.		
.2440	806.	-815.	-616.	2.	277.	-207.	.0240	.0211	.0207	.0080	-.0450	.0310	139.		
.2450	841.	-863.	-593.	-70.	190.	-333.	.0238	.0211	.0198	.0075	-.0404	.0279	156.		
.2460	893.	-366.	-545.	-142.	78.	-465.	.0233	.0209	.0192	.0060	-.0346	.0237	197.		
.2470	976.	-777.	-493.	-202.	-40.	-574.	.0226	.0204	.0189	.0034	-.0278	.0187	245.		
.2480	1077.	-616.	-458.	-252.	-143.	-664.	.0219	.0197	.0189	.0001	-.0206	.0130	291.		
.2490	1171.	-437.	-442.	-302.	-217.	-759.	.0212	.0185	.0192	-.0038	-.0132	.0069	339.		
.2500	1232.	-249.	-432.	-341.	-259.	-842.	.0208	.0171	.0198	-.0082	-.0059	.0009	379.		
.2510	1268.	-5.	-417.	-350.	-284.	-873.	.0204	.0154	.0207	-.0132	.0009	-.0049	394.		
.2520	1331.	318.	-408.	-328.	-303.	-848.	.0202	.0136	.0219	-.0187	.0070	-.0101	385.		
.2530	1447.	666.	-414.	-294.	-320.	-815.	.0203	.0116	.0233	-.0245	.0122	-.0143	371.		
.2540	1574.	959.	-431.	-264.	-222.	-808.	.0207	.0093	.0248	-.0304	.0162	-.0172	365.		
.2550	1669.	1192.	-465.	-236.	-288.	-807.	.0214	.0069	.0260	-.0358	.0189	-.0188	356.		
.2560	1727.	1426.	-526.	-192.	-208.	-765.	.0223	.0044	.0268	-.0406	.0203	-.0193	327.		
.2570	1767.	1696.	-607.	-126.	-96.	-668.	.0235	.0018	.0271	-.0447	.0204	-.0188	275.		
.2580	1870.	1940.	-718.	-72.	15.	-598.	.0249	-.0010	.0266	-.0482	.0194	-.0171	242.		
.2590	2078.	2062.	-860.	-66.	108.	-648.	.0268	-.0042	.0250	-.0508	.0176	-.0140	265.		
.2600	2297.	2062.	-998.	-95.	191.	-773.	.0291	-.0076	.0222	-.0525	.0151	-.0099	322.		
.2610	2453.	2067.	-1119.	-114.	284.	-850.	.0313	-.0111	.0180	-.0532	.0123	-.0053	362.		
.2620	2630.	2183.	-1261.	-113.	393.	-843.	.0333	-.0143	.0122	-.0529	.0095	-.0007	376.		
.2630	2888.	2296.	-1430.	-137.	499.	-867.	.0349	-.0177	.0047	-.0514	.0070	.0039	405.		
.2640	3137.	2171.	-1566.	-237.	577.	-1052.	.0362	-.0215	-.0045	-.0487	.0052	.0087	491.		
.2650	3327.	1831.	-1649.	-395.	631.	-1354.	.0367	-.0256	-.0152	-.0449	.0043	.0134	620.		
.2660	3454.	1516.	-1695.	-540.	679.	-1594.	.0358	-.0295	-.0275	-.0399	.0046	.0171	728.		
.2670	3545.	1332.	-1716.	-646.	722.	-1705.	.0331	-.0330	-.0408	-.0338	.0063	.0196	787.		
.2680	3631.	1100.	-1707.	-768.	741.	-1828.	.0288	-.0361	-.0551	-.0266	.0094	.0215	850.		
.2690	3641.	614.	-1619.	-947.	715.	-2078.	.0230	-.0390	-.0702	-.0185	.0140	.0231	960.		

ADLPIPE PAGE 1675

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.48.

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

.2590	2078.	2062.	-860.	-66.	108.	-648.	.0268	-.0042	.0250	-.0508	.0170	-.0140	265.
.2600	2297.	2062.	-998.	-95.	191.	-773.	.0291	-.0076	.0222	-.0525	.0151	-.0099	322.
.2610	2453.	2067.	-1119.	-114.	284.	-850.	.0313	-.0111	.0180	-.0532	.0123	-.0053	362.
.2620	2630.	2183.	-1261.	-113.	393.	-843.	.0333	-.0142	.0122	-.0529	.0095	-.0007	376.
.2630	2888.	2296.	-1430.	-137.	499.	-867.	.0349	-.0177	.0047	-.0514	.0070	.0039	405.
.2640	3137.	2171.	-1566.	-277.	577.	-1112.	.0362	-.0215	-.0045	-.0487	.0052	.0087	491.
.2650	3327.	1831.	-1649.	-395.	631.	-1394.	.0367	-.0256	-.0152	-.0449	.0042	.0134	620.
.2660	3454.	1516.	-1695.	-540.	679.	-1594.	.0358	-.0295	-.0275	-.0399	.0046	.0171	728.
.2670	3545.	1332.	-1716.	-646.	722.	-1705.	.0331	-.0330	-.0408	-.0338	.0063	.0196	787.
.2680	3621.	1100.	-1707.	-766.	741.	-1828.	.0288	-.0361	-.0551	-.0266	.0094	.0215	850.
.2690	3641.	614.	-1619.	-947.	715.	-2078.	.0230	-.0390	-.0702	-.0185	.0140	.0231	960.

ADLPIPE PAGE 1675

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.48.

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	41	MEMBER	2	SEQUENCE	62	LOCATION	END	TYPE	EL						
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)		
.2700	3482.	-51.	-1418.	-1143.	647.	-2358.	.0158	-.0417	-.0256	-.0100	.0198	.0240	1083.		
.2710	3188.	-630.	-1137.	-1287.	556.	-2497.	.0070	-.0439	-.1008	-.0012	.0267	.0238	1149.		
.2720	2921.	-1051.	-859.	-1391.	452.	-2532.	-.0029	-.0456	-.1156	.0077	.0342	.0225	1174.		
.2730	2714.	-1563.	-603.	-1533.	338.	-2667.	-.0131	-.0472	-.1297	.0169	.0417	.0209	1242.		
.2740	2394.	-2339.	-308.	-1731.	222.	-2947.	-.0229	-.0489	-.1429	.0261	.0489	.0195	1374.		
.2750	1914.	-3146.	31.	-1904.	117.	-3183.	-.0322	-.0502	-.1547	.0350	.0552	.0179	1489.		
.2760	1483.	-3602.	323.	-1980.	25.	-3198.	-.0408	-.0506	-.1647	.0432	.0502	.0160	1509.		
.2770	1254.	-3714.	522.	-1988.	-79.	-3074.	-.0482	-.0504	-.1725	.0502	.0534	.0142	1469.		
.2780	1085.	-3870.	703.	-2010.	-211.	-3026.	-.0536	-.0503	-.1779	.0558	.0544	.0133	1460.		
.2790	802.	-4245.	913.	-2063.	-345.	-3101.	-.0568	-.0506	-.1809	.0600	.0625	.0135	1501.		
.2800	502.	-4543.	1058.	-2083.	-424.	-3127.	-.0582	-.0508	-.1813	.0631	.0576	.0143	1517.		
.2810	350.	-4440.	1041.	-2005.	-417.	-2946.	-.0582	-.0505	-.1789	.0651	.0493	.0154	1440.		
.2820	287.	-4069.	914.	-1849.	-350.	-2615.	-.0568	-.0497	-.1737	.0659	.0380	.0172	1293.		
.2830	150.	-3800.	800.	-1685.	-285.	-2315.	-.0540	-.0490	-.1660	.0652	.0237	.0201	1154.		
.2840	-42.	-3692.	725.	-1528.	-257.	-2087.	-.0498	-.0483	-.1558	.0631	.0070	.0244	1043.		
.2850	-160.	-3443.	622.	-1320.	-248.	-1773.	-.0448	-.0470	-.1436	.0597	-.0117	.0296	893.		
.2860	-212.	-2867.	466.	-1014.	-223.	-1234.	-.0398	-.0450	-.1295	.0553	-.0318	.0348	647.		
.2870	-323.	-2177.	300.	-657.	-167.	-570.	-.0349	-.0425	-.1143	.0505	-.0528	.0399	355.		
.2880	-496.	-1695.	142.	-346.	-91.	-22.	-.0297	-.0401	-.0986	.0457	-.0740	.0452	144.		
.2890	-627.	-1452.	-32.	-117.	-8.	331.	-.0245	-.0378	-.0830	.0411	-.0948	.0507	141.		
.2900	-694.	-1204.	-220.	94.	81.	650.	-.0194	-.0353	-.0679	.0366	-.1142	.0558	265.		
.2910	-759.	-783.	-384.	341.	167.	1082.	-.0149	-.0322	-.0537	.0324	-.1316	.0595	460.		
.2920	-807.	-302.	-508.	581.	230.	1529.	-.0106	-.0287	-.0409	.0283	-.1463	.0622	663.		
.2930	-763.	1.	-609.	725.	254.	1775.	-.0062	-.0254	-.0299	.0248	-.1579	.0642	776.		
.2940	-631.	72.	-697.	749.	251.	1774.	-.0016	-.0224	-.0211	.0220	-.1561	.0654	779.		
.2950	-471.	99.	-780.	713.	248.	1685.	.0029	-.0195	-.0146	.0203	-.1708	.0651	741.		
.2960	-263.	253.	-881.	663.	257.	1619.	.0071	-.0166	-.0103	.0196	-.1719	.0628	710.		
.2970	47.	455.	-1006.	570.	253.	1495.	.0109	-.0139	-.0081	.0200	-.1695	.0591	650.		
.2980	419.	490.	-1107.	390.	203.	1183.	.0148	-.0119	-.0078	.0212	-.1639	.0545	506.		
.2990	770.	335.	-1149.	136.	104.	714.	.0186	-.0105	-.0092	.0230	-.1555	.0493	295.		
.3000	1111.	214.	-1164.	-123.	-13.	254.	.0219	-.0096	-.0118	.0252	-.1447	.0431	113.		
.3010	1506.	297.	-1211.	-346.	-116.	-96.	.0244	-.0087	-.0152	.0279	-.1321	.0361	151.		
.3020	1917.	469.	-1280.	-553.	-195.	-392.	.0262	-.0083	-.0191	.0308	-.1186	.0288	283.		
.3030	2240.	509.	-1320.	-776.	-262.	-736.	.0274	-.0086	-.0232	.0338	-.1047	.0218	442.		
.3040	2470.	423.	-1328.	-1005.	-323.	-1115.	.0281	-.0097	-.0272	.0369	-.0911	.0152	616.		
.3050	2687.	426.	-1349.	-1187.	-369.	-1405.	.0283	-.0112	-.0306	.0397	-.0781	.0091	753.		
.3060	2900.	626.	-1394.	-1289.	-394.	-1524.	.0278	-.0130	-.0334	.0422	-.0664	.0035	816.		
.3070	3046.	893.	-1437.	-1336.	-400.	-1532.	.0270	-.0151	-.0355	.0443	-.0564	-.0013	831.		

ADLPIPE PAGE 1676

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.48.

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



.2970	47.	455.	-1006.	570.	253.	1495.	.0109	-.0139	-.0081	.0200	-.1695	.0591	650.
.2980	419.	490.	-1107.	390.	203.	1183.	.0148	-.0119	-.0078	.0212	-.1539	.0545	506.
.2990	770.	335.	-1149.	136.	104.	714.	.0186	-.0105	-.0092	.0230	-.1555	.0493	295.
.3000	1111.	214.	-1164.	-123.	-13.	254.	.0219	-.0096	-.0118	.0252	-.1447	.0431	113.
.3010	1506.	297.	-1211.	-346.	-116.	-96.	.0244	-.0087	-.0152	.0279	-.1321	.0361	151.
.3020	1917.	469.	-1280.	-553.	-195.	-392.	.0262	-.0083	-.0191	.0308	-.1186	.0288	283.
.3030	2240.	509.	-1320.	-776.	-262.	-736.	.0274	-.0086	-.0232	.0338	-.1047	.0218	442.
.3040	2470.	423.	-1328.	-1005.	-323.	-1115.	.0281	-.0097	-.0272	.0369	-.0911	.0152	616.
.3050	2687.	426.	-1349.	-1187.	-369.	-1405.	.0283	-.0112	-.0306	.0397	-.0781	.0091	753.
.3060	2900.	626.	-1394.	-1289.	-394.	-1524.	.0278	-.0130	-.0334	.0422	-.0564	.0025	816.
.3070	3046.	893.	-1437.	-1376.	-400.	-1532.	.0270	-.0151	-.0355	.0443	-.0564	-.0013	831.

ADLPIPE PAGE 1676

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.48.

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	41	MEMBER	2	SEQUENCE	62	LOCATION	END	TYPE	EL						
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)		
.3080	3117.	1062.	-1470.	-1373.	-392.	-1543.	.0262	-.0176	-.0370	.0461	-.0482	-.0048	844.		
.3090	3172.	1160.	-1522.	-1407.	-363.	-1567.	.0256	-.0205	-.0379	.0476	-.0422	-.0068	858.		
.3100	3228.	1336.	-1605.	-1398.	-303.	-1503.	.0253	-.0234	-.0384	.0488	-.0382	-.0077	833.		
.3110	3250.	1642.	-1703.	-1325.	-213.	-1300.	.0250	-.0261	-.0385	.0495	-.0364	-.0078	750.		
.3120	3245.	1952.	-1801.	-1225.	-112.	-1052.	.0251	-.0288	-.0385	.0498	-.0364	-.0068	650.		
.3130	3254.	2113.	-1900.	-1151.	-15.	-891.	.0257	-.0315	-.0386	.0500	-.0380	-.0045	584.		
.3140	3265.	2124.	-1996.	-1105.	78.	-813.	.0266	-.0341	-.0390	.0500	-.0410	-.0011	551.		
.3150	3233.	2113.	-2079.	-1045.	176.	-702.	.0274	-.0362	-.0398	.0499	-.0450	.0031	510.		
.3160	3159.	2161.	-2144.	-949.	275.	-499.	.0278	-.0377	-.0411	.0497	-.0495	.0075	444.		
.3170	3076.	2176.	-2182.	-848.	350.	-285.	.0277	-.0385	-.0430	.0495	-.0542	.0124	385.		
.3180	2959.	2010.	-2158.	-779.	378.	-156.	.0269	-.0388	-.0454	.0492	-.0586	.0178	353.		
.3190	2761.	1657.	-2051.	-736.	360.	-101.	.0254	-.0389	-.0485	.0488	-.0625	.0235	331.		
.3200	2488.	1253.	-1885.	-683.	320.	-27.	.0226	-.0384	-.0522	.0485	-.0657	.0290	303.		
.3210	2182.	880.	-1697.	-609.	277.	97.	.0185	-.0374	-.0563	.0484	-.0680	.0339	271.		
.3220	1831.	457.	-1483.	-540.	233.	211.	.0132	-.0360	-.0609	.0486	-.0693	.0384	251.		
.3230	1390.	-120.	-1214.	-499.	172.	254.	.0069	-.0346	-.0658	.0488	-.0695	.0424	235.		
.3240	886.	-793.	-891.	-477.	80.	248.	-.0001	-.0332	-.0710	.0490	-.0686	.0461	218.		
.3250	398.	-1402.	-548.	-443.	-41.	265.	-.0076	-.0318	-.0761	.0489	-.0666	.0491	208.		
.3260	-46.	-1830.	-207.	-386.	-181.	330.	-.0155	-.0303	-.0813	.0486	-.0637	.0513	216.		
.3270	-489.	-2308.	138.	-326.	-325.	392.	-.0231	-.0291	-.0862	.0480	-.0600	.0528	243.		
.3280	-936.	-2760.	473.	-289.	-457.	392.	-.0302	-.0284	-.0910	.0471	-.0557	.0537	268.		
.3290	-1319.	-3179.	751.	-276.	-558.	329.	-.0365	-.0284	-.0956	.0462	-.0512	.0539	282.		
.3300	-1593.	-3464.	947.	-268.	-616.	253.	-.0417	-.0291	-.0999	.0450	-.0465	.0533	288.		
.3310	-1785.	-3597.	1074.	-254.	-638.	192.	-.0459	-.0304	-.1038	.0436	-.0417	.0520	286.		
.3320	-1927.	-3635.	1160.	-242.	-642.	124.	-.0489	-.0322	-.1073	.0416	-.0370	.0501	280.		
.3330	-1997.	-3614.	1208.	-243.	-641.	20.	-.0506	-.0348	-.1103	.0393	-.0324	.0477	275.		
.3340	-1965.	-3510.	1204.	-254.	-633.	-111.	-.0513	-.0378	-.1128	.0366	-.0277	.0450	277.		
.3350	-1860.	-3296.	1148.	-260.	-606.	-228.	-.0511	-.0413	-.1150	.0338	-.0232	.0418	280.		
.3360	-1727.	-3004.	1053.	-260.	-552.	-322.	-.0504	-.0450	-.1168	.0309	-.0187	.0382	277.		
.3370	-1574.	-2699.	926.	-268.	-474.	-428.	-.0494	-.0488	-.1184	.0281	-.0141	.0341	278.		
.3380	-1392.	-2424.	779.	-296.	-388.	-569.	-.0482	-.0528	-.1198	.0256	-.0092	.0299	301.		
.3390	-1190.	-2175.	633.	-337.	-311.	-728.	-.0470	-.0565	-.1212	.0232	-.0039	.0255	345.		
.3400	-992.	-1933.	508.	-378.	-254.	-871.	-.0461	-.0599	-.1226	.0211	.0021	.0209	395.		
.3410	-797.	-1701.	407.	-420.	-221.	-994.	-.0456	-.0627	-.1242	.0194	.0088	.0162	442.		
.3420	-594.	-1519.	325.	-475.	-211.	-1127.	-.0454	-.0649	-.1260	.0181	.0164	.0115	498.		
.3430	-393.	-1428.	263.	-556.	-220.	-1296.	-.0454	-.0665	-.1282	.0176	.0248	.0067	573.		
.3440	-210.	-1426.	223.	-658.	-241.	-1493.	-.0455	-.0674	-.1306	.0177	.0379	.0020	662.		
.3450	-35.	-1466.	200.	-771.	-273.	-1689.	-.0458	-.0676	-.1334	.0184	.0438	-.0028	753.		

ADLPIPE PAGE 1677

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.48.

S/RV PIPING KEWAUNEE GKW03F 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

.3350	-1760.	-3296.	1148.	-260.	-606.	-228.	-511.	-0.0413	-0.1150	.0338	-0.0232	.0418	280.
.3360	-1727.	-3004.	1053.	-260.	-552.	-322.	-504.	-0.0450	-0.1168	.0309	-0.0187	.0382	277.
.3370	-1574.	-2699.	926.	-268.	-474.	-428.	-494.	-0.0488	-0.1184	.0281	-0.0141	.0341	278.
.3380	-1752.	-2424.	779.	-296.	-382.	-569.	-482.	-0.0522	-0.1198	.0256	-0.0092	.0299	301.
.3390	-1190.	-2175.	633.	-337.	-311.	-726.	-470.	-0.0565	-0.1212	.0232	-0.0039	.0255	345.
.3400	-952.	-1932.	508.	-378.	-254.	-871.	-461.	-0.0599	-0.1226	.0211	.0021	.0209	395.
.3410	-797.	-1701.	407.	-420.	-221.	-994.	-456.	-0.0627	-0.1242	.0194	.0088	.0162	442.
.3420	-594.	-1519.	325.	-475.	-211.	-1127.	-454.	-0.0649	-0.1260	.0181	.0164	.0115	498.
.3430	-393.	-1428.	263.	-556.	-220.	-1296.	-454.	-0.0665	-0.1282	.0176	.0248	.0067	573.
.3440	-210.	-1426.	223.	-658.	-241.	-1493.	-455.	-0.0674	-0.1306	.0177	.0339	.0020	662.
.3450	-85.	-1466.	200.	-771.	-273.	-1689.	-458.	-0.0676	-0.1334	.0184	.0438	-0.0028	753.

ADLPIPE PAGE 1677

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

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18.28.48.

S/RV PIPING KEWAUNEE GKW03F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

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PRESSURE

ENGLISH UNITS

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

SECTION	41	MEMBER	2	SEQUENCE	62	LOCATION	END	TYPE	EL					
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	157.	-1528.	188.	-890.	-318.	-1881.	-0.0460	-0.0672	-0.1362	.0195	.0543	-0.0076	845.	
.3470	369.	-1643.	188.	-1025.	-380.	-2094.	-0.0460	-0.0661	-0.1390	.0210	.0550	-0.0122	948.	
.3480	573.	-1833.	209.	-1174.	-456.	-2331.	-0.0457	-0.0645	-0.1415	.0226	.0757	-0.0165	1063.	
.3490	752.	-2044.	245.	-1317.	-535.	-2549.	-0.0449	-0.0625	-0.1434	.0243	.0862	-0.0204	1171.	
.3500	913.	-2292.	280.	-1431.	-603.	-2697.	-0.0439	-0.0599	-0.1445	.0260	.0959	-0.0242	1249.	
.3510	1065.	-2294.	306.	-1510.	-658.	-2769.	-0.0426	-0.0569	-0.1443	.0275	.1046	-0.0276	1293.	
.3520	1189.	-2371.	328.	-1563.	-699.	-2796.	-0.0410	-0.0536	-0.1427	.0288	.1118	-0.0304	1316.	
.3530	1254.	-2466.	358.	-1589.	-727.	-2788.	-0.0392	-0.0504	-0.1393	.0295	.1172	-0.0326	1320.	
.3540	1246.	-2522.	392.	-1568.	-732.	-2697.	-0.0372	-0.0470	-0.1339	.0298	.1205	-0.0342	1286.	
.3550	1173.	-2454.	419.	-1477.	-705.	-2467.	-0.0353	-0.0435	-0.1264	.0293	.1216	-0.0352	1188.	
.3560	1048.	-2261.	433.	-1316.	-648.	-2108.	-0.0336	-0.0398	-0.1167	.0282	.1202	-0.0357	1031.	
.3570	870.	-2023.	433.	-1111.	-567.	-1680.	-0.0319	-0.0362	-0.1049	.0264	.1163	-0.0354	840.	
.3580	626.	-1786.	446.	-875.	-469.	-1219.	-0.0301	-0.0328	-0.0911	.0239	.1100	-0.0344	631.	
.3590	306.	-1502.	458.	-597.	-352.	-691.	-0.0282	-0.0294	-0.0758	.0209	.1014	-0.0327	393.	
.3600	-73.	-1100.	466.	-265.	-215.	-60.	-0.0264	-0.0259	-0.0590	.0174	.0908	-0.0308	139.	
.3610	-476.	-595.	462.	105.	-65.	640.	-0.0245	-0.0224	-0.0413	.0136	.0784	-0.0287	261.	
.3620	-869.	-97.	443.	466.	90.	1305.	-0.0225	-0.0192	-0.0231	.0097	.0648	-0.0264	557.	
.3630	-1244.	314.	410.	787.	248.	1867.	-0.0203	-0.0162	-0.0051	.0058	.0502	-0.0239	819.	
.3640	-1624.	670.	371.	1076.	413.	2357.	-0.0178	-0.0133	.0125	.0023	.0351	-0.0213	1053.	
.3650	-2011.	1061.	328.	1356.	590.	2842.	-0.0152	-0.0103	.0290	-0.0008	.0202	-0.0193	1285.	
.3660	-2376.	1495.	283.	1622.	763.	3312.	-0.0128	-0.0072	.0442	-0.0034	.0059	-0.0178	1511.	
.3670	-2684.	1863.	244.	1835.	912.	3677.	-0.0105	-0.0041	.0577	-0.0053	-0.0074	-0.0167	1689.	
.3680	-2936.	2056.	223.	1965.	1025.	3861.	-0.0083	-0.0012	.0692	-0.0065	-0.0191	-0.0159	1786.	
.3690	-3171.	2097.	228.	2025.	1109.	3904.	-0.0063	.0016	.0786	-0.0069	-0.0290	-0.0157	1820.	
.3700	-3404.	2102.	251.	2050.	1183.	3902.	-0.0051	.0045	.0857	-0.0063	-0.0368	-0.0163	1831.	
.3710	-3611.	2122.	279.	2053.	1247.	3889.	-0.0047	.0076	.0906	-0.0048	-0.0423	-0.0180	1834.	
.3720	-3771.	2070.	318.	2010.	1288.	3796.	-0.0050	.0105	.0934	-0.0026	-0.0454	-0.0204	1800.	
.3730	-3901.	1838.	390.	1899.	1289.	3559.	-0.0059	.0130	.0942	.0003	-0.0461	-0.0233	1699.	
.3740	-4035.	1475.	504.	1743.	1256.	3233.	-0.0075	.0153	.0933	.0036	-0.0443	-0.0267	1558.	
.3750	-4159.	1145.	637.	1589.	1209.	2932.	-0.0098	.0174	.0908	.0072	-0.0402	-0.0309	1424.	
.3760	-4227.	927.	756.	1453.	1164.	2691.	-0.0126	.0192	.0871	.0108	-0.0341	-0.0358	1313.	
.3770	-4232.	717.	855.	1305.	1125.	2431.	-0.0158	.0206	.0823	.0145	-0.0262	-0.0411	1196.	
.3780	-4209.	389.	948.	1115.	1089.	2073.	-0.0187	.0211	.0769	.0179	-0.0169	-0.0465	1041.	
.3790	-4175.	6.	1036.	911.	1062.	1674.	-0.0213	.0211	.0709	.0209	-0.0064	-0.0518	876.	
.3800	-4118.	-234.	1105.	748.	1051.	1372.	-0.0237	.0207	.0649	.0233	.0050	-0.0574	756.	
.3810	-4015.	-236.	1148.	654.	1050.	1228.	-0.0258	.0201	.0591	.0248	.0170	-0.0631	699.	
.3820	-3833.	-141.	1162.	521.	1042.	1120.	-0.0274	.0189	.0539	.0253	.0294	-0.0685	657.	
.3830	-3579.	-144.	1150.	474.	1027.	908.	-0.0281	.0169	.0491	.0249	.0419	-0.0732	581.	

ADLPIPE PAGE 1678

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.48.

S/RV PIPING KEWAUNEE GKW03F 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



.3720	-3771.	2370.	318.	2010.	1288.	7796.	-.0050	.0105	.0934	-.0026	-.0454	-.0204	1800.
.3730	-3901.	1838.	390.	1899.	1289.	3529.	-.0059	.0130	.0942	.0003	-.0461	-.0233	1699.
.3740	-4025.	1475.	504.	1743.	1256.	7233.	-.0075	.0153	.0933	.0036	-.0443	-.0267	1558.
.3750	-4159.	1145.	637.	1589.	1209.	2932.	-.0098	.0174	.0908	.0072	-.0402	-.0309	1424.
.3760	-4287.	927.	756.	1457.	1164.	7691.	-.0126	.0192	.0871	.0108	-.0341	-.0358	1313.
.3770	-4232.	717.	855.	1305.	1125.	7431.	-.0158	.0206	.0827	.0145	-.0262	-.0411	1196.
.3780	-4209.	389.	948.	1110.	1089.	2073.	-.0187	.0211	.0769	.0179	-.0169	-.0465	1041.
.3790	-4175.	6.	1036.	911.	1062.	1674.	-.0213	.0211	.0709	.0209	-.0064	-.0518	876.
.3800	-4118.	-234.	1105.	748.	1051.	1372.	-.0237	.0207	.0649	.0233	.0050	-.0574	756.
.3810	-4015.	-276.	1148.	654.	1050.	1228.	-.0258	.0201	.0591	.0248	.0170	-.0631	699.
.3820	-3837.	-141.	1162.	521.	1042.	1120.	-.0274	.0189	.0539	.0253	.0294	-.0685	657.
.3830	-3579.	-144.	1150.	474.	1023.	908.	-.0281	.0169	.0491	.0249	.0419	-.0732	581.

ADLPIPE PAGE 1678

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.28.48.

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	41	MEMBER	2	SEQUENCE	62	LOCATION	END	TYPE	EL					
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	-3327.	-232.	1121.	348.	1015.	633.	-.0278	.0142	.0450	.0237	.0540	-.0773	500.	
.3850	-3104.	-195.	1058.	266.	1045.	451.	-.0270	.0113	.0416	.0218	.0657	-.0812	471.	
.3860	-2855.	88.	939.	255.	1112.	457.	-.0258	.0085	.0390	.0191	.0768	-.0849	493.	
.3870	-2539.	471.	781.	270.	1178.	503.	-.0241	.0058	.0371	.0157	.0873	-.0878	525.	
.3880	-2204.	727.	642.	260.	1202.	464.	-.0217	.0030	.0361	.0115	.0972	-.0893	528.	
.3890	-1919.	867.	555.	243.	1181.	384.	-.0189	.0004	.0357	.0065	.1064	-.0897	508.	
.3900	-1663.	1099.	494.	275.	1139.	414.	-.0163	-.0016	.0360	.0009	.1148	-.0893	499.	
.3910	-1460.	1501.	426.	370.	1102.	596.	-.0141	-.0029	.0369	-.0051	.1224	-.0884	524.	
.3920	-1267.	1866.	359.	466.	1057.	785.	-.0124	-.0037	.0381	-.0112	.1292	-.0868	564.	
.3930	-1137.	1957.	327.	507.	1020.	831.	-.0108	-.0042	.0395	-.0172	.1350	-.0839	566.	
.3940	-1088.	1830.	341.	511.	951.	781.	-.0096	-.0043	.0410	-.0230	.1401	-.0798	535.	
.3950	-1078.	1743.	387.	546.	865.	805.	-.0090	-.0035	.0425	-.0286	.1444	-.0751	522.	
.3960	-1095.	1802.	466.	641.	755.	975.	-.0092	-.0015	.0440	-.0341	.1480	-.0700	558.	
.3970	-1160.	1829.	598.	747.	609.	1167.	-.0098	.0013	.0454	-.0394	.1510	-.0643	607.	
.3980	-1280.	1625.	786.	801.	429.	1232.	-.0105	.0044	.0465	-.0444	.1531	-.0576	614.	
.3990	-1429.	1235.	993.	808.	245.	1183.	-.0112	.0076	.0474	-.0487	.1543	-.0503	583.	
.4000	-1583.	871.	1175.	817.	91.	1153.	-.0121	.0112	.0480	-.0524	.1545	-.0430	568.	

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)
.3710	-3611.	2122.	279.	2053.	1247.	3889.	-.0047	.0076	.0906	-.0048	-.0423	-.0180	1834.

SECTION	42	MEMBER	1	SEQUENCE	62	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	0.	-0.	-0.	0.	-0.	0.	.0000	-.0000	-.0000	-.0000	-.0000	.0000	0.	
.0020	2.	-0.	-1.	0.	-0.	0.	.0000	-.0000	-.0000	-.0000	-.0000	.0000	0.	
.0030	4.	-0.	-2.	0.	-0.	0.	-.0000	-.0000	-.0000	-.0000	-.0000	.0000	0.	
.0040	5.	0.	-2.	-0.	-1.	0.	-.0000	.0000	.0000	-.0000	-.0000	.0000	0.	
.0050	6.	0.	-3.	-0.	-1.	-1.	-.0000	.0000	.0000	-.0000	-.0000	.0000	0.	
.0060	6.	1.	-3.	-1.	-1.	-1.	-.0000	.0000	.0000	-.0000	-.0000	.0000	1.	
.0070	5.	1.	-2.	-1.	-2.	-2.	-.0000	-.0000	.0000	-.0000	-.0000	-.0000	1.	

ADLPIPE PAGE 1679

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.28.48.

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

SECTION	MEMBER	SEQUENCE	LOCATION	BEG	TYPE	RU	TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS	
42	1	62					(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	0.0000	0.
							.0010	0.	-0.	-0.	0.	-0.	0.	.0000	-0.0000	-0.0000	-0.0000	-0.0000	.0000	.0000	0.
							.0020	2.	-0.	-1.	0.	-0.	0.	.0000	-0.0000	-0.0000	-0.0000	-0.0000	.0000	.0000	0.
							.0030	4.	-0.	-2.	0.	-0.	0.	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	.0000	.0000	0.
							.0040	5.	0.	-2.	-0.	-1.	0.	-0.0000	.0000	.0000	-0.0000	-0.0000	.0000	.0000	0.
							.0050	6.	0.	-3.	-0.	-1.	-1.	-0.0000	.0000	.0000	-0.0000	-0.0000	.0000	.0000	0.
							.0060	6.	1.	-3.	-1.	-1.	-1.	-0.0000	.0000	.0000	-0.0000	-0.0000	.0000	.0000	1.
							.0070	5.	1.	-2.	-1.	-2.	-2.	-0.0000	-0.0000	.0000	-0.0000	-0.0000	-0.0000	.0000	1.

ADLPIPE PAGE 1679 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 83/12/02. 18.28.48.  
 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	BEG	TYPE	RU	TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS
42	1	62					(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
							.0080	-3.	1.	1.	-3.	-3.	-5.	-0.0000	-0.0000	.0000	-0.0001	-0.0000	-0.0000	3.
							.0090	-15.	-0.	6.	-4.	-5.	-10.	-0.0000	-0.0000	.0000	-0.0001	-0.0000	.0001	5.
							.0100	-17.	-5.	10.	-5.	-4.	-12.	-0.0000	-0.0001	.0000	-0.0001	-0.0000	-0.0001	6.
							.0110	-5.	-14.	11.	-3.	1.	-13.	-0.0000	-0.0002	-0.0000	.0001	-0.0000	-0.0003	5.
							.0120	7.	-26.	14.	-1.	17.	-14.	-0.0000	-0.0003	-0.0000	.0003	.0000	-0.0005	9.
							.0130	5.	-39.	26.	0.	43.	-20.	.0000	-0.0004	-0.0000	.0005	.0002	-0.0008	19.
							.0140	-10.	-53.	46.	0.	82.	-30.	-0.0000	-0.0005	-0.0000	.0009	.0004	-0.0011	35.
							.0150	-19.	-69.	66.	0.	130.	-41.	-0.0000	-0.0007	-0.0001	.0012	.0006	-0.0015	54.
							.0160	-12.	-89.	80.	2.	178.	-47.	-0.0001	-0.0009	-0.0001	.0016	.0009	-0.0019	74.
							.0170	2.	-109.	89.	6.	217.	-48.	-0.0002	-0.0012	-0.0003	.0019	.0012	-0.0023	89.
							.0180	4.	-125.	97.	11.	241.	-45.	-0.0003	-0.0014	-0.0005	.0022	.0016	-0.0026	98.
							.0190	-6.	-132.	102.	18.	251.	-40.	-0.0005	-0.0017	-0.0008	.0025	.0020	-0.0029	102.
							.0200	-6.	-131.	96.	28.	255.	-28.	-0.0007	-0.0018	-0.0013	.0029	.0024	-0.0031	103.
							.0210	12.	-119.	78.	44.	269.	-2.	-0.0009	-0.0019	-0.0017	.0035	.0029	-0.0032	109.
							.0220	29.	-89.	54.	67.	315.	32.	-0.0011	-0.0018	-0.0022	.0045	.0037	-0.0032	130.
							.0230	30.	-33.	29.	86.	396.	56.	-0.0013	-0.0015	-0.0027	.0055	.0046	-0.0030	164.
							.0240	9.	54.	2.	89.	490.	58.	-0.0015	-0.0009	-0.0031	.0061	.0056	-0.0025	201.
							.0250	-21.	163.	-34.	74.	559.	36.	-0.0016	-0.0001	-0.0035	.0059	.0065	-0.0015	227.
							.0260	-35.	273.	-85.	48.	571.	-8.	-0.0017	.0006	-0.0039	.0055	.0072	-0.0007	230.
							.0270	-23.	349.	-137.	32.	534.	-51.	-0.0018	.0010	-0.0044	.0056	.0076	-0.0005	216.
							.0280	17.	358.	-176.	41.	451.	-34.	-0.0019	.0009	-0.0048	.0057	.0076	-0.0003	182.
							.0290	83.	300.	-204.	83.	322.	96.	-0.0018	.0006	-0.0050	.0049	.0072	.0005	139.
							.0300	112.	240.	-219.	150.	192.	286.	-0.0017	.0004	-0.0050	.0043	.0066	.0018	151.
							.0310	2.	267.	-209.	189.	90.	394.	-0.0015	.0009	-0.0049	.0043	.0061	.0031	179.
							.0320	-136.	408.	-225.	146.	22.	320.	-0.0012	.0023	-0.0044	.0036	.0056	.0046	142.
							.0330	-94.	586.	-313.	49.	13.	136.	-0.0008	.0040	-0.0035	.0019	.0052	.0060	58.
							.0340	119.	694.	-426.	-17.	64.	30.	-0.0001	.0055	-0.0022	.0000	.0046	.0077	29.
							.0350	246.	692.	-462.	-11.	100.	107.	.0008	.0065	-0.0007	-0.0021	.0036	.0099	59.
							.0360	119.	639.	-386.	24.	36.	262.	.0016	.0072	.0010	-0.0044	.0020	.0123	106.
							.0370	-125.	604.	-282.	28.	-126.	314.	.0022	.0079	.0029	-0.0059	-0.0001	.0138	136.
							.0380	-205.	590.	-249.	-10.	-307.	230.	.0028	.0086	.0048	-0.0066	-0.0023	.0140	154.
							.0390	-16.	539.	-295.	-60.	-428.	138.	.0038	.0091	.0070	-0.0078	-0.0045	.0141	182.
							.0400	272.	423.	-339.	-90.	-456.	141.	.0051	.0094	.0095	-0.0103	-0.0065	.0150	195.
							.0410	338.	292.	-275.	-99.	-399.	185.	.0062	.0098	.0122	-0.0127	-0.0081	.0159	181.
							.0420	42.	218.	-88.	-138.	-342.	129.	.0071	.0105	.0151	-0.0145	-0.0096	.0163	157.
							.0430	-357.	196.	110.	-238.	-363.	-93.	.0078	.0112	.0177	-0.0162	-0.0111	.0157	178.
							.0440	-320.	116.	148.	-347.	-451.	-346.	.0085	.0112	.0200	-0.0179	-0.0128	.0141	267.
							.0450	182.	-111.	52.	-374.	-539.	-423.	.0094	.0101	.0220	-0.0185	-0.0144	.0118	313.

ADLPIPE PAGE 1680 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 83/12/02. 18.28.48.  
 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



.0350	246.	592.	-462.	-11.	100.	107.	.0008	.0065	-.0007	-.0021	.0036	.0099	59.
.0360	119.	639.	-386.	24.	36.	262.	.0016	.0072	-.0010	-.0044	.0020	.0123	106.
.0370	-125.	604.	-282.	28.	-126.	314.	.0022	.0079	.0029	-.0059	-.0001	.0138	136.
.0380	-205.	590.	-249.	-10.	-707.	230.	.0028	.0086	.0048	-.0066	-.0023	.0140	154.
.0390	-16.	539.	-295.	-60.	-429.	138.	.0038	.0091	.0070	-.0078	-.0045	.0141	182.
.0400	272.	423.	-329.	-90.	-456.	141.	.0051	.0094	.0095	-.0103	-.0065	.0150	195.
.0410	338.	292.	-275.	-99.	-399.	185.	.0062	.0098	.0122	-.0127	-.0081	.0159	181.
.0420	42.	218.	-88.	-138.	-342.	129.	.0071	.0105	.0151	-.0145	-.0096	.0163	157.
.0430	-357.	196.	110.	-238.	-363.	-93.	.0078	.0112	.0177	-.0162	-.0111	.0157	178.
.0440	-320.	116.	148.	-247.	-451.	-346.	.0085	.0112	.0200	-.0179	-.0128	.0141	267.
.0450	182.	-111.	52.	-374.	-539.	-423.	.0094	.0101	.0220	-.0185	-.0144	.0118	313.

ADLPIPE PAGE 1680 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 83/12/02. 18.28.48.

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	MEMBER	SEQUENCE	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)
42	1	62					.0460	475.	-425.	73.	-320.	-601.	-308.	.0101	.0024	.0236	-.0185	-.0157	.0096	300.
							.0470	90.	-679.	343.	-293.	-648.	-238.	.0104	.0070	.0251	-.0188	-.0165	.0077	301.
							.0480	-506.	-812.	655.	-360.	-670.	-406.	.0101	.0059	.0262	-.0193	-.0168	.0048	346.
							.0490	-554.	-907.	734.	-454.	-632.	-690.	.0098	.0047	.0267	-.0186	-.0164	.0006	417.
							.0500	-38.	-1060.	605.	-470.	-541.	-817.	.0098	.0030	.0265	-.0166	-.0154	-.0035	436.
							.0510	363.	-1248.	526.	-397.	-427.	-733.	.0096	.0011	.0255	-.0140	-.0139	-.0069	376.
							.0520	204.	-1369.	635.	-307.	-316.	-613.	.0088	-.0004	.0241	-.0108	-.0120	-.0098	303.
							.0530	-303.	-1363.	823.	-249.	-215.	-578.	.0074	-.0014	.0221	-.0070	-.0097	-.0126	267.
							.0540	-667.	-1256.	900.	-211.	-116.	-583.	.0058	-.0019	.0195	-.0030	-.0069	-.0150	253.
							.0550	-546.	-1101.	759.	-174.	1.	-574.	.0047	-.0021	.0163	.0008	-.0039	-.0168	241.
							.0560	-51.	-934.	464.	-141.	144.	-569.	.0037	-.0025	.0126	.0043	-.0006	-.0183	242.
							.0570	267.	-763.	244.	-100.	297.	-552.	.0023	-.0029	.0088	.0077	.0026	-.0196	255.
							.0580	-43.	-602.	279.	-14.	432.	-436.	.0006	-.0033	.0049	.0113	.0058	-.0202	246.
							.0590	-619.	-465.	425.	130.	532.	-175.	-.0011	-.0037	.0010	.0152	.0086	-.0198	231.
							.0600	-673.	-332.	354.	295.	602.	145.	-.0025	-.0040	-.0032	.0194	.0112	-.0189	275.
							.0610	-144.	-114.	10.	417.	652.	379.	-.0035	-.0037	-.0072	.0234	.0135	-.0175	346.
							.0620	197.	268.	-323.	454.	704.	437.	-.0043	-.0020	-.0109	.0267	.0156	-.0151	379.
							.0630	-49.	775.	-457.	417.	782.	355.	-.0052	.0009	-.0138	.0287	.0174	-.0117	383.
							.0640	-327.	1245.	-522.	376.	889.	296.	-.0059	.0039	-.0157	.0290	.0187	-.0073	405.
							.0650	-336.	1549.	-667.	400.	991.	409.	-.0060	.0063	-.0168	.0283	.0192	-.0023	459.
							.0660	-80.	1710.	-877.	476.	1019.	651.	-.0054	.0081	-.0172	.0273	.0186	.0029	521.
							.0670	34.	1836.	-937.	513.	940.	795.	-.0046	.0098	-.0167	.0262	.0170	.0073	535.
							.0680	7.	1968.	-968.	448.	803.	697.	-.0038	.0115	-.0151	.0244	.0146	.0106	463.
							.0690	-33.	2027.	-937.	324.	711.	482.	-.0028	.0130	-.0123	.0215	.0118	.0130	369.
							.0700	-31.	1911.	-823.	228.	720.	379.	-.0011	.0138	-.0084	.0171	.0087	.0154	339.
							.0710	77.	1618.	-659.	174.	792.	402.	.0010	.0138	-.0037	.0118	.0055	.0178	363.
							.0720	247.	1244.	-486.	102.	826.	361.	.0031	.0131	.0017	.0054	.0019	.0190	364.
							.0730	257.	877.	-266.	-30.	737.	135.	.0048	.0122	.0072	-.0005	-.0019	.0185	301.
							.0740	66.	497.	16.	-186.	513.	-163.	.0063	.0110	.0126	-.0066	-.0060	.0169	228.
							.0750	-11.	25.	268.	-305.	220.	-351.	.0072	.0069	.0177	-.0130	-.0099	.0149	207.
							.0760	192.	-548.	440.	-375.	-57.	-405.	.0091	.0060	.0223	-.0196	-.0132	.0125	222.
							.0770	349.	-1124.	627.	-436.	-287.	-441.	.0100	.0028	.0263	-.0257	-.0157	.0095	274.
							.0780	169.	-1602.	901.	-517.	-476.	-554.	.0103	-.0002	.0293	-.0310	-.0170	.0058	359.
							.0790	-107.	-1982.	1151.	-597.	-623.	-714.	.0100	-.0028	.0312	-.0347	-.0171	.0016	449.
							.0800	-103.	-2236.	1235.	-628.	-717.	-819.	.0094	-.0053	.0316	-.0364	-.0160	-.0027	503.
							.0810	103.	-2418.	1182.	-598.	-737.	-816.	.0085	-.0074	.0305	-.0362	-.0135	-.0067	502.
							.0820	148.	-2457.	1119.	-538.	-705.	-756.	.0072	-.0089	.0279	-.0346	-.0099	-.0100	467.
							.0830	-73.	-2314.	1077.	-484.	-630.	-723.	.0053	-.0095	.0240	-.0316	-.0052	-.0127	431.

ADLPIPE PAGE 1681 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 83/12/02. 18.28.48.

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

.0730	257.	377.	-266.	-30.	737.	135.	.048	.0122	.0072	-.0005	-.0019	.0185	301.
.0740	64.	497.	16.	-186.	513.	-163.	.0063	.0110	.0126	-.0066	-.0060	.0169	228.
.0750	-11.	25.	268.	-305.	220.	-351.	.0072	.0089	.0177	-.0130	-.0099	.0149	207.
.0760	192.	-548.	440.	-375.	-57.	-433.	.0091	.0060	.0223	-.0196	-.0172	.0125	222.
.0770	349.	-1124.	627.	-476.	-287.	-441.	.0100	.0028	.0263	-.0257	-.0157	.0095	274.
.0780	169.	-1602.	901.	-517.	-476.	-554.	.0103	-.0002	.0293	-.0210	-.0170	.0058	359.
.0790	-107.	-1962.	1151.	-597.	-623.	-714.	.0100	-.0028	.0312	-.0347	-.0171	.0016	449.
.0800	-103.	-2236.	1235.	-628.	-717.	-819.	.0094	-.0053	.0316	-.0364	-.0160	-.0027	503.
.0810	103.	-2418.	1182.	-598.	-737.	-816.	.0085	-.0074	.0305	-.0362	-.0135	-.0067	502.
.0820	148.	-2457.	1119.	-530.	-705.	-756.	.0072	-.0089	.0279	-.0346	-.0099	-.0100	467.
.0830	-73.	-2314.	1077.	-484.	-630.	-723.	.0053	-.0095	.0240	-.0316	-.0052	-.0127	431.

ADLPIPE PAGE 1601

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.48.

S/RV PIPING KEWAUNEE GKWOPF 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	42	MEMBER	1	SEQUENCE	62	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)		
.0840	-330.	-2017.	975.	-439.	-538.	-715.	.0030	-.0094	.0189	-.0275	.0001	-.0148	400.		
.0850	-407.	-1633.	749.	-368.	-469.	-641.	.0007	-.0090	.0127	-.0228	.0057	-.0159	351.		
.0860	-321.	-1205.	425.	-248.	-447.	-457.	-.0015	-.0084	.0055	-.0173	.0111	-.0161	275.		
.0870	-252.	-731.	86.	-100.	-465.	-231.	-.0036	-.0076	-.0021	-.0110	.0161	-.0155	212.		
.0880	-351.	-209.	-194.	45.	-487.	-38.	-.0058	-.0065	-.0099	-.0039	.0206	-.0147	197.		
.0890	-578.	326.	-404.	182.	-466.	144.	-.0078	-.0052	-.0172	.0032	.0246	-.0132	209.		
.0900	-725.	831.	-601.	326.	-366.	374.	-.0093	-.0036	-.0238	.0102	.0278	-.0108	248.		
.0910	-672.	1303.	-836.	465.	-204.	620.	-.0102	-.0018	-.0295	.0168	.0301	-.0077	322.		
.0920	-561.	1779.	-1071.	557.	-40.	778.	-.0107	.0004	-.0340	.0230	.0313	-.0042	385.		
.0930	-623.	2272.	-1228.	596.	71.	806.	-.0108	.0033	-.0370	.0287	.0310	-.0005	403.		
.0940	-846.	2725.	-1291.	612.	122.	798.	-.0106	.0064	-.0385	.0338	.0294	.0034	403.		
.0950	-1020.	3072.	-1317.	648.	148.	833.	-.0098	.0097	-.0382	.0381	.0263	.0079	428.		
.0960	-1046.	3311.	-1342.	693.	186.	930.	-.0082	.0132	-.0359	.0412	.0221	.0130	472.		
.0970	-1071.	3516.	-1332.	690.	259.	952.	-.0061	.0173	-.0315	.0427	.0169	.0185	483.		
.0980	-1230.	3739.	-1258.	598.	371.	792.	-.0034	.0223	-.0249	.0426	.0111	.0238	424.		
.0990	-1382.	3939.	-1159.	426.	517.	486.	-.0002	.0280	-.0163	.0409	.0346	.0289	332.		
.1000	-1287.	4001.	-1096.	246.	679.	185.	.0037	.0335	-.0057	.0376	-.0024	.0336	299.		
.1010	-942.	3836.	-1040.	109.	817.	8.	.0083	.0382	.0065	.0328	-.0101	.0378	331.		
.1020	-620.	3454.	-898.	18.	870.	-52.	.0134	.0419	.0201	.0268	-.0185	.0411	350.		
.1030	-500.	2934.	-640.	-71.	798.	-104.	.0186	.0450	.0348	.0196	-.0273	.0434	324.		
.1040	-413.	2331.	-354.	-200.	610.	-251.	.0238	.0475	.0502	.0114	-.0363	.0440	277.		
.1050	-192.	1654.	-105.	-270.	369.	-489.	.0292	.0494	.0660	.0022	-.0452	.0431	287.		
.1060	105.	901.	141.	-558.	147.	-755.	.0347	.0507	.0818	-.0076	-.0533	.0409	381.		
.1070	302.	94.	451.	-752.	-16.	-1039.	.0402	.0515	.0975	-.0178	-.0605	.0376	515.		
.1080	466.	-778.	808.	-965.	-120.	-1383.	.0451	.0512	.1127	-.0283	-.0666	.0327	678.		
.1090	798.	-1803.	1168.	-1167.	-198.	-1736.	.0495	.0490	.1268	-.0388	-.0717	.0253	843.		
.1100	529.	-2854.	1750.	-1278.	-294.	-1839.	.0533	.0460	.1390	-.0465	-.0755	.0177	898.		
.1110	96.	-3815.	2323.	-1246.	-448.	-1834.	.0565	.0429	.1489	-.0523	-.0780	.0100	908.		
.1120	172.	-4581.	2588.	-1318.	-628.	-2003.	.0585	.0398	.1564	-.0577	-.0790	.0017	995.		
.1130	347.	-5100.	2696.	-1435.	-750.	-2291.	.0596	.0373	.1612	-.0614	-.0780	-.0065	1126.		
.1140	14.	-5401.	2907.	-1509.	-763.	-2485.	.0600	.0355	.1632	-.0636	-.0750	-.0133	1206.		
.1150	-467.	-5558.	3112.	-1571.	-680.	-2559.	.0596	.0337	.1623	-.0646	-.0701	-.0189	1227.		
.1160	-425.	-5640.	3067.	-1491.	-556.	-2527.	.0583	.0312	.1584	-.0647	-.0639	-.0241	1198.		
.1170	-124.	-5617.	2859.	-1319.	-462.	-2234.	.0561	.0282	.1516	-.0612	-.0566	-.0282	1057.		
.1180	-469.	-5462.	2774.	-994.	-440.	-1610.	.0534	.0262	.1416	-.0548	-.0483	-.0294	779.		
.1190	-1124.	-4892.	2650.	-696.	-487.	-1036.	.0500	.0260	.1291	-.0474	-.0392	-.0280	537.		
.1200	-1366.	-3935.	2156.	-590.	-491.	-861.	.0460	.0276	.1149	-.0410	-.0293	-.0255	461.		
.1210	-1073.	-2757.	1403.	-346.	-363.	-651.	.0418	.0301	.0994	-.0351	-.0187	-.0217	431.		

ADLPIPE PAGE 1602

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.48.

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

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

INTERNAL FORCES IN THE PIPING



.1100	529.	-2054.	1950.	-1222.	-294.	-1834.	.0533	.0460	.1390	-.0465	-.0755	.0177	898.
.1110	96.	-3819.	2323.	-1246.	-448.	-1834.	.0565	.0429	.1489	-.0523	-.0780	.0100	908.
.1120	172.	-4581.	2588.	-1318.	-628.	-2003.	.0585	.0398	.1544	-.0575	-.0770	.0017	995.
.1130	347.	-5100.	2696.	-1435.	-750.	-2291.	.0596	.0373	.1612	-.0614	-.0780	-.0065	1126.
.1140	14.	-5401.	2907.	-1500.	-763.	-2485.	.0600	.0355	.1632	-.0636	-.0750	-.0133	1206.
.1150	-467.	-5558.	3112.	-1501.	-680.	-2509.	.0596	.0327	.1623	-.0646	-.0701	-.0189	1227.
.1160	-429.	-5640.	3067.	-1491.	-586.	-2527.	.0583	.0312	.1584	-.0641	-.0639	-.0241	1198.
.1170	-124.	-5659.	2859.	-1319.	-462.	-2234.	.0561	.0282	.1516	-.0612	-.0566	-.0282	1057.
.1180	-469.	-5462.	2774.	-994.	-440.	-1610.	.0534	.0262	.1416	-.0542	-.0483	-.0294	779.
.1190	-1184.	-4892.	2650.	-696.	-483.	-1036.	.0500	.0260	.1291	-.0474	-.0392	-.0280	537.
.1200	-1206.	-3939.	2156.	-590.	-491.	-861.	.0460	.0276	.1149	-.0410	-.0293	-.0255	461.
.1210	-1073.	-2757.	1400.	-546.	-363.	-851.	.0418	.0301	.0994	-.0351	-.0187	-.0217	431.

ADLPIPE PAGE 1682

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.28.48.

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	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)	PX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)
.1220	42	1	62					-1035.	-1570.	764.	-413.	-124.	-556.	.0381	.0330	.0831	-.0293	-.0080	-.0150	282.
.1230								-1271.	-480.	284.	-156.	120.	40.	.0344	.0354	.0665	-.0231	.0021	-.0064	81.
.1240								-1326.	533.	-234.	126.	254.	656.	.0303	.0372	.0502	-.0163	.0108	.0020	287.
.1250								-1319.	1538.	-774.	396.	254.	1196.	.0261	.0390	.0346	-.0082	.0180	.0099	516.
.1260								-1593.	2577.	-1204.	639.	218.	1671.	.0224	.0416	.0203	.0006	.0238	.0183	723.
.1270								-1792.	3622.	-1618.	751.	273.	1909.	.0194	.0449	.0080	.0071	.0286	.0269	830.
.1280								-1394.	4557.	-2144.	675.	519.	1778.	.0168	.0479	-.0012	.0098	.0322	.0342	791.
.1290								-842.	5220.	-2549.	526.	894.	1533.	.0146	.0499	-.0073	.0091	.0343	.0405	743.
.1300								-894.	5504.	-2533.	461.	1194.	1518.	.0129	.0503	-.0106	.0064	.0343	.0465	797.
.1310								-1277.	5419.	-2246.	471.	1230.	1665.	.0115	.0488	-.0114	.0029	.0316	.0510	852.
.1320								-1179.	5064.	-2062.	426.	938.	1650.	.0102	.0456	-.0101	-.0017	.0262	.0524	781.
.1330								-648.	4538.	-1982.	275.	470.	1364.	.0089	.0413	-.0067	-.0071	.0193	.0505	589.
.1340								-357.	3872.	-1722.	56.	67.	958.	.0081	.0365	-.0013	-.0139	.0118	.0470	386.
.1350								-316.	3044.	-1242.	-205.	-93.	528.	.0077	.0314	.0061	-.0233	.0049	.0428	230.
.1360								-42.	2047.	-742.	-490.	-7.	80.	.0074	.0255	.0150	-.0348	-.0013	.0376	199.
.1370								335.	958.	-251.	-743.	124.	-309.	.0069	.0191	.0242	-.0468	-.0068	.0316	327.
.1380								367.	-89.	299.	-918.	83.	-592.	.0062	.0129	.0325	-.0567	-.0120	.0251	440.
.1390								279.	-989.	754.	-1057.	-218.	-876.	.0051	.0072	.0392	-.0640	-.0166	.0180	558.
.1400								607.	-1723.	915.	-1203.	-656.	-1233.	.0034	.0020	.0440	-.0695	-.0203	.0100	740.
.1410								1126.	-2320.	920.	-1312.	-999.	-1494.	.0015	-.0027	.0471	-.0738	-.0221	.0028	893.
.1420								1195.	-2767.	1039.	-1329.	-1106.	-1475.	-.0005	-.0063	.0484	-.0775	-.0215	-.0017	912.
.1430								918.	-2987.	1201.	-1291.	-994.	-1297.	-.0027	-.0084	.0477	-.0804	-.0185	-.0037	836.
.1440								886.	-2897.	1118.	-1267.	-804.	-1212.	-.0052	-.0089	.0448	-.0812	-.0137	-.0048	774.
.1450								1132.	-2489.	752.	-1236.	-670.	-1224.	-.0080	-.0081	.0393	-.0784	-.0078	-.0054	748.
.1460								1242.	-1848.	304.	-1115.	-615.	-1118.	-.0108	-.0060	.0315	-.0715	-.0010	-.0047	680.
.1470								1174.	-1095.	-138.	-895.	-569.	-788.	-.0134	-.0033	.0220	-.0626	.0063	-.0019	530.
.1480								1155.	-295.	-598.	-626.	-421.	-321.	-.0159	-.0003	.0116	-.0531	.0139	.0026	329.
.1490								1068.	560.	-1021.	-363.	-151.	191.	-.0181	.0031	.0010	-.0438	.0218	.0086	175.
.1500								793.	1496.	-1365.	-119.	158.	697.	-.0196	.0073	-.0095	-.0345	.0292	.0161	291.
.1510								528.	2498.	-1764.	95.	408.	1116.	-.0204	.0122	-.0198	-.0246	.0358	.0241	478.
.1520								681.	3496.	-2306.	271.	552.	1407.	-.0205	.0172	-.0292	-.0147	.0410	.0319	616.
.1530								855.	4397.	-2796.	447.	642.	1669.	-.0199	.0220	-.0372	-.0050	.0447	.0395	740.
.1540								574.	5118.	-2995.	646.	762.	2012.	-.0184	.0266	-.0430	.0035	.0471	.0475	901.
.1550								0.	5625.	-2957.	822.	973.	2359.	-.0160	.0306	-.0462	.0098	.0484	.0552	1076.
.1560								-178.	5918.	-2900.	902.	1260.	2528.	-.0128	.0338	-.0466	.0139	.0484	.0611	1190.
.1570								-90.	6010.	-2859.	870.	1515.	2472.	-.0088	.0262	-.0444	.0157	.0472	.0646	1215.
.1580								-48.	5881.	-2708.	787.	1645.	2303.	-.0041	.0376	-.0397	.0160	.0444	.0658	1179.
.1590								-160.	5489.	-2399.	703.	1617.	2107.	.0009	.0378	-.0329	.0152	.0402	.0646	1102.

ADLPIPE PAGE 1683

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.28.48.

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

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

.1490	1068.	560.	-1021.	-363.	-151.	191.	-0.181	.0031	.0010	-.0438	.0218	.0086	175.
.1500	753.	1496.	-1365.	-119.	158.	697.	-.0196	.0073	-.0095	-.0345	.0292	.0161	291.
.1510	528.	2498.	-1764.	95.	408.	1116.	-.0204	.0122	-.0198	-.0246	.0358	.0241	478.
.1520	681.	3496.	-2306.	271.	552.	1407.	-.0205	.0172	-.0292	-.0147	.0410	.0319	616.
.1530	855.	4397.	-2797.	447.	642.	1669.	-.0199	.0220	-.0372	-.0050	.0447	.0395	740.
.1540	574.	5116.	-2995.	646.	782.	2012.	-.0184	.0266	-.0430	.0035	.0471	.0475	901.
.1550	50.	5625.	-2957.	822.	973.	2359.	-.0160	.0306	-.0462	.0098	.0484	.0552	1076.
.1560	-178.	5918.	-2900.	902.	1260.	2522.	-.0128	.0338	-.0466	.0139	.0484	.0611	1190.
.1570	-90.	6010.	-2859.	870.	1515.	2472.	-.0088	.0362	-.0444	.0157	.0472	.0646	1215.
.1580	-48.	5881.	-2707.	787.	1645.	2303.	-.0041	.0376	-.0397	.0160	.0444	.0652	1179.
.1590	-160.	5489.	-2399.	703.	1617.	2107.	.0009	.0378	-.0329	.0152	.0402	.0646	1102.

ADLPIPE PAGE 1683

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.48.

S/RV PIPING KEWAUNEE GKWOFF 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	42	MEMBER	1	SEQUENCE	62	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)	
.1600	-326.	4819.	-1966.	620.	1462.	1908.	.0059	.0365	-.0239	.0125	.0350	.0611	996.	
.1610	-545.	3912.	-1419.	521.	1259.	1677.	.0109	.0341	-.0129	.0076	.0293	.0555	867.	
.1620	-814.	2847.	-785.	380.	1080.	1365.	.0159	.0309	-.0004	.0009	.0236	.0478	715.	
.1630	-952.	1701.	-178.	165.	928.	914.	.0208	.0272	.0132	-.0076	.0184	.0382	527.	
.1640	-849.	526.	329.	-115.	774.	323.	.0252	.0232	.0272	-.0171	.0137	.0267	340.	
.1650	-748.	-659.	810.	-391.	579.	-274.	.0289	.0190	.0410	-.0263	.0096	.0138	301.	
.1660	-929.	-1032.	1355.	-590.	316.	-716.	.0317	.0147	.0540	-.0345	.0062	.0008	393.	
.1670	-1267.	-2935.	1892.	-707.	22.	-1004.	.0337	.0106	.0658	-.0410	.0035	-.0118	493.	
.1680	-1454.	-3874.	2277.	-803.	-245.	-1276.	.0348	.0073	.0760	-.0465	.0020	-.0239	613.	
.1690	-1413.	-4574.	2464.	-918.	-420.	-1612.	.0353	.0050	.0845	-.0508	.0016	-.0351	763.	
.1700	-1320.	-5017.	2523.	-1032.	-479.	-1943.	.0353	.0039	.0910	-.0537	.0023	-.0445	904.	
.1710	-1307.	-5230.	2518.	-1105.	-453.	-2161.	.0347	.0041	.0954	-.0551	.0038	-.0514	991.	
.1720	-1351.	-5237.	2449.	-1105.	-386.	-2228.	.0335	.0051	.0976	-.0538	.0056	-.0559	1010.	
.1730	-1424.	-5047.	2307.	-1037.	-340.	-2155.	.0319	.0070	.0976	-.0499	.0073	-.0579	969.	
.1740	-1487.	-4653.	2081.	-917.	-318.	-1989.	.0302	.0098	.0955	-.0436	.0085	-.0574	888.	
.1750	-1459.	-4063.	1759.	-784.	-278.	-1809.	.0286	.0134	.0917	-.0356	.0092	-.0545	799.	
.1760	-1294.	-3314.	1356.	-677.	-183.	-1674.	.0271	.0176	.0867	-.0272	.0092	-.0493	728.	
.1770	-1078.	-2479.	945.	-587.	-22.	-1552.	.0258	.0222	.0809	-.0187	.0083	-.0420	666.	
.1780	-958.	-1639.	609.	-476.	144.	-1352.	.0249	.0265	.0746	-.0101	.0063	-.0328	578.	
.1790	-929.	-844.	350.	-327.	233.	-1053.	.0242	.0304	.0679	-.0006	.0028	-.0224	452.	
.1800	-846.	-105.	104.	-167.	187.	-738.	.0237	.0336	.0610	.0097	-.0024	-.0118	313.	
.1810	-661.	579.	-148.	-34.	18.	-498.	.0234	.0362	.0545	.0201	-.0089	-.0016	200.	
.1820	-462.	1185.	-348.	59.	-172.	-358.	.0234	.0383	.0485	.0303	-.0162	.0078	161.	
.1830	-310.	1664.	-443.	116.	-289.	-283.	.0236	.0396	.0438	.0389	-.0239	.0165	169.	
.1840	-158.	1968.	-433.	144.	-303.	-237.	.0241	.0401	.0403	.0453	-.0315	.0242	165.	
.1850	-1.	2084.	-336.	155.	-268.	-210.	.0245	.0394	.0381	.0498	-.0390	.0303	150.	
.1860	87.	2042.	-164.	153.	-289.	-215.	.0248	.0378	.0370	.0530	-.0462	.0343	157.	
.1870	134.	1868.	39.	136.	-422.	-280.	.0248	.0353	.0365	.0558	-.0529	.0355	211.	
.1880	243.	1568.	224.	101.	-652.	-404.	.0244	.0319	.0368	.0576	-.0589	.0340	310.	
.1890	403.	1130.	412.	61.	-881.	-538.	.0236	.0276	.0374	.0580	-.0635	.0301	415.	
.1900	477.	564.	663.	33.	-1014.	-627.	.0226	.0226	.0386	.0566	-.0661	.0243	478.	
.1910	426.	-80.	970.	12.	-1033.	-674.	.0212	.0173	.0402	.0533	-.0667	.0173	495.	
.1920	370.	-724.	1242.	-18.	-984.	-745.	.0193	.0120	.0417	.0488	-.0651	.0089	495.	
.1930	371.	-1304.	1414.	-61.	-945.	-860.	.0171	.0070	.0426	.0439	-.0617	-.0007	516.	
.1940	370.	-1792.	1493.	-101.	-954.	-1005.	.0144	.0024	.0427	.0393	-.0566	-.0110	558.	
.1950	329.	-2196.	1508.	-116.	-985.	-1089.	.0115	-.0017	.0419	.0349	-.0501	-.0212	591.	
.1960	261.	-2524.	1475.	-101.	-974.	-1090.	.0084	-.0053	.0402	.0306	-.0422	-.0307	588.	
.1970	147.	-2754.	1420.	-64.	-871.	-1020.	.0052	-.0082	.0377	.0262	-.0331	-.0388	539.	

ADLPIPE PAGE 1684

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.48.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS



.1870	134.	1868.	39.	176.	-422.	-285.	.0248	.0353	.0365	.0558	-.0529	.0355	211.
.1880	243.	1568.	224.	101.	-652.	-404.	.0244	.0319	.0366	.0576	-.0589	.0340	310.
.1890	403.	1130.	412.	61.	-881.	-538.	.0236	.0276	.0374	.0580	-.0635	.0301	415.
.1900	477.	564.	662.	33.	-1014.	-627.	.0226	.0226	.0386	.0566	-.0661	.0243	478.
.1910	426.	-80.	970.	11.	-1033.	-674.	.0212	.0173	.0402	.0533	-.0667	.0173	495.
.1920	370.	-724.	1242.	-10.	-984.	-745.	.0193	.0120	.0417	.0488	-.0651	.0089	495.
.1930	371.	-1304.	1414.	-61.	-945.	-868.	.0171	.0070	.0426	.0439	-.0617	-.0007	516.
.1940	370.	-1792.	1493.	-101.	-954.	-1000.	.0144	.0024	.0427	.0393	-.0566	-.0110	558.
.1950	329.	-2196.	1508.	-116.	-985.	-1089.	.0115	-.0017	.0419	.0349	-.0501	-.0212	591.
.1960	261.	-2524.	1478.	-101.	-974.	-1090.	.0084	-.0053	.0402	.0306	-.0422	-.0307	588.
.1970	147.	-2754.	1420.	-64.	-871.	-1020.	.0052	-.0082	.0377	.0262	-.0331	-.0388	539.

ADLPIPE PAGE 1684

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.48.

S/RV PIPING KEWAUNEE GKWDRF 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	MEMBER	SEQUENCE	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)
42	1	62					.1980	-24.	-2840.	1330.	-22.	-674.	-916.	.0021	-.0101	.0344	.0220	-.0231	-.0452	457.
							.1990	-175.	-2745.	1164.	10.	-422.	-838.	-.0008	-.0109	.0303	.0184	-.0128	-.0475	377.
							.2000	-241.	-2461.	894.	29.	-166.	-800.	-.0034	-.0104	.0254	.0157	-.0026	-.0519	328.
							.2010	-281.	-2018.	564.	43.	69.	-773.	-.0056	-.0088	.0198	.0140	.0068	-.0519	312.
							.2020	-391.	-1474.	247.	69.	293.	-709.	-.0073	-.0065	.0139	.0133	.0152	-.0495	309.
							.2030	-562.	-883.	-24.	108.	525.	-586.	-.0084	-.0037	.0080	.0130	.0222	-.0447	319.
							.2040	-715.	-278.	-262.	146.	767.	-426.	-.0088	-.0006	.0024	.0126	.0276	-.0377	357.
							.2050	-807.	332.	-482.	168.	991.	-272.	-.0085	.0028	-.0027	.0120	.0311	-.0287	418.
							.2060	-156.	946.	-682.	165.	1163.	-156.	-.0074	.0064	-.0072	.0112	.0327	-.0184	475.
							.2070	-888.	1543.	-851.	138.	1262.	-91.	-.0057	.0100	-.0109	.0101	.0323	-.0071	511.
							.2080	-919.	2083.	-967.	94.	1301.	-60.	-.0035	.0135	-.0138	.0088	.0302	.0046	524.
							.2090	-965.	2516.	-1004.	48.	1316.	-24.	-.0008	.0165	-.0155	.0070	.0265	.0163	529.
							.2100	-1012.	2810.	-957.	13.	1342.	46.	.0022	.0189	-.0161	.0048	.0219	.0274	539.
							.2110	-1023.	2966.	-853.	-16.	1383.	136.	.0054	.0207	-.0156	.0023	.0165	.0375	558.
							.2120	-986.	3015.	-724.	-55.	1418.	202.	.0087	.0220	-.0142	-.0006	.0109	.0461	575.
							.2130	-936.	2987.	-584.	-106.	1418.	220.	.0117	.0229	-.0120	-.0037	.0054	.0528	577.
							.2140	-905.	2892.	-438.	-158.	1370.	209.	.0143	.0234	-.0092	-.0069	.0001	.0575	560.
							.2150	-884.	2723.	-295.	-196.	1286.	202.	.0165	.0235	-.0059	-.0102	-.0044	.0601	528.
							.2160	-848.	2478.	-164.	-217.	1188.	217.	.0180	.0231	-.0024	-.0137	-.0080	.0608	492.
							.2170	-811.	2168.	-42.	-226.	1096.	243.	.0189	.0223	.0014	-.0175	-.0104	.0593	459.
							.2180	-796.	1813.	72.	-230.	1011.	264.	.0192	.0212	.0053	-.0213	-.0115	.0559	429.
							.2190	-784.	1434.	161.	-231.	924.	272.	.0189	.0198	.0091	-.0248	-.0114	.0505	398.
							.2200	-729.	1041.	205.	-223.	826.	280.	.0179	.0181	.0126	-.0279	-.0103	.0435	361.
							.2210	-645.	645.	209.	-196.	713.	305.	.0165	.0163	.0158	-.0303	-.0083	.0354	321.
							.2220	-605.	266.	204.	-155.	594.	345.	.0147	.0145	.0187	-.0322	-.0057	.0268	283.
							.2230	-631.	-72.	201.	-114.	479.	376.	.0126	.0129	.0211	-.0337	-.0026	.0181	249.
							.2240	-654.	-356.	178.	-85.	373.	376.	.0105	.0114	.0232	-.0349	.0005	.0097	215.
							.2250	-613.	-586.	120.	-69.	273.	353.	.0085	.0102	.0250	-.0358	.0033	.0021	181.
							.2260	-532.	-768.	44.	-57.	167.	328.	.0068	.0092	.0264	-.0361	.0054	-.0044	150.
							.2270	-481.	-901.	-14.	-44.	47.	314.	.0054	.0085	.0275	-.0357	.0067	-.0095	129.
							.2280	-483.	-983.	-39.	-33.	-33.	305.	.0044	.0080	.0283	-.0347	.0068	-.0130	128.
							.2290	-505.	-1008.	-42.	-28.	-210.	290.	.0039	.0079	.0288	-.0331	.0056	-.0148	144.
							.2300	-501.	-972.	-36.	-37.	-310.	251.	.0040	.0082	.0293	-.0310	.0033	-.0147	161.
							.2310	-451.	-876.	-27.	-67.	-369.	173.	.0047	.0088	.0296	-.0286	-.0001	-.0131	166.
							.2320	-379.	-734.	-4.	-115.	-392.	60.	.0059	.0098	.0298	-.0259	-.0046	-.0100	166.
							.2330	-335.	-568.	54.	-164.	-398.	-45.	.0075	.0102	.0299	-.0228	-.0099	-.0058	174.
							.2340	-339.	-399.	148.	-174.	-413.	-102.	.0094	.0119	.0298	-.0193	-.0160	-.0006	188.
							.2350	-356.	-226.	253.	-205.	-454.	-116.	.0116	.0130	.0294	-.0153	-.0225	.0052	205.

ADLPIPE PAGE 1685

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.48.

S/RV PIPING KEWAUNEE GKWDRF 2 RUP DISK

2 SAFETY COLD FKM24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNIT

.2240	-654.	-550.	178.	-45.	375.	376.	105.	.0114	.0232	-.0349	.0005	.0097	215.
.2250	-613.	-586.	120.	-69.	273.	353.	.0085	.0102	.0250	-.0358	.0033	.0021	181.
.2260	-532.	-768.	44.	-57.	167.	328.	.0068	.0092	.0264	-.0361	.0054	-.0044	150.
.2270	-481.	-901.	-14.	-44.	47.	314.	.0054	.0085	.0275	-.0357	.0067	-.0095	129.
.2280	-487.	-983.	-39.	-73.	-83.	305.	.0044	.0080	.0283	-.0347	.0068	-.0130	128.
.2290	-505.	-1008.	-42.	-80.	-210.	290.	.0039	.0079	.0288	-.0331	.0056	-.0148	144.
.2300	-501.	-972.	-36.	-37.	-310.	251.	.0040	.0082	.0293	-.0310	.0033	-.0147	161.
.2310	-451.	-876.	-27.	-67.	-369.	173.	.0047	.0088	.0296	-.0286	-.0001	-.0131	166.
.2320	-379.	-734.	-4.	-115.	-792.	60.	.0059	.0098	.0298	-.0259	-.0046	-.0100	166.
.2330	-335.	-568.	54.	-164.	-398.	-45.	.0075	.0108	.0299	-.0228	-.0095	-.0058	174.
.2340	-339.	-399.	148.	-194.	-413.	-103.	.0094	.0119	.0298	-.0193	-.0160	-.0006	188.
.2350	-356.	-226.	253.	-205.	-454.	-116.	.0116	.0130	.0294	-.0153	-.0225	.0052	205.

ADLPIPE PAGE 1685

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.48.

S/RV PIPING KEWAUNEE GKW0RF 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	MEMBER	SEQUENCE	LOCATION	BEG	TYPE	RU	TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS
42	1	62					(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
.2360	-353.	-36.	340.	-212.	-519.	-126.	.0138	.0141	.0288	-.0111	-.0291	.0111	231.							
.2370	-347.	174.	411.	-227.	-583.	-163.	.0160	.0153	.0281	-.0071	-.0354	.0167	259.							
.2380	-367.	387.	479.	-241.	-613.	-202.	.0181	.0165	.0272	-.0034	-.0408	.0219	277.							
.2390	-398.	577.	543.	-238.	-592.	-199.	.0200	.0176	.0263	-.0002	-.0452	.0264	268.							
.2400	-421.	730.	590.	-209.	-530.	-141.	.0216	.0185	.0253	.0024	-.0482	.0301	236.							
.2410	-465.	859.	619.	-165.	-455.	-54.	.0228	.0193	.0242	.0045	-.0497	.0325	195.							
.2420	-577.	975.	634.	-115.	-391.	29.	.0236	.0201	.0230	.0063	-.0497	.0335	164.							
.2430	-726.	1070.	627.	-63.	-338.	108.	.0240	.0207	.0219	.0075	-.0481	.0329	144.							
.2440	-832.	1119.	581.	-2.	-277.	207.	.0240	.0211	.0207	.0080	-.0450	.0310	139.							
.2450	-883.	1105.	505.	70.	-190.	333.	.0238	.0211	.0198	.0075	-.0404	.0279	156.							
.2460	-961.	1034.	438.	142.	-78.	465.	.0233	.0209	.0192	.0060	-.0346	.0237	197.							
.2470	-1136.	913.	410.	202.	40.	574.	.0226	.0204	.0189	.0034	-.0278	.0187	245.							
.2480	-1358.	738.	408.	252.	143.	654.	.0219	.0197	.0189	.0001	-.0206	.0130	291.							
.2490	-1507.	503.	391.	302.	217.	759.	.0212	.0185	.0192	-.0038	-.0132	.0069	339.							
.2500	-1553.	218.	354.	341.	259.	842.	.0208	.0171	.0198	-.0082	-.0059	.0009	379.							
.2510	-1593.	-94.	339.	350.	284.	873.	.0204	.0154	.0207	-.0132	.0009	-.0049	394.							
.2520	-1727.	-424.	394.	328.	303.	848.	.0202	.0136	.0219	-.0187	.0070	-.0101	385.							
.2530	-1924.	-781.	516.	294.	320.	815.	.0203	.0116	.0233	-.0245	.0122	-.0143	371.							
.2540	-2076.	-1168.	664.	264.	322.	808.	.0207	.0093	.0248	-.0304	.0162	-.0172	365.							
.2550	-2143.	-1554.	808.	236.	288.	807.	.0214	.0069	.0260	-.0358	.0189	-.0188	356.							
.2560	-2203.	-1903.	964.	192.	208.	765.	.0223	.0044	.0268	-.0406	.0203	-.0193	327.							
.2570	-2370.	-2207.	1179.	126.	96.	668.	.0235	.0018	.0271	-.0447	.0204	-.0188	275.							
.2580	-2626.	-2496.	1458.	72.	-15.	598.	.0249	-.0010	.0266	-.0482	.0194	-.0171	242.							
.2590	-2824.	-2794.	1747.	66.	-108.	648.	.0268	-.0042	.0250	-.0508	.0176	-.0140	265.							
.2600	-2883.	-3067.	1990.	95.	-191.	773.	.0291	-.0076	.0222	-.0525	.0151	-.0099	322.							
.2610	-2918.	-3241.	2193.	114.	-284.	850.	.0313	-.0111	.0180	-.0532	.0133	-.0053	362.							
.2620	-3119.	-3286.	2414.	113.	-393.	843.	.0333	-.0143	.0122	-.0529	.0095	-.0007	376.							
.2630	-3408.	-3254.	2632.	137.	-499.	867.	.0349	-.0177	.0047	-.0514	.0070	.0039	405.							
.2640	-3445.	-3214.	2731.	237.	-577.	1052.	.0362	-.0215	-.0045	-.0487	.0052	.0087	491.							
.2650	-3232.	-3135.	2688.	395.	-631.	1354.	.0367	-.0256	-.0152	-.0449	.0043	.0134	620.							
.2660	-3102.	-2921.	2595.	540.	-679.	1594.	.0358	-.0295	-.0275	-.0399	.0046	.0171	728.							
.2670	-3245.	-2534.	2508.	646.	-722.	1705.	.0331	-.0330	-.0408	-.0338	.0063	.0196	787.							
.2680	-3427.	-2041.	2357.	768.	-741.	1828.	.0288	-.0361	-.0551	-.0266	.0094	.0215	850.							
.2690	-3339.	-1506.	2031.	947.	-715.	2078.	.0230	-.0390	-.0702	-.0185	.0140	.0231	960.							
.2700	-3041.	-910.	1564.	1143.	-647.	2358.	.0158	-.0417	-.0856	-.0100	.0198	.0240	1083.							
.2710	-2916.	-211.	1098.	1287.	-556.	2497.	.0070	-.0439	-.1008	-.0012	.0267	.0238	1149.							
.2720	-3094.	550.	708.	1391.	-452.	2532.	-.0029	-.0456	-.1156	.0077	.0342	.0225	1174.							
.2730	-3204.	1261.	291.	1573.	-738.	2667.	-.0131	-.0472	-.1297	.0160	.0417	.0209	1242.							

ADLPIPE PAGE 1686

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.49.

S/RV PIPING KEWAUNEE GKW0RF 2 RUP DISK  
2 SAFETY COLD FKM24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS



.2630	-3408.	-3254.	2632.	127.	-499.	867.	349	-.0177	.0047	-.0514	.0070	.0039	405.
.2640	-3445.	-3214.	2731.	237.	-577.	1052.	.062	-.0215	-.0045	-.0487	.0052	.0087	491.
.2650	-3232.	-3135.	2668.	395.	-631.	1354.	.0367	-.0256	-.0152	-.0449	.0043	.0134	620.
.2660	-3102.	-2921.	2595.	540.	-679.	1594.	.0352	-.0295	-.0275	-.0399	.0046	.0171	728.
.2670	-3245.	-2534.	2508.	646.	-722.	1705.	.0331	-.0330	-.0408	-.0338	.0063	.0196	787.
.2680	-3427.	-2041.	2357.	768.	-741.	1828.	.0288	-.0361	-.0551	-.0266	.0094	.0215	850.
.2690	-3339.	-1506.	2031.	947.	-715.	2078.	.0230	-.0390	-.0702	-.0185	.0140	.0231	960.
.2700	-3041.	-910.	1564.	1143.	-647.	2358.	.0158	-.0417	-.0856	-.0100	.0198	.0240	1083.
.2710	-2916.	-211.	1098.	1287.	-556.	2497.	.0070	-.0439	-.1008	-.0012	.0267	.0238	1149.
.2720	-3094.	550.	708.	1391.	-452.	2532.	-.0029	-.0456	-.1156	.0077	.0342	.0225	1174.
.2730	-3204.	1261.	291.	1573.	-738.	2667.	-.0131	-.0472	-.1297	.0169	.0417	.0209	1242.

ADLPIPE PAGE 1686

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.49.

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	42	MEMBER	1	SEQUENCE	62	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)	
.2740	-2912.	1876.	-264.	1731.	-222.	2947.		-.0229	-.0489	-.1429	.0261	.0489	.0195	1374.	
.2750	-2442.	2459.	-879.	1904.	-117.	3183.		-.0322	-.0502	-.1547	.0350	.0552	.0179	1489.	
.2760	-2291.	3074.	-1358.	1980.	-25.	3198.		-.0408	-.0506	-.1647	.0432	.0502	.0160	1509.	
.2770	-2464.	3652.	-1656.	1988.	79.	3074.		-.0482	-.0504	-.1725	.0502	.0534	.0142	1469.	
.2780	-2431.	4048.	-1919.	2010.	211.	3026.		-.0536	-.0503	-.1779	.0558	.0644	.0133	1460.	
.2790	-1930.	4213.	-2227.	2063.	345.	3101.		-.0568	-.0506	-.1809	.0600	.0625	.0135	1501.	
.2800	-1361.	4234.	-2453.	2083.	424.	3127.		-.0582	-.0508	-.1813	.0631	.0576	.0143	1517.	
.2810	-1184.	4205.	-2445.	2005.	417.	2946.		-.0582	-.0505	-.1789	.0651	.0493	.0154	1440.	
.2820	-1243.	4101.	-2253.	1849.	350.	2615.		-.0568	-.0497	-.1737	.0659	.0380	.0172	1293.	
.2830	-1040.	3840.	-2040.	1685.	285.	2315.		-.0540	-.0490	-.1660	.0652	.0237	.0201	1154.	
.2840	-487.	3424.	-1844.	1528.	257.	2087.		-.0498	-.0483	-.1558	.0631	.0070	.0244	1043.	
.2850	-0.	2967.	-1553.	1320.	248.	1773.		-.0448	-.0470	-.1436	.0597	-.0117	.0296	893.	
.2860	125.	2567.	-1100.	1014.	223.	1234.		-.0398	-.0450	-.1295	.0553	-.0318	.0348	647.	
.2870	91.	2194.	-575.	657.	167.	570.		-.0349	-.0425	-.1143	.0505	-.0528	.0399	355.	
.2880	249.	1762.	-104.	346.	91.	22.		-.0297	-.0401	-.0986	.0457	-.0740	.0452	144.	
.2890	605.	1269.	294.	117.	8.	-331.		-.0245	-.0378	-.0830	.0411	-.0948	.0507	141.	
.2900	857.	820.	686.	-94.	-81.	-650.		-.0194	-.0353	-.0679	.0366	-.1142	.0558	265.	
.2910	806.	504.	1108.	-341.	-167.	-1082.		-.0149	-.0322	-.0537	.0324	-.1316	.0595	460.	
.2920	595.	292.	1502.	-581.	-230.	-1529.		-.0106	-.0287	-.0409	.0283	-.1463	.0622	663.	
.2930	502.	94.	1777.	-725.	-254.	-1775.		-.0062	-.0254	-.0299	.0248	-.1579	.0642	776.	
.2940	573.	-109.	1913.	-749.	-251.	-1774.		-.0016	-.0224	-.0211	.0220	-.1561	.0654	779.	
.2950	566.	-251.	1980.	-713.	-248.	-1685.		.0029	-.0195	-.0146	.0203	-.1708	.0651	741.	
.2960	268.	-288.	2047.	-663.	-257.	-1619.		.0071	-.0166	-.0103	.0196	-.1719	.0628	710.	
.2970	-200.	-270.	2093.	-570.	-253.	-1495.		.0109	-.0139	-.0081	.0200	-.1595	.0591	650.	
.2980	-526.	-282.	2037.	-390.	-203.	-1183.		.0148	-.0119	-.0078	.0212	-.1639	.0545	506.	
.2990	-636.	-338.	1866.	-136.	-104.	-714.		.0186	-.0105	-.0092	.0230	-.1555	.0493	295.	
.3000	-801.	-372.	1677.	123.	13.	-254.		.0219	-.0096	-.0118	.0252	-.1447	.0431	113.	
.3010	-1238.	-348.	1553.	346.	116.	96.		.0244	-.0087	-.0152	.0279	-.1321	.0361	151.	
.3020	-1787.	-315.	1462.	553.	195.	392.		.0262	-.0083	-.0191	.0308	-.1186	.0288	283.	
.3030	-2139.	-355.	1325.	776.	262.	736.		.0274	-.0086	-.0232	.0338	-.1047	.0218	442.	
.3040	-2274.	-481.	1158.	1005.	323.	1115.		.0281	-.0097	-.0272	.0369	-.0911	.0152	616.	
.3050	-2457.	-638.	1059.	1187.	369.	1405.		.0283	-.0112	-.0306	.0397	-.0781	.0091	753.	
.3060	-2826.	-790.	1079.	1289.	394.	1524.		.0278	-.0130	-.0334	.0422	-.0664	.0035	816.	
.3070	-3209.	-965.	1166.	1336.	400.	1532.		.0270	-.0151	-.0355	.0443	-.0564	-.0013	831.	
.3080	-3388.	-1209.	1248.	1373.	392.	1543.		.0262	-.0176	-.0370	.0461	-.0482	-.0048	844.	
.3090	-3388.	-1510.	1332.	1407.	363.	1567.		.0256	-.0205	-.0379	.0476	-.0422	-.0068	858.	
.3100	-3406.	-1802.	1468.	1398.	303.	1503.		.0253	-.0234	-.0384	.0488	-.0382	-.0077	833.	
.3110	-3532.	-2048.	1675.	1325.	213.	1300.		.0250	-.0261	-.0385	.0495	-.0364	-.0078	750.	

ADLPIPE PAGE 1687

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.49.

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	-1238.	-348.	1553.	346.	116.	96.	.0244	-.0087	-.0152	.0279	-.1321	.0361	151.
.3020	-1787.	-315.	1462.	553.	195.	392.	.0262	-.0083	-.0191	.0308	-.1186	.0288	283.
.3030	-2139.	-355.	1325.	776.	262.	726.	.0274	-.0086	-.0232	.0338	-.1047	.0218	442.
.3040	-2274.	-491.	1158.	1005.	323.	1115.	.0281	-.0097	-.0272	.0369	-.0911	.0152	616.
.3050	-2457.	-638.	1059.	1177.	369.	1405.	.0283	-.0112	-.0306	.0397	-.0781	.0091	753.
.3060	-2826.	-790.	1079.	1209.	394.	1524.	.0278	-.0130	-.0334	.0422	-.0564	.0035	816.
.3070	-3209.	-965.	1166.	1326.	400.	1532.	.0270	-.0151	-.0355	.0443	-.0564	-.0013	831.
.3080	-3388.	-1209.	1248.	1373.	392.	1543.	.0262	-.0176	-.0370	.0461	-.0482	-.0048	844.
.3090	-3388.	-1510.	1332.	1407.	363.	1567.	.0256	-.0205	-.0379	.0476	-.0422	-.0068	858.
.3100	-3406.	-1802.	1468.	1398.	303.	1593.	.0253	-.0234	-.0384	.0488	-.0382	-.0077	833.
.3110	-3532.	-2048.	1675.	1325.	213.	1300.	.0250	-.0261	-.0385	.0495	-.0364	-.0078	750.

ADLPIPE PAGE 1687

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.49.

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	42	MEMBER	1	SEQUENCE	62	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)	
.3120	-3644.	-2274.	1908.	1225.	112.	1052.		.0251	-.0288	-.0385	.0498	-.0364	-.0068	650.	
.3130	-3581.	-2519.	2108.	1151.	15.	891.		.0257	-.0315	-.0386	.0500	-.0380	-.0045	584.	
.3140	-3352.	-2753.	2257.	1105.	-78.	813.		.0266	-.0341	-.0390	.0500	-.0410	-.0011	551.	
.3150	-3124.	-2898.	2381.	1045.	-176.	702.		.0274	-.0362	-.0398	.0499	-.0450	.0031	510.	
.3160	-3008.	-2906.	2496.	949.	-275.	499.		.0278	-.0377	-.0411	.0497	-.0495	.0075	444.	
.3170	-2909.	-2798.	2568.	848.	-350.	285.		.0277	-.0385	-.0430	.0495	-.0542	.0124	385.	
.3180	-2655.	-2620.	2537.	779.	-378.	156.		.0269	-.0388	-.0454	.0492	-.0586	.0178	353.	
.3190	-2250.	-2372.	2401.	736.	-360.	101.		.0254	-.0389	-.0485	.0488	-.0625	.0235	331.	
.3200	-1881.	-2016.	2213.	683.	-320.	27.		.0226	-.0384	-.0522	.0485	-.0557	.0290	303.	
.3210	-1659.	-1539.	2008.	609.	-277.	-97.		.0185	-.0374	-.0563	.0484	-.0580	.0339	271.	
.3220	-1462.	-985.	1752.	540.	-233.	-211.		.0132	-.0360	-.0609	.0486	-.0593	.0384	251.	
.3230	-1132.	-408.	1404.	499.	-172.	-254.		.0069	-.0346	-.0658	.0488	-.0595	.0424	235.	
.3240	-707.	177.	992.	477.	-80.	-248.		-.0001	-.0332	-.0710	.0490	-.0686	.0461	218.	
.3250	-365.	782.	589.	443.	41.	-265.		-.0076	-.0318	-.0761	.0489	-.0666	.0491	208.	
.3260	-162.	1397.	226.	386.	181.	-330.		-.0155	-.0303	-.0813	.0486	-.0637	.0513	216.	
.3270	32.	1968.	-127.	326.	325.	-392.		-.0231	-.0291	-.0862	.0480	-.0600	.0528	243.	
.3280	322.	2440.	-486.	289.	457.	-392.		-.0302	-.0284	-.0910	.0471	-.0557	.0537	268.	
.3290	632.	2792.	-812.	276.	558.	-329.		-.0365	-.0284	-.0956	.0462	-.0512	.0539	282.	
.3300	843.	3035.	-1053.	268.	616.	-253.		-.0417	-.0291	-.0999	.0450	-.0465	.0533	286.	
.3310	953.	3172.	-1206.	254.	638.	-192.		-.0459	-.0304	-.1038	.0436	-.0417	.0520	286.	
.3320	1055.	3192.	-1298.	242.	642.	-124.		-.0489	-.0322	-.1073	.0416	-.0370	.0501	280.	
.3330	1188.	3084.	-1338.	243.	641.	-20.		-.0506	-.0348	-.1103	.0393	-.0324	.0477	275.	
.3340	1305.	2867.	-1314.	254.	633.	111.		-.0513	-.0378	-.1128	.0366	-.0277	.0450	277.	
.3350	1342.	2576.	-1217.	260.	606.	228.		-.0511	-.0413	-.1150	.0338	-.0232	.0418	280.	
.3360	1302.	2237.	-1064.	260.	552.	322.		-.0504	-.0450	-.1168	.0309	-.0187	.0382	277.	
.3370	1236.	1857.	-884.	268.	474.	428.		-.0494	-.0488	-.1184	.0281	-.0141	.0341	278.	
.3380	1170.	1452.	-696.	296.	388.	569.		-.0482	-.0528	-.1198	.0256	-.0092	.0299	301.	
.3390	1079.	1055.	-506.	337.	311.	728.		-.0470	-.0565	-.1212	.0232	-.0039	.0255	345.	
.3400	933.	708.	-323.	378.	254.	871.		-.0461	-.0599	-.1226	.0211	.0021	.0209	395.	
.3410	718.	436.	-157.	420.	221.	994.		-.0456	-.0627	-.1242	.0194	.0088	.0162	442.	
.3420	466.	243.	-27.	475.	211.	1127.		-.0454	-.0649	-.1260	.0181	.0164	.0115	498.	
.3430	230.	125.	41.	556.	220.	1296.		-.0454	-.0665	-.1282	.0176	.0248	.0067	573.	
.3440	20.	83.	40.	658.	241.	1493.		-.0455	-.0674	-.1306	.0177	.0339	.0020	662.	
.3450	-225.	125.	-5.	771.	273.	1689.		-.0458	-.0676	-.1334	.0184	.0438	-.0028	753.	
.3460	-528.	238.	-78.	890.	318.	1881.		-.0460	-.0672	-.1362	.0195	.0543	-.0076	845.	
.3470	-827.	395.	-187.	1025.	380.	2094.		-.0460	-.0661	-.1390	.0210	.0550	-.0122	948.	
.3480	-1038.	572.	-351.	1174.	456.	2331.		-.0457	-.0645	-.1415	.0226	.0757	-.0165	1063.	
.3490	-1180.	768.	-557.	1317.	535.	2549.		-.0449	-.0625	-.1434	.0243	.0862	-.0204	1171.	

ADLPIPE PAGE 1688

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.49.

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



.3390	1079.	1055.	-506.	337.	311.	1055.	728.	-.0470	-.0565	-.1212	.0232	-.0039	.0255	345.
.3400	933.	738.	-323.	378.	254.	871.	-.0461	-.0599	-.1226	.0211	.0021	.0209	395.	
.3410	718.	436.	-157.	420.	221.	994.	-.0456	-.0627	-.1242	.0194	.0088	.0162	442.	
.3420	466.	243.	-37.	475.	111.	1127.	-.0454	-.0649	-.1260	.0181	.0164	.0115	498.	
.3430	230.	125.	41.	556.	220.	1296.	-.0454	-.0665	-.1282	.0176	.0248	.0057	573.	
.3440	29.	83.	40.	658.	241.	1493.	-.0455	-.0674	-.1306	.0177	.0339	.0020	662.	
.3450	-225.	125.	-5.	771.	273.	1689.	-.0458	-.0676	-.1334	.0184	.0438	-.0028	753.	
.3460	-528.	238.	-78.	890.	318.	1881.	-.0460	-.0672	-.1362	.0195	.0543	-.0076	845.	
.3470	-827.	395.	-187.	1025.	380.	2094.	-.0460	-.0661	-.1390	.0210	.0550	-.0122	948.	
.3480	-1038.	572.	-351.	1174.	458.	2331.	-.0457	-.0645	-.1415	.0226	.0757	-.0165	1063.	
.3490	-1180.	768.	-557.	1317.	535.	2549.	-.0449	-.0625	-.1434	.0243	.0862	-.0204	1171.	

ADLPIPE PAGE 1688 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 83/12/02. 18.28.49.

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	42	MEMBER	1	SEQUENCE	62	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)		
.3500	-1327.	983.	-764.	1431.	603.	2697.	-.0439	-.0599	-.1445	.0260	.0959	-.0242	1249.		
.3510	-1495.	1193.	-949.	1510.	658.	2769.	-.0426	-.0569	-.1443	.0275	.1046	-.0276	1293.		
.3520	-1608.	1355.	-1114.	1563.	699.	2796.	-.0410	-.0536	-.1427	.0288	.1118	-.0304	1316.		
.3530	-1584.	1441.	-1274.	1589.	727.	2788.	-.0392	-.0504	-.1393	.0295	.1172	-.0326	1320.		
.3540	-1467.	1458.	-1405.	1568.	732.	2697.	-.0372	-.0470	-.1339	.0298	.1205	-.0342	1286.		
.3550	-1370.	1425.	-1464.	1477.	705.	2467.	-.0353	-.0435	-.1264	.0293	.1216	-.0352	1188.		
.3560	-1315.	1335.	-1436.	1316.	648.	2108.	-.0336	-.0398	-.1167	.0282	.1202	-.0357	1031.		
.3570	-1199.	1160.	-1348.	1111.	567.	1680.	-.0319	-.0362	-.1049	.0264	.1163	-.0354	840.		
.3580	-935.	893.	-1235.	875.	469.	1219.	-.0301	-.0328	-.0911	.0239	.1100	-.0344	631.		
.3590	-562.	562.	-1095.	597.	352.	691.	-.0282	-.0294	-.0758	.0209	.1014	-.0327	393.		
.3600	-196.	206.	-901.	265.	215.	60.	-.0264	-.0259	-.0590	.0174	.0908	-.0308	139.		
.3610	114.	-174.	-640.	-105.	65.	-640.	-.0245	-.0224	-.0413	.0136	.0784	-.0287	261.		
.3620	440.	-600.	-342.	-466.	-90.	-1305.	-.0225	-.0192	-.0231	.0097	.0548	-.0264	557.		
.3630	869.	-1074.	-54.	-787.	-248.	-1867.	-.0203	-.0162	-.0051	.0058	.0502	-.0239	819.		
.3640	1369.	-1547.	204.	-1076.	-413.	-2357.	-.0178	-.0133	.0125	.0023	.0351	-.0213	1053.		
.3650	1827.	-1955.	443.	-1356.	-590.	-2842.	-.0152	-.0103	.0290	-.0008	.0202	-.0193	1285.		
.3660	2182.	-2276.	672.	-1622.	-763.	-3312.	-.0128	-.0072	.0442	-.0034	.0059	-.0178	1511.		
.3670	2507.	-2536.	863.	-1835.	-912.	-3677.	-.0105	-.0041	.0577	-.0053	-.0074	-.0167	1689.		
.3680	2905.	-2756.	974.	-1965.	-1025.	-3861.	-.0083	-.0012	.0692	-.0065	-.0191	-.0159	1786.		
.3690	3351.	-2906.	999.	-2025.	-1109.	-3904.	-.0063	.0016	.0786	-.0069	-.0290	-.0157	1820.		
.3700	3705.	-2937.	968.	-2050.	-1183.	-3902.	-.0051	.0045	.0857	-.0063	-.0368	-.0163	1831.		
.3710	3880.	-2835.	909.	-2053.	-1247.	-3889.	-.0047	.0076	.0906	-.0048	-.0423	-.0180	1834.		
.3720	3974.	-2645.	804.	-2010.	-1288.	-3796.	-.0050	.0105	.0934	-.0026	-.0454	-.0204	1800.		
.3730	4149.	-2417.	607.	-1899.	-1289.	-3559.	-.0059	.0130	.0942	.0003	-.0461	-.0233	1699.		
.3740	4381.	-2149.	335.	-1743.	-1256.	-3233.	-.0075	.0153	.0933	.0036	-.0443	-.0267	1558.		
.3750	4485.	-1813.	55.	-1589.	-1209.	-2932.	-.0098	.0174	.0908	.0072	-.0402	-.0309	1424.		
.3760	4359.	-1418.	-185.	-1453.	-1164.	-2691.	-.0126	.0192	.0871	.0108	-.0341	-.0358	1313.		
.3770	4155.	-1035.	-411.	-1305.	-1125.	-2431.	-.0158	.0206	.0823	.0145	-.0262	-.0411	1196.		
.3780	4101.	-730.	-686.	-1115.	-1089.	-2073.	-.0187	.0211	.0769	.0179	-.0169	-.0465	1041.		
.3790	4187.	-497.	-1000.	-911.	-1062.	-1674.	-.0213	.0211	.0709	.0209	-.0064	-.0518	876.		
.3800	4190.	-282.	-1276.	-748.	-1051.	-1372.	-.0237	.0207	.0649	.0233	.0050	-.0574	756.		
.3810	3937.	-82.	-1437.	-654.	-1050.	-1228.	-.0258	.0201	.0591	.0248	.0170	-.0631	699.		
.3820	3561.	30.	-1498.	-581.	-1042.	-1120.	-.0274	.0189	.0539	.0253	.0294	-.0685	657.		
.3830	3336.	-25.	-1541.	-474.	-1023.	-908.	-.0281	.0169	.0491	.0249	.0419	-.0732	581.		
.3840	3302.	-227.	-1588.	-348.	-1015.	-633.	-.0278	.0142	.0450	.0237	.0540	-.0773	500.		
.3850	3223.	-483.	-1581.	-266.	-1045.	-461.	-.0270	.0113	.0416	.0218	.0557	-.0812	471.		
.3860	2914.	-736.	-1467.	-255.	-1112.	-457.	-.0258	.0085	.0390	.0191	.0768	-.0849	493.		
.3870	2522.	-1021.	-1289.	-270.	-1178.	-503.	-.0241	.0058	.0371	.0157	.0873	-.0878	525.		

ADLPIPE PAGE 1689 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 83/12/02. 18.28.49.

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

.3770	4155.	-1035.	-411.	-1305.	-1125.	-2431.	-0158	.0206	.0823	.0145	-.0262	-.0411	1196.
.3780	4101.	-730.	-686.	-1115.	-1089.	-2073.	-.0187	.0211	.0769	.0179	-.0169	-.0465	1041.
.3790	4187.	-497.	-1000.	-911.	-1062.	-1674.	-.0213	.0211	.0709	.0209	-.0064	-.0518	876.
.3800	4190.	-282.	-1276.	-748.	-1051.	-1372.	-.0237	.0207	.0649	.0233	.0050	-.0574	756.
.3810	3917.	-82.	-1437.	-654.	-1050.	-1228.	-.0258	.0201	.0591	.0248	.0170	-.0631	699.
.3820	3561.	30.	-1498.	-581.	-1042.	-1120.	-.0274	.0189	.0539	.0253	.0294	-.0685	657.
.3830	3336.	-25.	-1541.	-474.	-1023.	-908.	-.0281	.0169	.0491	.0249	.0419	-.0732	581.
.3840	3302.	-227.	-1588.	-348.	-1015.	-633.	-.0278	.0142	.0450	.0237	.0540	-.0773	500.
.3850	3223.	-483.	-1581.	-266.	-1045.	-481.	-.0270	.0113	.0416	.0218	.0657	-.0812	471.
.3860	2914.	-736.	-1467.	-255.	-1112.	-457.	-.0258	.0085	.0390	.0191	.0768	-.0849	493.
.3870	2522.	-1021.	-1239.	-270.	-1178.	-503.	-.0241	.0058	.0371	.0157	.0873	-.0878	525.

ADLPIPE PAGE 1689

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.28.49.

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	42	MEMBER	1	SEQUENCE	62	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)		
.3880	2336.	-1382.	-1144.	-260.	-1202.	-464.	-.0217	.0030	.0361	.0115	.0972	-.0893	528.		
.3890	2366.	-1781.	-1052.	-243.	-1181.	-384.	-.0189	.0004	.0357	.0065	.1064	-.0897	508.		
.3900	2334.	-2121.	-942.	-275.	-1139.	-414.	-.0163	-.0016	.0360	.0009	.1148	-.0893	499.		
.3910	2074.	-2360.	-769.	-370.	-1102.	-596.	-.0141	-.0029	.0369	-.0051	.1224	-.0884	524.		
.3920	1784.	-2552.	-597.	-466.	-1067.	-765.	-.0124	-.0037	.0381	-.0112	.1292	-.0868	564.		
.3930	1740.	-2750.	-521.	-507.	-1020.	-931.	-.0108	-.0042	.0395	-.0172	.1350	-.0839	566.		
.3940	1890.	-2912.	-537.	-511.	-951.	-781.	-.0096	-.0043	.0410	-.0230	.1401	-.0798	535.		
.3950	1939.	-2936.	-564.	-546.	-865.	-805.	-.0090	-.0035	.0425	-.0286	.1444	-.0751	522.		
.3960	1781.	-2783.	-573.	-641.	-755.	-975.	-.0092	-.0015	.0440	-.0341	.1480	-.0700	558.		
.3970	1642.	-2519.	-630.	-747.	-609.	-1167.	-.0098	.0013	.0454	-.0394	.1510	-.0643	607.		
.3980	1753.	-2231.	-795.	-801.	-429.	-1232.	-.0105	.0044	.0465	-.0444	.1531	-.0576	614.		
.3990	2020.	-1927.	-1030.	-808.	-245.	-1183.	-.0112	.0076	.0474	-.0487	.1543	-.0503	583.		
.4000	2173.	-1557.	-1244.	-817.	-91.	-1153.	-.0121	.0112	.0480	-.0524	.1545	-.0430	568.		

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)
.3710	-3880.	2835.	-909.	2053.	1247.	3889.	-.0047	.0076	.0906	-.0048	-.0423	-.0180	1834.

SECTION	42	MEMBER	1	SEQUENCE	63	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)		
0.0000	0.	0.	0.	0.	0.	0.	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	0.		
.0020	-0.	0.	-0.	0.	0.	0.	.0000	-.0000	-.0000	-.0000	-.0000	.0000	0.		
.0030	-0.	0.	-0.	0.	0.	0.	-.0000	-.0000	-.0000	-.0000	-.0000	.0000	0.		
.0040	0.	-0.	0.	0.	0.	0.	-.0000	.0000	.0000	-.0000	-.0000	.0000	0.		
.0050	0.	-0.	0.	0.	0.	0.	-.0000	.0000	.0000	-.0000	-.0000	.0000	0.		
.0060	0.	-0.	0.	0.	0.	0.	-.0000	.0000	.0000	-.0000	-.0000	.0000	0.		
.0070	0.	-0.	0.	0.	0.	0.	-.0000	.0000	.0000	-.0000	-.0000	-.0000	0.		
.0080	-0.	0.	-0.	0.	0.	0.	-.0000	-.0000	.0000	-.0001	-.0000	-.0000	0.		
.0090	-0.	2.	-1.	0.	0.	0.	-.0000	-.0000	.0000	-.0001	-.0000	-.0000	0.		
.0100	-1.	7.	-3.	0.	0.	0.	-.0000	-.0001	.0000	-.0000	-.0000	-.0001	0.		
.0110	-3.	16.	-8.	0.	0.	0.	-.0000	-.0001	-.0000	.0001	-.0000	-.0003	0.		

ADLPIPE PAGE 1690

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.28.49.

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



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	43	MEMBER	1	SEQUENCE	820	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)		
.0340	-258.	15.	87.	-101.	-145.	-318.	.0017	-.0016	.0023	-.0019	.0010	.0015	146.		
.0350	-385.	18.	122.	-97.	-41.	-372.	.0019	-.0019	.0023	-.0039	.0006	.0025	155.		
.0360	-250.	31.	66.	-79.	40.	-395.	.0020	-.0021	.0024	-.0061	.0003	.0035	163.		
.0370	0.	31.	-21.	-75.	93.	-429.	.0021	-.0023	.0026	-.0076	.0001	.0044	179.		
.0380	87.	12.	-39.	-92.	140.	-481.	.0021	-.0025	.0028	-.0080	-.0001	.0051	204.		
.0390	-88.	-11.	43.	-100.	204.	-529.	.0022	-.0026	.0030	-.0086	-.0005	.0058	231.		
.0400	-350.	-22.	148.	-80.	294.	-554.	.0024	-.0027	.0033	-.0104	-.0011	.0069	254.		
.0410	-390.	-28.	149.	-55.	405.	-561.	.0025	-.0027	.0036	-.0121	-.0020	.0080	279.		
.0420	-77.	-43.	5.	-48.	504.	-581.	.0025	-.0026	.0040	-.0132	-.0028	.0091	309.		
.0430	334.	-80.	-166.	-55.	558.	-622.	.0025	-.0024	.0046	-.0140	-.0036	.0103	336.		
.0440	321.	-121.	-145.	-54.	560.	-631.	.0026	-.0020	.0053	-.0145	-.0042	.0113	339.		
.0450	-134.	-138.	67.	-25.	522.	-550.	.0028	-.0015	.0059	-.0142	-.0048	.0115	304.		
.0460	-367.	-126.	189.	33.	462.	-393.	.0030	-.0009	.0066	-.0136	-.0052	.0111	244.		
.0470	66.	-116.	37.	95.	390.	-245.	.0031	-.0001	.0074	-.0132	-.0057	.0109	189.		
.0480	692.	-136.	-202.	132.	311.	-148.	.0030	.0008	.0083	-.0125	-.0060	.0109	148.		
.0490	765.	-169.	-220.	146.	223.	-59.	.0028	.0017	.0091	-.0107	-.0064	.0106	110.		
.0500	280.	-178.	-14.	171.	121.	88.	.0030	.0028	.0096	-.0082	-.0066	.0096	91.		
.0510	-88.	-154.	144.	217.	5.	293.	.0032	.0039	.0101	-.0057	-.0067	.0080	146.		
.0520	88.	-120.	77.	260.	-117.	499.	.0032	.0050	.0104	-.0029	-.0065	.0063	231.		
.0530	589.	-93.	-127.	285.	-238.	665.	.0029	.0061	.0107	.0003	-.0061	.0046	306.		
.0540	923.	-69.	-267.	296.	-357.	791.	.0026	.0072	.0109	.0036	-.0056	.0028	368.		
.0550	770.	-43.	-213.	303.	-467.	888.	.0027	.0081	.0106	.0067	-.0049	.0010	421.		
.0560	238.	-20.	-8.	302.	-558.	962.	.0028	.0089	.0102	.0094	-.0042	-.0008	462.		
.0570	-118.	3.	119.	291.	-626.	1019.	.0026	.0096	.0096	.0118	-.0033	-.0025	494.		
.0580	153.	39.	-10.	276.	-675.	1075.	.0023	.0100	.0089	.0141	-.0022	-.0044	521.		
.0590	692.	92.	-247.	264.	-711.	1136.	.0020	.0102	.0080	.0162	-.0010	-.0066	548.		
.0600	708.	150.	-267.	246.	-732.	1173.	.0019	.0102	.0069	.0183	.0003	-.0089	563.		
.0610	129.	192.	-47.	204.	-721.	1133.	.0018	.0099	.0056	.0203	.0016	-.0109	545.		
.0620	-290.	209.	95.	126.	-662.	976.	.0018	.0092	.0043	.0219	.0027	-.0122	476.		
.0630	-143.	202.	-10.	22.	-543.	717.	.0016	.0083	.0029	.0223	.0036	-.0126	361.		
.0640	106.	192.	-164.	-79.	-373.	428.	.0013	.0071	.0016	.0213	.0043	-.0123	230.		
.0650	-6.	197.	-167.	-159.	-180.	178.	.0011	.0057	.0003	.0193	.0048	-.0118	120.		
.0660	-296.	213.	-82.	-223.	6.	-35.	.0012	.0042	-.0009	.0169	.0051	-.0114	91.		
.0670	-435.	211.	-41.	-298.	177.	-269.	.0013	.0026	-.0019	.0146	.0053	-.0107	176.		
.0680	-426.	170.	-53.	-389.	348.	-554.	.0013	.0010	-.0024	.0125	.0053	-.0095	305.		
.0690	-385.	107.	-82.	-474.	541.	-847.	.0011	-.0067	-.0027	.0101	.0049	-.0079	446.		
.0700	-354.	53.	-115.	-517.	755.	-1084.	.0012	-.0022	-.0026	.0068	.0040	-.0059	569.		
.0710	-396.	13.	-119.	-518.	962.	-1243.	.0015	-.0035	-.0022	.0025	.0028	-.0037	664.		

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	0.	0.	0.	0.	0.	0.	0.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.
.0020	-0.	0.	-0.	0.	0.	0.	0.	0.0000	-0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.
.0030	-0.	0.	-0.	0.	0.	0.	0.	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000	0.0000	0.
.0040	0.	-0.	0.	0.	0.	0.	0.	-0.0000	0.0000	0.0000	-0.0000	-0.0000	0.0000	0.
.0050	0.	-0.	0.	0.	0.	0.	0.	-0.0000	0.0000	0.0000	-0.0000	-0.0000	0.0000	0.
.0060	0.	-0.	0.	0.	0.	0.	0.	-0.0000	0.0000	0.0000	-0.0000	-0.0000	0.0000	0.
.0070	0.	-0.	0.	0.	0.	0.	0.	-0.0000	0.0000	0.0000	-0.0000	-0.0000	0.0000	0.
.0080	-0.	0.	-0.	0.	0.	0.	0.	-0.0000	-0.0000	0.0000	-0.0001	-0.0000	-0.0000	0.
.0090	-0.	2.	-1.	0.	0.	0.	0.	-0.0000	-0.0000	0.0000	-0.0001	-0.0000	-0.0000	0.
.0100	-1.	7.	-3.	0.	0.	0.	0.	-0.0000	-0.0001	0.0000	-0.0000	-0.0000	-0.0001	0.
.0110	-3.	16.	-8.	0.	0.	0.	0.	-0.0000	-0.0001	-0.0000	0.0001	-0.0000	-0.0003	0.

ADLPIPE PAGE 1690

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.49.

S/RV PIPING KEWAUNEE GKW03F 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	42	MEMBER	1	SEQUENCE	63	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)		
.0120	-6.	29.	-14.	0.	0.	0.	0.0000	-0.0002	-0.0000	0.0003	0.0000	-0.0005	0.		
.0130	-8.	43.	-21.	0.	0.	0.	0.0000	-0.0003	-0.0000	0.0005	0.0001	-0.0007	0.		
.0140	-11.	59.	-28.	0.	0.	0.	-0.0000	-0.0004	0.0000	0.0009	0.0003	-0.0010	0.		
.0150	-15.	77.	-37.	0.	0.	0.	-0.0000	-0.0006	-0.0000	0.0012	0.0005	-0.0014	0.		
.0160	-19.	98.	-47.	0.	0.	0.	-0.0001	-0.0008	-0.0000	0.0016	0.0007	-0.0018	0.		
.0170	-23.	119.	-57.	0.	0.	0.	-0.0001	-0.0010	-0.0002	0.0019	0.0010	-0.0022	0.		
.0180	-26.	134.	-64.	0.	0.	0.	-0.0002	-0.0012	-0.0004	0.0022	0.0013	-0.0025	0.		
.0190	-27.	139.	-66.	0.	0.	0.	-0.0004	-0.0014	-0.0006	0.0025	0.0017	-0.0028	0.		
.0200	-26.	134.	-64.	0.	0.	0.	-0.0006	-0.0016	-0.0010	0.0029	0.0021	-0.0031	0.		
.0210	-23.	116.	-55.	0.	0.	0.	-0.0008	-0.0017	-0.0014	0.0034	0.0026	-0.0032	0.		
.0220	-15.	78.	-37.	0.	0.	0.	-0.0010	-0.0016	-0.0018	0.0044	0.0033	-0.0032	0.		
.0230	-3.	14.	-7.	0.	0.	0.	-0.0011	-0.0014	-0.0022	0.0054	0.0041	-0.0031	0.		
.0240	15.	-77.	37.	0.	0.	0.	-0.0012	-0.0009	-0.0025	0.0060	0.0050	-0.0026	0.		
.0250	37.	-187.	89.	0.	0.	0.	-0.0013	-0.0002	-0.0028	0.0058	0.0058	-0.0017	0.		
.0260	58.	-294.	140.	0.	0.	0.	-0.0014	0.0004	-0.0031	0.0054	0.0065	-0.0008	0.		
.0270	72.	-366.	175.	0.	0.	0.	-0.0015	0.0008	-0.0035	0.0055	0.0069	-0.0005	0.		
.0280	74.	-377.	180.	0.	0.	0.	-0.0015	0.0007	-0.0039	0.0056	0.0070	-0.0004	0.		
.0290	66.	-336.	160.	0.	0.	0.	-0.0015	0.0002	-0.0041	0.0047	0.0067	0.0003	0.		
.0300	59.	-300.	143.	0.	0.	0.	-0.0013	-0.0001	-0.0042	0.0041	0.0063	0.0013	0.		
.0310	67.	-342.	163.	0.	0.	0.	-0.0012	0.0003	-0.0041	0.0040	0.0059	0.0025	0.		
.0320	92.	-472.	225.	0.	0.	0.	-0.0009	0.0016	-0.0037	0.0033	0.0055	0.0040	0.		
.0330	122.	-622.	297.	0.	0.	0.	-0.0005	0.0032	-0.0028	0.0017	0.0050	0.0057	0.		
.0340	139.	-709.	338.	0.	0.	0.	0.0001	0.0045	-0.0016	-0.0001	0.0044	0.0074	0.		
.0350	139.	-710.	339.	0.	0.	0.	0.0010	0.0053	-0.0002	-0.0021	0.0033	0.0096	0.		
.0360	131.	-670.	320.	0.	0.	0.	0.0017	0.0059	0.0013	-0.0045	0.0018	0.0118	0.		
.0370	124.	-636.	304.	0.	0.	0.	0.0022	0.0065	0.0029	-0.0060	-0.0001	0.0132	0.		
.0380	118.	-603.	288.	0.	0.	0.	0.0028	0.0072	0.0046	-0.0066	-0.0021	0.0135	0.		
.0390	104.	-529.	252.	0.	0.	0.	0.0036	0.0077	0.0065	-0.0077	-0.0041	0.0138	0.		
.0400	78.	-400.	191.	0.	0.	0.	0.0048	0.0081	0.0088	-0.0102	-0.0060	0.0146	0.		
.0410	52.	-265.	126.	0.	0.	0.	0.0058	0.0085	0.0113	-0.0126	-0.0077	0.0156	0.		
.0420	34.	-175.	83.	0.	0.	0.	0.0066	0.0093	0.0139	-0.0143	-0.0092	0.0161	0.		
.0430	23.	-116.	55.	0.	0.	0.	0.0072	0.0101	0.0164	-0.0159	-0.0107	0.0158	0.		
.0440	-1.	5.	-3.	0.	0.	0.	0.0079	0.0103	0.0185	-0.0174	-0.0123	0.0144	0.		
.0450	-49.	249.	-119.	0.	0.	0.	0.0087	0.0095	0.0203	-0.0180	-0.0137	0.0123	0.		
.0460	-108.	551.	-263.	0.	0.	0.	0.0094	0.0081	0.0218	-0.0180	-0.0149	0.0101	0.		
.0470	-156.	796.	-380.	0.	0.	0.	0.0096	0.0070	0.0231	-0.0183	-0.0156	0.0082	0.		
.0480	-186.	949.	-453.	0.	0.	0.	0.0093	0.0063	0.0242	-0.0187	-0.0158	0.0055	0.		
.0490	-211.	1077.	-514.	0.	0.	0.	0.0090	0.0056	0.0247	-0.0178	-0.0154	0.0018	0.		

ADLPIPE PAGE 1691

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.49.

S/RV PIPING KEWAUNEE GKW03F 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



.0390	104.	-529.	191.	0.	0.	0.	.0038	.0077	.0065	-.0077	-.0041	.0138	0.
.0400	78.	-400.	126.	0.	0.	0.	.0048	.0081	.0088	-.0102	-.0060	.0146	0.
.0410	52.	-265.	83.	0.	0.	0.	.0058	.0085	.0113	-.0126	-.0077	.0156	0.
.0420	34.	-175.	55.	0.	0.	0.	.0066	.0093	.0139	-.0143	-.0092	.0161	0.
.0430	23.	-116.	-3.	0.	0.	0.	.0072	.0101	.0164	-.0159	-.0107	.0158	0.
.0440	-1.	5.	-119.	0.	0.	0.	.0079	.0103	.0185	-.0174	-.0123	.0144	0.
.0450	-49.	249.	-263.	0.	0.	0.	.0087	.0095	.0203	-.0180	-.0137	.0123	0.
.0460	-108.	551.	-380.	0.	0.	0.	.0094	.0081	.0218	-.0180	-.0149	.0101	0.
.0470	-156.	796.	-453.	0.	0.	0.	.0096	.0070	.0231	-.0183	-.0156	.0082	0.
.0480	-186.	949.	-514.	0.	0.	0.	.0093	.0063	.0242	-.0187	-.0158	.0055	0.
.0490	-211.	1077.	0.	0.	0.	0.	.0090	.0056	.0247	-.0178	-.0154	.0018	0.

ADLPIPE PAGE 1691

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.28.49.

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	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)
42	1	63					.0500	-242.	1238.	-591.	0.	0.	0.	.0090	.0043	.0246	-.0158	-.0145	-.0022	0.
							.0510	-275.	1402.	-670.	0.	0.	0.	.0089	.0027	.0238	-.0133	-.0132	-.0056	0.
							.0520	-292.	1489.	-711.	0.	0.	0.	.0082	.0014	.0226	-.0102	-.0114	-.0086	0.
							.0530	-285.	1456.	-695.	0.	0.	0.	.0069	.0005	.0209	-.0065	-.0092	-.0115	0.
							.0540	-259.	1324.	-632.	0.	0.	0.	.0055	.0002	.0186	-.0026	-.0066	-.0139	0.
							.0550	-224.	1144.	-546.	0.	0.	0.	.0045	-.0001	.0157	.0011	-.0037	-.0157	0.
							.0560	-187.	954.	-455.	0.	0.	0.	.0036	-.0004	.0125	.0046	-.0006	-.0173	0.
							.0570	-149.	760.	-363.	0.	0.	0.	.0024	-.0008	.0091	.0078	.0024	-.0186	0.
							.0580	-110.	563.	-269.	0.	0.	0.	.0008	-.0013	.0056	.0113	.0053	-.0194	0.
							.0590	-73.	373.	-178.	0.	0.	0.	-.0007	-.0020	.0019	.0151	.0080	-.0194	0.
							.0600	-36.	182.	-87.	0.	0.	0.	-.0020	-.0026	-.0019	.0190	.0105	-.0189	0.
							.0610	15.	-78.	37.	0.	0.	0.	-.0028	-.0027	-.0056	.0229	.0126	-.0178	0.
							.0620	93.	-477.	228.	0.	0.	0.	-.0036	-.0015	-.0090	.0261	.0146	-.0157	0.
							.0630	191.	-977.	467.	0.	0.	0.	-.0043	.0008	-.0117	.0280	.0163	-.0124	0.
							.0640	281.	-1437.	686.	0.	0.	0.	-.0049	.0033	-.0135	.0283	.0174	-.0081	0.
							.0650	342.	-1746.	834.	0.	0.	0.	-.0050	.0050	-.0145	.0275	.0177	-.0033	0.
							.0660	377.	-1923.	918.	0.	0.	0.	-.0045	.0062	-.0149	.0264	.0171	.0015	0.
							.0670	401.	-2047.	978.	0.	0.	0.	-.0038	.0074	-.0146	.0252	.0156	.0058	0.
							.0680	419.	-2138.	1021.	0.	0.	0.	-.0031	.0089	-.0133	.0235	.0133	.0091	0.
							.0690	418.	-2134.	1019.	0.	0.	0.	-.0022	.0102	-.0109	.0207	.0106	.0117	0.
							.0700	385.	-1965.	938.	0.	0.	0.	-.0007	.0109	-.0073	.0165	.0076	.0143	0.
							.0710	319.	-1631.	779.	0.	0.	0.	.0012	.0109	-.0030	.0110	.0043	.0167	0.
							.0720	236.	-1208.	577.	0.	0.	0.	.0032	.0105	.0019	.0051	.0008	.0181	0.
							.0730	151.	-771.	368.	0.	0.	0.	.0047	.0100	.0070	-.0006	-.0029	.0190	0.
							.0740	62.	-317.	151.	0.	0.	0.	.0060	.0092	.0119	-.0064	-.0066	.0169	0.
							.0750	-41.	208.	-99.	0.	0.	0.	.0073	.0078	.0165	-.0126	-.0101	.0153	0.
							.0760	-159.	810.	-387.	0.	0.	0.	.0084	.0055	.0207	-.0190	-.0130	.0132	0.
							.0770	-275.	1405.	-671.	0.	0.	0.	.0092	.0030	.0243	-.0249	-.0151	.0104	0.
							.0780	-372.	1901.	-908.	0.	0.	0.	.0094	.0008	.0272	-.0301	-.0161	.0070	0.
							.0790	-445.	2273.	-1085.	0.	0.	0.	.0092	-.0012	.0290	-.0336	-.0160	.0031	0.
							.0800	-497.	2539.	-1212.	0.	0.	0.	.0086	-.0030	.0296	-.0352	-.0147	-.0010	0.
							.0810	-526.	2689.	-1284.	0.	0.	0.	.0078	-.0046	.0288	-.0351	-.0122	-.0049	0.
							.0820	-524.	2676.	-1278.	0.	0.	0.	.0067	-.0058	.0267	-.0335	-.0086	-.0082	0.
							.0830	-485.	2477.	-1183.	0.	0.	0.	.0050	-.0062	.0234	-.0306	-.0041	-.0110	0.
							.0840	-416.	2124.	-1014.	0.	0.	0.	.0030	-.0061	.0189	-.0267	.0011	-.0132	0.
							.0850	-328.	1673.	-799.	0.	0.	0.	.0010	-.0058	.0134	-.0221	.0064	-.0146	0.
							.0860	-228.	1165.	-556.	0.	0.	0.	-.0009	-.0055	.0069	-.0169	.0117	-.0151	0.
							.0870	-119.	609.	-291.	0.	0.	0.	-.0028	-.0051	-.0002	-.0107	.0167	-.0150	0.

ADLPIPE PAGE 1692

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.28.49.

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

.0760	-159.	310.	307.	0.	0.	0.	0.	.0084	.0055	.0207	-.0190	-.0130	.0132	0.
.0770	-275.	1405.	-671.	0.	0.	0.	0.	.0092	.0030	.0243	-.0249	-.0151	.0104	0.
.0780	-372.	1901.	-908.	0.	0.	0.	0.	.0094	.0008	.0272	-.0301	-.0161	.0070	0.
.0790	-445.	2273.	-1085.	0.	0.	0.	0.	.0092	-.0012	.0290	-.0336	-.0160	.0031	0.
.0300	-497.	2539.	-1212.	0.	0.	0.	0.	.0086	-.0030	.0296	-.0352	-.0147	-.0010	0.
.0310	-526.	2689.	-1284.	0.	0.	0.	0.	.0078	-.0046	.0288	-.0351	-.0122	-.0049	0.
.0820	-524.	2676.	-1278.	0.	0.	0.	0.	.0067	-.0058	.0267	-.0335	-.0086	-.0082	0.
.0830	-485.	2477.	-1183.	0.	0.	0.	0.	.0050	-.0062	.0234	-.0306	-.0041	-.0110	0.
.0840	-416.	2124.	-1014.	0.	0.	0.	0.	.0030	-.0061	.0189	-.0267	.0011	-.0132	0.
.0850	-328.	1673.	-799.	0.	0.	0.	0.	.0010	-.0058	.0134	-.0221	.0064	-.0146	0.
.0860	-228.	1165.	-556.	0.	0.	0.	0.	-.0009	-.0055	.0069	-.0169	.0117	-.0151	0.
.0870	-119.	609.	-291.	0.	0.	0.	0.	-.0028	-.0051	-.0002	-.0107	.0167	-.0150	0.

ADLPIPE PAGE 1692

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.49.

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	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)
42	1	63					.0880	-3.	17.	-8.	0.	0.	0.	-.0048	-.0046	-.0073	-.0039	.0211	-.0146	0.
							.0890	113.	-577.	275.	0.	0.	0.	-.0066	-.0038	-.0142	.0029	.0249	-.0135	0.
							.0900	222.	-1133.	541.	0.	0.	0.	-.0079	-.0029	-.0204	.0096	.0279	-.0115	0.
							.0910	322.	-1645.	786.	0.	0.	0.	-.0087	-.0018	-.0258	.0160	.0300	-.0088	0.
							.0920	419.	-2138.	1021.	0.	0.	0.	-.0091	-.0003	-.0301	.0220	.0309	-.0057	0.
							.0930	513.	-2618.	1250.	0.	0.	0.	-.0092	.0017	-.0332	.0276	.0304	-.0023	0.
							.0940	596.	-3043.	1453.	0.	0.	0.	-.0091	.0041	-.0348	.0326	.0286	.0015	0.
							.0950	658.	-3360.	1605.	0.	0.	0.	-.0084	.0066	-.0348	.0368	.0255	.0058	0.
							.0960	699.	-3571.	1705.	0.	0.	0.	-.0071	.0093	-.0331	.0398	.0212	.0108	0.
							.0970	730.	-3730.	1781.	0.	0.	0.	-.0052	.0126	-.0293	.0413	.0160	.0161	0.
							.0980	760.	-3880.	1853.	0.	0.	0.	-.0028	.0170	-.0235	.0413	.0100	.0216	0.
							.0990	781.	-3987.	1904.	0.	0.	0.	.0001	.0221	-.0156	.0398	.0034	.0270	0.
							.1000	775.	-3956.	1889.	0.	0.	0.	.0037	.0272	-.0059	.0367	-.0038	.0320	0.
							.1010	727.	-3715.	1774.	0.	0.	0.	.0079	.0316	.0053	.0321	-.0116	.0364	0.
							.1020	642.	-3276.	1564.	0.	0.	0.	.0125	.0353	.0179	.0262	-.0199	.0400	0.
							.1030	530.	-2708.	1293.	0.	0.	0.	.0172	.0385	.0315	.0193	-.0286	.0425	0.
							.1040	401.	-2050.	979.	0.	0.	0.	.0220	.0413	.0458	.0113	-.0373	.0435	0.
							.1050	257.	-1313.	627.	0.	0.	0.	.0269	.0439	.0605	.0025	-.0457	.0431	0.
							.1060	99.	-504.	240.	0.	0.	0.	.0320	.0460	.0754	-.0070	-.0534	.0415	0.
							.1070	-70.	355.	-170.	0.	0.	0.	.0371	.0477	.0902	-.0168	-.0503	.0388	0.
							.1080	-251.	1231.	-612.	0.	0.	0.	.0418	.0486	.1046	-.0269	-.0561	.0346	0.
							.1090	-462.	2359.	-1126.	0.	0.	0.	.0459	.0479	.1180	-.0369	-.0709	.0280	0.
							.1100	-669.	3417.	-1631.	0.	0.	0.	.0495	.0463	.1297	-.0445	-.0745	.0209	0.
							.1110	-853.	4357.	-2080.	0.	0.	0.	.0525	.0445	.1393	-.0501	-.0766	.0135	0.
							.1120	-1002.	5118.	-2444.	0.	0.	0.	.0545	.0428	.1466	-.0551	-.0773	.0057	0.
							.1130	-1104.	5639.	-2693.	0.	0.	0.	.0556	.0415	.1516	-.0588	-.0761	-.0020	0.
							.1140	-1160.	5922.	-2828.	0.	0.	0.	.0562	.0406	.1539	-.0608	-.0730	-.0085	0.
							.1150	-1183.	6039.	-2884.	0.	0.	0.	.0561	.0396	.1535	-.0618	-.0683	-.0139	0.
							.1160	-1188.	6066.	-2896.	0.	0.	0.	.0550	.0377	.1505	-.0614	-.0622	-.0192	0.
							.1170	-1173.	5991.	-2861.	0.	0.	0.	.0532	.0350	.1445	-.0586	-.0550	-.0236	0.
							.1180	-1106.	5646.	-2696.	0.	0.	0.	.0509	.0329	.1356	-.0527	-.0469	-.0256	0.
							.1190	-966.	4931.	-2355.	0.	0.	0.	.0481	.0322	.1242	-.0457	-.0379	-.0251	0.
							.1200	-761.	3887.	-1856.	0.	0.	0.	.0445	.0330	.1112	-.0396	-.0282	-.0231	0.
							.1210	-519.	2652.	-1266.	0.	0.	0.	.0409	.0347	.0970	-.0339	-.0179	-.0197	0.
							.1220	-270.	1377.	-658.	0.	0.	0.	.0377	.0364	.0821	-.0285	-.0077	-.0138	0.
							.1230	-33.	169.	-81.	0.	0.	0.	.0345	.0374	.0668	-.0228	.0019	-.0063	0.
							.1240	187.	-954.	456.	0.	0.	0.	.0309	.0377	.0516	-.0165	.0102	.0010	0.
							.1250	402.	-2051.	979.	0.	0.	0.	.0270	.0381	.0369	-.0089	.0172	.0079	0.

ADLPIPE PAGE 1693

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.49.

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



.1150	-1183.	6039.	-2884.	0.	0.	0.	0.	.0561	.0396	.1535	-.0618	-.0683	-.0139	0.
.1160	-1183.	6066.	-2896.	0.	0.	0.	0.	.0550	.0377	.1505	-.0614	-.0622	-.0192	0.
.1170	-1173.	5991.	-2861.	0.	0.	0.	0.	.0532	.0350	.1445	-.0586	-.0550	-.0236	0.
.1180	-1106.	5646.	-2696.	0.	0.	0.	0.	.0509	.0329	.1356	-.0527	-.0469	-.0256	0.
.1190	-966.	4931.	-2355.	0.	0.	0.	0.	.0481	.0322	.1242	-.0457	-.0379	-.0251	0.
.1200	-761.	3887.	-1856.	0.	0.	0.	0.	.0445	.0330	.1112	-.0396	-.0282	-.0231	0.
.1210	-519.	2652.	-1266.	0.	0.	0.	0.	.0409	.0347	.0970	-.0339	-.0179	-.0197	0.
.1220	-270.	1377.	-658.	0.	0.	0.	0.	.0377	.0364	.0821	-.0285	-.0077	-.0138	0.
.1230	-33.	169.	-81.	0.	0.	0.	0.	.0345	.0374	.0668	-.0228	.0019	-.0063	0.
.1240	187.	-954.	456.	0.	0.	0.	0.	.0309	.0377	.0516	-.0165	.0102	.0010	0.
.1250	402.	-2051.	979.	0.	0.	0.	0.	.0270	.0381	.0369	-.0089	.0172	.0079	0.

ADLPIPE PAGE 1693

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.49.

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	DIS	TYPE	RU								STRESS
TIME	FX	FY	FZ	MX	MY	MZ	CX	DY	DZ	RX	RY	RZ	(PSI)	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)		
.1260	620.	-3164.	1511.	0.	0.	0.	.0236	.0392	.0233	-.0005	.0229	.0153	0.	
.1270	829.	-4236.	2023.	0.	0.	0.	.0209	.0410	.0117	.0057	.0274	.0233	0.	
.1280	1004.	-5127.	2448.	0.	0.	0.	.0185	.0430	.0029	.0083	.0306	.0304	0.	
.1290	1118.	-5712.	2727.	0.	0.	0.	.0164	.0441	-.0029	.0077	.0322	.0368	0.	
.1300	1163.	-5977.	2835.	0.	0.	0.	.0147	.0439	-.0062	.0051	.0318	.0427	0.	
.1310	1138.	-5810.	2774.	0.	0.	0.	.0132	.0421	-.0074	.0016	.0291	.0471	0.	
.1320	1054.	-5385.	2571.	0.	0.	0.	.0115	.0389	-.0067	-.0028	.0242	.0486	0.	
.1330	930.	-4750.	2268.	0.	0.	0.	.0099	.0351	-.0042	-.0080	.0179	.0472	0.	
.1340	775.	-3959.	1890.	0.	0.	0.	.0088	.0312	.0003	-.0144	.0111	.0444	0.	
.1350	588.	-3002.	1433.	0.	0.	0.	.0080	.0271	.0069	-.0233	.0045	.0411	0.	
.1360	368.	-1878.	897.	0.	0.	0.	.0073	.0225	.0149	-.0343	-.0015	.0367	0.	
.1370	133.	-680.	325.	0.	0.	0.	.0065	.0175	.0234	-.0458	-.0070	.0316	0.	
.1380	-86.	440.	-210.	0.	0.	0.	.0056	.0127	.0310	-.0554	-.0119	.0258	0.	
.1390	-272.	1390.	-664.	0.	0.	0.	.0042	.0083	.0371	-.0624	-.0161	.0193	0.	
.1400	-424.	2165.	-1034.	0.	0.	0.	.0024	.0043	.0415	-.0676	-.0191	.0120	0.	
.1410	-543.	2775.	-1325.	0.	0.	0.	.0003	.0007	.0444	-.0716	-.0204	.0053	0.	
.1420	-623.	3184.	-1520.	0.	0.	0.	-.0016	-.0021	.0457	-.0753	-.0196	.0010	0.	
.1430	-653.	3334.	-1592.	0.	0.	0.	-.0036	-.0037	.0454	-.0781	-.0167	-.0012	0.	
.1440	-622.	3176.	-1517.	0.	0.	0.	-.0059	-.0041	.0430	-.0790	-.0122	-.0024	0.	
.1450	-530.	2704.	-1291.	0.	0.	0.	-.0085	-.0034	.0383	-.0763	-.0065	-.0031	0.	
.1460	-388.	1979.	-945.	0.	0.	0.	-.0109	-.0018	.0314	-.0697	.0000	-.0027	0.	
.1470	-218.	1114.	-532.	0.	0.	0.	-.0131	.0001	.0228	-.0612	.0071	-.0006	0.	
.1480	-38.	195.	-93.	0.	0.	0.	-.0152	.0020	.0134	-.0522	.0144	.0030	0.	
.1490	151.	-770.	367.	0.	0.	0.	-.0170	.0042	.0038	-.0433	.0217	.0081	0.	
.1500	352.	-1799.	859.	0.	0.	0.	-.0182	.0070	-.0059	-.0344	.0287	.0146	0.	
.1510	562.	-2869.	1370.	0.	0.	0.	-.0186	.0103	-.0154	-.0250	.0348	.0218	0.	
.1520	764.	-3902.	1863.	0.	0.	0.	-.0184	.0138	-.0241	-.0155	.0396	.0289	0.	
.1530	943.	-4818.	2300.	0.	0.	0.	-.0176	.0172	-.0316	-.0061	.0431	.0359	0.	
.1540	1087.	-5551.	2651.	0.	0.	0.	-.0160	.0203	-.0371	.0020	.0452	.0433	0.	
.1550	1186.	-6055.	2891.	0.	0.	0.	-.0136	.0230	-.0401	.0081	.0462	.0504	0.	
.1560	1235.	-6308.	3012.	0.	0.	0.	-.0103	.0253	-.0405	.0120	.0459	.0559	0.	
.1570	1238.	-6320.	3018.	0.	0.	0.	-.0064	.0272	-.0385	.0138	.0443	.0594	0.	
.1580	1194.	-6097.	2911.	0.	0.	0.	-.0018	.0284	-.0342	.0143	.0414	.0609	0.	
.1590	1099.	-5612.	2680.	0.	0.	0.	.0029	.0288	-.0279	.0136	.0374	.0601	0.	
.1600	951.	-4859.	2320.	0.	0.	0.	.0077	.0282	-.0195	.0111	.0325	.0571	0.	
.1610	759.	-3875.	1850.	0.	0.	0.	.0124	.0267	-.0093	.0064	.0272	.0521	0.	
.1620	536.	-2737.	1307.	0.	0.	0.	.0171	.0248	.0025	.0001	.0219	.0452	0.	
.1630	297.	-1517.	724.	0.	0.	0.	.0217	.0228	.0154	-.0080	.0171	.0365	0.	

ADLPIPE PAGE 1694

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.49.

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	724.	-1902.	63.	0.	0.	0.	0.	-.0184	.0138	-.0241	-.0155	.0396	.0289	0.
.1530	943.	-4818.	2300.	0.	0.	0.	0.	-.0176	.0172	-.0316	-.0061	.0431	.0359	0.
.1540	1087.	-5551.	2651.	0.	0.	0.	0.	-.0160	.0203	-.0371	.0020	.0452	.0433	0.
.1550	1186.	-6055.	2891.	0.	0.	0.	0.	-.0136	.0230	-.0401	.0081	.0462	.0504	0.
.1560	1235.	-6308.	3012.	0.	0.	0.	0.	-.0103	.0253	-.0405	.0120	.0459	.0559	0.
.1570	1238.	-6320.	3018.	0.	0.	0.	0.	-.0064	.0272	-.0385	.0138	.0443	.0594	0.
.1580	1194.	-6097.	2911.	0.	0.	0.	0.	-.0018	.0284	-.0342	.0143	.0414	.0609	0.
.1590	1099.	-5612.	2680.	0.	0.	0.	0.	.0029	.0288	-.0279	.0136	.0374	.0601	0.
.1600	951.	-4859.	2320.	0.	0.	0.	0.	.0077	.0282	-.0195	.0111	.0325	.0571	0.
.1610	759.	-3875.	1850.	0.	0.	0.	0.	.0124	.0267	-.0093	.0064	.0272	.0521	0.
.1620	536.	-2777.	1307.	0.	0.	0.	0.	.0171	.0248	.0025	.0001	.0219	.0452	0.
.1630	297.	-1517.	724.	0.	0.	0.	0.	.0217	.0228	.0154	-.0080	.0171	.0365	0.

ADLPIPE PAGE 1694 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 83/12/02. 18.28.49.

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	42	MEMBER	1	SEQUENCE	53	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)		
.1640	52.	-267.	127.	0.	0.	0.	.0259	.0208	.0288	-.0170	.0128	.0261	0.		
.1650	-190.	972.	-464.	0.	0.	0.	.0293	.0186	.0421	-.0256	.0091	.0143	0.		
.1660	-422.	2154.	-1028.	0.	0.	0.	.0320	.0164	.0547	-.0334	.0061	.0023	0.		
.1670	-631.	3223.	-1539.	0.	0.	0.	.0338	.0143	.0661	-.0397	.0040	-.0096	0.		
.1680	-805.	4110.	-1963.	0.	0.	0.	.0349	.0127	.0761	-.0449	.0028	-.0210	0.		
.1690	-932.	4757.	-2272.	0.	0.	0.	.0354	.0121	.0845	-.0489	.0028	-.0316	0.		
.1700	-1007.	5143.	-2456.	0.	0.	0.	.0354	.0123	.0911	-.0517	.0036	-.0404	0.		
.1710	-1034.	5282.	-2522.	0.	0.	0.	.0348	.0134	.0957	-.0530	.0051	-.0470	0.		
.1720	-1019.	5202.	-2484.	0.	0.	0.	.0338	.0149	.0981	-.0517	.0068	-.0514	0.		
.1730	-963.	4916.	-2347.	0.	0.	0.	.0323	.0169	.0983	-.0479	.0083	-.0535	0.		
.1740	-868.	4431.	-2116.	0.	0.	0.	.0306	.0192	.0964	-.0418	.0094	-.0534	0.		
.1750	-738.	3771.	-1801.	0.	0.	0.	.0290	.0220	.0927	-.0341	.0099	-.0509	0.		
.1760	-585.	2987.	-1426.	0.	0.	0.	.0276	.0252	.0877	-.0259	.0097	-.0461	0.		
.1770	-421.	2150.	-1027.	0.	0.	0.	.0263	.0283	.0818	-.0177	.0085	-.0392	0.		
.1780	-260.	1328.	-634.	0.	0.	0.	.0252	.0310	.0753	-.0093	.0062	-.0306	0.		
.1790	-111.	565.	-270.	0.	0.	0.	.0243	.0331	.0682	-.0001	.0025	-.0208	0.		
.1800	23.	-120.	57.	0.	0.	0.	.0236	.0345	.0608	.0099	-.0027	-.0109	0.		
.1810	141.	-720.	344.	0.	0.	0.	.0230	.0353	.0534	.0200	-.0090	-.0012	0.		
.1820	238.	-1214.	580.	0.	0.	0.	.0226	.0357	.0466	.0300	-.0162	.0079	0.		
.1830	306.	-1563.	746.	0.	0.	0.	.0225	.0355	.0409	.0385	-.0237	.0163	0.		
.1840	338.	-1728.	825.	0.	0.	0.	.0225	.0347	.0366	.0448	-.0313	.0238	0.		
.1850	335.	-1709.	816.	0.	0.	0.	.0226	.0331	.0335	.0492	-.0388	.0298	0.		
.1860	302.	-1541.	736.	0.	0.	0.	.0225	.0308	.0314	.0525	-.0459	.0339	0.		
.1870	246.	-1257.	600.	0.	0.	0.	.0222	.0280	.0301	.0553	-.0524	.0353	0.		
.1880	170.	-866.	413.	0.	0.	0.	.0215	.0247	.0295	.0572	-.0580	.0340	0.		
.1890	72.	-366.	175.	0.	0.	0.	.0205	.0209	.0297	.0577	-.0522	.0304	0.		
.1900	-44.	225.	-107.	0.	0.	0.	.0193	.0167	.0306	.0564	-.0646	.0249	0.		
.1910	-167.	854.	-408.	0.	0.	0.	.0178	.0125	.0321	.0532	-.0650	.0182	0.		
.1920	-285.	1454.	-694.	0.	0.	0.	.0161	.0085	.0337	.0489	-.0634	.0101	0.		
.1930	-385.	1964.	-938.	0.	0.	0.	.0140	.0049	.0351	.0441	-.0600	.0008	0.		
.1940	-481.	2355.	-1125.	0.	0.	0.	.0116	.0019	.0358	.0395	-.0549	-.0091	0.		
.1950	-516.	2635.	-1258.	0.	0.	0.	.0090	-.0007	.0358	.0353	-.0483	-.0190	0.		
.1960	-551.	2814.	-1343.	0.	0.	0.	.0062	-.0029	.0350	.0310	-.0404	-.0284	0.		
.1970	-564.	2881.	-1376.	0.	0.	0.	.0035	-.0046	.0335	.0266	-.0315	-.0366	0.		
.1980	-549.	2804.	-1339.	0.	0.	0.	.0009	-.0055	.0315	.0223	-.0218	-.0430	0.		
.1990	-501.	2559.	-1222.	0.	0.	0.	-.0015	-.0055	.0287	.0187	-.0119	-.0475	0.		
.2000	-421.	2148.	-1025.	0.	0.	0.	-.0035	-.0047	.0250	.0159	-.0021	-.0500	0.		
.2010	-314.	1604.	-766.	0.	0.	0.	-.0053	-.0031	.0206	.0141	.0069	-.0502	0.		

ADLPIPE PAGE 1695 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 83/12/02. 18.28.49.

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



.1910	-167.	854.	-408.	0.	0.	0.	0.0178	.0125	.0321	.0532	-.0650	.0182	0.
.1920	-285.	1434.	-694.	0.	0.	0.	.0161	.0085	.0337	.0489	-.0534	.0101	0.
.1930	-385.	1964.	-938.	0.	0.	0.	.0140	.0049	.0351	.0441	-.0500	.0008	0.
.1940	-461.	2355.	-1125.	0.	0.	0.	.0116	.0019	.0358	.0395	-.0549	-.0091	0.
.1950	-516.	2635.	-1258.	0.	0.	0.	.0090	-.0007	.0358	.0353	-.0483	-.0190	0.
.1960	-551.	2814.	-1343.	0.	0.	0.	.0062	-.0029	.0350	.0310	-.0404	-.0284	0.
.1970	-564.	2881.	-1376.	0.	0.	0.	.0035	-.0046	.0336	.0266	-.0315	-.0366	0.
.1980	-549.	2804.	-1339.	0.	0.	0.	.0009	-.0055	.0315	.0223	-.0218	-.0430	0.
.1990	-501.	2559.	-1222.	0.	0.	0.	-.0015	-.0055	.0287	.0187	-.0119	-.0475	0.
.2000	-421.	2148.	-1025.	0.	0.	0.	-.0035	-.0047	.0250	.0159	-.0021	-.0500	0.
.2010	-314.	1504.	-766.	0.	0.	0.	-.0053	-.0031	.0206	.0141	.0069	-.0502	0.

ADLPIPE PAGE 1695

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.49.

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	42	MEMBER	1	SEQUENCE	63	LOCATION	DIS	TYPE	RU						
TIME	FX	FY	FZ	MX	MY	MZ									STRESS
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)									(PSI)
.2020	-192.	983.	-469.	0.	0.	0.	-.0065	-.0010	.0157	.0133	.0149	-.0481	0.		
.2030	-67.	341.	-163.	0.	0.	0.	-.0073	.0012	.0107	.0129	.0215	-.0436	0.		
.2040	55.	-282.	134.	0.	0.	0.	-.0074	.0034	.0058	.0124	.0265	-.0370	0.		
.2050	171.	-873.	417.	0.	0.	0.	-.0069	.0056	.0011	.0117	.0296	-.0285	0.		
.2060	280.	-1430.	683.	0.	0.	0.	-.0058	.0079	-.0032	.0108	.0309	-.0185	0.		
.2070	379.	-1937.	925.	0.	0.	0.	-.0041	.0102	-.0070	.0097	.0304	-.0075	0.		
.2080	462.	-2359.	1126.	0.	0.	0.	-.0020	.0123	-.0101	.0083	.0281	.0040	0.		
.2090	521.	-2659.	1270.	0.	0.	0.	.0005	.0139	-.0123	.0066	.0244	.0154	0.		
.2100	552.	-2817.	1345.	0.	0.	0.	.0033	.0151	-.0134	.0044	.0197	.0264	0.		
.2110	556.	-2841.	1357.	0.	0.	0.	.0063	.0158	-.0136	.0019	.0144	.0363	0.		
.2120	541.	-2764.	1320.	0.	0.	0.	.0092	.0161	-.0129	-.0009	.0088	.0448	0.		
.2130	513.	-2622.	1252.	0.	0.	0.	.0120	.0163	-.0113	-.0039	.0033	.0514	0.		
.2140	477.	-2435.	1162.	0.	0.	0.	.0143	.0164	-.0092	-.0070	-.0018	.0562	0.		
.2150	432.	-2206.	1053.	0.	0.	0.	.0162	.0164	-.0065	-.0102	-.0062	.0589	0.		
.2160	379.	-1936.	925.	0.	0.	0.	.0176	.0162	-.0034	-.0137	-.0096	.0596	0.		
.2170	320.	-1637.	782.	0.	0.	0.	.0184	.0158	.0001	-.0174	-.0118	.0582	0.		
.2180	260.	-1325.	633.	0.	0.	0.	.0186	.0153	.0039	-.0212	-.0128	.0549	0.		
.2190	199.	-1018.	486.	0.	0.	0.	.0183	.0148	.0076	-.0247	-.0126	.0496	0.		
.2200	141.	-721.	344.	0.	0.	0.	.0174	.0142	.0113	-.0277	-.0113	.0427	0.		
.2210	87.	-445.	212.	0.	0.	0.	.0161	.0135	.0148	-.0301	-.0092	.0348	0.		
.2220	39.	-200.	96.	0.	0.	0.	.0144	.0129	.0179	-.0320	-.0064	.0262	0.		
.2230	0.	-0.	0.	0.	0.	0.	.0125	.0124	.0208	-.0335	-.0032	.0176	0.		
.2240	-30.	154.	-74.	0.	0.	0.	.0105	.0120	.0233	-.0347	-.0000	.0094	0.		
.2250	-53.	270.	-129.	0.	0.	0.	.0087	.0118	.0254	-.0356	.0029	.0019	0.		
.2260	-73.	356.	-170.	0.	0.	0.	.0071	.0117	.0270	-.0359	.0052	-.0046	0.		
.2270	-82.	417.	-199.	0.	0.	0.	.0057	.015	.0283	-.0355	.0065	-.0096	0.		
.2280	-89.	454.	-217.	0.	0.	0.	.0047	.0115	.0291	-.0345	.0068	-.0131	0.		
.2290	-91.	467.	-223.	0.	0.	0.	.0042	.0115	.0295	-.0328	.0058	-.0148	0.		
.2300	-89.	454.	-217.	0.	0.	0.	.0042	.0116	.0297	-.0308	.0036	-.0147	0.		
.2310	-82.	418.	-200.	0.	0.	0.	.0047	.0119	.0296	-.0283	.0002	-.0130	0.		
.2320	-72.	369.	-176.	0.	0.	0.	.0057	.0123	.0293	-.0256	-.0042	-.0099	0.		
.2330	-62.	318.	-152.	0.	0.	0.	.0070	.0127	.0287	-.0225	-.0095	-.0056	0.		
.2340	-54.	274.	-131.	0.	0.	0.	.0087	.0130	.0278	-.0189	-.0155	-.0004	0.		
.2350	-45.	228.	-109.	0.	0.	0.	.0105	.0131	.0267	-.0150	-.0219	.0054	0.		
.2360	-33.	167.	-80.	0.	0.	0.	.0124	.0133	.0253	-.0108	-.0284	.0112	0.		
.2370	-16.	83.	-40.	0.	0.	0.	.0143	.0135	.0238	-.0067	-.0346	.0168	0.		
.2380	3.	-18.	9.	0.	0.	0.	.0161	.0139	.0223	-.0031	-.0400	.0220	0.		
.2390	23.	-119.	57.	0.	0.	0.	.0178	.0143	.0208	.0000	-.0443	.0264	0.		

ADLPIPE PAGE 1696

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.49.

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	-91.	467.	-223.	0.	0.	0.	.0042	.0115	.0295	-.0328	.0058	-.0148	0.
.2300	-89.	454.	-217.	0.	0.	0.	.0042	.0116	.0297	-.0308	.0036	-.0147	0.
.2310	-82.	418.	-200.	0.	0.	0.	.0047	.0119	.0296	-.0283	.0002	-.0130	0.
.2320	-72.	369.	-176.	0.	0.	0.	.0057	.0123	.0293	-.0256	-.0042	-.0099	0.
.2330	-62.	318.	-152.	0.	0.	0.	.0070	.0127	.0287	-.0225	-.0095	-.0056	0.
.2340	-54.	274.	-131.	0.	0.	0.	.0087	.0130	.0278	-.0189	-.0155	-.0004	0.
.2350	-45.	228.	-109.	0.	0.	0.	.0105	.0131	.0267	-.0150	-.0219	.0054	0.
.2360	-33.	167.	-80.	0.	0.	0.	.0124	.0133	.0253	-.0108	-.0284	.0112	0.
.2370	-16.	83.	-40.	0.	0.	0.	.0143	.0135	.0238	-.0067	-.0346	.0168	0.
.2380	3.	-18.	9.	0.	0.	0.	.0161	.0139	.0223	-.0031	-.0400	.0220	0.
.2390	23.	-119.	57.	0.	0.	0.	.0178	.0143	.0208	.0000	-.0443	.0264	0.

ADLPIPE PAGE 1696

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.49.

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	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)
42	1	63					.2400	43.	-218.	104.	0.	0.	0.	.0192	.0147	.0194	.0026	-.0474	.0300	0.
							.2410	64.	-324.	155.	0.	0.	0.	.0204	.0151	.0182	.0046	-.0490	.0323	0.
							.2420	88.	-450.	215.	0.	0.	0.	.0212	.0156	.0170	.0063	-.0490	.0331	0.
							.2430	115.	-586.	280.	0.	0.	0.	.0216	.0162	.0160	.0075	-.0476	.0324	0.
							.2440	139.	-708.	338.	0.	0.	0.	.0218	.0168	.0153	.0079	-.0445	.0303	0.
							.2450	156.	-797.	380.	0.	0.	0.	.0218	.0173	.0149	.0073	-.0401	.0271	0.
							.2460	166.	-849.	405.	0.	0.	0.	.0216	.0177	.0150	.0057	-.0345	.0228	0.
							.2470	169.	-863.	412.	0.	0.	0.	.0213	.0180	.0155	.0030	-.0279	.0177	0.
							.2480	162.	-829.	396.	0.	0.	0.	.0209	.0181	.0164	-.0004	-.0208	.0119	0.
							.2490	144.	-734.	351.	0.	0.	0.	.0206	.0179	.0176	-.0043	-.0135	.0058	0.
							.2500	114.	-581.	277.	0.	0.	0.	.0205	.0174	.0191	-.0086	-.0063	-.0002	0.
							.2510	74.	-379.	181.	0.	0.	0.	.0205	.0167	.0208	-.0136	.0004	-.0060	0.
							.2520	26.	-131.	63.	0.	0.	0.	.0206	.0159	.0227	-.0190	.0065	-.0110	0.
							.2530	-33.	169.	-81.	0.	0.	0.	.0209	.0147	.0248	-.0247	.0117	-.0150	0.
							.2540	-102.	523.	-250.	0.	0.	0.	.0215	.0131	.0267	-.0305	.0157	-.0178	0.
							.2550	-178.	908.	-434.	0.	0.	0.	.0223	.0112	.0283	-.0358	.0185	-.0193	0.
							.2560	-253.	1290.	-616.	0.	0.	0.	.0234	.0090	.0293	-.0405	.0200	-.0196	0.
							.2570	-325.	1661.	-793.	0.	0.	0.	.0245	.0066	.0295	-.0445	.0203	-.0189	0.
							.2580	-399.	2039.	-973.	0.	0.	0.	.0259	.0038	.0289	-.0478	.0195	-.0170	0.
							.2590	-476.	2431.	-1161.	0.	0.	0.	.0277	.0004	.0271	-.0504	.0179	-.0138	0.
							.2600	-548.	2801.	-1337.	0.	0.	0.	.0299	-.0035	.0240	-.0521	.0156	-.0098	0.
							.2610	-604.	3087.	-1474.	0.	0.	0.	.0320	-.0074	.0194	-.0528	.0130	-.0052	0.
							.2620	-637.	3254.	-1554.	0.	0.	0.	.0338	-.0112	.0132	-.0524	.0104	-.0006	0.
							.2630	-653.	3334.	-1592.	0.	0.	0.	.0353	-.0152	.0054	-.0510	.0081	.0040	0.
							.2640	-661.	3374.	-1611.	0.	0.	0.	.0365	-.0197	-.0039	-.0485	.0064	.0086	0.
							.2650	-654.	3339.	-1594.	0.	0.	0.	.0370	-.0246	-.0148	-.0449	.0056	.0128	0.
							.2660	-618.	3154.	-1506.	0.	0.	0.	.0361	-.0292	-.0270	-.0401	.0059	.0162	0.
							.2670	-546.	2787.	-1331.	0.	0.	0.	.0335	-.0332	-.0401	-.0342	.0076	.0185	0.
							.2680	-447.	2281.	-1089.	0.	0.	0.	.0293	-.0370	-.0541	-.0272	.0107	.0200	0.
							.2690	-330.	1687.	-805.	0.	0.	0.	.0238	-.0406	-.0685	-.0195	.0151	.0211	0.
							.2700	-196.	1001.	-478.	0.	0.	0.	.0169	-.0438	-.0832	-.0113	.0207	.0215	0.
							.2710	-40.	205.	-98.	0.	0.	0.	.0084	-.0464	-.0976	-.0028	.0273	.0209	0.
							.2720	129.	-659.	315.	0.	0.	0.	-.0011	-.0485	-.1114	.0059	.0345	.0192	0.
							.2730	294.	-1502.	717.	0.	0.	0.	-.0109	-.0505	-.1246	.0147	.0418	.0173	0.
							.2740	445.	-2275.	1086.	0.	0.	0.	-.0204	-.0525	-.1369	.0236	.0487	.0153	0.
							.2750	590.	-3013.	1439.	0.	0.	0.	-.0293	-.0540	-.1479	.0322	.0547	.0133	0.
							.2760	734.	-3746.	1789.	0.	0.	0.	-.0377	-.0547	-.1572	.0401	.0594	.0111	0.
							.2770	863.	-4409.	2105.	0.	0.	0.	-.0449	-.0547	-.1646	.0470	.0624	.0093	0.

ADLPIPE PAGE 1697

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.28.49.

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	-546.	2787.	-1331.	0.	0.	0.	.335	-.0332	-.0401	-.0342	.0076	.0185	0.
.2680	-447.	2281.	-1089.	0.	0.	0.	.293	-.0370	-.0541	-.0272	.0107	.0200	0.
.2690	-330.	1687.	-805.	0.	0.	0.	.238	-.0406	-.0685	-.0195	.0151	.0211	0.
.2700	-196.	1901.	-478.	0.	0.	0.	.169	-.0438	-.0832	-.0113	.0207	.0215	0.
.2710	-40.	235.	-93.	0.	0.	0.	.084	-.0464	-.0976	-.0028	.0273	.0209	0.
.2720	129.	-659.	315.	0.	0.	0.	-.0011	-.0485	-.1114	.0059	.0345	.0192	0.
.2730	294.	-1502.	717.	0.	0.	0.	-.0109	-.0505	-.1246	.0147	.0418	.0173	0.
.2740	445.	-2275.	1086.	0.	0.	0.	-.0204	-.0525	-.1369	.0236	.0487	.0153	0.
.2750	590.	-3013.	1439.	0.	0.	0.	-.0293	-.0540	-.1479	.0322	.0547	.0133	0.
.2760	734.	-3746.	1789.	0.	0.	0.	-.0377	-.0547	-.1572	.0401	.0594	.0111	0.
.2770	863.	-4409.	2105.	0.	0.	0.	-.0449	-.0547	-.1646	.0470	.0524	.0093	0.

ADLPIPE PAGE 1697

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.28.49.

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	42	MEMBER	1	SEQUENCE	63	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)		
.2780	955.	-4879.	2330.	0.	0.	0.	-.0503	-.0548	-.1699	.0525	.0531	.0083	0.		
.2790	1000.	-5105.	2437.	0.	0.	0.	-.0536	-.0553	-.1731	.0567	.0510	.0084	0.		
.2800	1008.	-5147.	2458.	0.	0.	0.	-.0552	-.0558	-.1741	.0597	.0560	.0091	0.		
.2810	994.	-5078.	2425.	0.	0.	0.	-.0556	-.0557	-.1726	.0618	.0478	.0105	0.		
.2820	955.	-4879.	2330.	0.	0.	0.	-.0549	-.0553	-.1689	.0628	.0366	.0127	0.		
.2830	879.	-4491.	2145.	0.	0.	0.	-.0527	-.0548	-.1629	.0624	.0225	.0160	0.		
.2840	769.	-3926.	1874.	0.	0.	0.	-.0493	-.0545	-.1548	.0605	.0060	.0208	0.		
.2850	643.	-3282.	1567.	0.	0.	0.	-.0454	-.0537	-.1448	.0575	-.0125	.0264	0.		
.2860	518.	-2647.	1264.	0.	0.	0.	-.0414	-.0521	-.1333	.0536	-.0324	.0324	0.		
.2870	394.	-2014.	962.	0.	0.	0.	-.0375	-.0500	-.1207	.0493	-.0532	.0384	0.		
.2880	262.	-1337.	638.	0.	0.	0.	-.0334	-.0480	-.1076	.0449	-.0741	.0446	0.		
.2890	124.	-634.	303.	0.	0.	0.	-.0292	-.0462	-.0945	.0407	-.0946	.0507	0.		
.2900	-0.	1.	-1.	0.	0.	0.	-.0251	-.0440	-.0818	.0366	-.1137	.0563	0.		
.2910	-96.	491.	-235.	0.	0.	0.	-.0214	-.0411	-.0697	.0327	-.1309	.0607	0.		
.2920	-166.	846.	-404.	0.	0.	0.	-.0179	-.0378	-.0587	.0289	-.1454	.0640	0.		
.2930	-219.	1119.	-534.	0.	0.	0.	-.0141	-.0345	-.0492	.0256	-.1563	.0663	0.		
.2940	-259.	1323.	-632.	0.	0.	0.	-.0099	-.0315	-.0414	.0230	-.1650	.0676	0.		
.2950	-277.	1412.	-674.	0.	0.	0.	-.0056	-.0285	-.0355	.0212	-.1697	.0672	0.		
.2960	-266.	1358.	-648.	0.	0.	0.	-.0015	-.0253	-.0313	.0205	-.1708	.0649	0.		
.2970	-236.	1205.	-576.	0.	0.	0.	.0025	-.0222	-.0288	.0207	-.1685	.0610	0.		
.2980	-202.	1030.	-492.	0.	0.	0.	.0067	-.0196	-.0278	.0217	-.1630	.0561	0.		
.2990	-168.	857.	-409.	0.	0.	0.	.0109	-.0177	-.0282	.0232	-.1548	.0503	0.		
.3000	-128.	652.	-311.	0.	0.	0.	.0147	-.0160	-.0294	.0251	-.1442	.0436	0.		
.3010	-79.	402.	-192.	0.	0.	0.	.0178	-.0144	-.0313	.0274	-.1319	.0362	0.		
.3020	-31.	158.	-75.	0.	0.	0.	.0203	-.0132	-.0336	.0300	-.1186	.0285	0.		
.3030	1.	-3.	2.	0.	0.	0.	.0222	-.0128	-.0360	.0328	-.1049	.0210	0.		
.3040	11.	-58.	28.	0.	0.	0.	.0237	-.0132	-.0382	.0355	-.0914	.0141	0.		
.3050	7.	-37.	18.	0.	0.	0.	.0245	-.0141	-.0402	.0381	-.0786	.0077	0.		
.3060	-7.	36.	-17.	0.	0.	0.	.0246	-.0153	-.0415	.0405	-.0670	.0020	0.		
.3070	-36.	184.	-88.	0.	0.	0.	.0242	-.0169	-.0424	.0426	-.0569	-.0027	0.		
.3080	-86.	438.	-209.	0.	0.	0.	.0238	-.0191	-.0429	.0444	-.0487	-.0061	0.		
.3090	-153.	780.	-372.	0.	0.	0.	.0236	-.0217	-.0431	.0459	-.0426	-.0081	0.		
.3100	-226.	1155.	-552.	0.	0.	0.	.0234	-.0245	-.0431	.0471	-.0386	-.0088	0.		
.3110	-299.	1527.	-729.	0.	0.	0.	.0233	-.0273	-.0430	.0479	-.0365	-.0086	0.		
.3120	-373.	1904.	-909.	0.	0.	0.	.0234	-.0301	-.0430	.0484	-.0364	-.0072	0.		
.3130	-450.	2298.	-1097.	0.	0.	0.	.0239	-.0330	-.0433	.0487	-.0378	-.0046	0.		
.3140	-524.	2676.	-1278.	0.	0.	0.	.0246	-.0360	-.0441	.0488	-.0406	-.0010	0.		
.3150	-580.	2964.	-1415.	0.	0.	0.	.0252	-.0387	-.0454	.0488	-.0444	.0033	0.		

ADLPIPE PAGE 1698

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.28.50.

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

CONDITION 24

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