

50-305

RESPONSE TO NUREG-0737 ITEM II.D.1

Docket # *50-305*

Control # *8403280048*

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

.0840	240.	-236.	-49.	-408.	-259.	484.	.0175	-.0214	-.0155	.0165	.0074	-.0354	2854.
.0850	151.	-322.	-159.	-574.	-304.	534.	.0190	-.0233	-.0180	.0187	.0104	-.0364	3512.
.0860	54.	-409.	-250.	-745.	-330.	578.	.0203	-.0248	-.0202	.0197	.0131	-.0378	4169.
.0870	-29.	-480.	-337.	-806.	-364.	605.	.0215	-.0255	-.0221	.0205	.0154	-.0380	4760.
.0880	-95.	-521.	-442.	-1002.	-425.	606.	.0226	-.0247	-.0240	.0232	.0171	-.0344	5200.
.0890	-120.	-515.	-565.	-1053.	-516.	580.	.0238	-.0229	-.0258	.0211	.0185	-.0285	5459.
.0900	-137.	-467.	-679.	-1068.	-611.	523.	.0246	-.0205	-.0272	.0282	.0194	-.0236	5580.
.0910	-141.	-409.	-770.	-1066.	-676.	445.	.0248	-.0177	-.0283	.0301	.0192	-.0193	5586.
.0920	-163.	-357.	-838.	-1035.	-714.	365.	.0247	-.0140	-.0288	.0325	.0188	-.0137	5467.
.0930	-170.	-302.	-875.	-964.	-744.	298.	.0245	-.0097	-.0289	.0336	.0199	-.0077	5234.
.0940	-163.	-251.	-867.	-869.	-754.	244.	.0240	-.0054	-.0283	.0323	.0221	-.0032	4908.
.0950	-160.	-218.	-818.	-775.	-715.	189.	.0229	-.0012	-.0268	.0305	.0233	-.0003	4474.

ADLPIPE PAGE 2410

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.33.

S/RV PIPING KEWAUNEE GKWOODF 2 RUP DISK
2 SAFETY COLD FKWD4F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION	END	TYPE	RU	DX	DY	DZ	RX	RY	RZ	STRESS
TIME	FX	FY	FZ	FX	MY	MZ	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)							
.0960	-178.	-193.	-738.	-682.	-643.	122.	.0211	.0030	-.0247	.0294	.0228	.0014	3943.
.0970	-144.	-140.	-647.	-558.	-588.	39.	.0192	.0073	-.0222	.0287	.0216	.0032	3388.
.0980	-52.	-46.	-560.	-386.	-579.	-58.	.0176	.0119	-.0197	.0290	.0201	.0071	2916.
.0990	65.	69.	-479.	-189.	-587.	-167.	.0157	.0166	-.0170	.0309	.0175	.0126	2664.
.1000	175.	181.	-379.	-4.	-565.	-284.	.0133	.0206	-.0140	.0333	.0130	.0164	2639.
.1010	265.	272.	-248.	150.	-498.	-395.	.0101	.0237	-.0105	.0351	.0071	.0175	2725.
.1020	331.	331.	-92.	285.	-397.	-478.	.0068	.0263	-.0068	.0370	.0009	.0189	2853.
.1030	371.	353.	80.	404.	-272.	-523.	.0037	.0286	-.0030	.0396	-.0051	.0222	2982.
.1040	379.	337.	270.	492.	-114.	-534.	.0007	.0304	.0011	.0421	-.0115	.0258	3069.
.1050	351.	289.	471.	540.	83.	-521.	-.0024	.0314	.0053	.0441	-.0188	.0284	3152.
.1060	291.	226.	661.	560.	305.	-492.	-.0056	.0317	.0096	.0456	-.0271	.0301	3360.
.1070	222.	173.	818.	577.	518.	-448.	-.0087	.0316	.0137	.0459	-.0354	.0314	3737.
.1080	154.	145.	930.	608.	702.	-392.	-.0114	.0310	.0174	.0443	-.0427	.0323	4206.
.1090	71.	136.	998.	643.	872.	-326.	-.0139	.0301	.0208	.0410	-.0496	.0324	4721.
.1100	-47.	113.	1041.	651.	1049.	-256.	-.0162	.0287	.0238	.0371	-.0566	.0309	5264.
.1110	-178.	99.	1047.	655.	1209.	-175.	-.0182	.0267	.0265	.0305	-.0626	.0272	5786.
.1120	-309.	100.	1011.	667.	1332.	-81.	-.0197	.0244	.0289	.0209	-.0669	.0220	6227.
.1130	-447.	92.	947.	655.	1430.	11.	-.0205	.0220	.0310	.0112	-.0711	.0162	6566.
.1140	-574.	74.	864.	612.	1493.	89.	-.0205	.0196	.0326	.0025	-.0755	.0102	6743.
.1150	-654.	79.	746.	574.	1478.	153.	-.0194	.0173	.0336	-.0062	-.0787	.0046	6649.
.1160	-687.	110.	584.	556.	1380.	204.	-.0172	.0154	.0339	-.0142	-.0801	.0007	6266.
.1170	-695.	150.	397.	535.	1233.	238.	-.0144	.0137	.0334	-.0211	-.0800	-.0027	5698.
.1180	-694.	175.	225.	476.	1080.	248.	-.0112	.0116	.0323	-.0274	-.0790	-.0084	5035.
.1190	-690.	194.	57.	407.	918.	252.	-.0075	.0096	.0305	-.0331	-.0756	-.0146	4319.
.1200	-695.	190.	-106.	338.	746.	263.	-.0030	.0083	.0278	-.0363	-.0696	-.0179	3591.
.1210	-705.	141.	-233.	240.	589.	275.	.0023	.0074	.0245	-.0366	-.0613	-.0196	2889.
.1220	-701.	71.	-322.	119.	442.	285.	.0080	.0065	.0209	-.0363	-.0508	-.0221	2253.
.1230	-682.	-8.	-391.	-16.	304.	284.	.0137	.0053	.0173	-.0358	-.0390	-.0268	1736.
.1240	-638.	-72.	-469.	-138.	151.	264.	.0192	.0043	.0138	-.0344	-.0265	-.0323	1393.
.1250	-540.	-96.	-555.	-233.	-35.	217.	.0247	.0035	.0102	-.0323	-.0133	-.0384	1336.
.1260	-381.	-80.	-631.	-311.	-245.	136.	.0302	.0026	.0064	-.0296	-.0002	-.0459	1747.
.1270	-203.	-35.	-713.	-355.	-465.	36.	.0356	.0023	.0024	-.0246	.0120	-.0518	2445.
.1280	-44.	2.	-783.	-382.	-662.	-64.	.0409	.0028	-.0017	-.0167	.0229	-.0553	3201.
.1290	106.	21.	-814.	-401.	-826.	-144.	.0457	.0035	-.0056	-.0091	.0337	-.0590	3879.
.1300	246.	18.	-787.	-425.	-943.	-192.	.0497	.0036	-.0088	-.0047	.0445	-.0656	4391.
.1310	341.	-37.	-710.	-473.	-994.	-211.	.0526	.0036	-.0111	-.0013	.0534	-.0743	4678.
.1320	397.	-121.	-616.	-516.	-1008.	-204.	.0549	.0040	-.0126	.0025	.0597	-.0813	4801.
.1330	469.	-199.	-508.	-540.	-1025.	-189.	.0569	.0050	-.0134	.0062	.0640	-.0861	4899.

ADLPIPE PAGE 2411

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.33.

S/RV PIPING KEWAUNEE GKWOODF 2 RUP DISK
2 SAFETY COLD FKWD4F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

.1220	-701.	71.	-322.	119.	442.	285.	.0080	.0065	.0209	-.0363	-.0508	-.0221	2253.
.1230	-682.	-8.	-791.	-16.	304.	284.	.0137	.0053	.0173	-.0358	-.0390	-.0268	1736.
.1240	-638.	-72.	-469.	-138.	151.	264.	.0192	.0043	.0138	-.0344	-.0265	-.0323	1393.
.1250	-540.	-96.	-555.	-233.	-35.	217.	.0247	.0035	.0102	-.0323	-.0135	-.0384	1356.
.1260	-381.	-80.	-631.	-311.	-245.	136.	.0302	.0026	.0064	-.0296	-.0002	-.0459	1747.
.1270	-203.	-35.	-713.	-355.	-465.	36.	.0356	.0023	.0024	-.0246	.0120	-.0518	2445.
.1280	-44.	2.	-783.	-382.	-662.	-64.	.0409	.0028	-.0017	-.0167	.0229	-.0553	3201.
.1290	106.	21.	-814.	-401.	-826.	-144.	.0457	.0035	-.0056	-.0091	.0337	-.0590	3879.
.1300	246.	18.	-787.	-425.	-943.	-192.	.0497	.0036	-.0088	-.0047	.0445	-.0656	4391.
.1310	341.	-37.	-710.	-473.	-994.	-211.	.0526	.0036	-.0111	-.0013	.0534	-.0743	4678.
.1320	397.	-121.	-616.	-516.	-1008.	-204.	.0549	.0040	-.0126	.0025	.0597	-.0813	4801.
.1330	469.	-199.	-508.	-540.	-1025.	-189.	.0569	.0050	-.0134	.0062	.0640	-.0861	4899.

ADLPIPE PAGE 2411

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.33.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	61	MEMBER	1	SEQUENCE	87	LOCATION	END	TYPE	RU					
TIME	FX	FY	FZ	MX	MY	MZ								STRESS
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)		(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
.1340	580.	-240.	-399.	-535.	-1066.	-182.	.0587	.0064	-.0139	.0094	.0662	-.0890	5036.	
.1350	689.	-248.	-316.	-501.	-1113.	-197.	.0599	.0086	-.0139	.0139	.0650	-.0891	5161.	
.1360	771.	-230.	-267.	-442.	-1150.	-234.	.0600	.0113	-.0134	.0192	.0606	-.0873	5252.	
.1370	845.	-164.	-246.	-343.	-1178.	-278.	.0590	.0142	-.0126	.0219	.0554	-.0851	5252.	
.1380	891.	-80.	-217.	-242.	-1162.	-327.	.0570	.0168	-.0115	.0219	.0495	-.0839	5156.	
.1390	851.	-27.	-175.	-166.	-1060.	-371.	.0541	.0199	-.0099	.0229	.0414	-.0805	4739.	
.1400	725.	-17.	-127.	-106.	-892.	-400.	.0510	.0240	-.0082	.0267	.0315	-.0718	4102.	
.1410	581.	-24.	-67.	-44.	-708.	-404.	.0481	.0287	-.0062	.0304	.0222	-.0592	3406.	
.1420	447.	-20.	-9.	29.	-527.	-390.	.0451	.0333	-.0039	.0314	.0140	-.0459	2741.	
.1430	282.	-26.	48.	74.	-312.	-382.	.0412	.0374	-.0009	.0313	.0039	-.0347	2083.	
.1440	85.	-37.	89.	99.	-73.	-392.	.0365	.0412	.0025	.0321	-.0088	-.0244	1714.	
.1450	-73.	-10.	104.	154.	116.	-411.	.0322	.0451	.0055	.0330	-.0215	-.0123	1897.	
.1460	-158.	67.	97.	259.	224.	-434.	.0286	.0492	.0079	.0335	-.0318	.0018	2308.	
.1470	-226.	161.	70.	388.	297.	-456.	.0253	.0530	.0100	.0343	-.0417	.0165	2790.	
.1480	-331.	222.	52.	482.	401.	-478.	.0215	.0560	.0121	.0355	-.0524	.0282	3290.	
.1490	-434.	254.	59.	548.	515.	-483.	.0174	.0577	.0144	.0344	-.0617	.0353	3729.	
.1500	-491.	279.	88.	614.	595.	-456.	.0139	.0582	.0166	.0298	-.0671	.0396	4045.	
.1510	-521.	274.	133.	672.	645.	-403.	.0110	.0580	.0187	.0248	-.0694	.0433	4235.	
.1520	-546.	240.	178.	718.	677.	-337.	.0087	.0574	.0205	.0211	-.0697	.0474	4352.	
.1530	-538.	206.	225.	753.	684.	-272.	.0065	.0555	.0221	.0163	-.0672	.0484	4392.	
.1540	-472.	205.	266.	787.	653.	-219.	.0043	.0519	.0234	.0079	-.0615	.0441	4365.	
.1550	-382.	226.	285.	816.	599.	-187.	.0019	.0469	.0241	-.0013	-.0531	.0361	4296.	
.1560	-288.	247.	277.	837.	522.	-175.	-.0006	.0413	.0243	-.0084	-.0434	.0272	4183.	
.1570	-157.	295.	237.	881.	393.	-164.	-.0028	.0350	.0236	-.0158	-.0301	.0187	4084.	
.1580	10.	353.	201.	910.	240.	-150.	-.0049	.0274	.0225	-.0250	-.0139	.0072	3978.	
.1590	151.	365.	187.	872.	122.	-133.	-.0073	.0185	.0213	-.0339	.0024	-.0078	3717.	
.1600	249.	323.	178.	781.	34.	-100.	-.0102	.0090	.0201	-.0410	.0182	-.0231	3287.	
.1610	361.	263.	165.	673.	-78.	-38.	-.0129	-.0009	.0187	-.0483	.0353	-.0381	2831.	
.1620	503.	193.	162.	540.	-215.	44.	-.0153	-.0114	.0171	-.0564	.0533	-.0537	2434.	
.1630	614.	99.	156.	369.	-331.	132.	-.0180	-.0219	.0153	-.0621	.0689	-.0685	2140.	
.1640	658.	-27.	140.	150.	-398.	211.	-.0212	-.0320	.0133	-.0636	.0802	-.0817	1981.	
.1650	683.	-150.	114.	-84.	-454.	285.	-.0243	-.0415	.0108	-.0627	.0887	-.0931	2264.	
.1660	716.	-239.	64.	-294.	-530.	364.	-.0271	-.0500	.0077	-.0611	.0959	-.1015	2949.	
.1670	710.	-330.	1.	-508.	-581.	439.	-.0300	-.0574	.0045	-.0573	.0998	-.1074	3706.	
.1680	635.	-441.	-67.	-750.	-570.	507.	-.0333	-.0635	.0016	-.0511	.0988	-.1119	4463.	
.1690	524.	-555.	-129.	-1003.	-519.	568.	-.0366	-.0684	-.0011	-.0441	.0940	-.1155	5275.	
.1700	418.	-647.	-195.	-1225.	-470.	629.	-.0394	-.0714	-.0036	-.0371	.0872	-.1157	6073.	
.1710	301.	-715.	-274.	-1403.	-422.	684.	-.0415	-.0721	-.0060	-.0288	.0782	-.1108	6746.	

ADLPIPE PAGE 2412

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.33.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

.1600	249.	263.	165.	673.	-78.	-38.	-.0129	-.0009	.0187	-.0483	.0353	-.0381	2831.
.1610	361.	193.	162.	540.	-215.	44.	-.0153	-.0114	.0171	-.0564	.0533	-.0537	2434.
.1630	614.	99.	156.	369.	-331.	172.	-.0180	-.0219	.0153	-.0621	.0689	-.0685	2140.
.1640	650.	-27.	140.	150.	-398.	211.	-.0212	-.0320	.0133	-.0636	.0802	-.0817	1981.
.1650	683.	-150.	114.	-84.	-454.	285.	-.0243	-.0415	.0108	-.0627	.0887	-.0931	2264.
.1660	716.	-239.	64.	-294.	-530.	364.	-.0271	-.0500	.0077	-.0611	.0959	-.1015	2949.
.1670	710.	-330.	1.	-508.	-581.	439.	-.0300	-.0574	.0045	-.0573	.0998	-.1074	3706.
.1680	635.	-441.	-67.	-750.	-570.	507.	-.0333	-.0635	.0016	-.0511	.0988	-.1119	4463.
.1690	524.	-555.	-129.	-1003.	-519.	568.	-.0366	-.0684	-.0011	-.0441	.0940	-.1155	5275.
.1700	418.	-647.	-195.	-1225.	-470.	629.	-.0394	-.0714	-.0036	-.0371	.0872	-.1157	6073.
.1710	301.	-715.	-274.	-1403.	-422.	684.	-.0415	-.0721	-.0060	-.0288	.0782	-.1108	6746.

ADLPIPE PAGE 2412

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.33.

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	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)	
.1720	152.	-781.	-348.	-1562.	-344.	715.	-.0432	-.0706	-.0083	-.0181	.0656	-.1025	7311.	
.1730	-11.	-817.	-422.	-1673.	-251.	723.	-.0446	-.0670	-.0106	-.0074	.0512	-.0916	7678.	
.1740	-162.	-806.	-493.	-1715.	-163.	710.	-.0457	-.0616	-.0128	.0016	.0366	-.0789	7778.	
.1750	-307.	-763.	-552.	-1699.	-72.	671.	-.0464	-.0544	-.0149	.0094	.0218	-.0648	7628.	
.1760	-457.	-699.	-601.	-1622.	22.	607.	-.0467	-.0453	-.0170	.0172	.0069	-.0482	7250.	
.1770	-588.	-620.	-625.	-1490.	106.	524.	-.0463	-.0346	-.0188	.0246	-.0073	-.0293	6605.	
.1780	-669.	-514.	-621.	-1294.	160.	426.	-.0450	-.0227	-.0204	.0301	-.0192	-.0088	5726.	
.1790	-706.	-398.	-580.	-1058.	195.	312.	-.0431	-.0101	-.0216	.0338	-.0290	.0116	4677.	
.1800	-714.	-202.	-511.	-789.	218.	182.	-.0408	.0028	-.0223	.0365	-.0369	.0316	3499.	
.1810	-675.	-146.	-428.	-468.	209.	45.	-.0383	.0156	-.0226	.0370	-.0413	.0508	2147.	
.1820	-575.	12.	-317.	-114.	172.	-101.	-.0357	.0276	-.0228	.0343	-.0416	.0669	959.	
.1830	-436.	181.	-184.	257.	123.	-255.	-.0332	.0383	-.0228	.0296	-.0384	.0795	1594.	
.1840	-287.	343.	-40.	629.	78.	-409.	-.0309	.0476	-.0229	.0247	-.0326	.0897	3151.	
.1850	-119.	498.	114.	996.	29.	-554.	-.0289	.0552	-.0229	.0192	-.0237	.0970	4757.	
.1860	83.	647.	279.	1343.	-32.	-675.	-.0271	.0604	-.0229	.0118	-.0115	.1002	6276.	
.1870	298.	761.	462.	1632.	-81.	-771.	-.0259	.0628	-.0225	.0037	.0024	.0983	7540.	
.1880	498.	828.	647.	1848.	-110.	-835.	-.0254	.0625	-.0217	-.0039	.0164	.0924	8474.	
.1890	696.	853.	828.	1988.	-133.	-861.	-.0255	.0595	-.0206	-.0108	.0304	.0829	9057.	
.1900	907.	847.	992.	2054.	-167.	-848.	-.0259	.0537	-.0194	-.0174	.0443	.0703	9299.	
.1910	1093.	809.	1146.	2045.	-190.	-795.	-.0269	.0454	-.0182	-.0227	.0571	.0559	9193.	
.1920	1228.	721.	1270.	1941.	-184.	-709.	-.0286	.0350	-.0170	-.0254	.0669	.0396	8659.	
.1930	1307.	521.	1363.	1750.	-151.	-589.	-.0310	.0227	-.0159	-.0263	.0740	.0218	7733.	
.1940	1341.	437.	1418.	1496.	-109.	-428.	-.0339	.0088	-.0150	-.0268	.0794	.0034	6508.	
.1950	1322.	255.	1432.	1178.	-52.	-234.	-.0373	-.0062	-.0141	-.0270	.0824	-.0151	5017.	
.1960	1229.	40.	1407.	792.	35.	-17.	-.0412	-.0218	-.0131	-.0263	.0820	-.0333	3308.	
.1970	1075.	-193.	1337.	355.	139.	210.	-.0453	-.0373	-.0119	-.0249	.0782	-.0501	1816.	
.1980	892.	-415.	1212.	-97.	227.	439.	-.0492	-.0521	-.0105	-.0236	.0720	-.0642	2101.	
.1990	690.	-606.	1027.	-539.	287.	653.	-.0528	-.0657	-.0092	-.0227	.0636	-.0748	3731.	
.2000	450.	-761.	783.	-960.	331.	837.	-.0562	-.0775	-.0078	-.0218	.0529	-.0820	5492.	
.2010	195.	-874.	489.	-1347.	367.	980.	-.0595	-.0873	-.0064	-.0211	.0400	-.0858	7118.	
.2020	-84.	-937.	160.	-1679.	391.	1001.	-.0623	-.0946	-.0052	-.0213	.0263	-.0860	8493.	
.2030	-369.	-952.	-185.	-1942.	401.	1144.	-.0645	-.0992	-.0042	-.0224	.0125	-.0820	9553.	
.2040	-662.	-933.	-532.	-2130.	406.	1172.	-.0658	-.1009	-.0033	-.0239	-.0008	-.0734	10287.	
.2050	-954.	-890.	-860.	-2245.	409.	1169.	-.0664	-.0996	-.0023	-.0260	-.0134	-.0610	10702.	
.2060	-1220.	-825.	-1148.	-2289.	410.	1137.	-.0662	-.0959	-.0009	-.0295	-.0249	-.0467	10801.	
.2070	-1440.	-735.	-1386.	-2257.	399.	1073.	-.0652	-.0898	.0007	-.0343	-.0348	-.0310	10564.	
.2080	-1603.	-619.	-1575.	-2144.	369.	979.	-.0632	-.0814	.0026	-.0390	-.0433	-.0135	9956.	
.2090	-1697.	-472.	-1712.	-1944.	313.	853.	-.0604	-.0710	.0046	-.0431	-.0501	.0057	8955.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.33.

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

.1990	690.	-606.	1027.	-539.	287.	653.	-.0528	-.0657	-.0092	-.0227	.0636	-.0748	5751.
.2000	450.	-761.	783.	-960.	331.	837.	-.0562	-.0775	-.0078	-.0718	.0529	-.0820	5492.
.2010	195.	-874.	489.	-1347.	367.	980.	-.0595	-.0873	-.0064	-.0211	.0400	-.0858	7118.
.2020	-84.	-937.	160.	-1679.	391.	1001.	-.0623	-.0946	-.0052	-.0213	.0263	-.0860	8493.
.2030	-369.	-952.	-185.	-1942.	401.	1144.	-.0645	-.0992	-.0042	-.0224	.0125	-.0820	9553.
.2040	-662.	-933.	-532.	-2130.	406.	1172.	-.0658	-.1009	-.0033	-.0239	-.0008	-.0734	10287.
.2050	-954.	-890.	-860.	-2245.	409.	1169.	-.0664	-.0996	-.0023	-.0260	-.0134	-.0610	10702.
.2060	-1220.	-825.	-1148.	-2289.	410.	1137.	-.0662	-.0959	-.0009	-.0295	-.0249	-.0467	10801.
.2070	-1440.	-735.	-1386.	-2257.	399.	1073.	-.0652	-.0898	.0007	-.0343	-.0348	-.0310	10564.
.2080	-1603.	-619.	-1575.	-2144.	369.	979.	-.0632	-.0814	.0026	-.0390	-.0433	-.0135	9956.
.2090	-1697.	-472.	-1712.	-1944.	317.	853.	-.0604	-.0710	.0046	-.0431	-.0501	.0057	8955.

ADLPIPE PAGE 2413

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.33.

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	61	MEMBER	1	SEQUENCE	87	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)		
.2100	-1709.	-291.	-1790.	-1662.	233.	696.	-.0567	-.0590	.0066	-.0466	-.0548	.0250	7583.		
.2110	-1645.	-83.	-1801.	-1313.	144.	513.	-.0526	-.0461	.0085	-.0497	-.0573	.0430	5914.		
.2120	-1527.	132.	-1741.	-917.	67.	314.	-.0483	-.0328	.0105	-.0516	-.0577	.0589	4055.		
.2130	-1361.	339.	-1606.	-491.	10.	112.	-.0438	-.0194	.0123	-.0522	-.0560	.0726	2104.		
.2140	-1147.	525.	-1394.	-52.	-28.	-77.	-.0390	-.0065	.0141	-.0515	-.0515	.0839	404.		
.2150	-895.	677.	-1105.	379.	-40.	-243.	-.0340	.0055	.0158	-.0493	-.0445	.0927	1887.		
.2160	-625.	778.	-747.	774.	-12.	-384.	-.0291	.0164	.0176	-.0452	-.0360	.0987	3604.		
.2170	-346.	828.	-336.	1118.	50.	-498.	-.0243	.0256	.0194	-.0391	-.0266	.1017	5113.		
.2180	-51.	845.	100.	1416.	126.	-586.	-.0197	.0331	.0210	-.0316	-.0161	.1021	6417.		
.2190	254.	840.	538.	1666.	203.	-651.	-.0154	.0387	.0224	-.0231	-.0050	.0999	7515.		
.2200	545.	814.	957.	1856.	286.	-701.	-.0115	.0424	.0234	-.0132	.0055	.0954	8367.		
.2210	803.	766.	1340.	1977.	378.	-737.	-.0081	.0441	.0239	-.0018	.0147	.0890	8946.		
.2220	1023.	701.	1673.	2031.	467.	-755.	-.0051	.0441	.0239	.0103	.0224	.0817	9249.		
.2230	1201.	620.	1943.	2070.	542.	-748.	-.0024	.0424	.0235	.0224	.0288	.0741	9271.		
.2240	1321.	517.	2144.	1940.	608.	-712.	.0001	.0393	.0227	.0336	.0334	.0662	8988.		
.2250	1369.	385.	2271.	1792.	673.	-648.	.0022	.0348	.0219	.0435	.0355	.0577	8396.		
.2260	1348.	236.	2317.	1557.	728.	-558.	.0041	.0291	.0210	.0512	.0350	.0488	7541.		
.2270	1269.	85.	2274.	1283.	759.	-450.	.0058	.0228	.0200	.0566	.0322	.0403	6497.		
.2280	1137.	-53.	2133.	981.	756.	-330.	.0076	.0161	.0187	.0598	.0271	.0332	5349.		
.2290	957.	-166.	1891.	667.	718.	-209.	.0095	.0094	.0171	.0610	.0196	.0276	4182.		
.2300	723.	-247.	1559.	352.	650.	-94.	.0113	.0029	.0153	.0598	.0100	.0229	3110.		
.2310	450.	-292.	1150.	44.	550.	12.	.0130	-.0034	.0132	.0557	-.0010	.0184	2336.		
.2320	165.	-307.	683.	-244.	444.	111.	.0146	-.0092	.0110	.0489	-.0129	.0143	2165.		
.2330	-144.	-301.	180.	-508.	313.	207.	.0164	-.0144	.0088	.0399	-.0249	.0110	2637.		
.2340	-455.	-282.	-332.	-744.	171.	301.	.0184	-.0187	.0068	.0288	-.0362	.0083	3426.		
.2350	-754.	-256.	-828.	-950.	25.	393.	.0206	-.0223	.0049	.0162	-.0463	.0059	4292.		
.2360	-1030.	-229.	-1289.	-1123.	-118.	478.	.0230	-.0251	.0035	.0026	-.0546	.0037	5117.		
.2370	-1270.	-200.	-1699.	-1257.	-257.	550.	.0254	-.0271	.0018	-.0111	-.0609	.0015	5825.		
.2380	-1460.	-163.	-2045.	-1342.	-393.	605.	.0280	-.0283	.0005	-.0243	-.0644	-.0006	6357.		
.2390	-1584.	-114.	-2319.	-1372.	-527.	637.	.0305	-.0288	-.0007	-.0366	-.0647	-.0031	6685.		
.2400	-1642.	-57.	-2510.	-1353.	-651.	641.	.0329	-.0286	-.0020	-.0475	-.0619	-.0062	6812.		
.2410	-1634.	3.	-2608.	-1292.	-755.	617.	.0350	-.0280	-.0031	-.0561	-.0562	-.0101	6755.		
.2420	-1555.	59.	-2610.	-1192.	-843.	568.	.0370	-.0269	-.0040	-.0622	-.0475	-.0146	6539.		
.2430	-1402.	108.	-2515.	-1058.	-916.	502.	.0388	-.0254	-.0047	-.0659	-.0360	-.0195	6204.		
.2440	-1182.	144.	-2325.	-899.	-970.	422.	.0403	-.0237	-.0051	-.0671	-.0219	-.0250	5794.		
.2450	-911.	161.	-2046.	-728.	-995.	332.	.0414	-.0218	-.0052	-.0658	-.0061	-.0312	5331.		
.2460	-603.	161.	-1692.	-551.	-989.	234.	.0421	-.0199	-.0049	-.0623	.0107	-.0382	4827.		
.2470	-260.	149.	-1280.	-370.	-954.	131.	.0423	-.0180	-.0044	-.0567	.0279	-.0455	4306.		

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.33.

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

.2377	-1630.	-219.	-1689.	-1183.	-111.	478.	.0230	-.0251	.0033	-.0026	-.0546	.0037	5117.
.2370	-1270.	-200.	-1699.	-1257.	-257.	550.	.0254	-.0271	.0018	-.0111	-.0609	.0015	5825.
.2380	-1460.	-163.	-2045.	-1342.	-393.	605.	.0280	-.0283	.0005	-.0243	-.0644	-.0006	6357.
.2390	-1584.	-114.	-2319.	-1372.	-527.	637.	.0305	-.0288	-.0007	-.0366	-.0647	-.0031	6685.
.2400	-1642.	-57.	-2510.	-1353.	-651.	641.	.0329	-.0286	-.0020	-.0475	-.0619	-.0062	6812.
.2410	-1634.	3.	-2605.	-1292.	-755.	617.	.0350	-.0280	-.0031	-.0561	-.0562	-.0101	6755.
.2420	-1559.	59.	-2610.	-1192.	-843.	568.	.0370	-.0269	-.0040	-.0622	-.0475	-.0146	6539.
.2430	-1402.	108.	-2515.	-1058.	-916.	502.	.0388	-.0254	-.0047	-.0659	-.0360	-.0195	6204.
.2440	-1182.	144.	-2325.	-899.	-970.	422.	.0403	-.0237	-.0051	-.0671	-.0219	-.0250	5794.
.2450	-911.	161.	-2046.	-728.	-995.	332.	.0414	-.0218	-.0052	-.0658	-.0061	-.0312	5331.
.2460	-607.	161.	-1692.	-551.	-989.	234.	.0421	-.0199	-.0049	-.0623	.0107	-.0382	4827.
.2470	-268.	149.	-1280.	-370.	-954.	131.	.0423	-.0180	-.0044	-.0567	.0279	-.0455	4306.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.33.

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	61	MEMBER	1	SEQUENCE	87	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)	
.2480	77.	130.	-830.	-105.	-894.	25.		.0421	-.0158	-.0038	-.0489	.0447	-.0522	3810.	
.2490	414.	105.	-363.	-2.	-808.	-81.		.0415	-.0135	-.0032	-.0390	.0602	-.0580	3389.	
.2500	729.	77.	101.	172.	-699.	-184.		.0404	-.0109	-.0025	-.0278	.0736	-.0629	3101.	
.2510	1008.	49.	547.	330.	-568.	-279.		.0388	-.0082	-.0018	-.0162	.0841	-.0670	2978.	
.2520	1237.	16.	959.	462.	-416.	-364.		.0368	-.0054	-.0009	-.0044	.0908	-.0700	3007.	
.2530	1408.	-21.	1321.	567.	-252.	-434.		.0347	-.0022	.0002	.0075	.0933	-.0710	3158.	
.2540	1517.	-59.	1618.	646.	-87.	-486.		.0325	.0014	.0013	.0190	.0915	-.0692	3393.	
.2550	1562.	-90.	1839.	703.	72.	-519.		.0305	.0055	.0025	.0295	.0855	-.0648	3659.	
.2560	1534.	-114.	1977.	735.	227.	-537.		.0285	.0099	.0037	.0384	.0751	-.0584	3915.	
.2570	1430.	-125.	2026.	744.	377.	-543.		.0264	.0146	.0048	.0453	.0606	-.0505	4154.	
.2580	1255.	-120.	1984.	736.	515.	-539.		.0245	.0196	.0058	.0501	.0426	-.0410	4374.	
.2590	1024.	-95.	1854.	721.	630.	-526.		.0228	.0248	.0064	.0528	.0222	-.0298	4559.	
.2600	749.	-50.	1642.	703.	715.	-504.		.0216	.0302	.0068	.0534	.0001	-.0171	4681.	
.2610	439.	9.	1364.	676.	772.	-475.		.0208	.0356	.0069	.0518	-.0229	-.0036	4721.	
.2620	107.	74.	1036.	638.	805.	-443.		.0204	.0407	.0068	.0482	-.0461	.0096	4669.	
.2630	-227.	143.	675.	592.	809.	-406.		.0205	.0455	.0066	.0428	-.0683	.0220	4513.	
.2640	-543.	216.	294.	545.	777.	-365.		.0212	.0497	.0062	.0360	-.0883	.0335	4244.	
.2650	-828.	298.	-90.	499.	713.	-323.		.0225	.0533	.0055	.0285	-.1054	.0438	3873.	
.2660	-1077.	355.	-456.	451.	626.	-282.		.0242	.0560	.0044	.0208	-.1190	.0521	3429.	
.2670	-1280.	412.	-788.	400.	524.	-247.		.0264	.0577	.0029	.0135	-.1285	.0578	2938.	
.2680	-1426.	456.	-1073.	348.	408.	-216.		.0289	.0583	.0011	.0072	-.1336	.0607	2411.	
.2690	-1505.	484.	-1299.	297.	277.	-185.		.0318	.0577	-.0011	.0023	-.1337	.0608	1864.	
.2700	-1513.	491.	-1450.	245.	137.	-154.		.0351	.0559	-.0036	-.0012	-.1289	.0580	1336.	
.2710	-1451.	471.	-1537.	183.	-4.	-122.		.0385	.0529	-.0062	-.0028	-.1196	.0518	918.	
.2720	-1323.	418.	-1534.	106.	-136.	-89.		.0421	.0487	-.0088	-.0023	-.1065	.0425	810.	
.2730	-1132.	335.	-1454.	20.	-264.	-51.		.0458	.0435	-.0115	.0006	-.0898	.0309	1126.	
.2740	-881.	231.	-1307.	-66.	-392.	-9.		.0496	.0375	-.0141	.0055	-.0699	.0175	1658.	
.2750	-585.	112.	-1104.	-152.	-510.	35.		.0533	.0309	-.0168	.0121	-.0478	.0024	2228.	
.2760	-265.	-21.	-852.	-246.	-607.	77.		.0567	.0238	-.0193	.0200	-.0246	-.0145	2751.	
.2770	62.	-164.	-566.	-343.	-679.	116.		.0597	.0165	-.0216	.0293	-.0015	-.0322	3211.	
.2780	390.	-306.	-268.	-432.	-738.	154.		.0624	.0095	-.0239	.0394	.0212	-.0494	3627.	
.2790	710.	-438.	26.	-505.	-792.	193.		.0648	.0031	-.0259	.0496	.0428	-.0648	4003.	
.2800	1005.	-561.	306.	-569.	-832.	231.		.0667	-.0027	-.0275	.0593	.0623	-.0788	4317.	
.2810	1254.	-676.	562.	-634.	-849.	264.		.0680	-.0076	-.0286	.0679	.0785	-.0913	4555.	
.2820	1450.	-775.	777.	-690.	-850.	292.		.0686	-.0114	-.0291	.0752	.0910	-.1013	4728.	
.2830	1596.	-846.	934.	-723.	-853.	315.		.0688	-.0138	-.0292	.0806	.0999	-.1077	4848.	
.2840	1690.	-880.	1025.	-728.	-861.	330.		.0684	-.0147	-.0287	.0837	.1050	-.1101	4905.	
.2850	1718.	-880.	1049.	-716.	-861.	330.		.0672	-.0141	-.0278	.0846	.1056	-.1093	4875.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.33.

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

.2750	-585.	112.	-1104.	-152.	-510.	35.	.0533	.0309	-.0168	.0121	-.0478	.0024	2228.
.2760	-265.	-21.	-852.	-246.	-607.	77.	.0567	.0238	-.0193	.0200	-.0246	-.0145	2751.
.2770	62.	-164.	-566.	-343.	-679.	116.	.0597	.0165	-.0216	.0293	-.0015	-.0322	3211.
.2780	390.	-306.	-265.	-432.	-738.	154.	.0624	.0095	-.0239	.0394	.0212	-.0494	3627.
.2790	710.	-478.	26.	-505.	-792.	193.	.0648	.0031	-.0259	.0496	.0428	-.0648	4003.
.2800	1005.	-561.	306.	-569.	-832.	231.	.0667	-.0027	-.0275	.0593	.0623	-.0788	4317.
.2810	1254.	-676.	562.	-634.	-849.	264.	.0680	-.0076	-.0286	.0679	.0785	-.0913	4555.
.2820	1450.	-775.	777.	-690.	-850.	292.	.0686	-.0114	-.0291	.0752	.0910	-.1013	4728.
.2830	1596.	-846.	934.	-723.	-853.	315.	.0688	-.0138	-.0292	.0806	.0999	-.1077	4848.
.2840	1690.	-880.	1025.	-728.	-861.	330.	.0684	-.0147	-.0287	.0837	.1050	-.1101	4905.
.2850	1718.	-880.	1049.	-716.	-861.	330.	.0672	-.0141	-.0278	.0846	.1056	-.1093	4875.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.35.

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

CONDITION 24
LOADS
SHOCK
PRESSURE
ENGLISH UNITS

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

SECTION	61	MEMBER	1	SEQUENCE	87	LOCATION	END	TYPE	RU						
TIME	FX	FY	FZ	MX	MY	MZ				DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)			(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
.2860	1672.	-848.	1005.	-692.	-847.	311.			.0653	-.0121	-.0265	.0838	.1012	-.1051	4746.
.2870	1564.	-780.	893.	-645.	-831.	275.			.0627	-.0087	-.0247	.0811	.0927	-.0971	4539.
.2880	1409.	-675.	717.	-571.	-823.	229.			.0595	-.0039	-.0226	.0765	.0809	-.0850	4286.
.2890	1209.	-544.	492.	-480.	-811.	173.			.0558	.0020	-.0202	.0703	.0661	-.0696	3998.
.2900	957.	-406.	239.	-391.	-777.	109.			.0514	.0086	-.0173	.0632	.0480	-.0522	3657.
.2910	666.	-267.	-28.	-306.	-718.	41.			.0464	.0158	-.0140	.0556	.0277	-.0332	3262.
.2920	358.	-129.	-296.	-218.	-646.	-24.			.0411	.0233	-.0104	.0475	.0063	-.0127	2847.
.2930	48.	7.	-553.	-129.	-562.	-84.			.0355	.0308	-.0067	.0395	-.0151	.0086	2429.
.2940	-261.	131.	-785.	-37.	-456.	-139.			.0295	.0379	-.0028	.0322	-.0365	.0295	1997.
.2950	-561.	240.	-976.	42.	-322.	-192.			.0232	.0444	.0011	.0258	-.0573	.0486	1577.
.2960	-830.	333.	-1117.	116.	-169.	-241.			.0165	.0500	.0050	.0203	-.0765	.0652	1321.
.2970	-1052.	413.	-1204.	189.	-9.	-282.			.0099	.0545	.0088	.0160	-.0934	.0793	1417.
.2980	-1221.	474.	-1231.	263.	154.	-312.			.0034	.0579	.0125	.0132	-.1073	.0908	1819.
.2990	-1334.	509.	-1191.	330.	322.	-330.			-.0030	.0599	.0160	.0117	-.1182	.0988	2368.
.3000	-1389.	516.	-1080.	385.	499.	-335.			-.0091	.0604	.0193	.0110	-.1256	.1025	2980.
.3010	-1387.	494.	-899.	428.	679.	-328.			-.0150	.0595	.0225	.0110	-.1294	.1020	3617.
.3020	-1330.	446.	-661.	464.	851.	-307.			-.0204	.0573	.0254	.0118	-.1293	.0981	4244.
.3030	-1210.	379.	-378.	501.	1006.	-276.			-.0252	.0539	.0278	.0130	-.1252	.0914	4830.
.3040	-1061.	301.	-62.	537.	1141.	-239.			-.0294	.0496	.0298	.0141	-.1174	.0818	5359.
.3050	-860.	216.	275.	567.	1259.	-203.			-.0331	.0442	.0314	.0148	-.1065	.0693	5825.
.3060	-651.	128.	613.	592.	1353.	-172.			-.0362	.0382	.0324	.0149	-.0930	.0546	6205.
.3070	-414.	48.	933.	621.	1408.	-145.			-.0386	.0318	.0328	.0143	-.0771	.0392	6450.
.3080	-160.	-18.	1219.	657.	1415.	-122.			-.0402	.0252	.0327	.0122	-.0591	.0235	6532.
.3090	97.	-70.	1462.	689.	1385.	-106.			-.0411	.0186	.0322	.0085	-.0399	.0075	6472.
.3100	323.	-114.	1655.	706.	1330.	-98.			-.0415	.0119	.0312	.0032	-.0207	-.0086	6297.
.3110	520.	-148.	1786.	710.	1247.	-97.			-.0414	.0056	.0298	-.0034	-.0021	-.0238	6001.
.3120	388.	-164.	1844.	709.	1126.	-99.			-.0406	-.0003	.0279	-.0114	.0159	-.0372	5568.
.3130	821.	-160.	1826.	702.	971.	-104.			-.0393	-.0056	.0256	-.0207	.0326	-.0483	5018.
.3140	907.	-142.	1736.	676.	799.	-114.			-.0377	-.0103	.0229	-.0307	.0468	-.0577	4395.
.3150	926.	-116.	1577.	625.	623.	-128.			-.0359	-.0146	.0199	-.0410	.0579	-.0655	3721.
.3160	907.	-79.	1354.	554.	437.	-143.			-.0340	-.0182	.0166	-.0512	.0658	-.0711	3005.
.3170	839.	-33.	1075.	470.	239.	-154.			-.0317	-.0211	.0131	-.0611	.0707	-.0740	2290.
.3180	738.	16.	753.	368.	38.	-157.			-.0293	-.0233	.0095	-.0700	.0724	-.0745	1678.
.3190	596.	56.	405.	241.	-146.	-155.			-.0270	-.0251	.0059	-.0775	.0706	-.0732	1342.
.3200	420.	86.	48.	90.	-306.	-145.			-.0248	-.0265	.0024	-.0836	.0655	-.0708	1463.
.3210	226.	107.	-305.	-75.	-445.	-127.			-.0226	-.0275	-.0010	-.0881	.0580	-.0671	1955.
.3220	23.	119.	-643.	-244.	-562.	-100.			-.0206	-.0280	-.0043	-.0906	.0487	-.0619	2592.
.3230	-181.	121.	-954.	-410.	-655.	-67.			-.0187	-.0281	-.0074	-.0908	.0381	-.0554	3235.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.35.

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

CONDITION 24
LOADS
SHOCK
PRESSURE
ENGLISH UNITS

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

.3120	682.	-164.	1044.	709.	1126.	-99.	-.0406	-.0003	.0279	-.0114	.0159	-.0372	5568.
.3130	821.	-160.	1026.	702.	971.	-104.	-.0393	-.0056	.0256	-.0207	.0326	-.0483	5018.
.3140	902.	-142.	1736.	676.	799.	-114.	-.0377	-.0103	.0229	-.0307	.0468	-.0577	4395.
.3150	926.	-116.	1577.	625.	623.	-128.	-.0359	-.0146	.0199	-.0410	.0579	-.0655	3721.
.3160	902.	-79.	1754.	554.	437.	-143.	-.0340	-.0182	.0166	-.0512	.0658	-.0711	3005.
.3170	639.	-32.	1075.	470.	239.	-154.	-.0317	-.0211	.0131	-.0611	.0707	-.0740	2290.
.3180	738.	16.	753.	368.	38.	-157.	-.0293	-.0233	.0095	-.0700	.0724	-.0745	1678.
.3190	596.	56.	405.	241.	-146.	-155.	-.0270	-.0251	.0059	-.0775	.0706	-.0732	1342.
.3200	420.	86.	48.	90.	-306.	-145.	-.0248	-.0265	.0024	-.0836	.0655	-.0708	1463.
.3210	226.	107.	-305.	-75.	-445.	-127.	-.0226	-.0275	-.0010	-.0881	.0580	-.0671	1955.
.3220	27.	119.	-643.	-244.	-562.	-100.	-.0206	-.0280	-.0043	-.0906	.0487	-.0619	2592.
.3230	-181.	121.	-954.	-410.	-655.	-67.	-.0187	-.0281	-.0074	-.0908	.0381	-.0554	3235.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.35.

S/RV PIPING KEWAUNEE GKWOOF 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	61	MEMBER	1	SEQUENCE	07	LOCATION	END	TYPE	RU					
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	FX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.3240	-377.	114.	-1223.	-971.	-715.	-32.	-.0171	-.0279	-.0103	-.0891	.0268	-.0486	3820.	
.3250	-557.	98.	-1437.	-723.	-741.	0.	-.0158	-.0275	-.0128	-.0858	.0154	-.0420	4319.	
.3260	-709.	75.	-1591.	-855.	-738.	30.	-.0147	-.0269	-.0151	-.0807	.0046	-.0353	4716.	
.3270	-825.	47.	-1683.	-957.	-715.	56.	-.0137	-.0259	-.0170	-.0740	-.0048	-.0283	4991.	
.3280	-896.	19.	-1708.	-1023.	-675.	77.	-.0128	-.0245	-.0185	-.0662	-.0122	-.0211	5126.	
.3290	-921.	-11.	-1662.	-1055.	-617.	89.	-.0121	-.0230	-.0196	-.0578	-.0174	-.0145	5112.	
.3300	-903.	-42.	-1548.	-1052.	-539.	88.	-.0116	-.0213	-.0202	-.0491	-.0204	-.0088	4947.	
.3310	-841.	-69.	-1375.	-1008.	-452.	75.	-.0112	-.0194	-.0205	-.0401	-.0210	-.0034	4623.	
.3320	-730.	-85.	-1153.	-916.	-370.	51.	-.0108	-.0172	-.0204	-.0313	-.0187	.0020	4129.	
.3330	-574.	-86.	-892.	-778.	-296.	18.	-.0104	-.0149	-.0201	-.0234	-.0137	.0071	3475.	
.3340	-387.	-78.	-598.	-608.	-222.	-27.	-.0101	-.0125	-.0194	-.0163	-.0069	.0115	2703.	
.3350	-182.	-64.	-283.	-414.	-148.	-80.	-.0100	-.0101	-.0185	-.0100	.0015	.0151	1866.	
.3360	39.	-42.	39.	-129.	-84.	-137.	-.0100	-.0078	-.0173	-.0048	.0106	.0186	1066.	
.3370	271.	-8.	354.	34.	-37.	-191.	-.0098	-.0055	-.0159	-.0008	.0207	.0222	824.	
.3380	500.	30.	652.	270.	-1.	-240.	-.0097	-.0035	-.0144	.0021	.0309	.0259	1507.	
.3390	705.	67.	924.	490.	34.	-283.	-.0097	-.0019	-.0128	.0041	.0401	.0292	2365.	
.3400	881.	101.	1159.	687.	68.	-316.	-.0099	-.0007	-.0110	.0053	.0479	.0321	3167.	
.3410	1024.	137.	1346.	858.	94.	-335.	-.0101	-.0001	-.0094	.0056	.0541	.0351	3865.	
.3420	1130.	172.	1477.	999.	110.	-338.	-.0104	.0000	-.0079	.0055	.0584	.0385	4424.	
.3430	1187.	199.	1550.	1096.	124.	-324.	-.0108	-.0005	-.0065	.0052	.0603	.0421	4799.	
.3440	1189.	215.	1565.	1142.	142.	-292.	-.0114	-.0017	-.0053	.0048	.0594	.0456	4956.	
.3450	1141.	220.	1523.	1135.	162.	-240.	-.0121	-.0038	-.0042	.0043	.0560	.0487	4888.	
.3460	1045.	211.	1426.	1076.	180.	-168.	-.0128	-.0065	-.0035	.0038	.0502	.0519	4606.	
.3470	906.	188.	1278.	968.	194.	-77.	-.0136	-.0098	-.0029	.0036	.0423	.0554	4131.	
.3480	727.	150.	1085.	812.	206.	30.	-.0143	-.0137	-.0026	.0037	.0326	.0588	3499.	
.3490	519.	101.	856.	614.	216.	147.	-.0151	-.0181	-.0026	.0041	.0216	.0618	2785.	
.3500	290.	43.	600.	381.	222.	270.	-.0157	-.0230	-.0028	.0047	.0095	.0643	2159.	
.3510	49.	-22.	324.	126.	221.	393.	-.0163	-.0281	-.0033	.0058	-.0029	.0666	1955.	
.3520	-191.	-87.	36.	-140.	209.	513.	-.0166	-.0332	-.0042	.0073	-.0149	.0689	2385.	
.3530	-419.	-151.	-251.	-406.	185.	626.	-.0166	-.0383	-.0052	.0092	-.0260	.0709	3207.	
.3540	-630.	-214.	-524.	-667.	155.	726.	-.0164	-.0432	-.0065	.0111	-.0359	.0723	4164.	
.3550	-810.	-275.	-773.	-915.	122.	810.	-.0159	-.0477	-.0079	.0133	-.0441	.0729	5126.	
.3560	-972.	-332.	-990.	-1138.	87.	878.	-.0150	-.0516	-.0095	.0157	-.0502	.0732	6009.	
.3570	-1083.	-380.	-1167.	-1324.	31.	929.	-.0135	-.0549	-.0111	.0181	-.0536	.0732	6751.	
.3580	-1148.	-418.	-1300.	-1468.	-26.	960.	-.0117	-.0574	-.0128	.0202	-.0544	.0726	7320.	
.3590	-1169.	-447.	-1382.	-1569.	-84.	969.	-.0095	-.0591	-.0144	.0223	-.0529	.0712	7705.	
.3600	-1146.	-464.	-1412.	-1625.	-140.	955.	-.0069	-.0600	-.0160	.0242	-.0490	.0689	7886.	
.3610	-1075.	-466.	-1393.	-1627.	-201.	921.	-.0040	-.0598	-.0175	.0259	-.0430	.0663	7846.	

ADLPIPE PAGE 2417

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.35.

S/RV PIPING KEWAUNEE GKWOOF 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

.3510	49.	-22.	324.	126.	221.	393.	-.0163	-.0281	-.0033	.0058	-.0029	.0666	1955.
.3520	-191.	-87.	36.	-140.	209.	513.	-.0166	-.0332	-.0042	.0073	-.0149	.0689	2385.
.3530	-419.	-151.	-251.	-406.	185.	626.	-.0166	-.0383	-.0052	.0092	-.0260	.0709	3207.
.3540	-630.	-214.	-524.	-667.	155.	726.	-.0164	-.0432	-.0065	.0111	-.0359	.0723	4164.
.3550	-810.	-275.	-773.	-915.	122.	810.	-.0159	-.0477	-.0079	.0133	-.0441	.0729	5126.
.3560	-972.	-332.	-990.	-1138.	82.	878.	-.0150	-.0516	-.0095	.0157	-.0502	.0732	6009.
.3570	-1083.	-380.	-1167.	-1324.	31.	929.	-.0135	-.0549	-.0111	.0181	-.0536	.0732	6751.
.3580	-1148.	-418.	-1300.	-1468.	-26.	960.	-.0117	-.0574	-.0128	.0202	-.0544	.0726	7320.
.3590	-1169.	-447.	-1382.	-1569.	-84.	969.	-.0095	-.0591	-.0144	.0223	-.0529	.0712	7705.
.3600	-1146.	-464.	-1412.	-1625.	-140.	955.	-.0069	-.0600	-.0160	.0242	-.0490	.0689	7886.
.3610	-1075.	-466.	-1393.	-1627.	-201.	921.	-.0040	-.0598	-.0175	.0259	-.0430	.0663	7846.

ADLPIPE PAGE 2417 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 8/12/02. 18.29.33.

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	61	MEMBER	1	SEQUENCE	87	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)			
.3620	-956.	-451.	-1326.	-1574.	-267.	868.	-.0007	-.0587	-.0190	.0273	-.0348	.0635	7585.			
.3630	-799.	-424.	-1214.	-1474.	-331.	799.	.0029	-.0567	-.0203	.0286	-.0251	.0604	7132.			
.3640	-615.	-389.	-1060.	-1334.	-387.	716.	.0067	-.0539	-.0213	.0297	-.0145	.0569	6524.			
.3650	-409.	-347.	-869.	-1161.	-433.	624.	.0105	-.0503	-.0221	.0303	-.0034	.0530	5791.			
.3660	-187.	-298.	-651.	-958.	-473.	526.	.0144	-.0461	-.0227	.0305	.0080	.0491	4970.			
.3670	42.	-246.	-415.	-732.	-505.	426.	.0182	-.0413	-.0231	.0304	.0193	.0456	4116.			
.3680	267.	-190.	-171.	-493.	-527.	326.	.0219	-.0361	-.0231	.0298	.0299	.0423	3303.			
.3690	477.	-132.	71.	-250.	-535.	225.	.0252	-.0308	-.0229	.0287	.0393	.0391	2640.			
.3700	660.	-72.	301.	-11.	-533.	127.	.0281	-.0254	-.0225	.0270	.0473	.0360	2286.			
.3710	832.	-8.	508.	219.	-522.	31.	.0305	-.0201	-.0218	.0248	.0535	.0334	2367.			
.3720	966.	59.	682.	434.	-507.	-60.	.0324	-.0150	-.0209	.0222	.0578	.0316	2798.			
.3730	1064.	127.	817.	627.	-487.	-144.	.0337	-.0102	-.0199	.0189	.0602	.0303	3366.			
.3740	1121.	193.	912.	739.	-457.	-220.	.0344	-.0061	-.0186	.0150	.0603	.0293	3914.			
.3750	1133.	252.	965.	813.	-417.	-286.	.0342	-.0026	-.0171	.0105	.0583	.0285	4356.			
.3760	1100.	303.	974.	898.	-369.	-340.	.0334	.0001	-.0155	.0055	.0543	.0282	4364.			
.3770	1025.	345.	940.	1046.	-317.	-380.	.0320	.0021	-.0137	.0002	.0485	.0285	4830.			
.3780	911.	378.	867.	1056.	-260.	-404.	.0300	.0032	-.0118	-.0057	.0412	.0290	4839.			
.3790	759.	399.	759.	1024.	-193.	-414.	.0273	.0034	-.0098	-.0119	.0324	.0293	4679.			
.3800	572.	407.	623.	954.	-116.	-412.	.0240	.0028	-.0077	-.0182	.0224	.0293	4362.			
.3810	363.	405.	463.	853.	-36.	-398.	.0203	.0013	-.0055	-.0247	.0115	.0291	3931.			
.3820	142.	397.	285.	732.	41.	-371.	.0163	-.0008	-.0033	-.0311	.0003	.0289	3427.			
.3830	-83.	382.	97.	593.	116.	-334.	.0120	-.0036	-.0011	-.0374	-.0109	.0281	2881.			
.3840	-307.	358.	-91.	439.	193.	-290.	.0077	-.0069	.0012	-.0436	-.0220	.0265	2340.			
.3850	-524.	328.	-269.	277.	271.	-242.	.0032	-.0106	.0035	-.0496	-.0325	.0240	1906.			
.3860	-722.	294.	-432.	118.	344.	-189.	-.0011	-.0145	.0058	-.0553	-.0420	.0208	1709.			
.3870	-893.	258.	-575.	-28.	408.	-134.	-.0051	-.0185	.0080	-.0606	-.0500	.0172	1794.			
.3880	-1033.	222.	-691.	-157.	464.	-80.	-.0089	-.0223	.0102	-.0655	-.0562	.0130	2073.			
.3890	-1147.	186.	-775.	-268.	517.	-31.	-.0123	-.0259	.0123	-.0699	-.0606	.0081	2435.			
.3900	-1216.	152.	-822.	-356.	565.	8.	-.0153	-.0292	.0143	-.0738	-.0630	.0027	2787.			
.3910	-1247.	124.	-835.	-413.	600.	37.	-.0177	-.0319	.0162	-.0770	-.0633	-.0029	3047.			
.3920	-1234.	104.	-815.	-416.	618.	53.	-.0195	-.0340	.0179	-.0795	-.0612	-.0079	3164.			
.3930	-1178.	95.	-764.	-422.	619.	55.	-.0207	-.0352	.0194	-.0813	-.0570	-.0125	3136.			
.3940	-1085.	94.	-683.	-378.	607.	41.	-.0214	-.0357	.0208	-.0825	-.0510	-.0169	2992.			
.3950	-959.	102.	-574.	-308.	586.	10.	-.0216	-.0355	.0220	-.0832	-.0432	-.0210	2762.			
.3960	-805.	119.	-445.	-209.	551.	-36.	-.0212	-.0346	.0231	-.0832	-.0341	-.0242	2465.			
.3970	-626.	146.	-304.	-84.	499.	-94.	-.0204	-.0328	.0239	-.0825	-.0235	-.0262	2149.			
.3980	-429.	182.	-155.	63.	435.	-161.	-.0192	-.0304	.0245	-.0814	-.0121	-.0270	1952.			
.3990	-228.	223.	-2.	217.	367.	-236.	-.0178	-.0274	.0249	-.0798	-.0005	-.0273	2033.			

ADLPIPE PAGE 2418 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 8/12/02. 18.29.33.

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

.3890	-114.	106.	-75.	-268.	517.	-31.	-.0123	-.0259	.0123	-.0699	-.0606	.0081	2435.
.3900	-1216.	152.	-822.	-356.	565.	8.	-.153	-.0292	.0143	-.0738	-.0630	.0027	2787.
.3910	-1247.	124.	-835.	-413.	600.	37.	-.0177	-.0319	.0162	-.0770	-.0633	-.0029	3047.
.3920	-1234.	104.	-815.	-476.	610.	53.	-.0195	-.0340	.0179	-.0795	-.0612	-.0079	3164.
.3930	-1170.	95.	-764.	-422.	619.	55.	-.0207	-.0352	.0194	-.0813	-.0570	-.0125	3136.
.3940	-1081.	94.	-683.	-378.	607.	41.	-.0214	-.0357	.0208	-.0825	-.0510	-.0169	2992.
.3950	-759.	102.	-574.	-308.	586.	10.	-.0216	-.0355	.0220	-.0832	-.0432	-.0210	2762.
.3960	-86.	119.	-445.	-209.	551.	-36.	-.0212	-.0346	.0231	-.0832	-.0341	-.0242	2465.
.3970	-626.	146.	-304.	-84.	499.	-94.	-.0204	-.0328	.0239	-.0825	-.0235	-.0262	2149.
.3980	-429.	182.	-155.	63.	435.	-161.	-.0192	-.0304	.0245	-.0814	-.0121	-.0270	1952.
.3990	-228.	223.	-2.	217.	367.	-236.	-.0178	-.0274	.0249	-.0798	-.0005	-.0273	2033.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.35.

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	61	MEMBER	1	SEQUENCE	87	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)	
.4000	-31.	264.	148.	372.	300.	-316.	-.0163	-.0242	.0252	-.0778	.0108	-.0268	2393.	

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)
.2060	-1220.	-825.	-1148.	-2289.	410.	1137.	-.0662	-.0959	-.0009	-.0295	-.0249	-.0467	10801.

SECTION	61	MEMBER	2	SEQUENCE	830	LOCATION	END	TYPE	TE					
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	2.	
.0070	0.	0.	-1.	1.	-2.	0.	-.0000	-.0000	.0000	-.0000	-.0000	-.0001	8.	
.0080	1.	1.	-2.	2.	-4.	-0.	-.0000	-.0000	.0000	-.0001	-.0001	-.0002	20.	
.0090	3.	2.	-3.	4.	-8.	-1.	-.0001	-.0001	.0000	-.0002	-.0001	-.0004	36.	
.0100	6.	4.	-5.	7.	-13.	-2.	-.0002	-.0001	.0001	-.0003	-.0002	-.0006	62.	
.0110	12.	8.	-8.	12.	-23.	-3.	-.0003	-.0002	.0001	-.0005	-.0002	-.0009	108.	
.0120	21.	13.	-13.	20.	-39.	-4.	-.0004	-.0003	.0002	-.0008	-.0001	-.0013	184.	
.0130	35.	22.	-20.	31.	-60.	-6.	-.0007	-.0005	.0002	-.0015	.0000	-.0021	285.	
.0140	51.	33.	-28.	43.	-84.	-9.	-.0011	-.0008	.0003	-.0023	.0003	-.0033	397.	
.0150	67.	44.	-37.	54.	-108.	-15.	-.0016	-.0011	.0005	-.0032	.0005	-.0046	508.	
.0160	83.	55.	-45.	62.	-131.	-21.	-.0022	-.0015	.0006	-.0039	.0007	-.0057	612.	
.0170	97.	64.	-53.	66.	-151.	-29.	-.0028	-.0019	.0006	-.0041	.0008	-.0062	698.	
.0180	107.	69.	-58.	63.	-162.	-35.	-.0033	-.0022	.0006	-.0037	.0010	-.0060	743.	
.0190	109.	68.	-56.	51.	-159.	-40.	-.0039	-.0024	.0006	-.0029	.0011	-.0052	715.	
.0200	100.	58.	-47.	27.	-136.	-40.	-.0044	-.0026	.0005	-.0018	.0014	-.0037	602.	
.0210	80.	38.	-29.	-7.	-94.	-33.	-.0048	-.0027	.0003	-.0003	.0019	-.0014	419.	
.0220	51.	6.	-0.	-53.	-36.	-20.	-.0052	-.0027	.0002	.0015	.0026	.0014	280.	
.0230	17.	-31.	32.	-98.	29.	0.	-.0054	-.0026	-.0001	.0033	.0036	.0044	427.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.35.

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

.0130	35.	22.	-20.	31.	-60.	-6.	-.0007	-.0005	.0002	-.0015	.0000	-.0021	285.
.0140	51.	33.	-28.	43.	-84.	-9.	-.0011	-.0008	.0003	-.0023	.0003	-.0033	397.
.0150	67.	44.	-37.	54.	-108.	-15.	-.0016	-.0011	.0005	-.0032	.0005	-.0046	508.
.0160	83.	55.	-45.	62.	-131.	-21.	-.0022	-.0015	.0006	-.0039	.0007	-.0057	612.
.0170	97.	64.	-53.	66.	-151.	-29.	-.0028	-.0019	.0006	-.0041	.0008	-.0062	698.
.0180	107.	69.	-58.	73.	-162.	-35.	-.0033	-.0022	.0006	-.0037	.0010	-.0060	743.
.0190	109.	68.	-56.	71.	-159.	-40.	-.0039	-.0024	.0006	-.0029	.0011	-.0052	715.
.0200	100.	58.	-47.	67.	-136.	-40.	-.0044	-.0026	.0005	-.0018	.0014	-.0037	602.
.0210	80.	38.	-29.	-7.	-94.	-33.	-.0048	-.0027	.0003	-.0003	.0019	-.0014	419.
.0220	51.	6.	-0.	-53.	-36.	-20.	-.0052	-.0027	.0002	.0015	.0026	.0014	280.
.0230	17.	-31.	32.	-98.	29.	0.	-.0054	-.0026	-.0001	.0033	.0036	.0044	427.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.35.

S/RV PIPING KEWAUNEE GKW00F 2 RUP DISK
2 SAFETY COLD FKW24F--2 PSVCONDITION 24
LOADS
SHOCK
PRESSURE
ENGLISH UNITSINTERNAL FORCES IN THE PIPING
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	MEMBER	SEQUENCE	LOCATION	END	TYPE	TE	DX	DY	DZ	RX	RY	RZ	STRESS
TIME	FX	FY	FZ	MX	MY	MZ	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)							
.0240	-21.	-64.	58.	-135.	95.	24.	-.0056	-.0024	-.0003	.0046	.0047	.0071	696.
.0250	-65.	-92.	80.	-169.	171.	45.	-.0059	-.0023	-.0005	.0054	.0053	.0088	1019.
.0260	-118.	-118.	107.	-211.	262.	56.	-.0061	-.0022	-.0006	.0064	.0045	.0096	1422.
.0270	-162.	-146.	135.	-252.	339.	59.	-.0058	-.0015	-.0008	.0092	.0025	.0116	1781.
.0280	-174.	-150.	135.	-243.	352.	65.	-.0047	-.0002	-.0012	.0130	.0004	.0163	1806.
.0290	-163.	-121.	111.	-188.	325.	72.	-.0034	.0013	-.0016	.0153	-.0017	.0204	1596.
.0300	-177.	-113.	118.	-182.	355.	67.	-.0025	.0020	-.0016	.0155	-.0048	.0192	1689.
.0310	-215.	-135.	146.	-210.	421.	61.	-.0017	.0027	-.0016	.0160	-.0084	.0171	1982.
.0320	-210.	-131.	148.	-165.	412.	77.	.0001	.0044	-.0019	.0169	-.0101	.0191	1881.
.0330	-179.	-95.	131.	-54.	328.	110.	.0028	.0064	-.0026	.0160	-.0095	.0226	1460.
.0340	-160.	-81.	132.	22.	282.	136.	.0049	.0076	-.0031	.0130	-.0084	.0217	1311.
.0350	-186.	-92.	147.	40.	307.	142.	.0060	.0080	-.0029	.0086	-.0082	.0159	1422.
.0360	-190.	-79.	148.	73.	300.	129.	.0071	.0081	-.0028	.0037	-.0081	.0090	1396.
.0370	-118.	-22.	117.	167.	177.	98.	.0092	.0087	-.0032	.0003	-.0074	.0053	1095.
.0380	-0.	60.	49.	299.	-32.	53.	.0118	.0099	-.0039	-.0002	-.0067	.0054	1276.
.0390	115.	153.	-33.	424.	-237.	-9.	.0138	.0104	-.0045	-.0011	-.0061	.0039	2027.
.0400	200.	236.	-88.	484.	-363.	-87.	.0144	.0092	-.0046	-.0058	-.0054	-.0047	2551.
.0410	245.	266.	-101.	462.	-413.	-161.	.0144	.0071	-.0046	-.0101	-.0043	-.0152	2671.
.0420	285.	263.	-120.	453.	-493.	-190.	.0152	.0061	-.0052	-.0103	-.0009	-.0171	2903.
.0430	354.	269.	-156.	500.	-630.	-166.	.0166	.0055	-.0062	-.0104	.0062	-.0131	3427.
.0440	390.	246.	-149.	484.	-686.	-121.	.0169	.0033	-.0068	-.0152	.0148	-.0151	3538.
.0450	319.	142.	-84.	315.	-558.	-82.	.0149	-.0008	-.0064	-.0218	.0214	-.0252	2697.
.0460	214.	14.	-25.	108.	-391.	-47.	.0120	-.0051	-.0055	-.0259	.0259	-.0342	1704.
.0470	216.	-30.	-28.	19.	-394.	-12.	.0105	-.0082	-.0054	-.0276	.0302	-.0365	1647.
.0480	303.	-6.	-81.	18.	-530.	13.	.0098	-.0105	-.0056	-.0270	.0335	-.0342	2214.
.0490	337.	-5.	-135.	-40.	-594.	13.	.0078	-.0130	-.0053	-.0243	.0330	-.0334	2484.
.0500	296.	-35.	-161.	-180.	-529.	-8.	.0039	-.0165	-.0041	-.0231	.0299	-.0386	2333.
.0510	263.	-51.	-169.	-312.	-453.	-20.	-.0003	-.0203	-.0028	-.0250	.0273	-.0461	2295.
.0520	249.	-57.	-193.	-378.	-432.	4.	-.0035	-.0225	-.0019	-.0253	.0264	-.0467	2394.
.0530	207.	-89.	-221.	-417.	-403.	63.	-.0061	-.0230	-.0012	-.0224	.0262	-.0395	2434.
.0540	107.	-155.	-204.	-501.	-283.	128.	-.0092	-.0235	-.0001	-.0212	.0258	-.0343	2459.
.0550	-24.	-238.	-141.	-636.	-76.	177.	-.0130	-.0246	.0016	-.0236	.0246	-.0350	2772.
.0560	-159.	-309.	-93.	-741.	119.	211.	-.0167	-.0245	.0035	-.0246	.0222	-.0334	3252.
.0570	-235.	-324.	-100.	-739.	199.	227.	-.0194	-.0226	.0051	-.0223	.0192	-.0251	3332.
.0580	-232.	-267.	-135.	-649.	174.	206.	-.0212	-.0196	.0064	-.0199	.0157	-.0156	2933.
.0590	-210.	-179.	-166.	-549.	157.	138.	-.0232	-.0166	.0078	-.0184	.0108	-.0096	2451.
.0600	-255.	-102.	-188.	-473.	211.	36.	-.0256	-.0133	.0094	-.0154	.0041	-.0051	2166.
.0610	-296.	-25.	-200.	-375.	272.	-69.	-.0274	-.0092	.0107	-.0112	-.0020	.0016	1955.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.35.

S/RV PIPING KEWAUNEE GKW00F 2 RUP DISK
2 SAFETY COLD FKW24F--2 PSVCONDITION 24
LOADS
SHOCK
PRESSURE
ENGLISH UNITSINTERNAL FORCES IN THE PIPING
FORCES AND MOMENTS ACT ON THE PIPING

.0510	267.	-51.	-169.	-312.	-453.	-20.	-.0003	-.0203	-.0028	-.0250	.0273	-.0386	2333.
.0520	249.	-57.	-197.	-378.	-432.	4.	-.0035	-.0225	-.0019	-.0253	.0264	-.0467	2394.
.0530	203.	-89.	-221.	-417.	-407.	63.	-.0061	-.0230	-.0012	-.0224	.0262	-.0395	2434.
.0540	107.	-155.	-204.	-501.	-283.	128.	-.0092	-.0235	-.0001	-.0212	.0258	-.0343	2459.
.0550	-24.	-278.	-141.	-676.	-76.	177.	-.0130	-.0246	.0016	-.0236	.0246	-.0350	2772.
.0560	-157.	-309.	-97.	-741.	119.	211.	-.0167	-.0245	.0035	-.0246	.0222	-.0334	3252.
.0570	-235.	-324.	-100.	-739.	199.	227.	-.0194	-.0226	.0051	-.0223	.0192	-.0251	3332.
.0580	-232.	-267.	-135.	-649.	174.	206.	-.0212	-.0196	.0064	-.0199	.0157	-.0156	2933.
.0590	-210.	-179.	-166.	-549.	157.	138.	-.0232	-.0166	.0078	-.0184	.0108	-.0096	2451.
.0600	-255.	-102.	-188.	-473.	211.	36.	-.0256	-.0133	.0094	-.0154	.0041	-.0051	2166.
.0610	-296.	-25.	-200.	-375.	272.	-69.	-.0274	-.0092	.0107	-.0112	-.0020	.0016	1955.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.33.

S/RV PIPING KEWAUNEE GKHOOF 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	61	MEMBER	2	SEQUENCE	830	LOCATION	END	TYPE	TE						
TIME	FX	FY	FZ	FX	MY	NZ	DX	DY	DZ	RX	RY	RZ	STRESS		
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		
.0620	-290.	67.	-200.	-218.	275.	-151.	-.0277	-.0042	.0112	-.0071	-.0051	.0117	1593.		
.0630	-282.	140.	-180.	-40.	274.	-199.	-.0269	.0013	.0115	-.0032	-.0055	.0243	1425.		
.0640	-772.	159.	-122.	84.	367.	-224.	-.0266	.0064	.0122	-.0005	-.0049	.0342	1827.		
.0650	-414.	139.	-15.	147.	539.	-240.	-.0266	.0101	.0132	-.0010	-.0040	.0378	2538.		
.0660	-459.	126.	103.	215.	680.	-252.	-.0260	.0134	.0141	-.0023	-.0028	.0396	3159.		
.0670	-434.	152.	180.	351.	707.	-264.	-.0241	.0172	.0143	-.0005	-.0021	.0453	3472.		
.0680	-349.	215.	218.	531.	638.	-291.	-.0214	.0208	.0142	.0039	-.0030	.0521	3668.		
.0690	-233.	299.	248.	693.	543.	-342.	-.0190	.0231	.0139	.0074	-.0057	.0532	3944.		
.0700	-114.	386.	274.	820.	460.	-405.	-.0172	.0237	.0137	.0093	-.0096	.0485	4273.		
.0710	-0.	460.	296.	924.	380.	-449.	-.0153	.0234	.0132	.0112	-.0133	.0425	4572.		
.0720	110.	502.	325.	1004.	292.	-450.	-.0127	.0226	.0122	.0137	-.0154	.0384	4751.		
.0730	205.	493.	373.	1040.	217.	-396.	-.0094	.0213	.0106	.0164	-.0152	.0364	4732.		
.0740	254.	425.	442.	1009.	197.	-290.	-.0060	.0190	.0089	.0176	-.0129	.0341	4457.		
.0750	246.	302.	532.	887.	260.	-153.	-.0033	.0153	.0075	.0159	-.0095	.0279	3910.		
.0760	202.	146.	627.	694.	366.	-6.	-.0010	.0105	.0061	.0129	-.0061	.0186	3276.		
.0770	171.	1.	681.	503.	422.	136.	.0017	.0058	.0042	.0116	-.0031	.0118	2799.		
.0780	185.	-93.	667.	363.	373.	258.	.0050	.0016	.0017	.0126	-.0007	.0090	2422.		
.0790	229.	-137.	602.	243.	260.	341.	.0083	-.0027	-.0012	.0138	.0004	.0053	2056.		
.0800	257.	-163.	506.	99.	153.	382.	.0106	-.0075	-.0040	.0140	-.0001	-.0023	1767.		
.0810	267.	-178.	378.	-53.	50.	402.	.0121	-.0124	-.0068	.0135	-.0013	-.0113	1707.		
.0820	273.	-177.	227.	-183.	-84.	425.	.0138	-.0167	-.0097	.0121	-.0013	-.0187	1963.		
.0830	280.	-185.	80.	-309.	-227.	462.	.0158	-.0203	-.0127	.0102	.0001	-.0234	2507.		
.0840	240.	-236.	-49.	-467.	-325.	515.	.0178	-.0230	-.0157	.0091	.0021	-.0251	3202.		
.0850	151.	-322.	-159.	-654.	-363.	577.	.0194	-.0249	-.0183	.0080	.0043	-.0253	3944.		
.0860	54.	-409.	-250.	-846.	-377.	633.	.0208	-.0264	-.0205	.0055	.0066	-.0259	4682.		
.0870	-29.	-480.	-337.	-1015.	-402.	669.	.0221	-.0271	-.0225	.0033	.0084	-.0259	5343.		
.0880	-95.	-521.	-442.	-1131.	-461.	676.	.0233	-.0263	-.0244	.0037	.0090	-.0224	5827.		
.0890	-128.	-515.	-565.	-1180.	-560.	649.	.0245	-.0244	-.0262	.0058	.0086	-.0172	6088.		
.0900	-137.	-467.	-679.	-1183.	-669.	586.	.0253	-.0221	-.0276	.0074	.0076	-.0136	6179.		
.0910	-141.	-409.	-770.	-1167.	-745.	500.	.0255	-.0192	-.0287	.0093	.0061	-.0112	6143.		
.0920	-163.	-357.	-838.	-1124.	-787.	413.	.0254	-.0155	-.0292	.0123	.0050	-.0074	5978.		
.0930	-170.	-302.	-875.	-1039.	-820.	339.	.0252	-.0112	-.0293	.0147	.0055	-.0028	5701.		
.0940	-163.	-251.	-867.	-931.	-830.	278.	.0248	-.0067	-.0287	.0152	.0075	.0007	5333.		
.0950	-168.	-218.	-818.	-829.	-784.	218.	.0237	-.0024	-.0273	.0153	.0096	.0024	4849.		
.0960	-178.	-193.	-738.	-729.	-698.	148.	.0220	.0019	-.0252	.0159	.0103	.0028	4258.		
.0970	-144.	-140.	-647.	-592.	-640.	58.	.0201	.0062	-.0227	.0175	.0103	.0030	3647.		
.0980	-52.	-46.	-560.	-398.	-642.	-52.	.0183	.0108	-.0202	.0211	.0089	.0050	3158.		
.0990	65.	69.	-479.	-171.	-667.	-176.	.0164	.0154	-.0174	.0270	.0060	.0083	2967.		

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.33.

S/RV PIPING KEWAUNEE GKHOOF 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

.0980	-95.	-521.	-442.	-1131.	-461.	676.	.0233	-.0263	-.0244	.0037	.0090	-.0224	5827.
.0890	-128.	-515.	-565.	-1180.	-560.	649.	.0245	-.0244	-.0262	.0058	.0086	-.0172	6088.
.0900	-137.	-467.	-670.	-1183.	-669.	586.	.0253	-.0221	-.0276	.0074	.0076	-.0136	6179.
.0910	-141.	-409.	-770.	-1167.	-745.	500.	.0255	-.0192	-.0287	.0093	.0061	-.0112	6143.
.0920	-163.	-357.	-838.	-1124.	-787.	413.	.0254	-.0155	-.0292	.0123	.0050	-.0074	5978.
.0930	-170.	-302.	-975.	-1039.	-820.	339.	.0252	-.0112	-.0293	.0147	.0055	-.0028	5701.
.0940	-167.	-251.	-867.	-971.	-830.	278.	.0248	-.0067	-.0287	.0152	.0075	.0007	5333.
.0950	-168.	-218.	-818.	-829.	-784.	218.	.0237	-.0024	-.0275	.0157	.0096	.0024	4849.
.0960	-178.	-193.	-738.	-729.	-698.	148.	.0220	.0019	-.0252	.0159	.0105	.0028	4258.
.0970	-144.	-140.	-647.	-592.	-640.	58.	.0201	.0062	-.0227	.0175	.0103	.0030	3647.
.0980	-52.	-46.	-560.	-398.	-642.	-52.	.0183	.0108	-.0202	.0211	.0089	.0050	3158.
.0990	65.	69.	-479.	-171.	-667.	-176.	.0164	.0154	-.0174	.0270	.0060	.0083	2967.

ADLPIPE PAGE 2421

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.33.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	61	MEMBER	2	SEQUENCE	830	LOCATION	END	TYPE	TE					
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)	
.1000	175.	181.	-379.	41.	-659.	-309.	.0137	.0193	-.0142	.0330	.0018	.0097	3042.	
.1010	265.	272.	-240.	218.	-596.	-432.	.0103	.0222	-.0106	.0378	-.0029	.0086	3204.	
.1020	331.	331.	-92.	367.	-491.	-523.	.0067	.0247	-.0067	.0423	-.0072	.0084	3362.	
.1030	371.	353.	80.	491.	-352.	-570.	.0033	.0269	-.0028	.0471	-.0108	.0109	3469.	
.1040	379.	337.	270.	576.	-172.	-579.	.0000	.0286	.0014	.0512	-.0141	.0145	3483.	
.1050	351.	289.	471.	611.	60.	-560.	-.0034	.0296	.0058	.0541	-.0175	.0175	3470.	
.1060	291.	226.	661.	616.	322.	-522.	-.0069	.0299	.0103	.0559	-.0214	.0200	3627.	
.1070	222.	173.	818.	619.	577.	-471.	-.0103	.0297	.0146	.0565	-.0254	.0224	4033.	
.1080	154.	145.	930.	644.	789.	-411.	-.0133	.0293	.0185	.0556	-.0291	.0247	4583.	
.1090	71.	136.	998.	677.	988.	-344.	-.0160	.0285	.0220	.0531	-.0325	.0263	5200.	
.1100	-47.	113.	1041.	679.	1201.	-272.	-.0187	.0272	.0252	.0495	-.0360	.0264	5867.	
.1110	-178.	99.	1047.	680.	1394.	-188.	-.0209	.0256	.0280	.0431	-.0387	.0246	6519.	
.1120	-309.	100.	1011.	692.	1544.	-95.	-.0226	.0236	.0305	.0340	-.0405	.0215	7073.	
.1130	-447.	92.	947.	677.	1668.	-2.	-.0236	.0216	.0327	.0243	-.0427	.0178	7514.	
.1140	-574.	74.	864.	631.	1750.	79.	-.0238	.0195	.0344	.0149	-.0457	.0135	7771.	
.1150	-654.	79.	746.	594.	1740.	143.	-.0229	.0175	.0355	.0056	-.0492	.0093	7695.	
.1160	-687.	110.	584.	583.	1628.	190.	-.0208	.0160	.0358	-.0026	-.0525	.0065	7259.	
.1170	-695.	150.	397.	572.	1458.	218.	-.0180	.0145	.0354	-.0098	-.0554	.0038	6601.	
.1180	-694.	175.	225.	519.	1282.	225.	-.0149	.0127	.0343	-.0171	-.0573	-.0019	5849.	
.1190	-690.	194.	57.	455.	1096.	226.	-.0111	.0108	.0324	-.0241	-.0572	-.0082	5041.	
.1200	-695.	190.	-106.	385.	904.	237.	-.0063	.0096	.0296	-.0286	-.0545	-.0115	4218.	
.1210	-705.	141.	-233.	275.	732.	256.	-.0007	.0087	.0261	-.0309	-.0492	-.0130	3431.	
.1220	-701.	71.	-322.	137.	573.	276.	.0055	.0077	.0222	-.0331	-.0415	-.0155	2713.	
.1230	-682.	-8.	-391.	-18.	420.	285.	.0118	.0065	.0183	-.0355	-.0324	-.0205	2119.	
.1240	-638.	-72.	-469.	-155.	246.	274.	.0179	.0053	.0145	-.0366	-.0228	-.0266	1666.	
.1250	-540.	-96.	-555.	-257.	24.	230.	.0239	.0042	.0106	-.0366	-.0134	-.0340	1442.	
.1260	-381.	-80.	-631.	-331.	-236.	146.	.0300	.0030	.0065	-.0355	-.0046	-.0434	1803.	
.1270	-203.	-35.	-713.	-364.	-510.	41.	.0360	.0023	.0021	-.0316	.0031	-.0517	2620.	
.1280	-44.	2.	-783.	-382.	-756.	-64.	.0418	.0023	-.0022	-.0243	.0099	-.0576	3545.	
.1290	106.	21.	-814.	-396.	-961.	-147.	.0470	.0024	-.0064	-.0173	.0174	-.0632	4382.	
.1300	246.	18.	-787.	-420.	-1110.	-194.	.0516	.0022	-.0099	-.0134	.0257	-.0710	5018.	
.1310	341.	-37.	-710.	-482.	-1174.	-206.	.0550	.0017	-.0124	-.0111	.0335	-.0802	5365.	
.1320	397.	-121.	-616.	-546.	-1188.	-188.	.0576	.0018	-.0140	-.0083	.0396	-.0870	5514.	
.1330	469.	-199.	-508.	-589.	-1209.	-162.	.0598	.0024	-.0150	-.0053	.0435	-.0914	5654.	
.1340	580.	-240.	-399.	-594.	-1263.	-150.	.0617	.0036	-.0155	-.0020	.0448	-.0941	5859.	
.1350	689.	-248.	-316.	-563.	-1326.	-164.	.0628	.0055	-.0155	.0030	.0426	-.0944	6049.	
.1360	771.	-230.	-267.	-499.	-1376.	-203.	.0627	.0080	-.0149	.0095	.0374	-.0933	6167.	
.1370	845.	-164.	-246.	-383.	-1420.	-256.	.0614	.0107	-.0139	.0142	.0316	-.0920	6232.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.33.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

.1270	-207.	-35.	-711.	-364.	-510.	41.	.360	.0023	.0021	-.0316	.0031	-.0517	2620.
.1280	-44.	2.	-783.	-372.	-756.	-64.	.0418	.0023	-.0022	-.0243	.0099	-.0576	3545.
.1290	106.	21.	-814.	-396.	-961.	-147.	.0470	.0024	-.0064	-.0173	.0174	-.0632	4382.
.1300	246.	18.	-787.	-420.	-1110.	-194.	.0516	.0022	-.0059	-.0134	.0257	-.0710	5018.
.1310	341.	-37.	-710.	-472.	-1174.	-206.	.0550	.0017	-.0124	-.0111	.0335	-.0802	5365.
.1320	397.	-121.	-616.	-546.	-1188.	-188.	.0576	.0018	-.0140	-.0083	.0396	-.0870	5514.
.1330	469.	-199.	-508.	-589.	-1209.	-162.	.0598	.0024	-.0150	-.0053	.0435	-.0914	5654.
.1340	580.	-240.	-399.	-594.	-1263.	-150.	.0617	.0036	-.0155	-.0020	.0448	-.0941	5859.
.1350	689.	-248.	-316.	-563.	-1326.	-164.	.0628	.0055	-.0155	.0030	.0426	-.0944	6049.
.1360	771.	-230.	-267.	-499.	-1376.	-203.	.0627	.0080	-.0149	.0095	.0374	-.0933	6167.
.1370	845.	-164.	-246.	-303.	-1420.	-256.	.0614	.0107	-.0139	.0142	.0316	-.0920	6232.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.33.

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

SECTION	MEMBER	SEQUENCE	LOCATION	END	TYPE	TE								
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)	
.1380	891.	-80.	-217.	-262.	-1411.	-316.	.0591	.0134	-.0126	.0162	.0259	-.0917	6132.	
.1390	851.	-27.	-175.	-173.	-1294.	-368.	.0558	.0165	-.0109	.0188	.0198	-.0893	5661.	
.1400	725.	-17.	-127.	-110.	-1088.	-397.	.0523	.0206	-.0089	.0237	.0133	-.0810	4856.	
.1410	581.	-24.	-67.	-50.	-860.	-401.	.0490	.0254	-.0067	.0286	.0078	-.0684	3967.	
.1420	447.	-20.	-9.	24.	-639.	-308.	.0456	.0303	-.0042	.0310	.0033	-.0547	3121.	
.1430	282.	-26.	48.	68.	-376.	-379.	.0413	.0347	-.0009	.0318	-.0024	-.0432	2245.	
.1440	85.	-37.	89.	89.	-82.	-387.	.0361	.0387	.0027	.0330	-.0102	-.0329	1693.	
.1450	-73.	-10.	104.	152.	149.	-410.	.0311	.0429	.0061	.0351	-.0189	-.0212	1927.	
.1460	-158.	67.	97.	276.	276.	-443.	.0271	.0472	.0088	.0378	-.0272	-.0075	2464.	
.1470	-226.	161.	70.	428.	363.	-478.	.0233	.0514	.0111	.0412	-.0356	.0069	3075.	
.1480	-331.	222.	52.	537.	489.	-508.	.0190	.0546	.0135	.0443	-.0443	.0182	3699.	
.1490	-434.	254.	59.	611.	630.	-517.	.0144	.0565	.0160	.0445	-.0512	.0254	4251.	
.1500	-491.	279.	88.	683.	729.	-493.	.0106	.0574	.0184	.0414	-.0549	.0304	4648.	
.1510	-521.	274.	133.	719.	792.	-440.	.0077	.0576	.0205	.0377	-.0562	.0354	4880.	
.1520	-546.	240.	178.	778.	836.	-369.	.0053	.0572	.0223	.0350	-.0558	.0411	5007.	
.1530	-538.	206.	225.	804.	847.	-299.	.0033	.0556	.0239	.0308	-.0532	.0438	5030.	
.1540	-472.	205.	266.	838.	806.	-246.	.0014	.0527	.0249	.0233	-.0479	.0408	4959.	
.1550	-382.	226.	285.	872.	732.	-217.	-.0006	.0476	.0255	.0148	-.0409	.0334	4836.	
.1560	-288.	247.	277.	898.	631.	-208.	-.0027	.0421	.0254	.0081	-.0328	.0249	4663.	
.1570	-157.	295.	237.	954.	464.	-204.	-.0042	.0359	.0244	.0018	-.0223	.0166	4508.	
.1580	10.	353.	201.	997.	265.	-197.	-.0055	.0285	.0228	-.0067	-.0093	.0055	4384.	
.1590	151.	365.	187.	962.	110.	-182.	-.0072	.0197	.0212	-.0163	.0045	-.0092	4113.	
.1600	249.	323.	178.	861.	-4.	-143.	-.0092	.0102	.0196	-.0252	.0185	-.0240	3641.	
.1610	361.	263.	165.	738.	-145.	-73.	-.0111	.0002	.0178	-.0346	.0333	-.0377	3152.	
.1620	503.	193.	162.	588.	-318.	18.	-.0126	-.0102	.0157	-.0453	.0484	-.0517	2791.	
.1630	614.	99.	156.	394.	-462.	118.	-.0146	-.0207	.0135	-.0544	.0617	-.0648	2580.	
.1640	658.	-27.	140.	143.	-542.	215.	-.0171	-.0310	.0111	-.0602	.0716	-.0765	2504.	
.1650	683.	-150.	114.	-121.	-607.	305.	-.0199	-.0408	.0084	-.0640	.0790	-.0867	2881.	
.1660	716.	-239.	64.	-353.	-698.	396.	-.0223	-.0495	.0052	-.0666	.0847	-.0937	3659.	
.1670	710.	-330.	1.	-590.	-756.	484.	-.0250	-.0571	.0019	-.0670	.0876	-.0982	4482.	
.1680	635.	-441.	-67.	-859.	-736.	566.	-.0284	-.0636	-.0011	-.0656	.0868	-.1016	5277.	
.1690	524.	-555.	-129.	-1140.	-666.	642.	-.0320	-.0688	-.0036	-.0637	.0831	-.1043	6128.	
.1700	418.	-647.	-195.	-1385.	-599.	716.	-.0351	-.0721	-.0059	-.0611	.0774	-.1035	6971.	
.1710	301.	-715.	-274.	-1580.	-533.	780.	-.0376	-.0730	-.0081	-.0563	.0694	-.0977	7681.	
.1720	152.	-781.	-348.	-1755.	-428.	820.	-.0400	-.0717	-.0101	-.0489	.0586	-.0890	8279.	
.1730	-11.	-817.	-422.	-1875.	-305.	833.	-.0421	-.0683	-.0120	-.0404	.0461	-.0781	8656.	
.1740	-162.	-806.	-493.	-1915.	-189.	818.	-.0439	-.0630	-.0138	-.0322	.0334	-.0658	8725.	
.1750	-307.	-763.	-552.	-1887.	-70.	773.	-.0453	-.0558	-.0156	-.0240	.0205	-.0527	8517.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.33.

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

.1645	658.	-27.	148.	143.	-542.	215.	-.1171	-.0310	.0111	-.0602	.0716	-.0765	2504.
.1650	683.	-150.	114.	-121.	-607.	305.	-.0199	-.0408	.0084	-.0640	.0790	-.0867	2881.
.1660	716.	-239.	64.	-353.	-698.	396.	-.0223	-.0495	.0052	-.0666	.0847	-.0937	3659.
.1670	710.	-330.	1.	-590.	-756.	484.	-.0250	-.0571	.0019	-.0670	.0876	-.0982	4482.
.1680	635.	-441.	-67.	-859.	-756.	566.	-.0284	-.0636	-.0011	-.0656	.0868	-.1016	5277.
.1690	524.	-555.	-129.	-1140.	-666.	642.	-.0320	-.0688	-.0036	-.0637	.0831	-.1043	6128.
.1700	418.	-647.	-195.	-1385.	-599.	716.	-.0351	-.0721	-.0059	-.0611	.0774	-.1035	6971.
.1710	301.	-715.	-274.	-1580.	-532.	780.	-.0376	-.0730	-.0081	-.0563	.0694	-.0977	7681.
.1720	152.	-781.	-348.	-1755.	-428.	820.	-.0400	-.0717	-.0101	-.0489	.0586	-.0890	8279.
.1730	-11.	-817.	-422.	-1875.	-305.	833.	-.0421	-.0683	-.0120	-.0404	.0461	-.0781	8656.
.1740	-162.	-806.	-493.	-1915.	-189.	818.	-.0439	-.0630	-.0138	-.0322	.0334	-.0658	8725.
.1750	-307.	-763.	-552.	-1887.	-70.	773.	-.0453	-.0558	-.0156	-.0240	.0205	-.0527	8517.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.35.

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	61	MEMBER	2	SEQUENCE	830	LOCATION	END	TYPE	TE					
TIME	FX	FY	FZ	MX	MY	MZ								STRESS
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)		(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
.1760	-457.	-699.	-601.	-1795.	54.	701.	-.0463	-.0467	-.0172	-.0148	.0076	-.0374	8047.	
.1770	-588.	-620.	-625.	-1643.	167.	607.	-.0466	-.0360	-.0186	-.0047	-.0048	-.0201	7343.	
.1780	-669.	-514.	-621.	-1422.	242.	495.	-.0459	-.0239	-.0199	.0046	-.0155	-.0015	6363.	
.1790	-706.	-398.	-580.	-1157.	292.	365.	-.0445	-.0110	-.0208	.0129	-.0245	.0167	5208.	
.1800	-714.	-282.	-511.	-859.	326.	220.	-.0427	.0022	-.0213	.0208	-.0319	.0342	3941.	
.1810	-675.	-146.	-428.	-504.	319.	65.	-.0404	.0154	-.0215	.0276	-.0364	.0510	2503.	
.1820	-575.	12.	-317.	-111.	271.	-103.	-.0378	.0277	-.0216	.0318	-.0375	.0643	1297.	
.1830	-436.	181.	-184.	301.	206.	-279.	-.0351	.0388	-.0218	.0344	-.0354	.0741	1917.	
.1840	-287.	343.	-40.	714.	144.	-456.	-.0326	.0485	-.0220	.0369	-.0306	.0815	3586.	
.1850	-119.	498.	114.	1119.	74.	-621.	-.0301	.0564	-.0223	.0386	-.0228	.0862	5348.	
.1860	83.	647.	279.	1503.	-15.	-762.	-.0277	.0619	-.0225	.0381	-.0119	.0873	7033.	
.1870	298.	761.	462.	1820.	-93.	-873.	-.0258	.0645	-.0226	.0356	.0008	.0837	8434.	
.1880	498.	828.	647.	2052.	-147.	-946.	-.0246	.0643	-.0221	.0323	.0141	.0768	9452.	
.1890	696.	853.	828.	2198.	-194.	-976.	-.0239	.0613	-.0214	.0280	.0274	.0670	10071.	
.1900	907.	847.	999.	2263.	-252.	-962.	-.0237	.0554	-.0206	.0228	.0405	.0549	10317.	
.1910	1097.	809.	1146.	2245.	-306.	-904.	-.0240	.0471	-.0197	.0174	.0525	.0416	10181.	
.1920	1228.	721.	1270.	2119.	-318.	-806.	-.0251	.0364	-.0188	.0126	.0623	.0272	9555.	
.1930	1307.	591.	1363.	1896.	-291.	-668.	-.0272	.0237	-.0180	.0080	.0700	.0118	8479.	
.1940	1341.	437.	1418.	1603.	-250.	-487.	-.0298	.0095	-.0172	.0025	.0761	-.0034	7071.	
.1950	1322.	255.	1432.	1241.	-186.	-268.	-.0330	-.0058	-.0164	-.0039	.0803	-.0180	5356.	
.1960	1229.	40.	1407.	802.	-80.	-22.	-.0368	-.0217	-.0154	-.0107	.0816	-.0319	3363.	
.1970	1075.	-193.	1337.	307.	53.	236.	-.0411	-.0376	-.0141	-.0179	.0800	-.0443	1631.	
.1980	892.	-415.	1212.	-200.	169.	494.	-.0453	-.0526	-.0126	-.0254	.0756	-.0540	2334.	
.1990	690.	-606.	1027.	-689.	255.	734.	-.0494	-.0663	-.0110	-.0331	.0686	-.0606	4334.	
.2000	458.	-761.	783.	-1149.	323.	939.	-.0533	-.0781	-.0093	-.0404	.0589	-.0644	6336.	
.2010	195.	-874.	489.	-1563.	384.	1097.	-.0572	-.0878	-.0076	-.0472	.0469	-.0657	8130.	
.2020	-84.	-937.	160.	-1910.	433.	1207.	-.0608	-.0949	-.0060	-.0538	.0338	-.0643	9603.	
.2030	-367.	-952.	-185.	-2177.	468.	1272.	-.0636	-.0993	-.0047	-.0600	.0205	-.0594	10701.	
.2040	-662.	-933.	-532.	-2360.	498.	1298.	-.0657	-.1005	-.0034	-.0651	.0075	-.0506	11432.	
.2050	-954.	-890.	-860.	-2465.	530.	1289.	-.0670	-.0988	-.0020	-.0693	-.0048	-.0387	11819.	
.2060	-1220.	-825.	-1148.	-2493.	557.	1247.	-.0674	-.0944	-.0004	-.0736	-.0160	-.0253	11863.	
.2070	-1448.	-735.	-1386.	-2439.	569.	1172.	-.0669	-.0876	.0016	-.0777	-.0259	-.0110	11540.	
.2080	-1607.	-619.	-1575.	-2297.	554.	1062.	-.0654	-.0786	.0037	-.0802	-.0349	.0044	10811.	
.2090	-1697.	-472.	-1712.	-2061.	503.	916.	-.0629	-.0675	.0059	-.0802	-.0427	.0210	9643.	
.2100	-1769.	-291.	-1790.	-1734.	415.	735.	-.0596	-.0549	.0081	-.0782	-.0489	.0372	8049.	
.2110	-1645.	-83.	-1801.	-1334.	309.	525.	-.0556	-.0416	.0101	-.0744	-.0531	.0517	6118.	
.2120	-1527.	132.	-1741.	-884.	211.	296.	-.0513	-.0279	.0120	-.0686	-.0552	.0637	3990.	
.2130	-1361.	329.	-1606.	-408.	130.	67.	-.0467	-.0144	.0138	-.0608	-.0547	.0735	1808.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.35.

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

.2030	-369.	-952.	-185.	-2177.	468.	1272.	-.0636	-.0993	-.0047	-.0600	.0205	-.0594	10701.
.2040	-662.	-933.	-532.	-2360.	498.	1298.	-.0657	-.1005	-.0034	-.0651	.0075	-.0506	11432.
.2050	-954.	-890.	-860.	-2465.	530.	1289.	-.0670	-.0988	-.0020	-.0693	-.0048	-.0387	11819.
.2060	-1220.	-825.	-1148.	-2493.	557.	1247.	-.0674	-.0944	-.0004	-.0736	-.0160	-.0253	11863.
.2070	-1440.	-775.	-1386.	-2479.	569.	1172.	-.0669	-.0876	.0016	-.0777	-.0259	-.0110	11540.
.2080	-1603.	-619.	-1575.	-2297.	554.	1062.	-.0654	-.0786	.0037	-.0802	-.0349	.0044	10811.
.2090	-1697.	-472.	-1712.	-2061.	503.	916.	-.0629	-.0675	.0059	-.0802	-.0427	.0210	9643.
.2100	-1709.	-291.	-1790.	-1734.	415.	735.	-.0596	-.0549	.0081	-.0782	-.0489	.0372	8049.
.2110	-1645.	-83.	-1801.	-1334.	309.	525.	-.0556	-.0416	.0101	-.0744	-.0531	.0517	6118.
.2120	-1527.	132.	-1741.	-884.	211.	296.	-.0513	-.0279	.0120	-.0686	-.0552	.0637	3990.
.2130	-1361.	339.	-1606.	-408.	130.	67.	-.0467	-.0144	.0138	-.0608	-.0547	.0735	1808.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.33.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	61	MEMBER	2	SEQUENCE	830	LOCATION	END	TYPE	TE						
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)		
.2140	-1147.	525.	-1394.	78.	68.	-147.	-.0417	-.0014	.0155	-.0515	-.0511	.0814	752.		
.2150	-895.	677.	-1105.	546.	33.	-334.	-.0364	.0105	.0170	-.0409	-.0445	.0872	2676.		
.2160	-625.	778.	-747.	966.	42.	-488.	-.0310	.0211	.0186	-.0292	-.0557	.0909	4520.		
.2170	-346.	828.	-336.	1323.	91.	-609.	-.0257	.0299	.0201	-.0165	-.0253	.0921	6090.		
.2180	-51.	845.	100.	1625.	152.	-699.	-.0205	.0369	.0214	-.0033	-.0135	.0911	7410.		
.2190	254.	840.	538.	1874.	213.	-764.	-.0155	.0419	.0225	.0100	-.0012	.0880	8492.		
.2200	545.	814.	957.	2058.	280.	-810.	-.0111	.0448	.0232	.0234	.0107	.0828	9303.		
.2210	807.	766.	1340.	2166.	359.	-840.	-.0072	.0457	.0234	.0370	.0214	.0760	9812.		
.2220	1023.	701.	1673.	2204.	438.	-849.	-.0037	.0447	.0232	.0500	.0307	.0685	10026.		
.2230	1201.	620.	1943.	2174.	506.	-831.	-.0006	.0423	.0226	.0616	.0384	.0611	9939.		
.2240	1321.	517.	2144.	2067.	569.	-781.	.0022	.0384	.0217	.0711	.0442	.0539	9524.		
.2250	1369.	385.	2271.	1877.	639.	-699.	.0044	.0332	.0208	.0778	.0475	.0467	8776.		
.2260	1348.	236.	2317.	1615.	706.	-590.	.0063	.0270	.0199	.0809	.0482	.0395	7756.		
.2270	1269.	85.	2274.	1303.	751.	-461.	.0079	.0202	.0190	.0808	.0461	.0330	6566.		
.2280	1137.	-53.	2133.	968.	761.	-323.	.0094	.0134	.0178	.0781	.0410	.0281	5312.		
.2290	953.	-166.	1891.	626.	736.	-187.	.0109	.0066	.0165	.0732	.0329	.0246	4108.		
.2300	727.	-247.	1599.	291.	681.	-61.	.0121	.0002	.0149	.0659	.0222	.0218	3100.		
.2310	458.	-292.	1150.	-28.	599.	51.	.0132	-.0058	.0131	.0560	.0096	.0191	2511.		
.2320	165.	-307.	683.	-320.	495.	152.	.0142	-.0112	.0113	.0437	-.0043	.0166	2540.		
.2330	-144.	-301.	180.	-582.	373.	248.	.0153	-.0158	.0095	.0297	-.0186	.0148	3066.		
.2340	-455.	-282.	-332.	-814.	239.	339.	.0166	-.0196	.0077	.0143	-.0324	.0137	3812.		
.2350	-754.	-256.	-828.	-1013.	100.	427.	.0182	-.0225	.0062	-.0021	-.0451	.0129	4609.		
.2360	-1030.	-229.	-1289.	-1180.	-37.	508.	.0200	-.0245	.0048	-.0188	-.0561	.0122	5363.		
.2370	-1270.	-200.	-1699.	-1306.	-171.	577.	.0221	-.0258	.0036	-.0349	-.0648	.0113	6002.		
.2380	-1460.	-163.	-2045.	-1382.	-307.	627.	.0244	-.0263	.0024	-.0496	-.0708	.0101	6461.		
.2390	-1584.	-114.	-2319.	-1401.	-447.	652.	.0268	-.0262	.0011	-.0623	-.0736	.0082	6711.		
.2400	-1642.	-57.	-2510.	-1367.	-581.	649.	.0293	-.0256	-.0001	-.0726	-.0731	.0052	6765.		
.2410	-1634.	3.	-2608.	-1291.	-701.	617.	.0317	-.0246	-.0014	-.0800	-.0695	.0008	6650.		
.2420	-1555.	59.	-2610.	-1178.	-808.	560.	.0341	-.0234	-.0025	-.0841	-.0627	-.0046	6404.		
.2430	-1402.	108.	-2515.	-1031.	-907.	487.	.0364	-.0219	-.0036	-.0852	-.0527	-.0108	6081.		
.2440	-1182.	144.	-2325.	-864.	-990.	403.	.0387	-.0204	-.0043	-.0834	-.0399	-.0177	5734.		
.2450	-911.	161.	-2046.	-689.	-1045.	310.	.0406	-.0189	-.0048	-.0790	-.0248	-.0256	5380.		
.2460	-603.	161.	-1692.	-512.	-1067.	212.	.0422	-.0174	-.0050	-.0722	-.0082	-.0344	5018.		
.2470	-268.	149.	-1280.	-333.	-1060.	111.	.0433	-.0161	-.0050	-.0633	.0094	-.0435	4659.		
.2480	77.	130.	-830.	-153.	-1024.	8.	.0440	-.0147	-.0049	-.0522	.0271	-.0523	4320.		
.2490	414.	105.	-363.	24.	-959.	-95.	.0443	-.0131	-.0047	-.0390	.0440	-.0600	4023.		
.2500	729.	77.	101.	192.	-865.	-194.	.0439	-.0113	-.0045	-.0247	.0593	-.0668	3787.		
.2510	1000.	49.	547.	342.	-743.	-286.	.0429	-.0095	-.0040	-.0103	.0721	-.0726	3617.		

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.33.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

.2400	-1647.	-57.	-110.	-1367.	-581.	649.	.273	-.0256	-.0001	-.0726	-.0731	.0052	6765.
.2410	-1634.	3.	-2608.	-1201.	-701.	617.	.317	-.0246	-.0014	-.0800	-.0695	.0008	6650.
.2420	-1555.	59.	-2610.	-1178.	-808.	560.	.341	-.0234	-.0025	-.0841	-.0627	-.0046	6404.
.2430	-1402.	108.	-2515.	-1031.	-907.	487.	.364	-.0219	-.0036	-.0852	-.0527	-.0108	6081.
.2440	-1182.	144.	-2325.	-864.	-990.	403.	.387	-.0204	-.0045	-.0834	-.0399	-.0177	5734.
.2450	-911.	161.	-2046.	-689.	-1045.	310.	.406	-.0189	-.0048	-.0790	-.0248	-.0256	5380.
.2460	-603.	161.	-1692.	-512.	-1067.	212.	.422	-.0174	-.0050	-.0722	-.0082	-.0344	5018.
.2470	-269.	149.	-1280.	-333.	-1060.	111.	.433	-.0161	-.0050	-.0633	.0094	-.0435	4659.
.2480	77.	130.	-830.	-153.	-1024.	8.	.440	-.0147	-.0049	-.0522	.0271	-.0523	4320.
.2490	414.	105.	-363.	24.	-959.	-95.	.443	-.0131	-.0047	-.0390	.0440	-.0600	4023.
.2500	729.	77.	101.	102.	-865.	-194.	.439	-.0113	-.0045	-.0247	.0593	-.0668	3787.
.2510	1008.	49.	547.	342.	-743.	-286.	.429	-.0095	-.0040	-.0103	.0721	-.0726	3617.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.33.

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	61	MEMBER	2	SEQUENCE	830	LOCATION	END	TYPE	TE					
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)	
.2520	1237.	16.	959.	468.	-592.	-366.	.0414	-.0074	-.0033	.0039	.0816	-.0772	3499.	
.2530	1408.	-21.	1321.	561.	-422.	-431.	.0395	-.0050	-.0024	.0176	.0872	-.0794	3439.	
.2540	1517.	-59.	1618.	631.	-245.	-478.	.0373	-.0019	-.0012	.0304	.0885	-.0786	3459.	
.2550	1562.	-90.	1839.	680.	-67.	-507.	.0350	.0017	.0001	.0419	.0855	-.0748	3552.	
.2560	1534.	-114.	1977.	707.	113.	-522.	.0325	.0058	.0016	.0513	.0782	-.0687	3697.	
.2570	1430.	-125.	2026.	713.	295.	-526.	.0298	.0103	.0031	.0584	.0667	-.0609	3899.	
.2580	1255.	-120.	1984.	707.	471.	-523.	.0270	.0153	.0045	.0630	.0517	-.0514	4163.	
.2590	1024.	-95.	1854.	698.	626.	-513.	.0243	.0207	.0057	.0655	.0337	-.0399	4459.	
.2600	749.	-50.	1642.	690.	750.	-497.	.0220	.0265	.0066	.0659	.0136	-.0268	4733.	
.2610	439.	9.	1364.	679.	847.	-477.	.0200	.0324	.0074	.0640	-.0080	-.0128	4946.	
.2620	107.	74.	1036.	657.	918.	-453.	.0184	.0381	.0080	.0599	-.0303	.0009	5074.	
.2630	-227.	143.	675.	627.	956.	-425.	.0173	.0435	.0084	.0538	-.0521	.0140	5089.	
.2640	-547.	216.	294.	598.	951.	-394.	.0170	.0485	.0085	.0464	-.0725	.0263	4968.	
.2650	-828.	288.	-90.	570.	906.	-361.	.0173	.0528	.0083	.0382	-.0906	.0374	4714.	
.2660	-1077.	355.	-456.	539.	831.	-330.	.0183	.0561	.0076	.0298	-.1056	.0464	4357.	
.2670	-1280.	412.	-788.	502.	734.	-302.	.0199	.0584	.0064	.0217	-.1170	.0526	3921.	
.2680	-1426.	456.	-1073.	460.	616.	-277.	.0221	.0594	.0048	.0146	-.1242	.0560	3412.	
.2690	-1505.	484.	-1299.	417.	475.	-250.	.0249	.0592	.0026	.0087	-.1268	.0567	2836.	
.2700	-1517.	491.	-1458.	366.	315.	-220.	.0284	.0575	-.0000	.0044	-.1247	.0545	2216.	
.2710	-1451.	471.	-1537.	299.	149.	-186.	.0322	.0544	-.0028	.0016	-.1183	.0489	1595.	
.2720	-1323.	418.	-1534.	209.	-15.	-145.	.0364	.0500	-.0058	.0006	-.1078	.0403	1064.	
.2730	-1132.	335.	-1454.	103.	-179.	-96.	.0410	.0443	-.0089	.0017	-.0938	.0293	952.	
.2740	-881.	231.	-1307.	-9.	-349.	-40.	.0458	.0378	-.0121	.0047	-.0767	.0168	1467.	
.2750	-585.	112.	-1104.	-125.	-514.	20.	.0506	.0305	-.0153	.0094	-.0572	.0027	2208.	
.2760	-267.	-21.	-852.	-251.	-656.	80.	.0552	.0225	-.0185	.0153	-.0362	-.0133	2948.	
.2770	62.	-164.	-566.	-384.	-770.	138.	.0593	.0143	-.0214	.0224	-.0148	-.0302	3636.	
.2780	390.	-306.	-268.	-508.	-870.	195.	.0632	.0063	-.0243	.0306	.0064	-.0465	4284.	
.2790	710.	-438.	26.	-613.	-964.	252.	.0667	-.0011	-.0269	.0392	.0267	-.0611	4883.	
.2800	1005.	-561.	306.	-708.	-1039.	306.	.0696	-.0077	-.0291	.0474	.0452	-.0742	5402.	
.2810	1254.	-676.	562.	-801.	-1083.	354.	.0717	-.0134	-.0306	.0546	.0608	-.0860	5813.	
.2820	1450.	-775.	777.	-882.	-1104.	396.	.0730	-.0178	-.0315	.0606	.0731	-.0954	6123.	
.2830	1596.	-846.	934.	-932.	-1122.	429.	.0737	-.0206	-.0318	.0652	.0818	-.1012	6345.	
.2840	1690.	-890.	1025.	-946.	-1141.	448.	.0735	-.0218	-.0315	.0682	.0867	-.1033	6463.	
.2850	1718.	-880.	1049.	-934.	-1145.	448.	.0724	-.0212	-.0306	.0694	.0872	-.1024	6445.	
.2860	1672.	-848.	1005.	-902.	-1126.	425.	.0703	-.0191	-.0291	.0690	.0831	-.0986	6275.	
.2870	1564.	-780.	893.	-838.	-1098.	380.	.0672	-.0153	-.0271	.0673	.0750	-.0914	5979.	
.2880	1409.	-675.	717.	-738.	-1075.	319.	.0634	-.0100	-.0247	.0643	.0635	-.0803	5601.	
.2890	1209.	-544.	492.	-615.	-1044.	246.	.0589	-.0034	-.0218	.0601	.0491	-.0662	5158.	

ADLPIPE PAGE 2426

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.34.

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

.2790	710.	-430.	26.	-613.	-964.	252.	.667	-.0011	-.0269	.0392	.0267	-.0611	4883.
.2800	1005.	-561.	306.	-708.	-1039.	306.	.696	-.0077	-.0291	.0474	.0452	-.0742	5402.
.2810	1254.	-676.	562.	-801.	-1083.	354.	.717	-.0134	-.0306	.0546	.0608	-.0860	5813.
.2820	1450.	-775.	777.	-892.	-1104.	396.	.730	-.0178	-.0315	.0606	.0731	-.0954	6123.
.2830	1596.	-846.	934.	-932.	-1122.	429.	.737	-.0206	-.0318	.0652	.0818	-.1012	6345.
.2840	1690.	-890.	1025.	-946.	-1141.	448.	.735	-.0218	-.0315	.0682	.0867	-.1033	6463.
.2850	1718.	-880.	1049.	-934.	-1145.	448.	.724	-.0212	-.0306	.0694	.0872	-.1024	6445.
.2860	1672.	-848.	1005.	-902.	-1126.	425.	.703	-.0191	-.0291	.0690	.0831	-.0986	6275.
.2870	1564.	-780.	893.	-818.	-1098.	380.	.672	-.0153	-.0271	.0673	.0750	-.0914	5979.
.2880	1409.	-675.	717.	-738.	-1075.	319.	.634	-.0100	-.0247	.0643	.0635	-.0803	5601.
.2890	1209.	-544.	492.	-615.	-1044.	246.	.589	-.0034	-.0218	.0601	.0491	-.0662	5158.

ADLPIPE PAGE 2426

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.34.

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	MEMBER	SEQUENCE	LOCATION	END	TYPE	TE								
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)	
.2900	957.	-406.	239.	-491.	-981.	163.	.0536	.0041	-.0185	.0549	.0319	-.0502	4630.	
.2910	666.	-267.	-28.	-372.	-886.	77.	.0476	.0121	-.0146	.0491	.0130	-.0326	4025.	
.2920	358.	-129.	-296.	-250.	-774.	-7.	.0412	.0205	-.0104	.0429	-.0067	-.0136	3395.	
.2930	48.	7.	-553.	-124.	-648.	-85.	.0345	.0290	-.0061	.0369	-.0262	.0064	2777.	
.2940	-261.	131.	-785.	-4.	-497.	-157.	.0274	.0371	-.0017	.0314	-.0452	.0261	2175.	
.2950	-561.	240.	-976.	102.	-315.	-225.	.0200	.0444	.0028	.0267	-.0631	.0441	1669.	
.2960	-830.	333.	-1117.	198.	-114.	-286.	.0125	.0507	.0072	.0228	-.0791	.0596	1527.	
.2970	-1052.	413.	-1204.	291.	89.	-337.	.0050	.0558	.0114	.0200	-.0926	.0729	1897.	
.2980	-1221.	474.	-1231.	380.	290.	-375.	-.0072	.0596	.0154	.0187	-.1033	.0838	2537.	
.2990	-1334.	509.	-1191.	456.	492.	-398.	-.0090	.0619	.0192	.0186	-.1107	.0915	3257.	
.3000	-1389.	516.	-1080.	513.	697.	-404.	-.0155	.0625	.0227	.0190	-.1146	.0952	3988.	
.3010	-1387.	494.	-899.	550.	901.	-394.	-.0215	.0615	.0260	.0198	-.1149	.0950	4702.	
.3020	-1330.	446.	-661.	575.	1091.	-367.	-.0268	.0592	.0288	.0212	-.1115	.0917	5370.	
.3030	-1219.	379.	-378.	595.	1257.	-327.	-.0313	.0556	.0311	.0231	-.1044	.0859	5961.	
.3040	-1061.	301.	-62.	612.	1395.	-280.	-.0351	.0508	.0329	.0248	-.0941	.0773	6465.	
.3050	-868.	216.	275.	620.	1511.	-232.	-.0381	.0451	.0341	.0259	-.0811	.0657	6884.	
.3060	-651.	128.	613.	624.	1596.	-189.	-.0405	.0386	.0347	.0264	-.0660	.0520	7196.	
.3070	-414.	48.	933.	633.	1635.	-152.	-.0420	.0318	.0347	.0262	-.0492	.0373	7345.	
.3080	-160.	-18.	1219.	653.	1619.	-120.	-.0426	.0249	.0341	.0248	-.0313	.0223	7300.	
.3090	93.	-70.	1462.	672.	1558.	-97.	-.0425	.0180	.0330	.0216	-.0129	.0068	7094.	
.3100	323.	-114.	1655.	678.	1472.	-83.	-.0420	.0112	.0315	.0165	.0050	-.0091	6773.	
.3110	520.	-148.	1786.	673.	1358.	-77.	-.0409	.0047	.0296	.0099	.0218	-.0242	6333.	
.3120	688.	-164.	1844.	668.	1203.	-77.	-.0392	-.0011	.0273	.0018	.0372	-.0376	5753.	
.3130	821.	-160.	1826.	662.	1013.	-83.	-.0371	-.0063	.0245	-.0075	.0508	-.0489	5063.	
.3140	902.	-142.	1736.	641.	809.	-95.	-.0349	-.0107	.0214	-.0180	.0616	-.0586	4326.	
.3150	926.	-116.	1577.	596.	606.	-113.	-.0326	-.0146	.0181	-.0293	.0692	-.0668	3578.	
.3160	902.	-79.	1354.	534.	396.	-133.	-.0303	-.0178	.0147	-.0409	.0735	-.0730	2831.	
.3170	839.	-33.	1075.	462.	175.	-149.	-.0279	-.0203	.0111	-.0523	.0745	-.0764	2153.	
.3180	738.	16.	753.	372.	-43.	-160.	-.0255	-.0220	.0074	-.0631	.0724	-.0772	1698.	
.3190	596.	56.	405.	255.	-239.	-162.	-.0233	-.0233	.0039	-.0730	.0671	-.0762	1608.	
.3200	420.	86.	48.	111.	-404.	-157.	-.0215	-.0242	.0066	-.0820	.0590	-.0739	1866.	
.3210	226.	107.	-305.	-49.	-541.	-141.	-.0198	-.0248	-.0026	-.0896	.0490	-.0703	2344.	
.3220	27.	119.	-643.	-214.	-654.	-116.	-.0183	-.0249	-.0055	-.0953	.0376	-.0649	2914.	
.3230	-181.	121.	-954.	-380.	-738.	-83.	-.0170	-.0248	-.0085	-.0987	.0254	-.0580	3481.	
.3240	-377.	114.	-1223.	-543.	-786.	-48.	-.0160	-.0244	-.0109	-.1001	.0131	-.0508	3990.	
.3250	-557.	98.	-1437.	-698.	-796.	-13.	-.0153	-.0239	-.0131	-.0997	.0013	-.0438	4420.	
.3260	-709.	75.	-1591.	-837.	-776.	20.	-.0148	-.0233	-.0151	-.0972	-.0093	-.0367	4763.	
.3270	-825.	47.	-1683.	-946.	-736.	50.	-.0143	-.0223	-.0167	-.0925	-.0181	-.0292	5006.	

ADLPIPE PAGE 2427

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.34.

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

.3170	830.	-23.	1075.	462.	175.	-149.	-.0279	-.0203	.0111	-.0523	.0745	-.0764	2153.
.3180	730.	16.	753.	372.	-47.	-160.	-.0255	-.0220	.0074	-.0631	.0724	-.0772	1698.
.3190	596.	56.	405.	255.	-239.	-162.	-.0233	-.0233	.0039	-.0730	.0671	-.0762	1608.
.3200	420.	06.	40.	111.	-404.	-157.	-.0215	-.0242	.0006	-.0820	.0590	-.0739	1866.
.3210	326.	107.	-705.	-49.	-541.	-141.	-.0198	-.0248	-.0026	-.0896	.0490	-.0703	2344.
.3220	27.	119.	-643.	-214.	-654.	-116.	-.0183	-.0249	-.0055	-.0953	.0376	-.0649	2914.
.3230	-181.	121.	-954.	-390.	-730.	-83.	-.0170	-.0248	-.0085	-.0987	.0254	-.0580	3481.
.3240	-377.	114.	-1223.	-543.	-786.	-48.	-.0160	-.0244	-.0109	-.1001	.0131	-.0508	3990.
.3250	-557.	98.	-1437.	-698.	-796.	-13.	-.0153	-.0239	-.0131	-.0997	.0013	-.0438	4420.
.3260	-700.	75.	-1591.	-837.	-776.	20.	-.0148	-.0233	-.0151	-.0972	-.0093	-.0367	4763.
.3270	-825.	47.	-1683.	-946.	-736.	50.	-.0143	-.0223	-.0167	-.0925	-.0181	-.0292	5006.

ADLPIPE PAGE 2427

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.34.

S/RV PIPING KEWAUNEE CKW02F 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	61	MEMBER	2	SEQUENCE	830	LOCATION	END	TYPE	TE					
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)
.3280	-896.	19.	-1708.	-1019.	-683.	75.		-.0138	-.0212	-.0180	-.0860	-.0247	-.0218	5127.
.3290	-721.	-11.	-1662.	-1057.	-612.	90.		-.0133	-.0199	-.0190	-.0783	-.0287	-.0150	5112.
.3300	-907.	-42.	-1548.	-1062.	-524.	93.		-.0129	-.0185	-.0196	-.0696	-.0302	-.0092	4958.
.3310	-841.	-69.	-1375.	-1025.	-429.	84.		-.0125	-.0169	-.0198	-.0598	-.0290	-.0039	4652.
.3320	-730.	-85.	-1153.	-937.	-344.	63.		-.0119	-.0151	-.0199	-.0494	-.0252	.0012	4174.
.3330	-574.	-86.	-892.	-800.	-274.	29.		-.0113	-.0131	-.0197	-.0388	-.0190	.0058	3529.
.3340	-387.	-78.	-598.	-627.	-207.	-16.		-.0106	-.0110	-.0192	-.0284	-.0108	.0095	2757.
.3350	-182.	-64.	-283.	-430.	-141.	-72.		-.0100	-.0090	-.0185	-.0184	-.0014	.0124	1912.
.3360	39.	-42.	39.	-209.	-88.	-131.		-.0095	-.0069	-.0176	-.0091	.0090	.0151	1094.
.3370	271.	-8.	354.	32.	-57.	-190.		-.0088	-.0049	-.0165	-.0006	.0199	.0180	838.
.3380	500.	30.	652.	277.	-37.	-244.		-.0081	-.0031	-.0153	.0069	.0306	.0211	1549.
.3390	705.	67.	924.	506.	-17.	-292.		-.0076	-.0015	-.0139	.0132	.0403	.0238	2440.
.3400	881.	101.	1159.	712.	6.	-330.		-.0073	-.0005	-.0124	.0182	.0486	.0264	3274.
.3410	1024.	137.	1346.	892.	21.	-354.		-.0072	.0001	-.0109	.0220	.0552	.0293	4006.
.3420	1130.	172.	1477.	1041.	29.	-361.		-.0073	.0003	-.0095	.0247	.0597	.0330	4601.
.3430	1187.	199.	1550.	1146.	39.	-351.		-.0076	-.0002	-.0082	.0264	.0618	.0371	5003.
.3440	1180.	215.	1565.	1196.	58.	-320.		-.0082	-.0013	-.0069	.0270	.0612	.0414	5172.
.3450	1141.	220.	1523.	1189.	84.	-269.		-.0091	-.0032	-.0058	.0265	.0582	.0457	5101.
.3460	1045.	211.	1426.	1128.	113.	-196.		-.0101	-.0057	-.0049	.0249	.0529	.0504	4801.
.3470	906.	188.	1278.	1014.	142.	-102.		-.0113	-.0089	-.0041	.0228	.0454	.0556	4294.
.3480	727.	150.	1085.	849.	171.	10.		-.0125	-.0126	-.0036	.0200	.0361	.0612	3616.
.3490	519.	101.	856.	639.	202.	134.		-.0138	-.0169	-.0032	.0167	.0254	.0664	2852.
.3500	290.	43.	600.	392.	231.	264.		-.0151	-.0216	-.0031	.0129	.0137	.0712	2195.
.3510	40.	-22.	324.	121.	253.	396.		-.0163	-.0265	-.0033	.0091	.0015	.0758	2024.
.3520	-191.	-87.	36.	-161.	261.	525.		-.0173	-.0315	-.0038	.0056	-.0106	.0803	2538.
.3530	-410.	-151.	-251.	-443.	255.	646.		-.0179	-.0364	-.0046	.0023	-.0220	.0843	3438.
.3540	-630.	-214.	-524.	-720.	240.	754.		-.0182	-.0412	-.0056	-.0007	-.0322	.0874	4465.
.3550	-818.	-275.	-773.	-983.	220.	847.		-.0182	-.0457	-.0067	-.0033	-.0410	.0895	5493.
.3560	-972.	-332.	-990.	-1220.	190.	923.		-.0176	-.0497	-.0081	-.0053	-.0477	.0908	6433.
.3570	-1083.	-380.	-1167.	-1418.	143.	980.		-.0164	-.0530	-.0097	-.0066	-.0520	.0916	7218.
.3580	-1148.	-418.	-1300.	-1571.	83.	1016.		-.0146	-.0555	-.0113	-.0072	-.0539	.0914	7817.
.3590	-1169.	-447.	-1382.	-1680.	20.	1029.		-.0123	-.0573	-.0130	-.0073	-.0535	.0900	8221.
.3600	-1146.	-464.	-1412.	-1739.	-47.	1017.		-.0096	-.0583	-.0146	-.0065	-.0508	.0873	8411.
.3610	-1075.	-466.	-1393.	-1742.	-122.	983.		-.0064	-.0584	-.0163	-.0049	-.0459	.0839	8363.
.3620	-956.	-451.	-1326.	-1686.	-209.	929.		-.0026	-.0574	-.0180	-.0025	-.0392	.0800	8079.
.3630	-790.	-424.	-1214.	-1579.	-297.	856.		.0014	-.0556	-.0195	.0006	-.0309	.0756	7596.
.3640	-619.	-389.	-1060.	-1471.	-377.	769.		.0057	-.0530	-.0208	.0043	-.0216	.0705	6958.
.3650	-409.	-347.	-869.	-1247.	-449.	670.		.0101	-.0497	-.0220	.0082	-.0115	.0648	6199.

ADLPIPE PAGE 2428

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.34.

S/RV PIPING KEWAUNEE CKW02F 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

.3550	-810.	-275.	-773.	-983.	220.	847.	-.0182	-.0457	-.0067	-.0033	-.0410	.0895	5493.
.3560	-970.	-332.	-990.	-1220.	190.	923.	-.0176	-.0497	-.0081	-.0053	-.0477	.0908	6433.
.3570	-1083.	-300.	-1167.	-1418.	147.	980.	-.0164	-.0530	-.0097	-.0066	-.0520	.0916	7218.
.3580	-1148.	-418.	-1300.	-1571.	87.	1016.	-.0146	-.0555	-.0113	-.0072	-.0539	.0914	7817.
.3590	-1160.	-447.	-1382.	-1620.	20.	1029.	-.0123	-.0573	-.0130	-.0073	-.0535	.0900	8221.
.3600	-1146.	-464.	-1412.	-1729.	-47.	1017.	-.0096	-.0583	-.0146	-.0065	-.0508	.0873	8411.
.3610	-1075.	-466.	-1393.	-1742.	-122.	983.	-.0064	-.0584	-.0163	-.0049	-.0459	.0839	8363.
.3620	-956.	-451.	-1326.	-1686.	-200.	929.	-.0026	-.0574	-.0180	-.0025	-.0392	.0800	8079.
.3630	-799.	-424.	-1214.	-1579.	-297.	856.	.0014	-.0556	-.0195	.0006	-.0309	.0756	7596.
.3640	-615.	-389.	-1060.	-1471.	-377.	769.	.0057	-.0530	-.0208	.0043	-.0216	.0705	6958.
.3650	-409.	-347.	-869.	-1247.	-449.	670.	.0101	-.0497	-.0220	.0082	-.0115	.0648	6199.

ADLPIPE PAGE 2428

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.34.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	61	MEMBER	2	SEQUENCE	830	LOCATION	END	TYPE	TE	DZ	RX	RY	RZ	STRESS
TIME	FX	FY	FZ	MX	MY	MZ		DX	DY	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)		(IN)	(IN)					
.3660	-187.	-298.	-651.	-1032.	-514.	566.		.0146	-.0457	-.0229	.0123	-.0010	.0591	5360.
.3670	42.	-246.	-415.	-793.	-571.	459.		.0190	-.0412	-.0235	.0164	.0095	.0538	4505.
.3680	267.	-190.	-171.	-540.	-616.	351.		.0232	-.0362	-.0238	.0205	.0194	.0487	3718.
.3690	477.	-132.	71.	-283.	-644.	243.		.0270	-.0310	-.0239	.0240	.0285	.0437	3106.
.3700	668.	-72.	301.	-29.	-657.	136.		.0303	-.0258	-.0237	.0269	.0364	.0389	2804.
.3710	832.	-8.	508.	217.	-660.	32.		.0331	-.0205	-.0232	.0291	.0426	.0347	2902.
.3720	966.	59.	682.	449.	-655.	-68.		.0353	-.0154	-.0224	.0307	.0472	.0312	3324.
.3730	1064.	127.	817.	658.	-640.	-161.		.0367	-.0107	-.0214	.0312	.0498	.0284	3890.
.3740	1121.	193.	912.	826.	-612.	-246.		.0373	-.0064	-.0202	.0304	.0505	.0259	4445.
.3750	1133.	252.	965.	975.	-568.	-320.		.0371	-.0028	-.0187	.0283	.0493	.0238	4895.
.3760	1100.	303.	974.	1073.	-510.	-381.		.0361	.0001	-.0169	.0250	.0462	.0225	5209.
.3770	1025.	345.	940.	1132.	-444.	-426.		.0344	.0023	-.0150	.0206	.0415	.0219	5376.
.3780	911.	378.	867.	1149.	-369.	-455.		.0320	.0038	-.0129	.0149	.0354	.0218	5381.
.3790	759.	399.	759.	1123.	-278.	-468.		.0289	.0043	-.0107	.0082	.0281	.0218	5206.
.3800	572.	407.	623.	1054.	-173.	-467.		.0251	.0040	-.0083	.0004	.0197	.0217	4866.
.3810	363.	405.	463.	953.	-63.	-452.		.0209	.0030	-.0058	-.0079	.0106	.0216	4411.
.3820	142.	397.	285.	830.	44.	-424.		.0163	.0012	-.0033	-.0167	.0011	.0217	3893.
.3830	-83.	382.	97.	687.	150.	-385.		.0115	-.0011	-.0008	-.0257	-.0085	.0215	3346.
.3840	-307.	358.	-91.	528.	257.	-339.		.0066	-.0041	.0017	-.0349	-.0178	.0205	2827.
.3850	-524.	328.	-269.	358.	364.	-286.		.0016	-.0075	.0043	-.0440	-.0267	.0188	2443.
.3860	-722.	294.	-432.	191.	464.	-228.		-.0032	-.0111	.0069	-.0527	-.0346	.0164	2301.
.3870	-893.	258.	-575.	36.	551.	-168.		-.0076	-.0148	.0093	-.0609	-.0412	.0138	2409.
.3880	-1033.	222.	-691.	-102.	627.	-110.		-.0116	-.0185	.0116	-.0682	-.0461	.0106	2691.
.3890	-1143.	186.	-775.	-222.	696.	-56.		-.0153	-.0219	.0138	-.0748	-.0494	.0066	3058.
.3900	-1216.	152.	-822.	-318.	755.	-12.		-.0183	-.0251	.0159	-.0804	-.0509	.0018	3421.
.3910	-1247.	124.	-835.	-383.	797.	21.		-.0208	-.0278	.0178	-.0848	-.0505	-.0031	3690.
.3920	-1234.	104.	-815.	-410.	814.	39.		-.0225	-.0298	.0194	-.0877	-.0481	-.0079	3806.
.3930	-1178.	95.	-764.	-399.	800.	43.		-.0235	-.0311	.0209	-.0892	-.0440	-.0124	3764.
.3940	-1085.	94.	-683.	-355.	784.	28.		-.0238	-.0317	.0221	-.0896	-.0382	-.0169	3594.
.3950	-959.	102.	-574.	-282.	746.	-4.		-.0236	-.0317	.0231	-.0889	-.0310	-.0216	3328.
.3960	-805.	119.	-445.	-180.	690.	-52.		-.0228	-.0308	.0239	-.0871	-.0227	-.0256	2985.
.3970	-626.	146.	-304.	-48.	613.	-113.		-.0215	-.0292	.0244	-.0840	-.0135	-.0287	2611.
.3980	-429.	182.	-155.	107.	520.	-185.		-.0197	-.0270	.0247	-.0801	-.0034	-.0308	2347.
.3990	-228.	223.	-2.	272.	423.	-266.		-.0177	-.0242	.0249	-.0756	.0068	-.0324	2373.
.4000	-31.	264.	148.	437.	328.	-352.		-.0156	-.0211	.0248	-.0706	.0166	-.0335	2713.

ADLPIPE PAGE 2429

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.34.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

.3920	-1234.	104.	-117.	-410.	814.	19.	-.0225	-.0298	.0194	-.0877	-.0481	-.0079	3806.
.3930	-1170.	95.	-764.	-399.	800.	43.	-.0235	-.0311	.0209	-.0892	-.0440	-.0124	3764.
.3940	-1085.	94.	-683.	-355.	784.	28.	-.0238	-.0317	.0221	-.0896	-.0382	-.0169	3594.
.3950	-959.	102.	-574.	-272.	746.	-4.	-.0236	-.0317	.0231	-.0889	-.0310	-.0216	3328.
.3960	-805.	119.	-445.	-170.	690.	-12.	-.0228	-.0308	.0239	-.0871	-.0227	-.0256	2985.
.3970	-626.	146.	-304.	-48.	613.	-113.	-.0215	-.0292	.0244	-.0840	-.0133	-.0287	2611.
.3980	-429.	182.	-155.	107.	520.	-105.	-.0197	-.0270	.0247	-.0801	-.0034	-.0308	2347.
.3990	-220.	223.	-2.	272.	423.	-266.	-.0177	-.0242	.0249	-.0756	.0068	-.0324	2373.
.4000	-31.	264.	148.	477.	326.	-352.	-.0156	-.0211	.0248	-.0706	.0166	-.0335	2713.

ADLPIPE PAGE 2429

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.34.

S/RV PIPING KEWAUNEE GKW05F 2 RUP DISK
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24
LOADS
SHOCK
PRESSURE
ENGLISH UNITS

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

MAXIMUM VALUE OF STRESS OCCURS AT

TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)
.2060	-1220.	-825.	-1148.	-2493.	557.	1247.	-.0674	-.0944	-.0004	-.0736	-.0160	-.0253	11863.

SECTION	TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)
62	0.0000	0.	0.	0.	0.	0.	0.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.
1	.0010	0.	0.	0.	-0.	0.	0.	-.0000	.0000	.0000	-.0000	.0000	.0000	0.
830	.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	1.
	.0060	-0.	-0.	0.	0.	-0.	-0.	-.0000	-.0000	.0000	.0000	-.0000	-.0000	2.
	.0070	-0.	-0.	0.	0.	-1.	-0.	-.0000	-.0000	.0000	-.0000	-.0000	-.0001	5.
	.0080	-1.	-1.	1.	1.	-2.	-1.	-.0000	-.0000	.0000	-.0001	-.0001	-.0002	11.
	.0090	-1.	-1.	1.	1.	-4.	-2.	-.0001	-.0001	.0000	-.0002	-.0001	-.0004	21.
	.0100	-3.	-2.	1.	2.	-7.	-4.	-.0002	-.0001	.0001	-.0003	-.0002	-.0006	35.
	.0110	-4.	-3.	1.	3.	-10.	-6.	-.0003	-.0002	.0001	-.0005	-.0002	-.0009	50.
	.0120	-6.	-4.	1.	4.	-12.	-9.	-.0004	-.0003	.0002	-.0008	-.0001	-.0013	65.
	.0130	-8.	-5.	1.	5.	-16.	-13.	-.0007	-.0005	.0002	-.0015	.0000	-.0021	90.
	.0140	-11.	-8.	2.	7.	-23.	-20.	-.0011	-.0008	.0003	-.0023	.0003	-.0033	131.
	.0150	-14.	-12.	4.	12.	-32.	-29.	-.0016	-.0011	.0005	-.0032	.0005	-.0046	188.
	.0160	-18.	-17.	7.	18.	-42.	-39.	-.0022	-.0015	.0006	-.0039	.0007	-.0057	251.
	.0170	-21.	-22.	9.	27.	-51.	-46.	-.0028	-.0019	.0006	-.0041	.0008	-.0062	309.
	.0180	-24.	-26.	11.	36.	-58.	-52.	-.0033	-.0022	.0006	-.0037	.0010	-.0060	358.
	.0190	-25.	-30.	11.	47.	-60.	-56.	-.0039	-.0024	.0006	-.0029	.0011	-.0052	395.
	.0200	-24.	-33.	11.	56.	-58.	-57.	-.0044	-.0026	.0005	-.0018	.0014	-.0037	412.
	.0210	-21.	-33.	9.	63.	-48.	-54.	-.0048	-.0027	.0003	-.0003	.0019	-.0014	399.
	.0220	-16.	-32.	1.	68.	-29.	-48.	-.0052	-.0027	.0002	.0015	.0026	.0014	367.
	.0230	-11.	-27.	-10.	68.	-4.	-37.	-.0054	-.0026	-.0001	.0033	.0036	.0044	322.
	.0240	-4.	-21.	-17.	62.	20.	-25.	-.0056	-.0024	-.0003	.0046	.0047	.0071	292.
	.0250	-0.	-16.	-16.	58.	27.	-17.	-.0059	-.0023	-.0005	.0054	.0053	.0088	275.
	.0260	-5.	-15.	-11.	61.	10.	-15.	-.0061	-.0022	-.0006	.0064	.0045	.0096	266.
	.0270	-16.	-13.	-14.	68.	-14.	-7.	-.0058	-.0015	-.0008	.0092	.0025	.0116	290.
	.0280	-21.	2.	-23.	55.	-17.	22.	-.0047	-.0002	-.0012	.0130	.0004	.0163	259.
	.0290	-17.	23.	-25.	74.	-11.	56.	-.0034	.0013	-.0016	.0153	-.0017	.0204	260.
	.0300	-27.	29.	-28.	13.	-38.	58.	-.0025	.0020	-.0016	.0155	-.0048	.0192	294.
	.0310	-42.	30.	-33.	11.	-69.	50.	-.0017	.0027	-.0016	.0160	-.0084	.0171	358.
	.0320	-28.	55.	-47.	-33.	-31.	79.	.0001	.0044	-.0019	.0169	-.0101	.0191	380.

.0330	7.	98.	-74.	-117.	70.	133.	.0028	.0064	-.0026	.0160	-.0095	.0226	799.
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.0170	-21.	-22.	7.	17.	-51.	-46.	-.0038	-.0019	.0006	-.0041	.0008	-.0062	309.
.0180	-24.	-26.	11.	16.	-50.	-52.	-.0033	-.0022	.0006	-.0037	.0010	-.0060	358.
.0190	-25.	-30.	11.	47.	-60.	-56.	-.0039	-.0024	.0006	-.0029	.0011	-.0052	395.
.0200	-24.	-33.	11.	56.	-50.	-57.	-.0044	-.0026	.0005	-.0018	.0014	-.0037	412.
.0210	-21.	-33.	9.	63.	-40.	-54.	-.0048	-.0027	.0003	-.0003	.0019	-.0014	399.
.0220	-16.	-32.	1.	60.	-20.	-48.	-.0052	-.0027	.0002	.0015	.0026	.0014	367.
.0230	-11.	-27.	-10.	58.	-4.	-27.	-.0054	-.0026	-.0001	.0033	.0036	.0044	322.
.0240	-4.	-21.	-17.	62.	20.	-25.	-.0056	-.0024	-.0003	.0046	.0047	.0071	292.
.0250	-0.	-16.	-16.	58.	27.	-17.	-.0059	-.0023	-.0005	.0054	.0053	.0083	275.
.0260	-5.	-15.	-11.	61.	10.	-15.	-.0061	-.0022	-.0006	.0064	.0045	.0096	266.
.0270	-16.	-12.	-14.	66.	-14.	-7.	-.0058	-.0015	-.0008	.0092	.0025	.0116	290.
.0280	-21.	2.	-23.	55.	-17.	22.	-.0047	-.0002	-.0012	.0130	.0004	.0163	259.
.0290	-17.	23.	-25.	74.	-11.	56.	-.0034	.0013	-.0016	.0153	-.0017	.0204	260.
.0300	-29.	29.	-28.	13.	-38.	58.	-.0025	.0020	-.0016	.0155	-.0048	.0192	294.
.0310	-42.	30.	-33.	11.	-69.	50.	-.0017	.0027	-.0016	.0160	-.0084	.0171	358.
.0320	-20.	55.	-47.	-33.	-31.	79.	.0001	.0044	-.0019	.0169	-.0101	.0191	380.

.0330	7.	98.	-74.	-117.	72.	133.	.0028	.0064	-.0026	.0160	-.0095	.0226	799.
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S/RV PIPING KEWAUNEE CKWOOD 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	62	MEMBER	1	SEQUENCE	830	LOCATION	BEG	TYPE	TE						
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	32.	130.	-99.	-185.	153.	164.		.0049	.0076	-.0031	.0130	-.0084	.0217	1213.	
.0350	40.	140.	-99.	-218.	167.	160.		.0060	.0080	-.0029	.0086	-.0082	.0159	1326.	
.0360	40.	145.	-92.	-242.	160.	152.		.0071	.0081	-.0028	.0037	-.0081	.0090	1365.	
.0370	39.	158.	-104.	-274.	173.	167.		.0092	.0087	-.0032	.0003	-.0074	.0053	1521.	
.0380	38.	176.	-119.	-302.	190.	202.		.0118	.0099	-.0039	-.0002	-.0067	.0054	1711.	
.0390	32.	180.	-110.	-307.	173.	220.		.0138	.0104	-.0045	-.0011	-.0061	.0039	1733.	
.0400	14.	156.	-81.	-274.	108.	191.		.0144	.0092	-.0046	-.0058	-.0054	-.0047	1464.	
.0410	-10.	116.	-59.	-208.	39.	136.		.0144	.0071	-.0046	-.0101	-.0043	-.0152	1049.	
.0420	-1.	94.	-51.	-162.	56.	122.		.0152	.0061	-.0052	-.0103	-.0009	-.0171	880.	
.0430	47.	95.	-57.	-161.	176.	150.		.0166	.0055	-.0062	-.0104	.0062	-.0131	1176.	
.0440	90.	81.	-65.	-146.	293.	140.		.0169	.0033	-.0068	-.0152	.0148	-.0151	1488.	
.0450	101.	23.	-46.	-62.	309.	60.		.0149	-.0008	-.0064	-.0218	.0214	-.0252	1339.	
.0460	100.	-49.	-8.	55.	271.	-34.		.0120	-.0051	-.0055	-.0259	.0259	-.0342	1163.	
.0470	109.	-98.	10.	136.	279.	-82.		.0105	-.0082	-.0054	-.0276	.0302	-.0365	1341.	
.0480	117.	-130.	12.	196.	305.	-102.		.0098	-.0105	-.0056	-.0270	.0335	-.0342	1573.	
.0490	101.	-134.	43.	299.	240.	-152.		.0078	-.0130	-.0053	-.0243	.0330	-.0334	1721.	
.0500	62.	-263.	103.	440.	86.	-251.		.0039	-.0165	-.0041	-.0231	.0299	-.0386	2143.	
.0510	25.	-333.	150.	555.	-45.	-353.		-.0003	-.0203	-.0028	-.0250	.0273	-.0461	2751.	
.0520	18.	-366.	168.	606.	-82.	-404.		-.0035	-.0225	-.0019	-.0253	.0264	-.0467	3057.	
.0530	37.	-368.	177.	607.	-55.	-404.		-.0061	-.0230	-.0012	-.0224	.0262	-.0395	3054.	
.0540	52.	-365.	178.	593.	-29.	-412.		-.0092	-.0235	-.0001	-.0212	.0258	-.0343	3013.	
.0550	46.	-365.	169.	574.	-26.	-444.		-.0130	-.0246	.0016	-.0236	.0246	-.0350	3031.	
.0560	33.	-350.	160.	532.	-62.	-455.		-.0167	-.0245	.0035	-.0246	.0222	-.0334	2934.	
.0570	25.	-305.	146.	446.	-72.	-413.		-.0194	-.0226	.0051	-.0223	.0192	-.0251	2554.	
.0580	7.	-239.	114.	328.	-80.	-344.		-.0212	-.0196	.0064	-.0199	.0157	-.0156	2011.	
.0590	-32.	-177.	89.	217.	-143.	-287.		-.0232	-.0166	.0078	-.0184	.0108	-.0096	1615.	
.0600	-84.	-122.	93.	125.	-268.	-239.		-.0256	-.0133	.0094	-.0154	.0041	-.0051	1588.	
.0610	-127.	-56.	96.	19.	-373.	-171.		-.0274	-.0092	.0107	-.0112	-.0020	.0016	1716.	
.0620	-148.	38.	64.	-134.	-386.	-62.		-.0277	-.0042	.0112	-.0071	-.0051	.0117	1727.	
.0630	-147.	147.	17.	-315.	-334.	72.		-.0269	.0013	.0115	-.0032	-.0055	.0243	1939.	
.0640	-143.	245.	-19.	-482.	-288.	190.		-.0266	.0064	.0122	-.0005	-.0049	.0342	2471.	
.0650	-151.	321.	-50.	-617.	-267.	269.		-.0266	.0101	.0132	-.0010	-.0040	.0378	3022.	
.0660	-160.	385.	-80.	-736.	-242.	336.		-.0260	.0134	.0141	-.0023	-.0028	.0396	3525.	
.0670	-160.	449.	-125.	-844.	-200.	421.		-.0241	.0172	.0143	-.0005	-.0021	.0453	4025.	
.0680	-161.	499.	-149.	-918.	-175.	500.		-.0214	.0208	.0142	.0039	-.0030	.0521	4423.	
.0690	-177.	513.	-157.	-931.	-203.	529.		-.0190	.0231	.0139	.0074	-.0057	.0532	4547.	
.0700	-198.	491.	-137.	-884.	-275.	506.		-.0172	.0237	.0137	.0093	-.0096	.0485	4405.	
.0710	-206.	449.	-101.	-804.	-338.	461.		-.0153	.0234	.0132	.0112	-.0133	.0425	4117.	

S/RV PIPING KEWAUNEE CKWOOD 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

.0610	-127.	-56.	56.	19.	-373.	-56.	-171.	-.0274	-.0092	.0107	-.0112	-.0020	.0016	1716.
.0620	-140.	38.	64.	-174.	-386.	-62.	-.0277	-.0042	.0112	-.0071	-.0051	.0117	.0016	1727.
.0630	-147.	147.	17.	-315.	-334.	72.	-.0269	.0013	.0115	-.0032	-.0055	.0243	.0016	1939.
.0640	-147.	249.	-10.	-472.	-288.	190.	-.0266	.0064	.0122	-.0005	-.0049	.0342	.0016	2471.
.0650	-151.	321.	-50.	-617.	-267.	269.	-.0266	.0101	.0132	-.0010	-.0040	.0378	.0016	3022.
.0660	-160.	385.	-88.	-776.	-242.	336.	-.0260	.0134	.0141	-.0023	-.0028	.0396	.0016	3525.
.0670	-160.	449.	-125.	-844.	-200.	421.	-.0241	.0172	.0143	-.0005	-.0021	.0453	.0016	4025.
.0680	-161.	499.	-149.	-918.	-175.	500.	-.0214	.0208	.0142	.0039	-.0030	.0521	.0016	4423.
.0690	-177.	513.	-157.	-931.	-203.	529.	-.0190	.0231	.0139	.0074	-.0057	.0532	.0016	4547.
.0700	-190.	491.	-137.	-884.	-275.	506.	-.0172	.0237	.0137	.0093	-.0096	.0485	.0016	4405.
.0710	-206.	449.	-101.	-804.	-338.	461.	-.0153	.0234	.0132	.0112	-.0133	.0425	.0016	4117.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.29.34.

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

CONDITION 24
LOADS
SHOCK
PRESSURE
ENGLISH UNITS

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

SECTION	62	MEMBER	1	SEQUENCE	830	LOCATION	BEG	TYPE	TE						
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)		
.0720	-190.	402.	-76.	-713.	-337.	415.	-.0127	.0226	.0122	.0137	-.0154	.0384	3720.		
.0730	-150.	353.	-71.	-619.	-261.	374.	-.0094	.0213	.0106	.0164	-.0152	.0364	3207.		
.0740	-93.	296.	-70.	-515.	-143.	323.	-.0060	.0190	.0089	.0176	-.0129	.0341	2606.		
.0750	-37.	219.	-63.	-387.	-30.	242.	-.0033	.0153	.0075	.0159	-.0095	.0279	1908.		
.0760	7.	125.	-56.	-230.	57.	136.	-.0010	.0105	.0061	.0129	-.0061	.0186	1141.		
.0770	46.	31.	-48.	-65.	133.	42.	.0017	.0058	.0042	.0116	-.0031	.0118	642.		
.0780	84.	-54.	-35.	95.	203.	-26.	.0050	.0016	.0017	.0126	-.0007	.0090	942.		
.0790	107.	-141.	-13.	266.	230.	-97.	.0083	-.0027	-.0012	.0138	.0004	.0053	1521.		
.0800	106.	-240.	27.	458.	186.	-191.	.0106	-.0075	-.0040	.0140	-.0001	-.0023	2212.		
.0810	98.	-338.	83.	649.	108.	-289.	.0121	-.0124	-.0068	.0135	-.0013	-.0113	2999.		
.0820	99.	-416.	127.	801.	63.	-364.	.0138	-.0167	-.0097	.0121	-.0013	-.0187	3681.		
.0830	111.	-467.	142.	906.	76.	-411.	.0158	-.0203	-.0127	.0102	.0001	-.0234	4162.		
.0840	130.	-499.	137.	975.	126.	-435.	.0178	-.0230	-.0157	.0091	.0021	-.0251	4486.		
.0850	155.	-514.	122.	1013.	196.	-444.	.0194	-.0249	-.0183	.0080	.0043	-.0253	4686.		
.0860	178.	-514.	91.	1018.	280.	-445.	.0208	-.0264	-.0205	.0055	.0066	-.0259	4782.		
.0870	195.	-499.	47.	996.	368.	-434.	.0221	-.0271	-.0225	.0033	.0084	-.0259	4787.		
.0880	211.	-467.	5.	952.	444.	-399.	.0233	-.0263	-.0244	.0037	.0090	-.0224	4689.		
.0890	222.	-421.	-31.	887.	504.	-345.	.0245	-.0244	-.0262	.0058	.0086	-.0172	4493.		
.0900	221.	-368.	-63.	810.	536.	-290.	.0253	-.0221	-.0276	.0074	.0076	-.0136	4230.		
.0910	209.	-313.	-87.	730.	534.	-236.	.0255	-.0192	-.0287	.0093	.0061	-.0112	3900.		
.0920	195.	-248.	-104.	636.	520.	-169.	.0254	-.0155	-.0292	.0123	.0050	-.0074	3500.		
.0930	182.	-171.	-131.	514.	525.	-83.	.0252	-.0112	-.0293	.0147	.0055	-.0028	3085.		
.0940	165.	-86.	-169.	373.	539.	6.	.0248	-.0067	-.0287	.0152	.0075	.0007	2735.		
.0950	138.	-9.	-200.	240.	524.	84.	.0237	-.0024	-.0273	.0153	.0096	.0024	2429.		
.0960	100.	55.	-210.	127.	467.	145.	.0220	.0019	-.0252	.0159	.0105	.0028	2109.		
.0970	55.	111.	-234.	27.	394.	198.	.0201	.0062	-.0227	.0175	.0103	.0030	1843.		
.0980	13.	164.	-245.	-62.	321.	249.	.0183	.0108	-.0202	.0211	.0089	.0050	1714.		
.0990	-23.	206.	-239.	-130.	237.	290.	.0164	.0154	-.0174	.0270	.0060	.0083	1655.		
.1000	-56.	228.	-215.	-168.	134.	302.	.0137	.0193	-.0142	.0330	.0018	.0097	1546.		
.1010	-85.	233.	-185.	-183.	31.	283.	.0103	.0222	-.0106	.0378	-.0029	.0086	1411.		
.1020	-100.	231.	-155.	-193.	-43.	256.	.0067	.0247	-.0067	.0423	-.0072	.0084	1349.		
.1030	-98.	230.	-132.	-209.	-76.	234.	.0033	.0269	-.0028	.0471	-.0108	.0109	1347.		
.1040	-90.	226.	-119.	-226.	-84.	212.	.0000	.0286	.0014	.0512	-.0141	.0145	1340.		
.1050	-86.	215.	-107.	-275.	-99.	180.	-.0034	.0296	.0058	.0541	-.0175	.0175	1304.		
.1060	-88.	198.	-88.	-237.	-135.	143.	-.0069	.0299	.0103	.0559	-.0214	.0200	1285.		
.1070	-94.	179.	-62.	-239.	-187.	109.	-.0103	.0297	.0146	.0565	-.0254	.0224	1346.		
.1080	-102.	166.	-20.	-250.	-249.	84.	-.0133	.0293	.0185	.0556	-.0291	.0247	1512.		
.1090	-112.	154.	17.	-266.	-327.	65.	-.0160	.0285	.0220	.0531	-.0325	.0263	1780.		

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

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

CONDITION 24
LOADS
SHOCK
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ENGLISH UNITS

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

.0990	-23.	206.	239.	-170.	237.	290.	.164	.0154	-.0174	.0270	.0060	.0083	1655.
.1000	-56.	228.	-215.	-178.	134.	302.	.137	.0193	-.0142	.0330	.0018	.0097	1546.
.1010	-85.	233.	-185.	-103.	31.	283.	.0103	.0222	-.0106	.0378	-.0029	.0086	1411.
.1020	-100.	231.	-155.	-103.	-47.	256.	.0067	.0247	-.0067	.0423	-.0072	.0084	1349.
.1030	-90.	230.	-132.	-209.	-76.	234.	.0033	.0269	-.0028	.0471	-.0108	.0109	1347.
.1040	-90.	226.	-119.	-226.	-84.	212.	.0000	.0286	.0014	.0512	-.0141	.0145	1340.
.1050	-86.	215.	-107.	-235.	-99.	180.	-.0034	.0296	.0058	.0541	-.0175	.0175	1304.
.1060	-80.	198.	-88.	-237.	-135.	143.	-.0069	.0299	.0103	.0559	-.0214	.0200	1285.
.1070	-94.	179.	-62.	-239.	-187.	109.	-.0103	.0297	.0146	.0565	-.0254	.0224	1346.
.1080	-102.	166.	-20.	-250.	-249.	84.	-.0133	.0293	.0185	.0556	-.0291	.0247	1512.
.1090	-112.	154.	17.	-266.	-327.	65.	-.0160	.0285	.0220	.0531	-.0325	.0263	1780.

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DIS/ADLPIPE

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

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

SECTION	MEMBER	SEQUENCE	LOCATION	BEG	TYPE	TE	TIME	FX	FY	FZ	RX	RY	RZ	STRESS						
62	1	870					(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
.1100	-130.	140.	70.	-276.	-430.	44.	-.0107	.0272	.0252	.0495	-.0360	.0264	2140.							
.1110	-140.	130.	127.	-298.	-535.	27.	-.0209	.0256	.0280	.0431	-.0387	.0246	2558.							
.1120	-164.	128.	183.	-339.	-629.	19.	-.0226	.0236	.0305	.0340	-.0405	.0215	2984.							
.1130	-183.	125.	233.	-380.	-726.	12.	-.0236	.0216	.0327	.0243	-.0427	.0178	3420.							
.1140	-200.	118.	268.	-411.	-822.	1.	-.0238	.0195	.0344	.0149	-.0457	.0135	3835.							
.1150	-229.	115.	284.	-446.	-888.	-6.	-.0229	.0175	.0355	.0056	-.0492	.0093	4146.							
.1160	-234.	118.	289.	-466.	-910.	-3.	-.0208	.0160	.0358	-.0026	-.0525	.0065	4306.							
.1170	-220.	118.	295.	-518.	-896.	-2.	-.0100	.0145	.0354	-.0098	-.0554	.0038	4318.							
.1180	-195.	108.	293.	-526.	-849.	-22.	-.0149	.0127	.0343	-.0171	-.0573	-.0019	4169.							
.1190	-140.	97.	289.	-527.	-749.	-44.	-.0111	.0108	.0324	-.0241	-.0572	-.0082	3828.							
.1200	-72.	92.	284.	-528.	-588.	-46.	-.0063	.0096	.0296	-.0286	-.0545	-.0115	3305.							
.1210	11.	88.	263.	-517.	-386.	-35.	-.0007	.0087	.0261	-.0309	-.0492	-.0130	2695.							
.1220	90.	80.	228.	-492.	-172.	-22.	.0055	.0077	.0222	-.0331	-.0415	-.0155	2176.							
.1230	149.	61.	191.	-442.	9.	-16.	.0118	.0065	.0183	-.0355	-.0324	-.0205	1846.							
.1240	187.	32.	170.	-364.	132.	-12.	.0179	.0053	.0145	-.0366	-.0228	-.0266	1617.							
.1250	204.	-7.	160.	-260.	203.	-12.	.0239	.0042	.0106	-.0366	-.0134	-.0340	1377.							
.1260	201.	-57.	152.	-126.	231.	-24.	.0300	.0030	.0065	-.0355	-.0046	-.0434	1103.							
.1270	196.	-111.	164.	25.	233.	-36.	.0360	.0023	.0021	-.0316	.0031	-.0517	989.							
.1280	200.	-166.	192.	180.	233.	-45.	.0418	.0023	-.0022	-.0243	.0099	-.0576	1263.							
.1290	221.	-218.	214.	338.	270.	-57.	.0470	.0024	-.0064	-.0173	.0174	-.0632	1820.							
.1300	254.	-264.	219.	462.	354.	-82.	.0516	.0022	-.0099	-.0134	.0257	-.0710	2455.							
.1310	291.	-310.	211.	572.	457.	-125.	.0550	.0017	-.0124	-.0111	.0335	-.0802	3099.							
.1320	334.	-347.	200.	656.	569.	-166.	.0576	.0018	-.0140	-.0083	.0396	-.0870	3690.							
.1330	375.	-372.	160.	710.	693.	-198.	.0598	.0024	-.0150	-.0053	.0435	-.0914	4222.							
.1340	406.	-383.	118.	735.	811.	-222.	.0617	.0036	-.0155	-.0020	.0448	-.0941	4661.							
.1350	421.	-386.	77.	747.	880.	-240.	.0628	.0055	-.0155	.0030	.0426	-.0944	4920.							
.1360	420.	-381.	55.	748.	886.	-254.	.0627	.0080	-.0149	.0095	.0374	-.0933	4954.							
.1370	413.	-361.	51.	715.	862.	-255.	.0614	.0107	-.0139	.0142	.0316	-.0920	4792.							
.1380	396.	-326.	50.	650.	814.	-249.	.0591	.0134	-.0126	.0162	.0259	-.0917	4472.							
.1390	368.	-279.	50.	565.	734.	-226.	.0558	.0165	-.0109	.0188	.0198	-.0893	3978.							
.1400	334.	-211.	66.	450.	640.	-166.	.0523	.0206	-.0089	.0237	.0133	-.0810	3337.							
.1410	294.	-117.	48.	290.	566.	-67.	.0490	.0254	-.0067	.0286	.0078	-.0684	2670.							
.1420	246.	-6.	10.	90.	502.	53.	.0456	.0303	-.0042	.0310	.0033	-.0547	2139.							
.1430	177.	99.	-22.	-105.	385.	159.	.0413	.0347	-.0009	.0318	-.0024	-.0432	1792.							
.1440	92.	193.	-37.	-281.	211.	247.	.0361	.0387	.0027	.0330	-.0102	-.0329	1793.							
.1450	16.	289.	-49.	-459.	48.	340.	.0311	.0429	.0061	.0351	-.0189	-.0212	2391.							
.1460	-41.	392.	-71.	-646.	-59.	442.	.0271	.0472	.0088	.0378	-.0272	-.0075	3276.							
.1470	-75.	488.	-81.	-823.	-136.	538.	.0233	.0514	.0111	.0412	-.0356	.0069	4144.							

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.34.

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

CONDITION 24
LOADS
SHOCK
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ENGLISH UNITS

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

.1370	413.	-361.	51.	715.	862.	-255.	.0614	.0107	-.0139	.0142	.0316	-.0920	4792.
.1380	396.	-326.	50.	650.	814.	-249.	.0591	.0134	-.0126	.0162	.0259	-.0917	4472.
.1390	368.	-279.	50.	565.	734.	-226.	.0558	.0165	-.0109	.0188	.0198	-.0893	3978.
.1400	334.	-211.	66.	470.	640.	-166.	.0523	.0206	-.0089	.0237	.0133	-.0810	3337.
.1410	294.	-117.	40.	390.	566.	-77.	.0490	.0254	-.0067	.0286	.0078	-.0684	2670.
.1420	246.	-6.	10.	30.	502.	53.	.0456	.0303	-.0042	.0310	.0033	-.0547	2139.
.1430	177.	99.	-22.	-185.	385.	159.	.0413	.0347	-.0009	.0318	-.0024	-.0432	1792.
.1440	92.	193.	-37.	-281.	211.	247.	.0361	.0387	.0027	.0330	-.0102	-.0329	1793.
.1450	16.	289.	-49.	-459.	48.	340.	.0311	.0429	.0061	.0351	-.0189	-.0212	2391.
.1460	-41.	392.	-71.	-646.	-59.	442.	.0271	.0472	.0088	.0378	-.0272	-.0075	3276.
.1470	-75.	488.	-81.	-823.	-136.	538.	.0233	.0514	.0111	.0412	-.0356	.0069	4144.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

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18.29.34.

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

CONDITION 24
LOADS
SHOCK
PRESSURE
ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION	BEG	TYPE	TE	TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS
62	1	830					(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
.1480	-100.	562.	-74.	-962.	-218.	599.	.0190	.0546	.0135	.0443	-.0443	.0182	4817.							
.1490	-114.	617.	-67.	-1080.	-272.	628.	.0144	.0565	.0160	.0445	-.0512	.0254	5336.							
.1500	-109.	666.	-82.	-1197.	-261.	648.	.0106	.0574	.0184	.0414	-.0549	.0304	5786.							
.1510	-97.	705.	-116.	-1300.	-204.	666.	.0077	.0576	.0205	.0377	-.0562	.0354	6156.							
.1520	-80.	730.	-147.	-1371.	-140.	681.	.0053	.0572	.0223	.0350	-.0558	.0411	6416.							
.1530	-60.	732.	-172.	-1403.	-86.	678.	.0033	.0556	.0239	.0308	-.0532	.0438	6512.							
.1540	-67.	711.	-184.	-1394.	-50.	648.	.0014	.0523	.0249	.0233	-.0479	.0408	6416.							
.1550	-66.	661.	-168.	-1328.	-56.	590.	-.0006	.0476	.0255	.0148	-.0409	.0334	6070.							
.1560	-74.	586.	-123.	-1204.	-102.	516.	-.0027	.0421	.0254	.0081	-.0328	.0249	5484.							
.1570	-71.	501.	-60.	-1053.	-139.	445.	-.0042	.0359	.0244	.0018	-.0223	.0166	4805.							
.1580	-66.	401.	1.	-877.	-160.	358.	-.0055	.0285	.0228	-.0067	-.0093	.0055	4007.							
.1590	-60.	277.	63.	-657.	-198.	239.	-.0072	.0197	.0212	-.0163	.0045	-.0092	3030.							
.1600	-70.	136.	131.	-407.	-241.	103.	-.0092	.0102	.0196	-.0252	.0185	-.0240	2019.							
.1610	-61.	-5.	180.	-160.	-240.	-33.	-.0111	.0002	.0178	-.0346	.0333	-.0317	1212.							
.1620	-45.	-147.	197.	32.	-189.	-177.	-.0126	-.0102	.0157	-.0453	.0484	-.0517	1133.							
.1630	-27.	-294.	216.	335.	-132.	-333.	-.0146	-.0207	.0135	-.0544	.0617	-.0648	2049.							
.1640	2.	-449.	250.	610.	-99.	-505.	-.0171	-.0310	.0111	-.0602	.0716	-.0765	3330.							
.1650	32.	-597.	282.	890.	-58.	-677.	-.0199	-.0408	.0084	-.0640	.0790	-.0867	4639.							
.1660	75.	-724.	308.	1114.	13.	-827.	-.0223	-.0495	.0052	-.0666	.0847	-.0937	5792.							
.1670	112.	-835.	333.	1325.	66.	-964.	-.0250	-.0571	.0019	-.0670	.0876	-.0982	6843.							
.1680	120.	-933.	361.	1518.	66.	-1092.	-.0284	-.0636	-.0011	-.0656	.0868	-.1016	7809.							
.1690	121.	-1009.	372.	1673.	27.	-1203.	-.0320	-.0688	-.0036	-.0637	.0831	-.1043	8601.							
.1700	97.	-1048.	357.	1763.	-20.	-1271.	-.0351	-.0721	-.0059	-.0611	.0774	-.1035	9070.							
.1710	61.	-1046.	326.	1786.	-77.	-1286.	-.0376	-.0730	-.0081	-.0563	.0694	-.0977	9192.							
.1720	4.	-1013.	280.	1763.	-167.	-1267.	-.0400	-.0717	-.0101	-.0489	.0586	-.0890	9087.							
.1730	-59.	-943.	228.	1680.	-266.	-1210.	-.0421	-.0683	-.0120	-.0404	.0461	-.0781	8712.							
.1740	-117.	-835.	169.	1528.	-349.	-1115.	-.0439	-.0630	-.0138	-.0322	.0334	-.0658	8026.							
.1750	-171.	-694.	101.	1317.	-414.	-987.	-.0453	-.0550	-.0156	-.0240	.0205	-.0527	7083.							
.1760	-219.	-522.	27.	1055.	-461.	-825.	-.0463	-.0467	-.0172	-.0148	.0076	-.0374	5912.							
.1770	-261.	-321.	-62.	744.	-479.	-630.	-.0466	-.0360	-.0186	-.0047	-.0048	-.0201	4532.							
.1780	-295.	-95.	-174.	383.	-453.	-402.	-.0459	-.0239	-.0199	.0046	-.0155	-.0015	2990.							
.1790	-332.	145.	-308.	-4.	-402.	-157.	-.0445	-.0110	-.0208	.0129	-.0245	.0167	1802.							
.1800	-370.	307.	-449.	-398.	-345.	95.	-.0427	.0022	-.0213	.0208	-.0319	.0342	2235.							
.1810	-401.	628.	-584.	-794.	-777.	354.	-.0404	.0154	-.0215	.0276	-.0364	.0510	3805.							
.1820	-429.	857.	-710.	-1173.	-185.	602.	-.0378	.0277	-.0216	.0318	-.0375	.0643	5558.							
.1830	-449.	1062.	-834.	-1513.	-94.	829.	-.0351	.0388	-.0218	.0344	-.0354	.0741	7212.							
.1840	-460.	1235.	-915.	-1794.	-17.	1070.	-.0326	.0485	-.0220	.0369	-.0306	.0815	8631.							
.1850	-467.	1371.	-968.	-2009.	57.	1199.	-.0301	.0564	-.0223	.0386	-.0228	.0862	9764.							

ADLPIPE PAGE 2434

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02.

18.29.34.

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

CONDITION 24
LOADS
SHOCK
PRESSURE
ENGLISH UNITS

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

.1740	-117.	-635.	129.	1520.	-349.	-1115.	-.0439	-.0630	-.0138	-.0323	.0334	-.0658	8026.
.1750	-171.	-694.	101.	1217.	-414.	-987.	-.0453	-.0558	-.0156	-.0240	.0205	-.0527	7083.
.1760	-219.	-522.	27.	1055.	-461.	-825.	-.0463	-.0467	-.0172	-.0148	.0076	-.0374	5912.
.1770	-261.	-321.	-62.	744.	-479.	-630.	-.0466	-.0360	-.0186	-.0047	-.0048	-.0201	4532.
.1780	-295.	-95.	-174.	303.	-457.	-402.	-.0459	-.0239	-.0199	.0046	-.0155	-.0015	2590.
.1790	-332.	149.	-708.	-4.	-407.	-157.	-.0445	-.0110	-.0208	.0129	-.0245	.0167	1802.
.1800	-370.	387.	-449.	-398.	-345.	95.	-.0427	.0022	-.0213	.0208	-.0319	.0342	2235.
.1810	-401.	628.	-584.	-774.	-273.	354.	-.0404	.0154	-.0215	.0276	-.0364	.0510	3805.
.1820	-428.	857.	-718.	-1173.	-185.	602.	-.0378	.0277	-.0216	.0318	-.0375	.0643	5558.
.1830	-449.	1062.	-834.	-1513.	-94.	809.	-.0351	.0388	-.0218	.0344	-.0354	.0741	7212.
.1840	-460.	1235.	-915.	-1794.	-17.	1020.	-.0326	.0485	-.0220	.0369	-.0306	.0815	8631.
.1850	-467.	1371.	-968.	-2009.	53.	1199.	-.0301	.0564	-.0223	.0386	-.0228	.0862	9764.

ADLPIPE PAGE 2434 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 8/12/02. 18.29.34.

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

CONDITION 24
LOADS
SHOCK
PRESSURE
ENGLISH UNITS

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

SECTION	62	MEMBER	1	SEQUENCE	830	LOCATION	BEG	TYPE	TE					
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	-458.	1467.	-998.	-2157.	123.	1329.	-.0277	.0619	-.0225	.0381	-.0119	.0873	10586.	
.1870	-457.	1509.	-1010.	-2219.	172.	1404.	-.0258	.0645	-.0226	.0356	.0008	.0837	10983.	
.1880	-459.	1495.	-993.	-2187.	183.	1420.	-.0246	.0643	-.0221	.0323	.0141	.0768	10911.	
.1890	-461.	1427.	-957.	-2067.	173.	1378.	-.0239	.0613	-.0214	.0280	.0274	.0670	10392.	
.1900	-458.	1309.	-909.	-1867.	161.	1280.	-.0237	.0554	-.0206	.0228	.0405	.0549	9471.	
.1910	-442.	1144.	-839.	-1593.	148.	1130.	-.0240	.0471	-.0197	.0174	.0525	.0416	8172.	
.1920	-414.	933.	-741.	-1241.	121.	921.	-.0251	.0364	-.0188	.0126	.0625	.0272	6471.	
.1930	-371.	687.	-623.	-833.	96.	665.	-.0272	.0237	-.0180	.0080	.0700	.0118	4467.	
.1940	-309.	421.	-492.	-400.	92.	378.	-.0298	.0095	-.0172	.0025	.0761	-.0034	2330.	
.1950	-236.	144.	-356.	42.	99.	72.	-.0330	-.0058	-.0164	-.0039	.0803	-.0180	542.	
.1960	-166.	-136.	-217.	464.	90.	-246.	-.0368	-.0217	-.0154	-.0107	.0816	-.0319	2297.	
.1970	-108.	-408.	-84.	906.	54.	-560.	-.0411	-.0376	-.0141	-.0179	.0800	-.0443	4451.	
.1980	-65.	-655.	35.	1281.	-1.	-849.	-.0453	-.0526	-.0126	-.0254	.0756	-.0540	6414.	
.1990	-40.	-868.	138.	1526.	-81.	-1098.	-.0494	-.0663	-.0110	-.0331	.0686	-.0606	8040.	
.2000	-36.	-1043.	233.	1845.	-201.	-1305.	-.0533	-.0781	-.0093	-.0404	.0589	-.0644	9469.	
.2010	-50.	-1174.	325.	2023.	-357.	-1464.	-.0572	-.0878	-.0076	-.0472	.0469	-.0657	10527.	
.2020	-74.	-1254.	406.	2114.	-524.	-1567.	-.0608	-.0949	-.0060	-.0538	.0338	-.0643	11197.	
.2030	-100.	-1276.	469.	2109.	-676.	-1605.	-.0636	-.0993	-.0047	-.0600	.0205	-.0594	11414.	
.2040	-126.	-1240.	511.	2008.	-805.	-1575.	-.0657	-.1005	-.0034	-.0651	.0075	-.0506	11166.	
.2050	-152.	-1150.	529.	1816.	-905.	-1483.	-.0670	-.0988	-.0020	-.0693	-.0048	-.0387	10490.	
.2060	-181.	-1013.	515.	1544.	-975.	-1340.	-.0674	-.0944	-.0004	-.0736	-.0160	-.0253	9451.	
.2070	-214.	-838.	469.	1205.	-1015.	-1154.	-.0669	-.0876	.0016	-.0777	-.0259	-.0110	8149.	
.2080	-249.	-633.	399.	819.	-1031.	-932.	-.0654	-.0786	.0037	-.0802	-.0349	.0044	6732.	
.2090	-282.	-408.	315.	406.	-1025.	-682.	-.0629	-.0675	.0059	-.0802	-.0427	.0210	5409.	
.2100	-310.	-175.	222.	-12.	-995.	-418.	-.0596	-.0549	.0081	-.0782	-.0489	.0372	4503.	
.2110	-331.	54.	132.	-415.	-947.	-158.	-.0556	-.0416	.0101	-.0744	-.0531	.0517	4363.	
.2120	-341.	267.	54.	-779.	-889.	88.	-.0513	-.0279	.0120	-.0686	-.0552	.0637	4945.	
.2130	-341.	457.	-12.	-1094.	-815.	313.	-.0467	-.0144	.0138	-.0608	-.0547	.0735	5842.	
.2140	-329.	621.	-72.	-1355.	-716.	515.	-.0417	-.0014	.0155	-.0515	-.0511	.0814	6749.	
.2150	-308.	752.	-128.	-1554.	-595.	689.	-.0364	.0105	.0170	-.0409	-.0445	.0872	7518.	
.2160	-283.	843.	-178.	-1678.	-470.	827.	-.0310	.0211	.0186	-.0292	-.0357	.0909	8049.	
.2170	-259.	892.	-218.	-1721.	-351.	923.	-.0257	.0299	.0201	-.0165	-.0253	.0921	8281.	
.2180	-232.	898.	-246.	-1688.	-236.	978.	-.0205	.0369	.0214	-.0033	-.0135	.0911	8203.	
.2190	-200.	864.	-258.	-1584.	-130.	992.	-.0155	.0419	.0225	.0100	-.0012	.0880	7818.	
.2200	-166.	791.	-245.	-1407.	-42.	961.	-.0111	.0448	.0232	.0234	.0107	.0828	7114.	
.2210	-126.	681.	-207.	-1167.	23.	887.	-.0072	.0457	.0234	.0370	.0214	.0760	6118.	
.2220	-80.	546.	-151.	-882.	78.	782.	-.0037	.0447	.0232	.0500	.0307	.0685	4932.	
.2230	-26.	395.	-87.	-578.	137.	656.	-.0006	.0423	.0226	.0616	.0384	.0611	3695.	

ADLPIPE PAGE 2435 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 8/12/02. 18.29.34.

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

CONDITION 24
LOADS
SHOCK
PRESSURE
ENGLISH UNITS

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

.2130	-341.	457.	-12.	-1094.	-815.	313.	-.0513	-.0279	.0120	-.0686	-.0552	.0637	4945.
.2140	-329.	621.	-72.	-1355.	-716.	515.	-.0417	-.0014	.0155	-.0515	-.0511	.0814	6749.
.2150	-307.	752.	-128.	-1524.	-590.	689.	-.0364	.0105	.0170	-.0409	-.0445	.0872	7518.
.2160	-287.	843.	-178.	-1678.	-470.	827.	-.0310	.0211	.0186	-.0292	-.0357	.0909	8049.
.2170	-250.	892.	-218.	-1721.	-351.	923.	-.0257	.0299	.0201	-.0165	-.0253	.0921	8281.
.2180	-230.	898.	-246.	-1677.	-236.	978.	-.0205	.0369	.0214	-.0033	-.0135	.0911	8203.
.2190	-200.	864.	-258.	-1514.	-130.	992.	-.0155	.0419	.0225	.0100	-.0012	.0880	7818.
.2200	-166.	791.	-245.	-1407.	-42.	961.	-.0111	.0448	.0232	.0234	.0107	.0828	7114.
.2210	-126.	681.	-207.	-1167.	27.	897.	-.0072	.0457	.0234	.0370	.0214	.0760	6118.
.2220	-80.	546.	-151.	-802.	75.	782.	-.0037	.0447	.0232	.0500	.0307	.0685	4932.
.2230	-26.	395.	-87.	-478.	137.	656.	-.0006	.0423	.0226	.0616	.0384	.0611	3695.

ADLPIPE PAGE 2435

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.34.

S/RV PIPING KEWAUNEE CRK00F 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	TE							STRESS
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	(PSI)
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	
.2240	31.	237.	-21.	-270.	195.	515.	.0022	.0384	.0217	.0711	.0442	.0539	2561.
.2250	85.	77.	42.	29.	243.	363.	.0044	.0332	.0208	.0778	.0475	.0467	1827.
.2260	132.	-78.	97.	304.	279.	206.	.0063	.0270	.0199	.0809	.0482	.0395	1923.
.2270	171.	-219.	143.	539.	304.	57.	.0079	.0202	.0190	.0808	.0461	.0330	2594.
.2280	204.	-338.	182.	728.	314.	-76.	.0094	.0134	.0178	.0781	.0410	.0281	3325.
.2290	229.	-434.	220.	868.	302.	-188.	.0109	.0066	.0165	.0732	.0329	.0246	3916.
.2300	245.	-506.	262.	958.	263.	-281.	.0121	.0002	.0149	.0659	.0222	.0218	4309.
.2310	252.	-552.	305.	996.	201.	-353.	.0132	-.0058	.0131	.0560	.0096	.0191	4490.
.2320	257.	-571.	347.	982.	122.	-401.	.0142	-.0112	.0113	.0437	-.0043	.0166	4454.
.2330	245.	-564.	381.	916.	37.	-421.	.0153	-.0158	.0095	.0297	-.0186	.0148	4208.
.2340	232.	-531.	401.	802.	-43.	-414.	.0166	-.0196	.0077	.0143	-.0324	.0137	3772.
.2350	214.	-478.	403.	651.	-111.	-383.	.0182	-.0225	.0062	-.0021	-.0451	.0129	3186.
.2360	193.	-411.	390.	474.	-165.	-335.	.0200	-.0245	.0048	-.0188	-.0561	.0122	2520.
.2370	174.	-335.	367.	288.	-199.	-274.	.0221	-.0258	.0036	-.0349	-.0648	.0113	1857.
.2380	160.	-257.	339.	105.	-209.	-207.	.0244	-.0263	.0024	-.0496	-.0708	.0101	1303.
.2390	157.	-182.	310.	-63.	-192.	-138.	.0268	-.0262	.0011	-.0623	-.0736	.0082	1022.
.2400	162.	-119.	288.	-200.	-154.	-76.	.0293	-.0256	-.0001	-.0726	-.0731	.0052	1102.
.2410	176.	-71.	272.	-225.	-102.	-27.	.0317	-.0246	-.0014	-.0800	-.0695	.0008	1305.
.2420	196.	-43.	260.	-343.	-33.	8.	.0341	-.0234	-.0025	-.0841	-.0627	-.0046	1437.
.2430	220.	-33.	247.	-346.	53.	30.	.0364	-.0219	-.0036	-.0852	-.0527	-.0108	1465.
.2440	245.	-43.	232.	-303.	151.	38.	.0387	-.0204	-.0043	-.0834	-.0399	-.0177	1422.
.2450	268.	-74.	217.	-214.	252.	28.	.0406	-.0189	-.0048	-.0790	-.0248	-.0256	1384.
.2460	290.	-125.	204.	-82.	350.	-0.	.0422	-.0174	-.0050	-.0722	-.0082	-.0344	1502.
.2470	312.	-190.	195.	83.	447.	-44.	.0433	-.0161	-.0050	-.0633	.0094	-.0435	1905.
.2480	335.	-266.	192.	273.	540.	-97.	.0440	-.0147	-.0049	-.0522	.0271	-.0523	2556.
.2490	360.	-347.	198.	477.	624.	-157.	.0443	-.0131	-.0047	-.0390	.0440	-.0600	3342.
.2500	384.	-428.	211.	683.	694.	-220.	.0439	-.0113	-.0045	-.0247	.0593	-.0668	4166.
.2510	402.	-504.	227.	877.	744.	-285.	.0429	-.0095	-.0040	-.0103	.0721	-.0726	4946.
.2520	411.	-569.	242.	1047.	769.	-346.	.0414	-.0074	-.0033	-.0039	.0816	-.0772	5612.
.2530	409.	-617.	249.	1179.	770.	-394.	.0395	-.0050	-.0024	.0176	.0872	-.0794	6105.
.2540	396.	-640.	245.	1260.	752.	-423.	.0373	-.0019	-.0012	.0304	.0885	-.0786	6373.
.2550	374.	-634.	228.	1280.	717.	-427.	.0350	.0017	.0001	.0419	.0855	-.0748	6377.
.2560	342.	-600.	203.	1277.	662.	-409.	.0325	.0058	.0018	.0513	.0782	-.0687	6101.
.2570	302.	-536.	174.	1133.	586.	-370.	.0298	.0103	.0031	.0584	.0667	-.0609	5543.
.2580	258.	-445.	143.	968.	494.	-309.	.0270	.0153	.0045	.0630	.0517	-.0514	4714.
.2590	212.	-324.	108.	743.	395.	-223.	.0243	.0207	.0057	.0655	.0337	-.0399	3632.
.2600	165.	-178.	69.	465.	293.	-111.	.0220	.0265	.0066	.0659	.0136	-.0268	2341.
.2610	114.	-14.	25.	140.	186.	19.	.0200	.0324	.0074	.0640	-.0080	-.0128	995.

ADLPIPE PAGE 2436

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.34.

S/RV PIPING KEWAUNEE CRK00F 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	407.	-504.	227.	277.	744.	-285.	.0429	-.0095	-.0040	-.0103	.0721	-.0726	4946.
.2520	411.	-569.	242.	1047.	769.	-346.	.414	-.0074	-.0033	.0039	.0816	-.0772	5612.
.2530	409.	-617.	249.	1179.	770.	-394.	.0395	-.0050	-.0024	.0176	.0872	-.0794	6105.
.2540	396.	-640.	245.	1270.	752.	-423.	.0373	-.0019	-.0012	.0304	.0885	-.0786	6373.
.2550	774.	-674.	220.	1270.	717.	-427.	.0350	.0017	.0001	.0419	.0855	-.0748	6377.
.2560	742.	-600.	207.	1273.	662.	-409.	.0325	.0058	.0016	.0513	.0782	-.0687	6101.
.2570	302.	-536.	174.	1173.	586.	-370.	.0298	.0102	.0031	.0584	.0667	-.0609	5543.
.2580	250.	-445.	147.	928.	494.	-309.	.0270	.0153	.0045	.0630	.0517	-.0514	4714.
.2590	212.	-324.	108.	743.	395.	-223.	.0243	.0207	.0057	.0655	.0337	-.0399	3632.
.2600	165.	-178.	60.	465.	292.	-111.	.0220	.0265	.0066	.0659	.0136	-.0268	2341.
.2610	114.	-14.	25.	142.	186.	19.	.0200	.0224	.0074	.0640	-.0080	-.0128	995.

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DIG/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.34.

S/RV PIPING KEWAUNEE CRK00F 2 RUP DISK
2 SAFETY COLD FKWD4F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	62	MEMBER	1	SEQUENCE	030	LOCATION	BEG	TYPE	TE						
TIME	FX	FY	FZ	FX	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)		
.2620	59.	161.	-23.	-194.	72.	160.	.0184	.0381	.0080	.0599	-.0303	.0009	1093.		
.2630	-0.	346.	-77.	-547.	-41.	307.	.0173	.0435	.0084	.0538	-.0521	.0140	2623.		
.2640	-50.	516.	-134.	-896.	-144.	457.	.0170	.0485	.0085	.0464	-.0725	.0263	4241.		
.2650	-111.	681.	-190.	-1224.	-231.	603.	.0173	.0528	.0083	.0382	-.0906	.0374	5776.		
.2660	-154.	824.	-240.	-1510.	-300.	734.	.0183	.0561	.0076	.0298	-.1056	.0464	7119.		
.2670	-185.	938.	-277.	-1737.	-347.	841.	.0199	.0584	.0064	.0217	-.1170	.0526	8183.		
.2680	-199.	1016.	-301.	-1892.	-366.	919.	.0221	.0594	.0048	.0146	-.1242	.0560	8911.		
.2690	-195.	1055.	-312.	-1969.	-351.	965.	.0249	.0592	.0026	.0087	-.1268	.0567	9268.		
.2700	-173.	1051.	-312.	-1960.	-302.	976.	.0284	.0575	-.0000	.0044	-.1247	.0545	9226.		
.2710	-130.	1001.	-301.	-1862.	-226.	947.	.0322	.0544	-.0028	.0016	-.1183	.0489	8768.		
.2720	-92.	905.	-282.	-1673.	-128.	877.	.0364	.0500	-.0058	.0006	-.1078	.0403	7902.		
.2730	-35.	767.	-257.	-1403.	-7.	771.	.0410	.0443	-.0089	.0017	-.0938	.0293	6680.		
.2740	32.	596.	-225.	-1064.	137.	636.	.0458	.0378	-.0121	.0047	-.0767	.0168	5203.		
.2750	109.	395.	-185.	-667.	296.	474.	.0506	.0305	-.0153	.0094	-.0572	.0027	3631.		
.2760	191.	169.	-133.	-222.	456.	287.	.0552	.0225	-.0185	.0153	-.0362	-.0133	2432.		
.2770	275.	-71.	-72.	251.	610.	83.	.0593	.0143	-.0214	.0224	-.0148	-.0302	2774.		
.2780	360.	-311.	-6.	728.	761.	-123.	.0632	.0063	-.0243	.0306	.0064	-.0465	4426.		
.2790	444.	-539.	57.	1181.	910.	-315.	.0667	-.0011	-.0269	.0392	.0267	-.0611	6362.		
.2800	519.	-747.	115.	1595.	1043.	-492.	.0696	-.0077	-.0291	.0474	.0452	-.0742	8216.		
.2810	577.	-928.	165.	1995.	1146.	-650.	.0717	-.0134	-.0306	.0546	.0608	-.0860	9838.		
.2820	618.	-1073.	202.	2242.	1217.	-778.	.0730	-.0178	-.0315	.0606	.0731	-.0954	11130.		
.2830	643.	-1172.	224.	2437.	1265.	-863.	.0737	-.0206	-.0318	.0652	.0818	-.1012	12010.		
.2840	654.	-1218.	232.	2530.	1289.	-902.	.0735	-.0218	-.0315	.0682	.0867	-.1033	12432.		
.2850	645.	-1216.	229.	2525.	1276.	-900.	.0724	-.0212	-.0306	.0694	.0872	-.1024	12391.		
.2860	617.	-1166.	219.	2428.	1221.	-860.	.0703	-.0191	-.0291	.0690	.0831	-.0986	11895.		
.2870	575.	-1067.	201.	2235.	1135.	-778.	.0672	-.0153	-.0271	.0673	.0750	-.0914	10954.		
.2880	521.	-920.	170.	1950.	1032.	-652.	.0634	-.0100	-.0247	.0643	.0635	-.0803	9601.		
.2890	455.	-734.	128.	1587.	910.	-492.	.0589	-.0034	-.0218	.0601	.0491	-.0662	7905.		
.2900	375.	-520.	78.	1168.	762.	-309.	.0536	.0041	-.0185	.0549	.0319	-.0502	5962.		
.2910	285.	-287.	21.	711.	594.	-112.	.0476	.0121	-.0146	.0491	.0130	-.0326	3894.		
.2920	190.	-41.	-42.	208.	423.	97.	.0412	.0205	-.0104	.0429	-.0067	-.0136	2045.		
.2930	95.	208.	-108.	-241.	255.	311.	.0345	.0290	-.0061	.0369	-.0262	.0064	2000.		
.2940	1.	446.	-168.	-770.	84.	513.	.0274	.0371	-.0017	.0314	-.0452	.0261	3740.		
.2950	-91.	661.	-215.	-1155.	-94.	691.	.0200	.0444	.0028	.0267	-.0631	.0441	5630.		
.2960	-177.	845.	-249.	-1522.	-271.	839.	.0125	.0507	.0072	.0228	-.0791	.0596	7339.		
.2970	-254.	925.	-270.	-1821.	-437.	954.	.0050	.0558	.0114	.0200	-.0926	.0729	8770.		
.2980	-319.	1105.	-270.	-2044.	-587.	1033.	-.0022	.0596	.0154	.0187	-.1033	.0838	9866.		
.2990	-377.	1172.	-273.	-2183.	-720.	1072.	-.0090	.0619	.0192	.0186	-.1107	.0915	10585.		

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DIG/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.34.

S/RV PIPING KEWAUNEE CRK00F 2 RUP DISK
2 SAFETY COLD FKWD4F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

.2891	457.	-734.	128.	1587.	910.	-492.	7589	-.0034	-.0218	.0601	.0491	-.0662	7905.
.2900	377.	-520.	78.	1168.	762.	-309.	5536	.0041	-.0185	.0549	.0319	-.0502	5962.
.2910	287.	-207.	21.	711.	594.	-112.	4476	.0121	-.0146	.0491	.0130	-.0326	3894.
.2920	197.	-41.	-42.	278.	427.	97.	6412	.0205	-.0104	.0429	-.0067	-.0136	2045.
.2930	95.	208.	-108.	-211.	255.	311.	6345	.0290	-.0061	.0369	-.0262	.0064	2000.
.2940	1.	446.	-160.	-770.	84.	513.	6274	.0771	-.0017	.0314	-.0452	.0261	3740.
.2950	-91.	661.	-215.	-1155.	-94.	691.	6200	.0444	.0028	.0267	-.0631	.0441	5630.
.2960	-177.	845.	-249.	-1522.	-271.	839.	6125	.0507	.0072	.0228	-.0791	.0596	7339.
.2970	-254.	925.	-270.	-1821.	-437.	954.	6050	.0558	.0114	.0200	-.0926	.0729	8770.
.2980	-319.	1105.	-270.	-2044.	-587.	1033.	6022	.0596	.0154	.0187	-.1033	.0838	9866.
.2990	-377.	1172.	-273.	-2183.	-720.	1072.	6090	.0619	.0192	.0186	-.1107	.0915	10585.

ADLPIPE PAGE 2437

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02.

18.29.34.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK
2 SAFETY COLD TKW24F--2 PSV

CONDITION 24
LOADS
SHOCK
PRESSURE
ENGLISH UNITS

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

SECTION	62	MEMBER	1	SEQUENCE	830	LOCATION	BEG	TYPE	TE					
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	-417.	1192.	-257.	-2237.	-834.	1067.	-.0155	.0625	.0227	.0190	-.1146	.0952	10912.	
.3010	-446.	1169.	-233.	-2209.	-922.	1019.	-.0215	.0615	.0260	.0198	-.1149	.0950	10858.	
.3020	-461.	1108.	-202.	-2108.	-979.	937.	-.0268	.0592	.0288	.0212	-.1115	.0917	10458.	
.3030	-459.	1014.	-165.	-1944.	-1000.	829.	-.0313	.0556	.0311	.0231	-.1044	.0859	9757.	
.3040	-442.	892.	-123.	-1728.	-980.	697.	-.0351	.0508	.0329	.0248	-.0941	.0773	8802.	
.3050	-414.	748.	-74.	-1469.	-955.	544.	-.0381	.0451	.0341	.0259	-.0811	.0657	7656.	
.3060	-378.	590.	-20.	-1181.	-905.	379.	-.0405	.0386	.0347	.0264	-.0660	.0520	6409.	
.3070	-335.	427.	33.	-884.	-839.	216.	-.0420	.0318	.0347	.0262	-.0492	.0373	5163.	
.3080	-289.	271.	81.	-595.	-754.	64.	-.0426	.0249	.0341	.0248	-.0313	.0223	4020.	
.3090	-244.	124.	122.	-327.	-665.	-75.	-.0425	.0180	.0330	.0216	-.0129	.0068	3106.	
.3100	-205.	-9.	157.	-84.	-582.	-199.	-.0420	.0112	.0315	.0165	.0050	-.0091	2591.	
.3110	-173.	-122.	184.	122.	-506.	-301.	-.0409	.0047	.0296	.0099	.0218	-.0242	2512.	
.3120	-145.	-208.	200.	277.	-429.	-374.	-.0392	-.0011	.0273	.0018	.0372	-.0376	2641.	
.3130	-120.	-265.	205.	379.	-352.	-416.	-.0371	-.0063	.0245	-.0075	.0508	-.0489	2769.	
.3140	-102.	-296.	204.	433.	-280.	-436.	-.0349	-.0107	.0214	-.0180	.0616	-.0586	2832.	
.3150	-92.	-306.	199.	445.	-243.	-438.	-.0326	-.0146	.0181	-.0293	.0692	-.0668	2798.	
.3160	-80.	-293.	188.	415.	-211.	-422.	-.0303	-.0178	.0147	-.0409	.0735	-.0730	2622.	
.3170	-87.	-259.	167.	344.	-183.	-385.	-.0279	-.0203	.0111	-.0523	.0745	-.0764	2286.	
.3180	-90.	-207.	139.	241.	-162.	-335.	-.0255	-.0220	.0074	-.0631	.0724	-.0772	1849.	
.3190	-98.	-146.	105.	120.	-154.	-279.	-.0233	-.0233	.0039	-.0730	.0671	-.0762	1422.	
.3200	-111.	-80.	69.	-11.	-159.	-225.	-.0215	-.0242	.0006	-.0820	.0590	-.0739	1149.	
.3210	-124.	-12.	29.	-146.	-167.	-171.	-.0198	-.0248	-.0026	-.0896	.0490	-.0703	1168.	
.3220	-136.	57.	-12.	-278.	-174.	-118.	-.0183	-.0249	-.0055	-.0953	.0376	-.0649	1454.	
.3230	-146.	121.	-51.	-398.	-181.	-69.	-.0170	-.0248	-.0083	-.0987	.0254	-.0580	1847.	
.3240	-154.	176.	-85.	-499.	-190.	-28.	-.0160	-.0244	-.0109	-.1001	.0131	-.0508	2230.	
.3250	-161.	221.	-113.	-575.	-201.	2.	-.0153	-.0239	-.0131	-.0997	.0013	-.0438	2542.	
.3260	-167.	253.	-137.	-625.	-213.	24.	-.0148	-.0233	-.0151	-.0972	-.0093	-.0367	2756.	
.3270	-170.	276.	-158.	-651.	-218.	43.	-.0143	-.0223	-.0167	-.0925	-.0181	-.0292	2870.	
.3280	-170.	290.	-177.	-654.	-215.	59.	-.0138	-.0212	-.0180	-.0860	-.0247	-.0218	2884.	
.3290	-170.	294.	-194.	-675.	-205.	70.	-.0133	-.0199	-.0190	-.0783	-.0287	-.0150	2800.	
.3300	-169.	287.	-207.	-593.	-192.	76.	-.0129	-.0185	-.0196	-.0696	-.0302	-.0092	2620.	
.3310	-166.	273.	-218.	-534.	-171.	81.	-.0125	-.0169	-.0198	-.0598	-.0290	-.0039	2364.	
.3320	-157.	257.	-227.	-467.	-133.	90.	-.0119	-.0151	-.0199	-.0494	-.0252	.0012	2060.	
.3330	-142.	238.	-236.	-395.	-79.	102.	-.0113	-.0131	-.0197	-.0388	-.0190	.0058	1735.	
.3340	-125.	217.	-241.	-319.	-19.	113.	-.0106	-.0110	-.0192	-.0284	-.0108	.0095	1413.	
.3350	-107.	193.	-243.	-239.	42.	123.	-.0100	-.0090	-.0185	-.0184	-.0014	.0124	1136.	
.3360	-87.	170.	-245.	-165.	110.	136.	-.0095	-.0069	-.0176	-.0091	.0090	.0151	1002.	
.3370	-65.	152.	-249.	-102.	185.	155.	-.0088	-.0049	-.0165	-.0006	.0199	.0180	1092.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02.

18.29.34.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK
2 SAFETY COLD TKW24F--2 PSV

CONDITION 24
LOADS
SHOCK
PRESSURE
ENGLISH UNITS

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

.3270	-170.	276.	-158.	-651.	-215.	43.	-.0143	-.0223	-.0167	-.0925	-.0181	-.0292	2754.
.3280	-170.	290.	-177.	-654.	-215.	59.	-.0138	-.0212	-.0180	-.0860	-.0247	-.0218	2884.
.3290	-170.	294.	-194.	-679.	-205.	70.	-.0133	-.0199	-.0190	-.0783	-.0287	-.0150	2800.
.3300	-160.	207.	-207.	-573.	-198.	76.	-.0129	-.0185	-.0196	-.0696	-.0302	-.0092	2620.
.3310	-166.	273.	-210.	-574.	-171.	81.	-.0125	-.0169	-.0198	-.0598	-.0290	-.0039	2364.
.3320	-157.	257.	-227.	-467.	-137.	90.	-.0119	-.0151	-.0199	-.0494	-.0252	.0012	2060.
.3330	-147.	230.	-236.	-395.	-70.	102.	-.0113	-.0131	-.0197	-.0388	-.0190	.0058	1735.
.3340	-125.	217.	-241.	-319.	-19.	113.	-.0106	-.0110	-.0192	-.0284	-.0108	.0095	1413.
.3350	-107.	193.	-243.	-239.	42.	123.	-.0100	-.0090	-.0185	-.0184	-.0014	.0124	1136.
.3360	-87.	170.	-245.	-165.	110.	176.	-.0095	-.0069	-.0176	-.0091	.0090	.0151	1002.
.3370	-65.	152.	-249.	-102.	185.	155.	-.0088	-.0049	-.0165	-.0006	.0199	.0180	1092.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02.

18.29.34.

S/RV PIPING KEWAUNEE GKWOOD 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	TE	TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS
62	1	830					(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
.3380	-47.	136.	-253.	-48.	259.	176.	-.0081	-.0031	-.0153	.0069	.0306	.0211	1323.							
.3390	-25.	120.	-255.	0.	320.	194.	-.0076	-.0015	-.0139	.0132	.0403	.0238	1563.							
.3400	-12.	104.	-253.	43.	365.	209.	-.0073	-.0005	-.0124	.0182	.0486	.0264	1765.							
.3410	-0.	90.	-248.	76.	399.	222.	-.0072	.0001	-.0109	.0220	.0552	.0293	1931.							
.3420	10.	77.	-239.	101.	420.	233.	-.0073	.0003	-.0095	.0247	.0597	.0330	2050.							
.3430	17.	63.	-225.	123.	424.	238.	-.0076	-.0002	-.0082	.0264	.0618	.0371	2093.							
.3440	20.	45.	-204.	147.	407.	234.	-.0082	-.0013	-.0069	.0270	.0612	.0414	2048.							
.3450	20.	24.	-179.	173.	377.	220.	-.0091	-.0032	-.0058	.0265	.0582	.0457	1934.							
.3460	10.	1.	-152.	186.	328.	198.	-.0101	-.0057	-.0049	.0249	.0529	.0504	1777.							
.3470	16.	-26.	-124.	208.	274.	169.	-.0113	-.0089	-.0041	.0228	.0454	.0556	1600.							
.3480	13.	-56.	-95.	232.	214.	133.	-.0125	-.0126	-.0036	.0200	.0361	.0612	1429.							
.3490	10.	-91.	-64.	262.	148.	87.	-.0138	-.0169	-.0032	.0167	.0254	.0664	1307.							
.3500	7.	-130.	-32.	299.	78.	32.	-.0151	-.0216	-.0031	.0129	.0137	.0712	1297.							
.3510	6.	-173.	1.	343.	10.	-27.	-.0163	-.0265	-.0033	.0091	.0015	.0758	1436.							
.3520	8.	-218.	34.	392.	-52.	-88.	-.0173	-.0315	-.0038	.0056	-.0106	.0803	1692.							
.3530	13.	-263.	66.	447.	-104.	-149.	-.0179	-.0364	-.0046	.0023	-.0220	.0843	2013.							
.3540	10.	-311.	96.	508.	-148.	-209.	-.0182	-.0412	-.0056	-.0007	-.0322	.0874	2373.							
.3550	28.	-358.	124.	575.	-183.	-267.	-.0182	-.0457	-.0067	-.0033	-.0410	.0895	2752.							
.3560	30.	-404.	147.	644.	-203.	-319.	-.0176	-.0497	-.0081	-.0053	-.0477	.0908	3116.							
.3570	51.	-445.	164.	711.	-205.	-360.	-.0164	-.0530	-.0097	-.0066	-.0520	.0916	3435.							
.3580	67.	-482.	175.	777.	-189.	-391.	-.0146	-.0555	-.0113	-.0072	-.0539	.0914	3714.							
.3590	83.	-515.	182.	842.	-162.	-414.	-.0123	-.0573	-.0130	-.0073	-.0535	.0900	3974.							
.3600	101.	-544.	185.	907.	-127.	-428.	-.0096	-.0583	-.0146	-.0065	-.0508	.0873	4216.							
.3610	120.	-566.	184.	965.	-60.	-432.	-.0064	-.0584	-.0163	-.0049	-.0459	.0839	4423.							
.3620	143.	-581.	177.	1015.	1.	-423.	-.0026	-.0574	-.0180	-.0025	-.0392	.0800	4588.							
.3630	168.	-588.	167.	1056.	83.	-404.	.0014	-.0556	-.0195	.0006	-.0309	.0756	4730.							
.3640	192.	-589.	152.	1087.	172.	-379.	.0057	-.0530	-.0208	.0043	-.0216	.0705	4859.							
.3650	217.	-583.	133.	1107.	267.	-346.	.0101	-.0497	-.0220	.0082	-.0115	.0648	4969.							
.3660	241.	-568.	108.	1112.	370.	-305.	.0146	-.0457	-.0229	.0123	-.0010	.0591	5053.							
.3670	266.	-544.	78.	1099.	478.	-256.	.0190	-.0412	-.0235	.0164	.0095	.0538	5113.							
.3680	280.	-513.	47.	1070.	587.	-201.	.0232	-.0362	-.0238	.0205	.0194	.0487	5152.							
.3690	307.	-475.	15.	1026.	678.	-145.	.0270	-.0310	-.0239	.0240	.0285	.0437	5165.							
.3700	321.	-431.	-16.	967.	758.	-87.	.0303	-.0258	-.0237	.0269	.0364	.0389	5141.							
.3710	330.	-382.	-44.	893.	822.	-28.	.0331	-.0205	-.0232	.0291	.0426	.0347	5067.							
.3720	333.	-328.	-68.	806.	865.	33.	.0353	-.0154	-.0224	.0307	.0472	.0312	4937.							
.3730	329.	-270.	-88.	706.	886.	91.	.0367	-.0107	-.0214	.0312	.0498	.0284	4745.							
.3740	319.	-211.	-103.	597.	882.	145.	.0373	-.0064	-.0202	.0304	.0505	.0259	4485.							
.3750	290.	-153.	-113.	480.	852.	193.	.0371	-.0028	-.0187	.0283	.0493	.0238	4162.							

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02.

18.29.34.

S/RV PIPING KEWAUNEE GKWOOD 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

.3650	217.	-502.	133.	1107.	267.	-346.	.101	-.0497	-.0220	.0082	-.0115	.0648	4969.
.3660	241.	-560.	109.	1112.	370.	-305.	.146	-.0457	-.0229	.0123	-.0010	.0591	5053.
.3670	266.	-544.	78.	1099.	478.	-256.	.0190	-.0412	-.0235	.0164	.0095	.0538	5113.
.3680	287.	-513.	47.	1070.	587.	-201.	.0232	-.0362	-.0238	.0205	.0194	.0487	5152.
.3690	307.	-475.	15.	1070.	670.	-145.	.0270	-.0310	-.0234	.0240	.0285	.0437	5165.
.3700	321.	-431.	-16.	967.	758.	-87.	.0303	-.0258	-.0237	.0269	.0364	.0389	5141.
.3710	330.	-382.	-44.	893.	822.	-28.	.0331	-.0205	-.0232	.0291	.0426	.0347	5067.
.3720	337.	-328.	-68.	806.	865.	33.	.0353	-.0154	-.0224	.0307	.0472	.0312	4937.
.3730	329.	-270.	-88.	706.	886.	91.	.0367	-.0107	-.0214	.0312	.0498	.0284	4745.
.3740	310.	-211.	-103.	597.	882.	145.	.0373	-.0064	-.0202	.0304	.0505	.0259	4485.
.3750	290.	-153.	-117.	480.	852.	193.	.0371	-.0028	-.0187	.0283	.0493	.0238	4162.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.34.

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

SECTION	62	MEMBER	1	SEQUENCE	810	LOCATION	BEG	TYPE	TE					
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	275.	-95.	-119.	359.	801.	235.		.0361	.0001	-.0169	.0250	.0462	.0225	3792.
.3770	247.	-38.	-120.	272.	734.	272.		.0344	.0023	-.0150	.0206	.0415	.0219	3408.
.3780	216.	16.	-116.	105.	654.	300.		.0320	.0038	-.0129	.0149	.0354	.0218	3034.
.3790	187.	63.	-106.	-18.	558.	317.		.0289	.0043	-.0107	.0082	.0281	.0218	2679.
.3800	148.	101.	-88.	-131.	448.	320.		.0251	.0040	-.0085	.0004	.0197	.0217	2362.
.3810	113.	132.	-65.	-234.	329.	313.		.0209	.0030	-.0058	-.0079	.0106	.0216	2130.
.3820	80.	154.	-36.	-324.	207.	295.		.0163	.0012	-.0035	-.0167	.0011	.0217	2023.
.3830	48.	167.	-3.	-400.	82.	267.		.0115	-.0011	-.0008	-.0257	-.0085	.0215	2035.
.3840	16.	168.	35.	-456.	-47.	226.		.0066	-.0041	.0017	-.0349	-.0178	.0205	2134.
.3850	-15.	158.	76.	-493.	-177.	174.		.0016	-.0075	.0043	-.0440	-.0267	.0138	2303.
.3860	-42.	140.	120.	-512.	-299.	115.		-.0032	-.0111	.0069	-.0527	-.0346	.0164	2521.
.3870	-65.	114.	163.	-516.	-408.	54.		-.0076	-.0148	.0093	-.0609	-.0412	.0138	2754.
.3880	-87.	83.	205.	-505.	-502.	-10.		-.0116	-.0185	.0116	-.0682	-.0461	.0106	2971.
.3890	-95.	45.	248.	-479.	-582.	-76.		-.0153	-.0219	.0138	-.0748	-.0494	.0066	3162.
.3900	-107.	4.	289.	-440.	-647.	-142.		-.0183	-.0251	.0159	-.0804	-.0509	.0018	3319.
.3910	-106.	-38.	325.	-393.	-693.	-202.		-.0208	-.0278	.0178	-.0848	-.0505	-.0031	3428.
.3920	-104.	-78.	355.	-341.	-716.	-252.		-.0225	-.0298	.0194	-.0877	-.0481	-.0079	3472.
.3930	-97.	-114.	380.	-289.	-718.	-291.		-.0235	-.0311	.0209	-.0892	-.0440	-.0124	3451.
.3940	-87.	-146.	397.	-236.	-704.	-320.		-.0238	-.0317	.0221	-.0896	-.0382	-.0169	3374.
.3950	-75.	-174.	409.	-185.	-676.	-339.		-.0236	-.0317	.0231	-.0889	-.0310	-.0216	3250.
.3960	-61.	-194.	413.	-141.	-632.	-346.		-.0228	-.0308	.0239	-.0871	-.0227	-.0256	3063.
.3970	-44.	-204.	409.	-106.	-571.	-336.		-.0215	-.0292	.0244	-.0840	-.0133	-.0287	2800.
.3980	-25.	-205.	399.	-83.	-497.	-312.		-.0197	-.0270	.0247	-.0801	-.0034	-.0308	2473.
.3990	-7.	-199.	383.	-69.	-418.	-279.		-.0177	-.0242	.0249	-.0756	.0068	-.0324	2118.
.4000	9.	-187.	364.	-62.	-341.	-240.		-.0156	-.0211	.0248	-.0706	.0166	-.0335	1761.

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)
.2040	-654.	1218.	-232.	-2570.	-1289.	902.		.0735	-.0218	-.0315	.0682	.0867	-.1033	12432.

SECTION	62	MEMBER	1	SEQUENCE	89	LOCATION	END	TYPE	TE					
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)

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.34.

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

TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	FX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	FX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)
.2840	-654.	1218.	-230.	-2070.	-1289.	902.	.0735	-.0218	-.0315	.0682	.0867	-.1033	12432.

SECTION	62	MEMBER	1	SEQUENCE	89	LOCATION	END	TYPE	TE	DX	DY	DZ	FX	RY	RZ	STRESS (PSI)
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	FX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(DEG)	(DEG)	(DEG)	(PSI)

ADLPIPE PAGE 2440

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.34.

S/RV PIPING KEWAUNEE CKWOOD 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	62	MEMBER	1	SEQUENCE	89	LOCATION	END	TYPE	TE	DX	DY	DZ	FX	RY	RZ	STRESS (PSI)
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	FX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(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	0.0000	0.0000	0.
.0010	-0.	-0.	-0.	0.	-0.	-0.	-.0000	.0000	.0000	-.0000	.0000	.0000	.0000	.0000	.0000	0.
.0020	-0.	-0.	-0.	0.	-0.	-0.	-.0000	.0000	.0000	-.0000	.0000	.0000	.0000	.0000	.0000	0.
.0030	-0.	-0.	-0.	0.	0.	-0.	-.0000	-.0000	.0000	-.0000	.0000	.0000	.0000	.0000	.0000	0.
.0040	-0.	0.	-0.	-0.	0.	0.	-.0000	.0000	.0000	.0000	.0000	.0000	-.0000	-.0000	-.0000	0.
.0050	0.	0.	-0.	-0.	0.	0.	-.0000	-.0000	.0000	.0000	.0000	.0000	-.0000	-.0000	-.0000	1.
.0060	0.	0.	-0.	-0.	0.	0.	-.0000	-.0000	.0000	-.0000	-.0000	.0000	-.0000	-.0000	-.0000	2.
.0070	0.	0.	-0.	-0.	1.	0.	-.0000	-.0000	.0000	-.0000	-.0000	.0000	-.0000	-.0000	-.0001	4.
.0080	1.	1.	-1.	-0.	2.	1.	-.0000	-.0000	.0000	-.0001	-.0000	.0000	-.0001	-.0000	-.0001	9.
.0090	1.	1.	-1.	-1.	4.	2.	-.0001	-.0001	.0000	-.0002	-.0000	.0000	-.0002	-.0000	-.0003	18.
.0100	3.	2.	-1.	-2.	6.	4.	-.0002	-.0001	.0001	-.0003	-.0000	.0001	-.0003	-.0000	-.0005	31.
.0110	4.	3.	-1.	-3.	9.	6.	-.0003	-.0002	.0001	-.0005	-.0000	.0001	-.0005	-.0000	-.0008	44.
.0120	6.	4.	-1.	-3.	11.	8.	-.0004	-.0003	.0002	-.0009	.0001	.0002	-.0009	.0001	-.0012	58.
.0130	8.	5.	-1.	-3.	14.	12.	-.0007	-.0005	.0002	-.0015	.0003	.0002	-.0015	.0003	-.0018	81.
.0140	11.	8.	-2.	-5.	20.	19.	-.0011	-.0007	.0003	-.0024	.0006	.0003	-.0024	.0006	-.0029	117.
.0150	14.	12.	-3.	-9.	29.	28.	-.0016	-.0011	.0004	-.0034	.0010	.0004	-.0034	.0010	-.0040	168.
.0160	18.	17.	-4.	-14.	37.	36.	-.0021	-.0015	.0005	-.0041	.0014	.0005	-.0041	.0014	-.0049	224.
.0170	21.	22.	-5.	-22.	45.	44.	-.0027	-.0018	.0006	-.0044	.0017	.0006	-.0044	.0017	-.0053	275.
.0180	24.	26.	-11.	-30.	50.	49.	-.0032	-.0021	.0006	-.0043	.0020	.0006	-.0043	.0020	-.0050	317.
.0190	25.	30.	-11.	-39.	53.	52.	-.0038	-.0024	.0005	-.0037	.0022	.0005	-.0037	.0022	-.0041	349.
.0200	24.	33.	-11.	-48.	51.	52.	-.0043	-.0026	.0004	-.0027	.0024	.0004	-.0027	.0024	-.0025	364.
.0210	21.	33.	-9.	-55.	41.	49.	-.0047	-.0027	.0003	-.0013	.0027	.0003	-.0013	.0027	-.0004	353.
.0220	16.	32.	-1.	-60.	25.	43.	-.0050	-.0027	.0001	.0004	.0031	.0001	.0004	.0031	.0023	326.
.0230	11.	27.	10.	-61.	2.	34.	-.0052	-.0026	-.0002	.0021	.0037	-.0002	.0021	.0037	.0051	290.
.0240	4.	21.	17.	-57.	-19.	22.	-.0054	-.0024	-.0005	.0035	.0044	-.0005	.0035	.0044	.0075	267.
.0250	0.	16.	16.	-54.	-25.	15.	-.0056	-.0023	-.0006	.0043	.0048	-.0006	.0043	.0048	.0090	255.
.0260	5.	15.	11.	-57.	-10.	12.	-.0058	-.0022	-.0007	.0053	.0043	-.0007	.0053	.0043	.0099	249.
.0270	16.	13.	14.	-65.	12.	5.	-.0056	-.0016	-.0008	.0079	.0028	-.0008	.0079	.0028	.0116	275.
.0280	21.	-2.	23.	-56.	15.	-22.	-.0046	-.0004	-.0012	.0119	.0007	-.0012	.0119	.0007	.0157	258.
.0290	17.	-23.	25.	-29.	10.	-53.	-.0034	.0011	-.0015	.0146	-.0015	-.0015	.0146	-.0015	.0191	258.
.0300	20.	-29.	20.	-20.	34.	-54.	-.0027	.0017	-.0015	.0150	-.0041	-.0015	.0150	-.0041	.0179	281.
.0310	42.	-30.	37.	-18.	63.	-46.	-.0021	.0024	-.0013	.0156	-.0072	-.0013	.0156	-.0072	.0159	334.
.0320	20.	-55.	47.	20.	30.	-72.	-.0004	.0040	-.0016	.0172	-.0096	-.0016	.0172	-.0096	.0175	335.
.0330	-7.	-98.	74.	93.	-61.	-120.	.0023	.0061	-.0023	.0178	-.0107	-.0023	.0178	-.0107	.0200	682.
.0340	-30.	-130.	90.	153.	-131.	-146.	.0044	.0074	-.0028	.0160	-.0110	-.0028	.0160	-.0110	.0186	1040.
.0350	-40.	-140.	90.	183.	-144.	-141.	.0055	.0078	-.0027	.0122	-.0111	-.0027	.0122	-.0111	.0130	1137.
.0360	-40.	-145.	93.	206.	-137.	-132.	.0066	.0080	-.0025	.0077	-.0108	-.0025	.0077	-.0108	.0083	1171.
.0370	-30.	-158.	104.	235.	-140.	-146.	.0087	.0087	-.0029	.0049	-.0104	-.0029	.0049	-.0104	.0023	1311.

ADLPIPE PAGE 2441

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.34.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING

.0270	16.	13.	14.	-65.	12.	5.	-.056	-.0016	-.0008	.0079	.0028	.0116	275.
.0280	21.	-2.	23.	-56.	15.	-22.	-.046	-.0004	-.0012	.0119	.0007	.0157	258.
.0290	17.	-23.	25.	-29.	10.	-53.	-.034	.0011	-.0015	.0146	-.0015	.0191	258.
.0300	20.	-29.	28.	-20.	34.	-54.	-.027	.0017	-.0015	.0150	-.0041	.0179	281.
.0310	42.	-30.	37.	-18.	63.	-46.	-.021	.0024	-.0013	.0156	-.0072	.0159	334.
.0320	20.	-55.	47.	20.	30.	-72.	-.004	.0040	-.0016	.0172	-.0096	.0175	335.
.0330	-7.	-98.	74.	93.	-61.	-120.	.0023	.0061	-.0023	.0178	-.0107	.0200	682.
.0340	-32.	-130.	99.	153.	-131.	-146.	.0044	.0074	-.0028	.0160	-.0110	.0186	1040.
.0350	-40.	-140.	99.	103.	-144.	-141.	.0055	.0078	-.0027	.0122	-.0111	.0130	1137.
.0360	-40.	-145.	93.	206.	-137.	-132.	.0066	.0080	-.0025	.0077	-.0108	.0063	1171.
.0370	-39.	-158.	104.	235.	-149.	-146.	.0087	.0087	-.0029	.0049	-.0104	.0023	1311.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.34.

S/RV PIPING KEWAUNEE GKW OF 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	62	MEMBER	1	SEQUENCE	89	LOCATION	END	TYPE	TE	DZ	RX	RY	RZ	STRESS
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)					
.0380	-30.	-176.	119.	258.	-165.	-178.	.0114	.0098	-.0037	.0049	-.0100	.0018	1480.	
.0390	-32.	-180.	110.	262.	-150.	-196.	.0134	.0103	-.0043	.0039	-.0090	-.0002	1504.	
.0400	-14.	-156.	81.	275.	-94.	-170.	.0140	.0091	-.0044	-.0012	-.0072	-.0082	1272.	
.0410	10.	-116.	59.	179.	-34.	-120.	.0142	.0071	-.0045	-.0066	-.0050	-.0176	911.	
.0420	1.	-94.	51.	139.	-49.	-110.	.0151	.0060	-.0051	-.0076	-.0019	-.0194	767.	
.0430	-47.	-95.	57.	138.	-157.	-137.	.0168	.0055	-.0064	-.0078	.0032	-.0160	1042.	
.0440	-90.	-81.	65.	126.	-262.	-130.	.0175	.0035	-.0072	-.0128	.0097	-.0179	1330.	
.0450	-101.	-23.	46.	56.	-278.	-57.	.0158	-.0005	-.0069	-.0208	.0160	-.0264	1207.	
.0460	-100.	49.	8.	-43.	-245.	27.	.0132	-.0047	-.0062	-.0268	.0212	-.0337	1045.	
.0470	-109.	98.	-10.	-112.	-254.	69.	.0119	-.0077	-.0061	-.0298	.0253	-.0351	1193.	
.0480	-117.	130.	-12.	-164.	-278.	85.	.0113	-.0099	-.0065	-.0304	.0281	-.0325	1392.	
.0490	-101.	184.	-43.	-254.	-221.	127.	.0093	-.0125	-.0062	-.0294	.0288	-.0309	1500.	
.0500	-62.	263.	-103.	-375.	-84.	215.	.0054	-.0101	-.0050	-.0305	.0283	-.0343	1838.	
.0510	-25.	333.	-150.	-472.	31.	309.	.0012	-.0199	-.0036	-.0343	.0280	-.0398	2358.	
.0520	-10.	366.	-160.	-515.	64.	354.	-.0021	-.0221	-.0027	-.0354	.0278	-.0394	2623.	
.0530	-37.	368.	-177.	-516.	40.	355.	-.0047	-.0226	-.0020	-.0325	.0271	-.0322	2621.	
.0540	-52.	365.	-178.	-502.	18.	363.	-.0078	-.0230	-.0008	-.0310	.0263	-.0268	2587.	
.0550	-46.	365.	-169.	-483.	25.	395.	-.0117	-.0239	.0009	-.0330	.0251	-.0267	2607.	
.0560	-37.	350.	-160.	-446.	48.	408.	-.0156	-.0238	.0029	-.0332	.0232	-.0248	2530.	
.0570	-25.	305.	-146.	-371.	58.	372.	-.0184	-.0218	.0046	-.0294	.0204	-.0171	2205.	
.0580	-7.	239.	-114.	-269.	67.	312.	-.0203	-.0187	.0059	-.0250	.0171	-.0089	1741.	
.0590	32.	177.	-89.	-173.	123.	263.	-.0225	-.0157	.0074	-.0216	.0132	-.0039	1411.	
.0600	84.	122.	-93.	-95.	235.	223.	-.0253	-.0125	.0092	-.0171	.0087	-.0001	1408.	
.0610	127.	56.	-96.	-5.	329.	164.	-.0273	-.0085	.0106	-.0111	.0045	.0053	1534.	
.0620	140.	-38.	-64.	125.	341.	68.	-.0277	-.0036	.0113	-.0044	.0016	.0135	1543.	
.0630	147.	-147.	-17.	279.	295.	-52.	-.0271	.0020	.0116	.0025	.0003	.0236	1708.	
.0640	147.	-245.	10.	421.	255.	-157.	-.0267	.0071	.0122	.0079	.0000	.0314	2154.	
.0650	151.	-321.	50.	578.	237.	-225.	-.0267	.0109	.0132	.0097	.0006	.0336	2627.	
.0660	160.	-385.	88.	641.	214.	-285.	-.0260	.0142	.0141	.0104	.0014	.0341	3060.	
.0670	160.	-449.	125.	733.	177.	-361.	-.0241	.0179	.0144	.0141	.0013	.0383	3489.	
.0680	161.	-499.	149.	795.	155.	-433.	-.0215	.0215	.0142	.0196	.0000	.0435	3832.	
.0690	177.	-513.	157.	804.	180.	-460.	-.0192	.0236	.0140	.0232	-.0022	.0441	3938.	
.0700	190.	-491.	137.	763.	245.	-440.	-.0175	.0240	.0139	.0243	-.0049	.0397	3815.	
.0710	206.	-449.	101.	693.	300.	-400.	-.0158	.0234	.0135	.0248	-.0074	.0345	3568.	
.0720	190.	-402.	76.	614.	300.	-361.	-.0133	.0224	.0125	.0258	-.0095	.0312	3225.	
.0730	150.	-353.	71.	571.	233.	-326.	-.0100	.0210	.0110	.0268	-.0106	.0299	2779.	
.0740	97.	-296.	70.	442.	129.	-283.	-.0066	.0187	.0093	.0263	-.0104	.0284	2256.	
.0750	37.	-219.	67.	373.	30.	-212.	-.0038	.0150	.0078	.0225	-.0089	.0236	1652.	

ADLPIPE PAGE 2442

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.35.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

.0650	151.	-321.	50.	538.	237.	-225.	-0.267	.0071	.0109	.0132	.0097	.0006	.0314	2154.
.0660	160.	-305.	88.	641.	214.	-285.	-0.260	.0142	.0141	.0141	.0104	.0014	.0341	3060.
.0670	160.	-449.	125.	723.	177.	-361.	-0.241	.0179	.0144	.0141	.0013	.0383	.0383	3489.
.0680	161.	-499.	149.	795.	155.	-433.	-0.215	.0215	.0142	.0196	.0000	.0435	.0435	3832.
.0690	177.	-513.	157.	804.	180.	-460.	-0.192	.0236	.0140	.0232	-.0022	.0441	.0441	3938.
.0700	190.	-491.	137.	763.	245.	-440.	-0.175	.0240	.0139	.0243	-.0049	.0397	.0397	3815.
.0710	206.	-449.	101.	693.	300.	-400.	-0.158	.0234	.0135	.0248	-.0074	.0345	.0345	3568.
.0720	190.	-402.	76.	614.	300.	-361.	-0.133	.0224	.0125	.0258	-.0095	.0312	.0312	3225.
.0730	150.	-353.	71.	531.	233.	-326.	-0.100	.0210	.0110	.0268	-.0106	.0299	.0299	2779.
.0740	97.	-296.	70.	442.	129.	-283.	-0.066	.0187	.0093	.0263	-.0104	.0284	.0284	2256.
.0750	37.	-219.	63.	333.	30.	-212.	-0.038	.0150	.0078	.0225	-.0089	.0236	.0236	1652.

ADLPIPE PAGE 2442

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.35.

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	62	MEMBER	1	SEQUENCE	29	LOCATION	END	TYPE	TE						
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)	
.0760	-7.	-125.	56.	199.	-47.	-119.		-.0013	.0102	.0063	.0168	-.0070	.0162	990.	
.0770	-46.	-31.	48.	57.	-115.	-38.		.0015	.0054	.0044	.0127	-.0054	.0111	560.	
.0780	-84.	54.	35.	-82.	-177.	19.		.0049	.0013	.0018	.0109	-.0042	.0093	819.	
.0790	-107.	141.	13.	-231.	-202.	78.		.0082	-.0031	-.0011	.0091	-.0036	.0067	1320.	
.0800	-106.	240.	-27.	-399.	-164.	158.		.0105	-.0060	-.0040	.0060	-.0034	.0006	1917.	
.0810	-98.	338.	-83.	-565.	-95.	243.		.0120	-.0130	-.0067	.0023	-.0031	-.0067	2599.	
.0820	-99.	416.	-127.	-698.	-56.	308.		.0137	-.0174	-.0096	-.0018	-.0024	-.0128	3193.	
.0830	-111.	467.	-142.	-790.	-68.	348.		.0157	-.0209	-.0127	-.0056	-.0012	-.0168	3614.	
.0840	-130.	499.	-137.	-852.	-113.	368.		.0178	-.0235	-.0157	-.0079	-.0001	-.0182	3900.	
.0850	-155.	514.	-122.	-886.	-174.	375.		.0195	-.0254	-.0183	-.0097	.0009	-.0182	4079.	
.0860	-178.	514.	-91.	-891.	-249.	376.		.0210	-.0268	-.0206	-.0122	.0018	-.0189	4167.	
.0870	-195.	499.	-47.	-873.	-326.	367.		.0223	-.0273	-.0226	-.0141	.0021	-.0190	4179.	
.0880	-211.	467.	-5.	-836.	-393.	336.		.0236	-.0265	-.0245	-.0129	.0013	-.0162	4103.	
.0890	-222.	421.	31.	-783.	-445.	288.		.0247	-.0247	-.0263	-.0098	-.0001	-.0120	3945.	
.0900	-221.	368.	63.	-719.	-473.	241.		.0254	-.0223	-.0277	-.0069	-.0016	-.0094	3729.	
.0910	-209.	313.	87.	-652.	-471.	194.		.0255	-.0195	-.0287	-.0037	-.0031	-.0079	3454.	
.0920	-195.	248.	104.	-574.	-450.	135.		.0254	-.0160	-.0292	.0008	-.0040	-.0054	3118.	
.0930	-182.	171.	131.	-471.	-462.	60.		.0252	-.0117	-.0293	.0052	-.0035	-.0023	2768.	
.0940	-165.	86.	169.	-352.	-475.	-18.		.0250	-.0073	-.0288	.0081	-.0018	-.0005	2468.	
.0950	-130.	9.	200.	-237.	-463.	-86.		.0240	-.0030	-.0275	.0104	.0005	-.0001	2199.	
.0960	-100.	-55.	218.	-140.	-413.	-138.		.0223	.0012	-.0254	.0130	.0024	-.0007	1911.	
.0970	-55.	-111.	234.	-55.	-349.	-183.		.0204	.0053	-.0229	.0163	.0035	-.0014	1660.	
.0980	-13.	-164.	245.	22.	-285.	-227.		.0186	.0097	-.0203	.0214	.0034	-.0003	1522.	
.0990	23.	-206.	239.	79.	-210.	-263.		.0166	.0140	-.0175	.0284	.0019	.0023	1443.	
.1000	56.	-228.	215.	112.	-119.	-271.		.0137	.0177	-.0142	.0350	-.0006	.0035	1321.	
.1010	85.	-233.	185.	125.	-27.	-252.		.0101	.0203	-.0105	.0402	-.0034	.0029	1179.	
.1020	100.	-231.	155.	176.	39.	-225.		.0064	.0225	-.0065	.0449	-.0065	.0033	1108.	
.1030	98.	-230.	132.	152.	69.	-203.		.0028	.0246	-.0025	.0501	-.0095	.0063	1098.	
.1040	90.	-226.	119.	170.	78.	-181.		-.0006	.0262	.0018	.0547	-.0126	.0105	1088.	
.1050	86.	-215.	107.	182.	92.	-151.		-.0042	.0271	.0063	.0578	-.0158	.0142	1060.	
.1060	80.	-198.	88.	188.	125.	-116.		-.0079	.0274	.0108	.0598	-.0190	.0176	1060.	
.1070	94.	-179.	62.	195.	172.	-85.		-.0115	.0273	.0152	.0606	-.0221	.0208	1141.	
.1080	107.	-166.	29.	209.	227.	-61.		-.0147	.0269	.0192	.0599	-.0247	.0236	1314.	
.1090	112.	-154.	-17.	228.	297.	-45.		-.0176	.0263	.0228	.0577	-.0268	.0257	1573.	
.1100	130.	-140.	-70.	242.	388.	-26.		-.0203	.0253	.0261	.0545	-.0285	.0262	1911.	
.1110	140.	-130.	-127.	266.	481.	-10.		-.0227	.0239	.0290	.0486	-.0294	.0249	2294.	
.1120	164.	-128.	-183.	308.	564.	-2.		-.0244	.0223	.0315	.0403	-.0296	.0221	2682.	
.1130	183.	-125.	-233.	349.	650.	5.		-.0255	.0206	.0337	.0314	-.0300	.0186	3077.	

ADLPIPE PAGE 2447

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.35.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

.1030	90.	-230.	132.	152.	69.	-203.	.0028	.0246	-.0025	.0501	-.0095	.0063	1108.
.1040	90.	-226.	119.	170.	78.	-191.	-.0006	.0262	.0018	.0547	-.0126	.0105	1088.
.1050	86.	-215.	107.	182.	92.	-151.	-.0042	.0271	.0063	.0578	-.0158	.0142	1060.
.1060	80.	-198.	80.	180.	125.	-116.	-.0079	.0274	.0108	.0598	-.0190	.0176	1060.
.1070	94.	-179.	61.	195.	172.	-85.	-.0115	.0273	.0152	.0606	-.0221	.0208	1141.
.1080	102.	-166.	29.	209.	227.	-61.	-.0147	.0269	.0192	.0599	-.0247	.0236	1314.
.1090	112.	-154.	-17.	228.	297.	-45.	-.0176	.0263	.0228	.0579	-.0268	.0257	1573.
.1100	130.	-140.	-70.	242.	388.	-26.	-.0203	.0253	.0261	.0545	-.0285	.0262	1911.
.1110	140.	-130.	-127.	266.	481.	-10.	-.0227	.0239	.0290	.0486	-.0294	.0249	2294.
.1120	164.	-128.	-183.	308.	564.	-2.	-.0244	.0223	.0315	.0403	-.0295	.0221	2682.
.1130	183.	-125.	-233.	349.	650.	5.	-.0255	.0206	.0337	.0314	-.0300	.0186	3077.

ADLPIPE PAGE 2443

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.35.

S/RV PIPING KEWAUNEE CKW00F 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	62	MEMBER	1	SEQUENCE	89	LOCATION	END	TYPE	TE						
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS		
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		
.1140	200.	-118.	-268.	382.	734.	15.	-.0258	.0189	.0355	.0227	-.0315	.0146	3455.		
.1150	229.	-115.	-284.	418.	793.	21.	-.0250	.0173	.0367	.0141	-.0338	.0106	3741.		
.1160	234.	-118.	-289.	457.	813.	19.	-.0230	.0160	.0371	.0067	-.0367	.0078	3895.		
.1170	220.	-118.	-295.	489.	802.	18.	-.0204	.0149	.0367	.0001	-.0378	.0051	3918.		
.1180	195.	-108.	-293.	499.	761.	37.	-.0174	.0133	.0357	-.0070	-.0425	-.0001	3803.		
.1190	140.	-97.	-289.	503.	674.	57.	-.0137	.0116	.0338	-.0139	-.0441	-.0059	3519.		
.1200	72.	-92.	-284.	505.	532.	58.	-.0088	.0105	.0309	-.0184	-.0442	-.0091	3073.		
.1210	-11.	-88.	-263.	495.	353.	47.	-.0030	.0097	.0273	-.0209	-.0424	-.0109	2545.		
.1220	-90.	-80.	-228.	472.	163.	33.	.0035	.0088	.0233	-.0236	-.0384	-.0137	2089.		
.1230	-149.	-61.	-191.	427.	2.	24.	.0101	.0076	.0192	-.0269	-.0324	-.0190	1784.		
.1240	-187.	-32.	-170.	356.	-109.	16.	.0166	.0063	.0152	-.0295	-.0251	-.0254	1556.		
.1250	-204.	7.	-160.	261.	-174.	11.	.0231	.0050	.0110	-.0315	-.0169	-.0331	1312.		
.1260	-201.	57.	-152.	140.	-202.	17.	.0297	.0036	.0066	-.0329	-.0086	-.0427	1028.		
.1270	-196.	111.	-164.	2.	-207.	21.	.0361	.0026	.0021	-.0317	-.0010	-.0511	866.		
.1280	-200.	166.	-192.	-147.	-209.	23.	.0422	.0021	-.0025	-.0275	.0059	-.0572	1070.		
.1290	-221.	210.	-214.	-284.	-244.	28.	.0478	.0018	-.0068	-.0233	.0126	-.0630	1567.		
.1300	-254.	264.	-219.	-397.	-321.	47.	.0527	.0012	-.0105	-.0216	.0195	-.0705	2140.		
.1310	-291.	310.	-211.	-495.	-413.	84.	.0565	.0004	-.0132	-.0213	.0255	-.0790	2714.		
.1320	-334.	347.	-200.	-570.	-513.	119.	.0593	.0002	-.0150	-.0200	.0297	-.0852	3240.		
.1330	-375.	372.	-168.	-618.	-623.	148.	.0617	.0006	-.0160	-.0179	.0315	-.0890	3713.		
.1340	-406.	383.	-118.	-640.	-727.	171.	.0636	.0015	-.0165	-.0151	.0307	-.0912	4104.		
.1350	-421.	386.	-77.	-652.	-786.	189.	.0646	.0031	-.0164	-.0102	.0273	-.0912	4333.		
.1360	-420.	381.	-55.	-654.	-790.	202.	.0641	.0053	-.0157	-.0037	.0220	-.0948	4362.		
.1370	-413.	361.	-51.	-626.	-766.	206.	.0626	.0079	-.0146	.0016	.0167	-.0833	4218.		
.1380	-396.	326.	-50.	-570.	-723.	205.	.0600	.0104	-.0131	.0048	.0118	-.0680	3936.		
.1390	-360.	279.	-58.	-496.	-650.	189.	.0565	.0133	-.0112	.0088	.0071	-.0858	3504.		
.1400	-334.	211.	-66.	-398.	-566.	138.	.0527	.0174	-.0091	.0157	.0023	-.0786	2944.		
.1410	-294.	117.	-48.	-261.	-500.	52.	.0491	.0222	-.0068	.0233	-.0019	-.0677	2364.		
.1420	-246.	6.	-10.	-89.	-442.	-53.	.0455	.0272	-.0041	.0291	-.0054	-.0561	1896.		
.1430	-177.	-99.	22.	81.	-338.	-145.	.0409	.0317	-.0008	.0333	-.0090	-.0464	1573.		
.1440	-92.	-193.	37.	233.	-183.	-221.	.0354	.0359	.0031	.0375	-.0139	-.0376	1544.		
.1450	-16.	-209.	49.	307.	-38.	-301.	.0301	.0401	.0067	.0426	-.0197	-.0275	2053.		
.1460	41.	-302.	71.	549.	58.	-390.	.0257	.0446	.0095	.0485	-.0262	-.0155	2821.		
.1470	75.	-488.	81.	702.	129.	-473.	.0215	.0489	.0121	.0550	-.0332	-.0027	3574.		
.1480	100.	-562.	74.	823.	203.	-523.	.0168	.0522	.0147	.0605	-.0404	.0076	4159.		
.1490	114.	-617.	67.	927.	254.	-545.	.0119	.0542	.0174	.0629	-.0464	.0144	4612.		
.1500	100.	-666.	87.	1030.	245.	-559.	.0079	.0553	.0199	.0619	-.0503	.0193	5007.		
.1510	67.	-705.	110.	1126.	196.	-572.	.0049	.0557	.0220	.0600	-.0526	.0242	5332.		

ADLPIPE PAGE 2444

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.35.

S/RV PIPING KEWAUNEE CKW00F 2 RUP DISK
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

.1410	-294.	117.	-48.	-261.	-500.	52.	491.	.0222	-.0068	.0233	-.0019	-.0677	2364.
.1420	-246.	6.	-10.	-89.	-442.	-53.	455.	.0272	-.0041	.0291	-.0054	-.0561	1896.
.1430	-177.	-99.	22.	81.	-338.	-145.	409.	.0317	-.0008	.0333	-.0090	-.0464	1573.
.1440	-92.	-193.	37.	233.	-183.	-221.	354.	.0359	.0031	.0375	-.0139	-.0376	1544.
.1450	-16.	-289.	49.	307.	-38.	-301.	301.	.0401	.0067	.0426	-.0197	-.0275	2053.
.1460	41.	-392.	71.	549.	58.	-390.	257.	.0446	.0095	.0485	-.0262	-.0155	2821.
.1470	75.	-488.	81.	702.	129.	-473.	215.	.0489	.0121	.0550	-.0332	-.0027	3574.
.1480	100.	-562.	74.	823.	203.	-523.	168.	.0522	.0147	.0605	-.0404	.0076	4159.
.1490	114.	-617.	67.	927.	254.	-545.	119.	.0542	.0174	.0629	-.0464	.0144	4612.
.1500	109.	-666.	82.	1077.	245.	-559.	79.	.0553	.0199	.0619	-.0503	.0193	5007.
.1510	97.	-705.	116.	1126.	196.	-572.	49.	.0557	.0220	.0600	-.0526	.0242	5332.

ADLPIPE PAGE 2444

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.35.

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	62	MEMBER	1	SEQUENCE	89	LOCATION	END	TYPE	TE						
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	80.	-730.	147.	1191.	140.	-504.	.0025	.0556	.0239	.0586	-.0532	.0298	5564.		
.1530	69.	-772.	172.	1222.	92.	-520.	.0006	.0543	.0253	.0551	-.0516	.0326	5656.		
.1540	62.	-711.	184.	1218.	59.	-552.	-.0010	.0513	.0263	.0475	-.0469	.0302	5586.		
.1550	66.	-661.	168.	1165.	63.	-501.	-.0027	.0469	.0267	.0379	-.0399	.0240	5299.		
.1560	74.	-586.	123.	1059.	100.	-438.	-.0043	.0416	.0263	.0292	-.0310	.0168	4801.		
.1570	71.	-501.	60.	929.	129.	-377.	-.0053	.0356	.0250	.0203	-.0198	.0096	4219.		
.1580	66.	-401.	-1.	777.	144.	-304.	-.0059	.0284	.0230	.0087	-.0065	-.0001	3535.		
.1590	69.	-277.	-67.	588.	172.	-201.	-.0068	.0198	.0210	-.0046	.0079	-.0127	2692.		
.1600	70.	-136.	-131.	373.	206.	-85.	-.0082	.0105	.0190	-.0178	.0226	-.0252	1813.		
.1610	61.	5.	-180.	161.	201.	32.	-.0092	.0009	.0168	-.0314	.0373	-.0366	1083.		
.1620	45.	147.	-197.	-46.	151.	157.	-.0100	-.0092	.0143	-.0461	.0516	-.0481	930.		
.1630	23.	294.	-216.	-263.	98.	294.	-.0113	-.0195	.0117	-.0595	.0638	-.0584	1695.		
.1640	-2.	449.	-250.	-499.	66.	445.	-.0134	-.0296	.0091	-.0700	.0731	-.0671	2803.		
.1650	-32.	597.	-282.	-732.	28.	597.	-.0157	-.0392	.0062	-.0783	.0797	-.0742	3943.		
.1660	-75.	724.	-308.	-935.	-36.	730.	-.0179	-.0479	.0028	-.0849	.0842	-.0785	4953.		
.1670	-112.	835.	-333.	-1118.	-83.	852.	-.0205	-.0554	-.0006	-.0889	.0862	-.0805	5878.		
.1680	-129.	933.	-361.	-1287.	-82.	967.	-.0239	-.0619	-.0035	-.0907	.0854	-.0816	6728.		
.1690	-121.	1009.	-372.	-1423.	-47.	1068.	-.0277	-.0672	-.0059	-.0914	.0825	-.0822	7429.		
.1700	-97.	1048.	-357.	-1504.	-4.	1130.	-.0311	-.0706	-.0081	-.0904	.0776	-.0802	7851.		
.1710	-61.	1046.	-326.	-1527.	49.	1146.	-.0340	-.0715	-.0101	-.0859	.0706	-.0740	7972.		
.1720	-4.	1013.	-280.	-1512.	130.	1131.	-.0369	-.0704	-.0118	-.0782	.0613	-.0657	7901.		
.1730	59.	943.	-228.	-1447.	221.	1084.	-.0396	-.0672	-.0133	-.0684	.0506	-.0558	7600.		
.1740	117.	835.	-169.	-1321.	297.	1003.	-.0420	-.0621	-.0148	-.0577	.0393	-.0452	7033.		
.1750	171.	694.	-101.	-1146.	358.	894.	-.0440	-.0551	-.0162	-.0460	.0276	-.0343	6246.		
.1760	210.	522.	-27.	-926.	404.	755.	-.0457	-.0463	-.0175	-.0323	.0155	-.0218	5263.		
.1770	261.	321.	67.	-664.	423.	587.	-.0466	-.0357	-.0186	-.0171	.0035	-.0080	4098.		
.1780	295.	95.	174.	-360.	403.	389.	-.0465	-.0238	-.0196	-.0018	-.0076	.0066	2779.		
.1790	332.	-145.	308.	-32.	362.	176.	-.0456	-.0112	-.0202	.0130	-.0175	.0204	1684.		
.1800	370.	-397.	449.	302.	314.	-43.	-.0441	.0018	-.0205	.0275	-.0258	.0335	1828.		
.1810	401.	-628.	584.	639.	252.	-270.	-.0422	.0148	-.0205	.0409	-.0316	.0456	3081.		
.1820	428.	-857.	718.	962.	175.	-487.	-.0396	.0270	-.0206	.0515	-.0343	.0544	4558.		
.1830	449.	-1062.	834.	1251.	95.	-687.	-.0369	.0381	-.0208	.0598	-.0337	.0602	5968.		
.1840	460.	-1235.	915.	1488.	26.	-864.	-.0341	.0476	-.0211	.0668	-.0302	.0639	7182.		
.1850	463.	-1371.	968.	1669.	-37.	-1015.	-.0313	.0554	-.0216	.0721	-.0236	.0655	8155.		
.1860	458.	-1467.	998.	1794.	-103.	-1132.	-.0284	.0608	-.0221	.0739	-.0140	.0640	8865.		
.1870	457.	-1509.	1010.	1846.	-149.	-1201.	-.0258	.0634	-.0225	.0724	-.0022	.0590	9213.		
.1880	459.	-1495.	993.	1818.	-164.	-1220.	-.0239	.0632	-.0225	.0684	.0109	.0516	9161.		
.1890	461.	-1427.	957.	1714.	-158.	-1187.	-.0226	.0602	-.0221	.0621	.0244	.0424	8725.		

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.1790	332.	-145.	74.	-60.	407.	389.	-425	-.0238	-.0196	-.0018	.0066	2779.		
.1800	370.	-397.	449.	302.	314.	-397.	-43.	-.4441	.0018	-.0205	.0275	.0258	.0335	1828.
.1810	401.	-628.	584.	639.	252.	-270.	-.0422	.0148	-.0205	.0409	-.0316	.0456	3081.	
.1820	429.	-857.	718.	967.	175.	-487.	-.0396	.0270	-.0206	.0515	-.0343	.0544	4558.	
.1830	449.	-1065.	834.	1251.	91.	-607.	-.0369	.0381	-.0208	.0598	-.0337	.0602	5968.	
.1840	460.	-1275.	915.	1478.	24.	-844.	-.0341	.0476	-.0211	.0668	-.0302	.0639	7182.	
.1850	463.	-1371.	968.	1669.	-37.	-1015.	-.0313	.0554	-.0216	.0721	-.0236	.0655	8155.	
.1860	458.	-1467.	998.	1794.	-103.	-1132.	-.0284	.0608	-.0221	.0739	-.0140	.0640	8865.	
.1870	457.	-1509.	1010.	1846.	-149.	-1201.	-.0258	.0634	-.0225	.0724	-.0022	.0590	9213.	
.1880	459.	-1495.	993.	1818.	-164.	-1220.	-.0239	.0632	-.0225	.0684	.0109	.0516	9161.	
.1890	461.	-1427.	957.	1714.	-150.	-1187.	-.0226	.0602	-.0221	.0621	.0244	.0424	8725.	

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

SECTION	MEMBER	SEQUENCE	LOCATION	END	TYPE	TE	TIME	FX	FY	FZ	FX	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)	(DEG)	(DEG)	(DEG)	(DEG)	(DEG)	(DEG)	(DEG)	(PSI)
.1900	458.	-1309.	909.	1543.	-152.	-1105.	-.0216	.0544	-.0216	.0534	.0377	.0319	7947.							
.1910	442.	-1144.	839.	1310.	-144.	-976.	-.0213	.0462	-.0211	.0434	.0498	.0212	6844.							
.1920	414.	-933.	741.	1010.	-124.	-796.	-.0220	.0356	-.0205	.0327	.0600	.0103	5394.							
.1930	371.	-687.	623.	663.	-105.	-573.	-.0236	.0230	-.0199	.0212	.0681	-.0004	3684.							
.1940	309.	-421.	492.	296.	-103.	-322.	-.0259	.0089	-.0193	.0085	.0743	-.0105	1875.							
.1950	236.	-144.	356.	-78.	-110.	-53.	-.0289	-.0062	-.0186	-.0052	.0783	-.0195	604.							
.1960	166.	136.	217.	-450.	-102.	228.	-.0326	-.0218	-.0177	-.0193	.0799	-.0276	2149.							
.1970	108.	408.	84.	-805.	-70.	506.	-.0370	-.0373	-.0163	-.0334	.0788	-.0342	3979.							
.1980	65.	655.	-35.	-1119.	-20.	761.	-.0414	-.0519	-.0147	-.0471	.0754	-.0386	5649.							
.1990	40.	868.	-138.	-1381.	52.	981.	-.0458	-.0651	-.0130	-.0599	.0698	-.0405	7074.							
.2000	36.	1043.	-233.	-1588.	161.	1165.	-.0502	-.0765	-.0110	-.0711	.0622	-.0405	8245.							
.2010	50.	1174.	-325.	-1733.	301.	1307.	-.0546	-.0857	-.0090	-.0808	.0529	-.0387	9143.							
.2020	74.	1254.	-406.	-1804.	451.	1399.	-.0588	-.0924	-.0071	-.0888	.0428	-.0353	9711.							
.2030	100.	1276.	-469.	-1793.	589.	1433.	-.0622	-.0963	-.0054	-.0947	.0321	-.0296	9892.							
.2040	126.	1240.	-511.	-1701.	705.	1408.	-.0649	-.0970	-.0038	-.0980	.0213	-.0212	9676.							
.2050	152.	1150.	-529.	-1532.	797.	1328.	-.0668	-.0949	-.0021	-.0989	.0108	-.0108	9093.							
.2060	181.	1013.	-515.	-1293.	861.	1204.	-.0677	-.0901	-.0002	-.0985	.0008	.0002	8202.							
.2070	214.	838.	-469.	-998.	899.	1041.	-.0677	-.0830	.0020	-.0967	-.0084	.0112	7093.							
.2080	249.	633.	-399.	-662.	916.	847.	-.0667	-.0736	.0044	-.0926	-.0170	.0228	5895.							
.2090	282.	408.	-315.	-305.	913.	627.	-.0646	-.0623	.0068	-.0857	-.0249	.0350	4794.							
.2100	310.	175.	-222.	56.	888.	395.	-.0616	-.0497	.0092	-.0766	-.0316	.0465	4063.							
.2110	331.	-54.	-132.	401.	847.	165.	-.0579	-.0364	.0113	-.0660	-.0367	.0562	3973.							
.2120	341.	-267.	-54.	713.	797.	-52.	-.0537	-.0230	.0133	-.0541	-.0397	.0639	4468.							
.2130	341.	-457.	12.	981.	732.	-251.	-.0491	-.0098	.0151	-.0411	-.0405	.0696	5216.							
.2140	329.	-621.	72.	1202.	644.	-432.	-.0440	.0027	.0167	-.0275	-.0386	.0736	5970.							
.2150	309.	-752.	128.	1368.	536.	-588.	-.0384	.0141	.0181	-.0138	-.0342	.0762	6607.							
.2160	283.	-843.	178.	1469.	424.	-714.	-.0326	.0241	.0194	-.0002	-.0275	.0771	7043.							
.2170	259.	-892.	218.	1501.	316.	-803.	-.0268	.0322	.0207	.0131	-.0192	.0763	7225.							
.2180	232.	-898.	246.	1466.	212.	-857.	-.0211	.0385	.0218	.0255	-.0094	.0740	7145.							
.2190	200.	-864.	258.	1370.	115.	-876.	-.0155	.0427	.0225	.0368	.0010	.0703	6803.							
.2200	166.	-791.	245.	1212.	34.	-855.	-.0105	.0449	.0229	.0470	.0114	.0654	6190.							
.2210	126.	-681.	207.	998.	-26.	-796.	-.0061	.0450	.0229	.0562	.0210	.0595	5329.							
.2220	80.	-546.	151.	747.	-78.	-709.	-.0022	.0434	.0224	.0642	.0292	.0535	4312.							
.2230	24.	-395.	87.	480.	-132.	-603.	.0013	.0403	.0216	.0705	.0359	.0481	3265.							
.2240	-31.	-237.	21.	211.	-185.	-484.	.0044	.0359	.0205	.0747	.0407	.0432	2333.							
.2250	-85.	-77.	-42.	-48.	-228.	-352.	.0068	.0304	.0195	.0762	.0432	.0385	1763.							
.2260	-132.	78.	-97.	-284.	-259.	-217.	.0086	.0240	.0186	.0747	.0432	.0340	1842.							
.2270	-171.	219.	-143.	-485.	-280.	-86.	.0101	.0172	.0178	.0706	.0407	.0302	2366.							

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.2170	250.	-892.	210.	1501.	316.	-803.	-1.268	.0322	.0207	.0131	-.0192	.0763	7225.
.2180	230.	-898.	246.	1466.	217.	-857.	-.0211	.0385	.0218	.0255	-.0094	.0740	7145.
.2190	200.	-864.	258.	1370.	115.	-876.	-.0155	.0427	.0225	.0368	.0010	.0703	6803.
.2200	166.	-791.	245.	1212.	34.	-855.	-.0105	.0449	.0229	.0470	.0114	.0654	6190.
.2210	126.	-691.	207.	990.	-26.	-796.	-.0061	.0450	.0229	.0562	.0210	.0595	5329.
.2220	80.	-546.	151.	747.	-70.	-709.	-.0022	.0434	.0224	.0642	.0292	.0555	4312.
.2230	26.	-395.	87.	480.	-132.	-603.	.0013	.0403	.0216	.0705	.0359	.0481	3265.
.2240	-31.	-237.	21.	211.	-185.	-484.	.0044	.0359	.0205	.0747	.0407	.0432	2333.
.2250	-85.	-77.	-42.	-48.	-228.	-352.	.0068	.0304	.0195	.0762	.0432	.0385	1763.
.2260	-132.	78.	-97.	-284.	-259.	-217.	.0086	.0240	.0186	.0747	.0432	.0340	1842.
.2270	-171.	219.	-143.	-485.	-280.	-86.	.0101	.0172	.0178	.0706	.0407	.0302	2366.

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

SECTION	62	MEMBER	1	SEQUENCE	89	LOCATION	END	TYPE	TE	DZ	RX	RY	RZ	STRESS
TIME	FX	FY	FZ	MX	MY	MZ		DX	DY	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)		(IN)	(IN)					
.2280	-204.	338.	-182.	-645.	-288.	30.		.0114	.0105	.0168	.0648	.0355	.0277	2949.
.2290	-229.	474.	-220.	-761.	-275.	130.		.0124	.0041	.0156	.0577	.0276	.0263	3420.
.2300	-245.	506.	-262.	-823.	-238.	213.		.0131	-.0020	.0143	.0490	.0176	.0253	3724.
.2310	-252.	552.	-305.	-860.	-179.	279.		.0136	-.0076	.0129	.0385	.0061	.0241	3847.
.2320	-252.	571.	-347.	-841.	-106.	324.		.0139	-.0124	.0114	.0267	-.0064	.0227	3786.
.2330	-245.	564.	-381.	-776.	-28.	345.		.0143	-.0164	.0100	.0140	-.0192	.0215	3547.
.2340	-232.	531.	-401.	-671.	47.	343.		.0149	-.0194	.0086	.0008	-.0316	.0206	3150.
.2350	-214.	478.	-403.	-573.	110.	319.		.0159	-.0215	.0074	-.0129	-.0431	.0195	2632.
.2360	-193.	411.	-390.	-373.	160.	200.		.0172	-.0229	.0063	-.0264	-.0531	.0181	2057.
.2370	-174.	335.	-367.	-205.	193.	230.		.0188	-.0234	.0053	-.0391	-.0612	.0164	1517.
.2380	-160.	257.	-339.	-41.	203.	172.		.0208	-.0233	.0043	-.0506	-.0670	.0142	1125.
.2390	-157.	182.	-310.	108.	189.	113.		.0231	-.0227	.0032	-.0604	-.0701	.0113	1026.
.2400	-162.	119.	-288.	229.	156.	60.		.0256	-.0217	.0019	-.0683	-.0703	.0073	1185.
.2410	-176.	71.	-272.	312.	109.	18.		.0282	-.0206	.0006	-.0740	-.0676	.0020	1381.
.2420	-196.	43.	-260.	353.	46.	-14.		.0308	-.0193	-.0008	-.0773	-.0620	-.0041	1488.
.2430	-220.	33.	-247.	354.	-32.	-35.		.0337	-.0180	-.0021	-.0784	-.0535	-.0107	1490.
.2440	-245.	43.	-232.	314.	-122.	-44.		.0365	-.0167	-.0032	-.0775	-.0424	-.0179	1416.
.2450	-268.	74.	-217.	232.	-215.	-38.		.0392	-.0156	-.0040	-.0747	-.0291	-.0258	1329.
.2460	-290.	125.	-204.	113.	-306.	-16.		.0416	-.0147	-.0047	-.0703	-.0142	-.0343	1364.
.2470	-312.	100.	-195.	-36.	-396.	18.		.0436	-.0140	-.0051	-.0644	.0017	-.0430	1661.
.2480	-335.	266.	-192.	-207.	-482.	61.		.0452	-.0132	-.0055	-.0567	.0178	-.0510	2206.
.2490	-360.	347.	-198.	-391.	-561.	110.		.0462	-.0124	-.0058	-.0472	.0332	-.0580	2892.
.2500	-384.	428.	-211.	-577.	-627.	163.		.0466	-.0115	-.0059	-.0366	.0472	-.0639	3622.
.2510	-402.	504.	-227.	-753.	-675.	217.		.0463	-.0104	-.0059	-.0256	.0590	-.0689	4316.
.2520	-411.	569.	-242.	-907.	-700.	269.		.0452	-.0091	-.0054	-.0145	.0681	-.0725	4911.
.2530	-409.	617.	-249.	-1027.	-703.	312.		.0436	-.0074	-.0046	-.0032	.0737	-.0740	5354.
.2540	-396.	640.	-245.	-1102.	-687.	337.		.0415	-.0049	-.0035	.0082	.0753	-.0728	5598.
.2550	-374.	634.	-228.	-1123.	-656.	342.		.0391	-.0018	-.0021	.0192	.0729	-.0689	5612.
.2560	-342.	600.	-203.	-1089.	-605.	328.		.0362	.0020	-.0004	.0294	.0666	-.0631	5377.
.2570	-302.	536.	-174.	-1000.	-535.	298.		.0330	.0063	.0014	.0382	.0565	-.0558	4895.
.2580	-258.	445.	-143.	-858.	-449.	250.		.0294	.0112	.0032	.0458	.0430	-.0472	4173.
.2590	-212.	324.	-108.	-663.	-357.	179.		.0259	.0166	.0048	.0522	.0268	-.0370	3229.
.2600	-165.	178.	-69.	-421.	-262.	88.		.0225	.0226	.0063	.0574	.0085	-.0255	2101.
.2610	-114.	14.	-25.	-144.	-162.	-20.		.0195	.0288	.0076	.0611	-.0112	-.0136	908.
.2620	-59.	-161.	23.	154.	-55.	-138.		.0168	.0349	.0088	.0630	-.0314	-.0020	894.
.2630	0.	-340.	77.	463.	51.	-261.		.0147	.0407	.0098	.0631	-.0513	.0088	2228.
.2640	58.	-516.	134.	769.	148.	-388.		.0133	.0462	.0105	.0617	-.0698	.0187	3646.
.2650	111.	-681.	190.	1056.	229.	-511.		.0127	.0510	.0108	.0592	-.0863	.0274	4989.

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INTERNAL FORCES IN THE PIPING
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.2550	-174.	634.	-228.	-1123.	-656.	342.	.391	-.0018	-.0021	.0192	.0729	-.0689	5612.
.2560	-340.	600.	-203.	-1089.	-605.	328.	.362	.0020	-.0004	.0294	.0666	-.0631	5377.
.2570	-302.	536.	-174.	-1000.	-531.	298.	.0330	.0063	.0014	.0382	.0565	-.0558	4895.
.2580	-250.	445.	-143.	-858.	-449.	250.	.0294	.0112	.0032	.0458	.0430	-.0472	4173.
.2590	-212.	324.	-108.	-663.	-357.	179.	.0259	.0166	.0048	.0522	.0268	-.0370	3229.
.2600	-165.	178.	-69.	-421.	-262.	88.	.0225	.0226	.0063	.0574	.0085	-.0255	2101.
.2610	-114.	14.	-25.	-144.	-162.	-20.	.0195	.0288	.0076	.0611	-.0112	-.0136	908.
.2620	-59.	-161.	23.	154.	-55.	-138.	.0168	.0349	.0088	.0630	-.0314	-.0020	894.
.2630	0.	-340.	77.	463.	51.	-261.	.0147	.0407	.0098	.0631	-.0513	.0088	2228.
.2640	50.	-516.	134.	769.	148.	-388.	.0133	.0462	.0105	.0617	-.0698	.0187	3646.
.2650	111.	-681.	190.	1056.	229.	-511.	.0127	.0510	.0108	.0592	-.0863	.0274	4989.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.35.

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	62	MEMBER	1	SEQUENCE	89	LOCATION	END	TYPE	TE						
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)		
.2660	154.	-824.	249.	1307.	294.	-623.	.0130	.0549	.0105	.0558	-.1002	.0343	6165.		
.2670	185.	-938.	277.	1505.	339.	-715.	.0140	.0576	.0096	.0517	-.1107	.0388	7097.		
.2680	199.	-1016.	301.	1641.	358.	-783.	.0159	.0590	.0082	.0472	-.1176	.0409	7733.		
.2690	195.	-1055.	312.	1708.	345.	-824.	.0186	.0590	.0061	.0427	-.1204	.0407	8044.		
.2700	173.	-1051.	312.	1700.	301.	-835.	.0220	.0575	.0034	.0382	-.1192	.0382	8006.		
.2710	138.	-1001.	301.	1614.	232.	-813.	.0262	.0545	.0004	.0336	-.1141	.0330	7605.		
.2720	92.	-905.	282.	1450.	143.	-755.	.0309	.0500	-.0028	.0293	-.1054	.0254	6848.		
.2730	35.	-767.	257.	1213.	33.	-668.	.0361	.0441	-.0063	.0256	-.0935	.0161	5780.		
.2740	-32.	-596.	225.	916.	-99.	-556.	.0417	.0373	-.0099	.0228	-.0789	.0057	4492.		
.2750	-109.	-395.	185.	569.	-245.	-421.	.0475	.0296	-.0136	.0205	-.0621	-.0060	3126.		
.2760	-191.	-169.	133.	180.	-391.	-264.	.0530	.0212	-.0173	.0187	-.0440	-.0190	2108.		
.2770	-275.	71.	72.	-234.	-532.	-92.	.0582	.0124	-.0209	.0175	-.0253	-.0327	2457.		
.2780	-360.	311.	6.	-651.	-672.	81.	.0631	.0038	-.0243	.0173	-.0067	-.0458	3918.		
.2790	-444.	539.	-57.	-1048.	-808.	243.	.0676	-.0041	-.0274	.0180	.0110	-.0574	5617.		
.2800	-518.	747.	-115.	-1411.	-931.	392.	.0714	-.0113	-.0301	.0190	.0271	-.0677	7240.		
.2810	-577.	928.	-165.	-1726.	-1025.	525.	.0743	-.0174	-.0320	.0199	.0409	-.0769	8659.		
.2820	-618.	1073.	-202.	-1977.	-1091.	634.	.0762	-.0222	-.0332	.0209	.0519	-.0843	9787.		
.2830	-643.	1172.	-224.	-2147.	-1136.	705.	.0772	-.0254	-.0337	.0221	.0598	-.0888	10556.		
.2840	-654.	1218.	-232.	-2229.	-1159.	738.	.0773	-.0266	-.0336	.0235	.0642	-.0902	10926.		
.2850	-645.	1216.	-229.	-2225.	-1148.	737.	.0763	-.0261	-.0327	.0247	.0649	-.0894	10890.		
.2860	-617.	1166.	-219.	-2139.	-1098.	704.	.0739	-.0239	-.0311	.0261	.0619	-.0863	10456.		
.2870	-575.	1067.	-201.	-1931.	-1020.	635.	.0705	-.0200	-.0289	.0277	.0553	-.0803	9635.		
.2880	-521.	920.	-170.	-1722.	-926.	529.	.0662	-.0144	-.0262	.0297	.0456	-.0712	8454.		
.2890	-455.	734.	-128.	-1405.	-815.	393.	.0610	-.0074	-.0230	.0318	.0332	-.0596	6975.		
.2900	-375.	520.	-78.	-1040.	-679.	240.	.0549	.0005	-.0191	.0339	.0187	-.0465	5279.		
.2910	-285.	287.	-21.	-640.	-526.	73.	.0480	.0091	-.0148	.0360	.0027	-.0321	3472.		
.2920	-190.	41.	42.	-218.	-370.	-103.	.0406	.0180	-.0101	.0383	-.0140	-.0163	1843.		
.2930	-95.	-208.	108.	210.	-217.	-283.	.0330	.0270	-.0053	.0408	-.0306	.0003	1726.		
.2940	-1.	-446.	168.	620.	-61.	-453.	.0250	.0357	-.0004	.0435	-.0466	.0167	3214.		
.2950	91.	-661.	215.	991.	101.	-603.	.0168	.0435	.0045	.0462	-.0613	.0319	4860.		
.2960	177.	-845.	249.	1313.	261.	-725.	.0085	.0501	.0094	.0487	-.0742	.0452	6353.		
.2970	254.	-995.	270.	1575.	410.	-820.	.0004	.0556	.0139	.0512	-.0849	.0568	7606.		
.2980	319.	-1105.	278.	1770.	545.	-885.	-.0072	.0596	.0182	.0539	-.0929	.0665	8568.		
.2990	373.	-1172.	273.	1893.	664.	-915.	-.0144	.0620	.0221	.0562	-.0980	.0738	9203.		
.3000	416.	-1192.	257.	1942.	765.	-907.	-.0210	.0628	.0257	.0576	-.1000	.0778	9498.		
.3010	446.	-1169.	233.	1920.	843.	-862.	-.0270	.0617	.0290	.0581	-.0987	.0785	9462.		
.3020	461.	-1108.	202.	1834.	892.	-789.	-.0321	.0593	.0317	.0578	-.0943	.0768	9125.		
.3030	459.	-1014.	165.	1693.	908.	-693.	-.0362	.0555	.0338	.0569	-.0870	.0729	8525.		

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.35.

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	-95.	-208.	108.	210.	-217.	-283.	.330	.0270	-.0053	.0408	-.0306	.0003	1726.
.2940	-1.	-446.	168.	620.	-61.	-453.	.250	.0357	-.0004	.0435	-.0466	.0167	3214.
.2950	91.	-661.	215.	921.	101.	-603.	.0168	.0435	.0045	.0462	-.0613	.0319	4860.
.2960	177.	-845.	249.	1313.	261.	-725.	.0005	.0501	.0094	.0487	-.0742	.0452	6353.
.2970	254.	-995.	270.	1575.	410.	-820.	.0004	.0556	.0139	.0512	-.0849	.0568	7606.
.2980	319.	-1105.	278.	1770.	545.	-885.	-.0072	.0596	.0182	.0539	-.0929	.0665	8568.
.2990	373.	-1172.	273.	1893.	664.	-915.	-.0144	.0620	.0221	.0562	-.0980	.0738	9203.
.3000	416.	-1192.	257.	1942.	765.	-907.	-.0210	.0628	.0257	.0576	-.1000	.0778	9498.
.3010	446.	-1169.	237.	1920.	843.	-862.	-.0270	.0617	.0290	.0581	-.0987	.0785	9462.
.3020	461.	-1108.	202.	1834.	892.	-789.	-.0321	.0593	.0317	.0578	-.0943	.0768	9125.
.3030	459.	-1014.	165.	1693.	900.	-693.	-.0362	.0555	.0338	.0569	-.0870	.0729	8525.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

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18.29.35.

S/RV PIPING KEWAUNEE CKW08F 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	62	MEMBER	1	SEQUENCE	89	LOCATION	END	TYPE	TE						
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	442.	-892.	123.	1508.	895.	-577.	-.0394	.0506	.0353	.0550	-.0768	.0667	7704.		
.3050	414.	-748.	74.	1284.	862.	-443.	-.0418	.0447	.0361	.0517	-.0644	.0578	6715.		
.3060	378.	-590.	20.	1035.	815.	-300.	-.0434	.0380	.0363	.0473	-.0502	.0469	5638.		
.3070	335.	-427.	-33.	778.	751.	-159.	-.0441	.0310	.0359	.0421	-.0346	.0350	4562.		
.3080	289.	-271.	-81.	529.	672.	-28.	-.0438	.0239	.0348	.0357	-.0182	.0225	3571.		
.3090	244.	-124.	-122.	296.	588.	91.	-.0429	.0169	.0332	.0279	-.0014	.0094	2773.		
.3100	205.	9.	-157.	86.	510.	198.	-.0414	.0101	.0312	.0186	.0150	-.0044	2312.		
.3110	173.	122.	-184.	-92.	439.	285.	-.0395	.0037	.0289	.0085	.0305	-.0178	2218.		
.3120	145.	208.	-200.	-226.	366.	346.	-.0371	-.0020	.0261	-.0022	.0445	-.0300	2305.		
.3130	120.	265.	-205.	-313.	294.	381.	-.0343	-.0069	.0229	-.0134	.0567	-.0407	2397.		
.3140	102.	296.	-204.	-360.	235.	396.	-.0315	-.0111	.0196	-.0248	.0664	-.0501	2439.		
.3150	92.	306.	-199.	-369.	194.	397.	-.0289	-.0146	.0161	-.0363	.0732	-.0583	2404.		
.3160	88.	293.	-180.	-342.	164.	382.	-.0264	-.0174	.0125	-.0473	.0769	-.0647	2249.		
.3170	87.	259.	-167.	-280.	139.	351.	-.0239	-.0194	.0089	-.0575	.0775	-.0688	1960.		
.3180	90.	207.	-139.	-190.	121.	307.	-.0217	-.0207	.0053	-.0666	.0750	-.0705	1589.		
.3190	90.	146.	-105.	-83.	116.	260.	-.0198	-.0215	.0020	-.0744	.0695	-.0704	1237.		
.3200	111.	80.	-69.	31.	122.	214.	-.0183	-.0220	-.0011	-.0811	.0616	-.0689	1036.		
.3210	124.	12.	-29.	149.	132.	170.	-.0172	-.0221	-.0040	-.0864	.0517	-.0661	1091.		
.3220	136.	-57.	12.	264.	142.	126.	-.0163	-.0219	-.0066	-.0897	.0405	-.0615	1355.		
.3230	146.	-121.	51.	368.	152.	85.	-.0156	-.0215	-.0091	-.0911	.0284	-.0554	1699.		
.3240	154.	-176.	85.	455.	163.	51.	-.0153	-.0209	-.0113	-.0907	.0163	-.0488	2029.		
.3250	161.	-221.	113.	520.	177.	27.	-.0151	-.0203	-.0132	-.0889	.0048	-.0422	2296.		
.3260	167.	-253.	137.	562.	190.	10.	-.0151	-.0196	-.0148	-.0856	-.0056	-.0355	2477.		
.3270	170.	-276.	158.	582.	198.	-6.	-.0151	-.0187	-.0162	-.0805	-.0143	-.0284	2566.		
.3280	170.	-290.	177.	582.	196.	-20.	-.0149	-.0177	-.0174	-.0740	-.0209	-.0212	2567.		
.3290	170.	-294.	194.	562.	189.	-31.	-.0147	-.0166	-.0182	-.0667	-.0251	-.0147	2479.		
.3300	169.	-287.	207.	522.	178.	-38.	-.0144	-.0155	-.0188	-.0588	-.0268	-.0092	2307.		
.3310	166.	-273.	218.	466.	159.	-45.	-.0139	-.0143	-.0191	-.0501	-.0260	-.0042	2065.		
.3320	157.	-257.	227.	403.	125.	-55.	-.0132	-.0128	-.0192	-.0410	-.0229	.0005	1777.		
.3330	142.	-238.	236.	336.	76.	-70.	-.0122	-.0112	-.0192	-.0318	-.0175	.0047	1468.		
.3340	125.	-217.	241.	265.	20.	-84.	-.0112	-.0095	-.0189	-.0229	-.0105	.0080	1164.		
.3350	107.	-193.	243.	192.	-36.	-97.	-.0101	-.0079	-.0184	-.0145	-.0021	.0104	909.		
.3360	67.	-170.	245.	123.	-90.	-113.	-.0090	-.0062	-.0178	-.0066	.0071	.0126	808.		
.3370	65.	-152.	249.	64.	-168.	-134.	-.0078	-.0045	-.0170	.0007	.0166	.0149	935.		
.3380	43.	-136.	253.	14.	-236.	-158.	-.0066	-.0029	-.0161	.0071	.0260	.0174	1186.		
.3390	25.	-120.	255.	-30.	-292.	-178.	-.0057	-.0016	-.0149	.0125	.0347	.0196	1434.		
.3400	12.	-104.	253.	-69.	-334.	-195.	-.0050	-.0007	-.0136	.0167	.0422	.0217	1640.		
.3410	0.	-90.	248.	-98.	-366.	-210.	-.0046	-.0002	-.0123	.0198	.0482	.0243	1806.		

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.35.

S/RV PIPING KEWAUNEE CKW08F 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	169.	-207.	207.	522.	177.	-38.	-.144	-.0155	-.0188	-.0588	-.0268	-.0092	2479.
.3310	166.	-273.	210.	466.	159.	-45.	-.139	-.0143	-.0191	-.0501	-.0260	-.0042	2065.
.3320	157.	-257.	227.	407.	125.	-55.	-.132	-.0128	-.0192	-.0410	-.0229	.0005	1777.
.3330	142.	-238.	236.	336.	76.	-70.	-.0122	-.0112	-.0192	-.0318	-.0175	.0047	1468.
.3340	125.	-217.	241.	265.	20.	-84.	-.0112	-.0095	-.0189	-.0229	-.0105	.0080	1164.
.3350	107.	-193.	243.	192.	-36.	-97.	-.0101	-.0079	-.0184	-.0145	-.0021	.0104	909.
.3360	87.	-170.	245.	123.	-98.	-113.	-.0090	-.0062	-.0178	-.0066	.0071	.0126	808.
.3370	65.	-152.	249.	64.	-168.	-134.	-.0078	-.0045	-.0170	.0007	.0166	.0149	935.
.3380	43.	-136.	253.	14.	-236.	-158.	-.0066	-.0029	-.0161	.0071	.0260	.0174	1186.
.3390	25.	-120.	255.	-30.	-292.	-178.	-.0057	-.0016	-.0149	.0125	.0347	.0196	1434.
.3400	10.	-104.	257.	-69.	-334.	-195.	-.0050	-.0007	-.0136	.0167	.0422	.0217	1640.
.3410	0.	-90.	248.	-98.	-366.	-210.	-.0046	-.0002	-.0123	.0198	.0482	.0243	1806.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.35.

S/RV PIPING KEWAUNEE GKHOSE 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	62	MEMBER	1	SEQUENCE	89	LOCATION	END	TYPE	TE						
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	-10.	-77.	239.	-120.	-386.	-222.	-.0044	-.0001	-.0110	.0220	.0523	.0276	1926.		
.3430	-17.	-63.	225.	-139.	-390.	-230.	-.0046	-.0005	-.0098	.0233	.0543	.0315	1974.		
.3440	-20.	-45.	204.	-156.	-374.	-228.	-.0052	-.0015	-.0085	.0236	.0541	.0358	1941.		
.3450	-20.	-24.	179.	-172.	-344.	-217.	-.0062	-.0033	-.0074	.0226	.0516	.0403	1841.		
.3460	-19.	-1.	152.	-187.	-303.	-198.	-.0075	-.0056	-.0063	.0208	.0471	.0455	1698.		
.3470	-16.	26.	124.	-201.	-253.	-173.	-.0091	-.0084	-.0053	.0184	.0406	.0513	1532.		
.3480	-13.	56.	95.	-219.	-198.	-140.	-.0108	-.0118	-.0045	.0153	.0323	.0576	1362.		
.3490	-10.	91.	64.	-240.	-137.	-99.	-.0126	-.0157	-.0039	.0115	.0228	.0637	1224.		
.3500	-7.	130.	32.	-267.	-72.	-50.	-.0145	-.0201	-.0035	.0072	.0123	.0697	1173.		
.3510	-6.	173.	-1.	-300.	-9.	4.	-.0163	-.0247	-.0033	.0028	.0013	.0755	1253.		
.3520	-8.	218.	-34.	-339.	49.	59.	-.0178	-.0293	-.0035	-.0014	-.0097	.0811	1449.		
.3530	-13.	263.	-66.	-382.	98.	113.	-.0190	-.0339	-.0040	-.0055	-.0202	.0863	1712.		
.3540	-19.	311.	-96.	-431.	140.	167.	-.0198	-.0384	-.0047	-.0095	-.0296	.0906	2016.		
.3550	-28.	358.	-124.	-486.	173.	219.	-.0202	-.0426	-.0056	-.0132	-.0377	.0937	2339.		
.3560	-38.	404.	-147.	-544.	193.	265.	-.0199	-.0464	-.0068	-.0162	-.0441	.0960	2650.		
.3570	-51.	445.	-164.	-601.	196.	300.	-.0190	-.0496	-.0082	-.0187	-.0484	.0975	2921.		
.3580	-67.	482.	-175.	-658.	182.	326.	-.0173	-.0521	-.0098	-.0205	-.0505	.0978	3157.		
.3590	-83.	515.	-182.	-715.	158.	345.	-.0150	-.0539	-.0115	-.0216	-.0505	.0967	3378.		
.3600	-101.	544.	-185.	-772.	123.	355.	-.0122	-.0549	-.0132	-.0220	-.0485	.0942	3585.		
.3610	-120.	566.	-184.	-825.	74.	356.	-.0087	-.0551	-.0150	-.0216	-.0446	.0908	3764.		
.3620	-143.	581.	-177.	-871.	11.	345.	-.0047	-.0544	-.0169	-.0201	-.0391	.0865	3911.		
.3630	-168.	588.	-167.	-910.	-64.	325.	-.0002	-.0529	-.0186	-.0178	-.0322	.0816	4043.		
.3640	-192.	589.	-152.	-942.	-145.	300.	.0045	-.0506	-.0202	-.0148	-.0245	.0758	4169.		
.3650	-217.	583.	-133.	-963.	-232.	268.	.0094	-.0476	-.0216	-.0114	-.0161	.0694	4284.		
.3660	-241.	568.	-108.	-971.	-325.	229.	.0143	-.0440	-.0227	-.0075	-.0074	.0628	4380.		
.3670	-266.	544.	-78.	-964.	-423.	183.	.0192	-.0399	-.0236	-.0033	.0012	.0564	4460.		
.3680	-288.	513.	-47.	-943.	-518.	133.	.0239	-.0353	-.0242	.0011	.0094	.0502	4523.		
.3690	-307.	475.	-15.	-908.	-604.	81.	.0281	-.0304	-.0245	.0053	.0168	.0441	4564.		
.3700	-321.	431.	16.	-860.	-677.	29.	.0318	-.0255	-.0245	.0092	.0232	.0381	4569.		
.3710	-330.	382.	44.	-799.	-734.	-24.	.0349	-.0206	-.0241	.0126	.0284	.0327	4529.		
.3720	-337.	328.	68.	-725.	-774.	-77.	.0373	-.0157	-.0235	.0155	.0322	.0282	4437.		
.3730	-329.	270.	88.	-639.	-793.	-128.	.0388	-.0112	-.0226	.0177	.0344	.0243	4284.		
.3740	-318.	211.	103.	-544.	-789.	-174.	.0395	-.0070	-.0214	.0188	.0352	.0210	4068.		
.3750	-299.	153.	113.	-443.	-763.	-214.	.0392	-.0034	-.0198	.0188	.0345	.0182	3788.		
.3760	-275.	95.	119.	-335.	-717.	-248.	.0381	-.0004	-.0180	.0177	.0323	.0162	3462.		
.3770	-247.	38.	120.	-223.	-657.	-277.	.0362	.0019	-.0159	.0155	.0288	.0152	3118.		
.3780	-216.	-16.	116.	-108.	-585.	-298.	.0335	.0036	-.0137	.0122	.0241	.0148	2777.		
.3790	-183.	-63.	106.	3.	-499.	-309.	.0301	.0044	-.0113	.0076	.0184	.0148	2447.		

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

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

.3690	-307.	475.	-17.	-908.	-604.	81.	.0281	-.0304	-.0245	.0053	.0168	.0441	4564.
.3700	-321.	431.	16.	-860.	-677.	29.	.0318	-.0255	-.0245	.0092	.0232	.0381	4569.
.3710	-330.	382.	44.	-799.	-734.	-24.	.0349	-.0206	-.0241	.0126	.0284	.0327	4529.
.3720	-337.	328.	68.	-725.	-774.	-77.	.0373	-.0157	-.0235	.0155	.0322	.0282	4437.
.3730	-327.	270.	82.	-639.	-793.	-128.	.0388	-.0112	-.0226	.0177	.0344	.0243	4284.
.3740	-318.	211.	103.	-544.	-789.	-174.	.0395	-.0070	-.0214	.0188	.0352	.0210	4068.
.3750	-299.	153.	113.	-443.	-763.	-214.	.0392	-.0034	-.0198	.0188	.0345	.0182	3788.
.3760	-275.	95.	119.	-335.	-717.	-248.	.0381	-.0004	-.0180	.0177	.0323	.0162	3462.
.3770	-247.	38.	120.	-223.	-657.	-277.	.0362	.0019	-.0159	.0155	.0288	.0152	3118.
.3780	-216.	-16.	116.	-108.	-585.	-298.	.0335	.0036	-.0137	.0122	.0241	.0148	2777.
.3790	-183.	-63.	106.	3.	-499.	-309.	.0301	.0044	-.0113	.0076	.0184	.0148	2447.

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

SECTION	62	MEMBER	1	SEQUENCE	89	LOCATION	END	TYPE	TE					STRESS
TIME	FX	FY	FZ	MX	MY	MZ		DX	DY	DZ	RX	RY	RZ	(PSI)
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)		(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	
.3800	-148.	-101.	88.	106.	-399.	-307.		.0259	.0045	-.0087	.0020	.0120	.0149	2148.
.3810	-113.	-132.	65.	201.	-292.	-295.		.0212	.0038	-.0060	-.0044	.0049	.0153	1925.
.3820	-80.	-154.	36.	286.	-182.	-274.		.0162	.0024	-.0033	-.0114	-.0025	.0159	1821.
.3830	-48.	-167.	3.	358.	-70.	-245.		.0110	.0005	-.0006	-.0189	-.0098	.0166	1834.
.3840	-16.	-168.	-35.	415.	46.	-204.		.0057	-.0020	.0022	-.0268	-.0170	-.0167	1937.
.3850	15.	-158.	-76.	454.	163.	-153.		.0003	-.0050	.0050	-.0351	-.0236	.0161	2110.
.3860	42.	-140.	-120.	477.	273.	-97.		-.0048	-.0082	.0077	-.0433	-.0294	.0152	2330.
.3870	65.	-114.	-163.	488.	370.	-38.		-.0095	-.0116	.0105	-.0511	-.0340	.0139	2560.
.3880	82.	-83.	-205.	485.	454.	21.		-.0138	-.0149	.0128	-.0585	-.0374	.0121	2772.
.3890	95.	-45.	-248.	468.	525.	82.		-.0175	-.0181	.0151	-.0653	-.0393	.0095	2956.
.3900	103.	-4.	-289.	439.	583.	142.		-.0207	-.0211	.0172	-.0714	-.0396	.0061	3103.
.3910	106.	38.	-325.	402.	623.	196.		-.0230	-.0236	.0190	-.0765	-.0384	.0023	3201.
.3920	104.	78.	-355.	361.	642.	241.		-.0246	-.0256	.0206	-.0802	-.0357	-.0015	3235.
.3930	97.	114.	-380.	317.	643.	275.		-.0254	-.0269	.0219	-.0826	-.0315	-.0053	3206.
.3940	87.	146.	-397.	272.	629.	300.		-.0254	-.0276	.0230	-.0839	-.0260	-.0093	3124.
.3950	75.	174.	-409.	228.	602.	316.		-.0249	-.0277	.0238	-.0841	-.0193	-.0137	2995.
.3960	61.	194.	-413.	189.	561.	320.		-.0237	-.0270	.0244	-.0831	-.0117	-.0177	2809.
.3970	44.	204.	-409.	157.	505.	309.		-.0219	-.0256	.0246	-.0807	-.0035	-.0211	2556.
.3980	25.	205.	-399.	134.	437.	285.		-.0196	-.0236	.0247	-.0773	.0052	-.0238	2248.
.3990	7.	199.	-383.	118.	365.	253.		-.0171	-.0211	.0245	-.0732	.0140	-.0262	1918.
.4000	-9.	187.	-364.	108.	295.	215.		-.0145	-.0183	.0243	-.0684	.0224	-.0281	1588.

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)
.2840	-654.	1218.	-232.	-2229.	-1159.	738.	.0773	-.0266	-.0336	.0235	.0642	-.0902	10926.

SECTION	62	MEMBER	2	SEQUENCE	90	LOCATION	END	TYPE	RU					STRESS
TIME	FX	FY	FZ	MX	MY	MZ		DX	DY	DZ	RX	RY	RZ	(PSI)
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)		(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	
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.

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2 SAFETY COLD FKW24F--2 PSV

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

SECTION TIME (SEC)	62	MEMBER (LB)	2	SEQUENCE (LB)	90	LOCATION (FT-LB)	END (FT-LB)	TYPE (IN)	RU (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)
0.0000		0.		0.		0.		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.
.0010		-0.		-0.		-0.		.0000	.0000	-.0000	.0000	-.0000	-.0000	0.
.0020		-0.		-0.		-0.		.0000	.0000	.0000	.0000	.0000	-.0000	0.
.0030		-0.		-0.		-0.		-.0000	.0000	.0000	.0000	.0000	-.0000	0.

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

SECTION TIME (SEC)	62	MEMBER (LB)	2	SEQUENCE (LB)	90	LOCATION (FT-LB)	END (FT-LB)	TYPE (IN)	RU (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)
.0040		-0.		0.		-0.		0.	-0.	-0.	-.0000	.0000	.0000	0.
.0050		0.		0.		-0.		0.	-0.	-0.	-.0000	-.0000	.0000	0.
.0060		0.		0.		-0.		0.	-0.	0.	-.0000	-.0000	.0000	0.
.0070		0.		0.		-0.		0.	-0.	0.	-.0000	-.0000	.0000	1.
.0080		1.		1.		-1.		1.	-0.	0.	-.0000	-.0000	.0000	3.
.0090		1.		1.		-1.		1.	-0.	1.	-.0000	-.0000	.0000	7.
.0100		3.		2.		-1.		2.	-1.	1.	-.0000	-.0000	.0000	12.
.0110		4.		3.		-1.		3.	-1.	2.	-.0001	-.0000	.0000	18.
.0120		6.		4.		-1.		5.	-2.	4.	-.0002	-.0000	.0000	27.
.0130		8.		5.		-1.		8.	-3.	6.	-.0002	-.0001	-.0000	43.
.0140		11.		8.		-2.		12.	-4.	10.	-.0004	-.0001	-.0000	67.
.0150		14.		12.		-4.		17.	-6.	14.	-.0005	-.0001	-.0001	94.
.0160		18.		17.		-7.		21.	-8.	17.	-.0008	-.0002	-.0002	117.
.0170		21.		22.		-9.		23.	-10.	19.	-.0010	-.0003	-.0003	132.
.0180		24.		26.		-11.		23.	-11.	20.	-.0014	-.0003	-.0004	135.
.0190		25.		30.		-11.		22.	-12.	18.	-.0018	-.0004	-.0006	130.
.0200		24.		33.		-11.		19.	-12.	16.	-.0022	-.0004	-.0007	115.
.0210		21.		33.		-9.		14.	-11.	12.	-.0027	-.0004	-.0008	90.
.0220		16.		32.		-1.		6.	-10.	7.	-.0032	-.0005	-.0009	57.
.0230		11.		27.		10.		-4.	-0.	3.	-.0036	-.0005	-.0010	41.
.0240		4.		21.		17.		-14.	-7.	-1.	-.0040	-.0005	-.0012	67.
.0250		0.		16.		16.		-21.	-8.	-3.	-.0042	-.0005	-.0014	94.
.0260		5.		15.		11.		-26.	-8.	-4.	-.0043	-.0005	-.0015	117.
.0270		16.		13.		14.		-29.	-6.	-9.	-.0042	-.0005	-.0016	168.
.0280		21.		-2.		23.		-60.	-2.	-20.	-.0040	-.0003	-.0015	262.
.0290		17.		-23.		25.		-76.	2.	-28.	-.0038	-.0001	-.0013	339.
.0300		29.		-29.		28.		-79.	6.	-22.	-.0037	-.0000	-.0010	344.
.0310		42.		-30.		33.		-80.	14.	-12.	-.0036	.0000	-.0005	344.
.0320		28.		-55.		47.		-93.	25.	-11.	-.0036	.0003	.0001	403.
.0330		-7.		-98.		74.		-110.	37.	-10.	-.0033	.0006	.0007	485.
.0340		-32.		-130.		99.		-115.	46.	-1.	-.0028	.0009	.0012	518.
.0350		-40.		-140.		99.		-105.	50.	16.	-.0020	.0010	.0014	490.
.0360		-40.		-145.		97.		-92.	50.	29.	-.0006	.0010	.0014	452.
.0370		-39.		-158.		104.		-92.	48.	31.	.0014	.0012	.0011	451.
.0380		-38.		-176.		119.		-105.	45.	19.	.0039	.0014	.0004	483.
.0390		-32.		-180.		110.		-109.	39.	5.	.0065	.0015	-.0005	482.
.0400		-14.		-156.		81.		-87.	25.	5.	.0091	.0013	-.0017	380.
.0410		10.		-116.		59.		-60.	12.	10.	.0114	.0010	-.0029	260.

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2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

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FORCES AND MOMENTS ACT ON THE PIPING

.0310	42.	-30.	33.	-80.	14.	-12.	-.0036	.0000	-.0005	.0070	-.0013	.0095	344.
.0320	20.	-55.	47.	-93.	25.	-11.	-.0036	.0003	.0001	.0105	-.0054	.0090	403.
.0330	-7.	-98.	74.	-110.	37.	-10.	-.0033	.0006	.0007	.0151	-.0125	.0075	485.
.0340	-32.	-130.	99.	-115.	46.	-1.	-.0028	.0009	.0012	.0176	-.0176	.0051	518.
.0350	-40.	-140.	99.	-105.	50.	16.	-.0020	.0010	.0014	.0173	-.0183	.0019	490.
.0360	-40.	-145.	93.	-92.	50.	29.	-.0006	.0010	.0014	.0160	-.0175	-.0023	452.
.0370	-39.	-158.	104.	-92.	48.	31.	.0014	.0012	.0011	.0155	-.0181	-.0071	451.
.0380	-38.	-176.	119.	-105.	45.	19.	.0039	.0014	.0004	.0159	-.0191	-.0118	483.
.0390	-32.	-180.	110.	-109.	39.	5.	.0065	.0015	-.0005	.0146	-.0175	-.0167	482.
.0400	-14.	-156.	81.	-87.	25.	5.	.0091	.0013	-.0017	.0093	-.0125	-.0223	380.
.0410	10.	-116.	59.	-60.	12.	10.	.0114	.0010	-.0029	.0020	-.0066	-.0269	260.

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

SECTION	MEMBER	SEQUENCE	LOCATION	END	TYPE	RU	DX	DY	DZ	RX	RY	RZ	STRESS
TIME	FX	FY	FZ	MX	MY	MZ	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)							
.0420	1.	-94.	51.	-55.	6.	-5.	.0133	.0008	-.0041	-.0019	-.0052	-.0294	230.
.0430	-47.	-95.	57.	-59.	3.	-31.	.0147	.0008	-.0052	-.0030	-.0085	-.0310	278.
.0440	-90.	-81.	65.	-40.	-5.	-39.	.0157	.0006	-.0062	-.0074	-.0107	-.0330	234.
.0450	-101.	-23.	46.	9.	-17.	-31.	.0163	.0001	-.0071	-.0164	-.0065	-.0340	152.
.0460	-100.	49.	8.	59.	-30.	-28.	.0165	-.0005	-.0080	-.0255	.0001	-.0336	299.
.0470	-109.	98.	-10.	89.	-41.	-40.	.0167	-.0009	-.0087	-.0314	.0028	-.0325	443.
.0480	-117.	130.	-12.	104.	-51.	-61.	.0167	-.0011	-.0094	-.0350	.0030	-.0308	547.
.0490	-101.	184.	-43.	125.	-60.	-78.	.0162	-.0015	-.0099	-.0394	.0074	-.0275	666.
.0500	-62.	263.	-103.	167.	-72.	-79.	.0150	-.0021	-.0102	-.0462	.0164	-.0234	827.
.0510	-25.	333.	-150.	214.	-84.	-64.	.0130	-.0026	-.0101	-.0530	.0240	-.0193	998.
.0520	-10.	366.	-168.	240.	-80.	-56.	.0104	-.0029	-.0095	-.0551	.0259	-.0140	1090.
.0530	-37.	368.	-177.	242.	-82.	-57.	.0070	-.0030	-.0084	-.0521	.0239	-.0068	1092.
.0540	-52.	365.	-178.	249.	-74.	-45.	.0031	-.0030	-.0068	-.0487	.0220	.0006	1099.
.0550	-46.	365.	-169.	268.	-69.	-13.	-.0011	-.0031	-.0049	-.0469	.0218	.0071	1156.
.0560	-33.	350.	-160.	276.	-67.	17.	-.0051	-.0031	-.0028	-.0430	.0221	.0136	1182.
.0570	-25.	305.	-146.	257.	-53.	31.	-.0088	-.0027	-.0007	-.0348	.0208	.0197	1102.
.0580	-7.	239.	-114.	234.	-45.	45.	-.0120	-.0023	.0013	-.0252	.0187	.0243	970.
.0590	32.	177.	-89.	191.	-43.	66.	-.0145	-.0019	.0031	-.0169	.0193	.0273	862.
.0600	84.	122.	-93.	157.	-42.	86.	-.0167	-.0015	.0045	-.0090	.0234	.0296	767.
.0610	127.	56.	-96.	110.	-39.	101.	-.0184	-.0010	.0058	.0001	.0266	.0313	646.
.0620	148.	-38.	-64.	47.	-34.	110.	-.0197	-.0003	.0069	.0113	.0251	.0319	519.
.0630	147.	-147.	-17.	-25.	-27.	113.	-.0206	.0004	.0081	-.0238	.0207	.0317	494.
.0640	143.	-245.	18.	-84.	-21.	118.	-.0211	.0012	.0092	.0350	.0179	.0309	610.
.0650	151.	-321.	50.	-122.	-18.	133.	-.0213	.0017	.0103	.0427	.0174	.0288	758.
.0660	160.	-385.	88.	-153.	-17.	147.	-.0208	.0022	.0113	.0489	.0165	.0258	888.
.0670	160.	-449.	125.	-193.	-13.	142.	-.0197	.0027	.0120	.0561	.0138	.0229	1000.
.0680	161.	-499.	149.	-233.	-9.	125.	-.0181	.0032	.0124	.0625	.0111	.0200	1103.
.0690	177.	-513.	157.	-253.	-9.	114.	-.0162	.0035	.0124	.0648	.0109	.0168	1158.
.0700	198.	-491.	137.	-249.	-11.	109.	-.0142	.0035	.0122	.0631	.0130	.0135	1136.
.0710	206.	-449.	101.	-233.	-11.	102.	-.0124	.0033	.0117	.0595	.0147	.0109	1061.
.0720	190.	-402.	76.	-215.	-6.	89.	-.0107	.0032	.0111	.0557	.0129	.0094	971.
.0730	150.	-353.	71.	-196.	3.	69.	-.0093	.0029	.0106	.0517	.0074	.0089	869.
.0740	97.	-296.	70.	-167.	15.	48.	-.0080	.0026	.0101	.0465	.0006	.0089	726.
.0750	37.	-219.	63.	-117.	24.	32.	-.0067	.0022	.0094	.0383	-.0049	.0087	518.
.0760	-7.	-125.	56.	-57.	29.	20.	-.0051	.0015	.0084	.0274	-.0084	.0082	282.
.0770	-46.	-31.	48.	-6.	33.	-4.	-.0031	.0009	.0068	.0165	-.0116	.0077	142.
.0780	-84.	54.	35.	29.	36.	-41.	-.0006	.0003	.0047	.0064	-.0150	.0067	259.
.0790	-107.	141.	13.	61.	33.	-80.	.0024	-.0004	.0020	-.0048	-.0165	.0049	441.

ADLPIPE PAGE 2453

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.35.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

.0670	161.	-499.	149.	-233.	-9.	125.	-.0181	.0032	.0124	.0625	.0111	.0200	1103.
.0690	177.	-513.	157.	-253.	-9.	114.	-.0162	.0035	.0124	.0648	.0109	.0168	1158.
.0700	199.	-491.	137.	-249.	-11.	109.	-.0142	.0035	.0122	.0631	.0130	.0135	1136.
.0710	206.	-449.	101.	-233.	-11.	102.	-.0124	.0033	.0117	.0595	.0147	.0109	1061.
.0720	196.	-402.	76.	-215.	-6.	99.	-.0107	.0032	.0111	.0557	.0129	.0094	971.
.0730	150.	-357.	71.	-196.	7.	89.	-.0093	.0029	.0106	.0517	.0074	.0089	869.
.0740	97.	-296.	70.	-167.	15.	48.	-.0080	.0026	.0101	.0465	.0006	.0089	726.
.0750	37.	-219.	63.	-117.	24.	32.	-.0067	.0022	.0094	.0383	-.0049	.0087	518.
.0760	-7.	-125.	56.	-57.	29.	20.	-.0051	.0015	.0084	.0274	-.0084	.0082	282.
.0770	-46.	-31.	48.	-6.	33.	-4.	-.0031	.0009	.0068	.0165	-.0116	.0077	142.
.0780	-84.	54.	35.	29.	36.	-41.	-.0006	.0007	.0047	.0064	-.0150	.0067	259.
.0790	-107.	141.	13.	61.	33.	-60.	.0024	-.0004	.0020	-.0048	-.0165	.0049	441.

ADLPIPE PAGE 2453

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.35.

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	62	MEMBER	2	SEQUENCE	90	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)	
.0800	-106.	240.	-27.	96.	25.	-110.		.0056	-.0012	-.0013	-.0183	-.0140	.0023	619.	
.0810	-98.	338.	-83.	131.	15.	-135.		.0087	-.0020	-.0049	-.0322	-.0093	-.0007	788.	
.0820	-99.	416.	-127.	158.	6.	-157.		.0114	-.0027	-.0084	-.0444	-.0062	-.0037	930.	
.0830	-111.	467.	-142.	173.	1.	-175.		.0137	-.0032	-.0117	-.0543	-.0064	-.0064	1025.	
.0840	-130.	499.	-137.	175.	2.	-190.		.0152	-.0036	-.0144	-.0614	-.0086	-.0080	1079.	
.0850	-155.	514.	-122.	173.	7.	-200.		.0161	-.0039	-.0165	-.0662	-.0119	-.0086	1103.	
.0860	-177.	514.	-91.	169.	15.	-199.		.0163	-.0042	-.0181	-.0695	-.0161	-.0091	1089.	
.0870	-195.	499.	-47.	156.	24.	-191.		.0161	-.0043	-.0193	-.0709	-.0210	-.0093	1034.	
.0880	-211.	467.	-5.	127.	35.	-187.		.0157	-.0042	-.0203	-.0694	-.0260	-.0089	953.	
.0890	-222.	421.	31.	85.	46.	-183.		.0151	-.0040	-.0211	-.0657	-.0305	-.0087	862.	
.0900	-221.	368.	63.	40.	53.	-171.		.0146	-.0038	-.0219	-.0617	-.0337	-.0094	766.	
.0910	-209.	313.	87.	-8.	57.	-156.		.0142	-.0035	-.0225	-.0573	-.0347	-.0106	692.	
.0920	-195.	248.	104.	-62.	59.	-143.		.0140	-.0031	-.0230	-.0512	-.0344	-.0122	695.	
.0930	-182.	171.	131.	-120.	59.	-130.		.0139	-.0026	-.0231	-.0438	-.0344	-.0146	780.	
.0940	-165.	86.	169.	-174.	54.	-115.		.0141	-.0021	-.0229	-.0360	-.0340	-.0180	897.	
.0950	-138.	9.	200.	-218.	46.	-96.		.0143	-.0015	-.0222	-.0285	-.0313	-.0215	1011.	
.0960	-100.	-55.	218.	-253.	35.	-77.		.0144	-.0009	-.0211	-.0212	-.0264	-.0247	1113.	
.0970	-55.	-111.	234.	-284.	25.	-58.		.0144	-.0004	-.0196	-.0137	-.0213	-.0273	1215.	
.0980	-13.	-164.	245.	-316.	16.	-44.		.0139	.0002	-.0177	-.0052	-.0171	-.0286	1333.	
.0990	23.	-206.	239.	-344.	10.	-33.		.0128	.0007	-.0154	.0039	-.0134	-.0281	1444.	
.1000	56.	-228.	215.	-358.	6.	-16.		.0109	.0012	-.0126	.0122	-.0092	-.0259	1495.	
.1010	85.	-233.	185.	-354.	5.	8.		.0081	.0015	-.0094	.0192	-.0052	-.0221	1477.	
.1020	100.	-231.	155.	-340.	7.	34.		.0046	.0018	-.0055	.0265	-.0029	-.0166	1424.	
.1030	98.	-230.	132.	-321.	14.	54.		.0004	.0022	-.0011	.0349	-.0032	-.0093	1361.	
.1040	90.	-226.	119.	-296.	24.	72.		-.0041	.0025	.0037	.0433	-.0048	-.0010	1276.	
.1050	86.	-215.	107.	-261.	34.	90.		-.0086	.0027	.0087	.0508	-.0061	.0077	1161.	
.1060	88.	-198.	89.	-219.	43.	105.		-.0129	.0029	.0135	.0571	-.0062	.0162	1028.	
.1070	94.	-179.	62.	-175.	48.	116.		-.0166	.0031	.0180	.0625	-.0052	.0239	898.	
.1080	102.	-166.	29.	-132.	50.	124.		-.0197	.0032	.0220	.0668	-.0035	.0302	783.	
.1090	112.	-154.	-17.	-90.	47.	128.		-.0220	.0034	.0252	.0700	-.0005	.0348	682.	
.1100	130.	-140.	-70.	-48.	42.	131.		-.0235	.0034	.0278	.0714	.0044	.0381	610.	
.1110	148.	-130.	-127.	-3.	33.	136.		-.0242	.0034	.0298	.0713	.0099	.0393	585.	
.1120	164.	-128.	-183.	44.	22.	141.		-.0242	.0035	.0313	.0704	.0152	.0385	624.	
.1130	183.	-125.	-233.	92.	12.	145.		-.0237	.0035	.0327	.0688	.0205	.0369	717.	
.1140	208.	-118.	-268.	138.	6.	148.		-.0228	.0035	.0338	.0667	.0251	.0349	844.	
.1150	229.	-115.	-284.	180.	4.	150.		-.0217	.0035	.0348	.0646	.0271	.0325	979.	
.1160	234.	-118.	-289.	215.	8.	150.		-.0205	.0035	.0356	.0631	.0261	.0302	1094.	
.1170	220.	-118.	-295.	245.	17.	150.		-.0194	.0036	.0361	.0616	.0228	.0280	1202.	

ADLPIPE PAGE 2454

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.35.

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

.1070	94.	-179.	62.	-175.	46.	116.	-.0166	.0031	.0180	.0625	-.0052	.0239	898.
.1080	102.	-166.	29.	-172.	50.	124.	-.0197	.0032	.0220	.0668	-.0035	.0302	783.
.1090	112.	-154.	-17.	-90.	47.	128.	-.0220	.0034	.0252	.0700	-.0005	.0348	682.
.1100	130.	-140.	-70.	-48.	42.	131.	-.0235	.0034	.0278	.0714	.0044	.0381	610.
.1110	140.	-130.	-127.	-3.	37.	136.	-.0242	.0034	.0298	.0713	.0099	.0393	585.
.1120	164.	-128.	-181.	44.	22.	141.	-.0242	.0035	.0313	.0704	.0152	.0385	624.
.1130	187.	-125.	-233.	92.	12.	145.	-.0237	.0035	.0327	.0688	.0205	.0369	717.
.1140	200.	-118.	-268.	138.	6.	148.	-.0228	.0035	.0338	.0667	.0251	.0349	844.
.1150	229.	-115.	-284.	180.	4.	150.	-.0217	.0035	.0348	.0646	.0271	.0325	979.
.1160	234.	-118.	-289.	215.	8.	150.	-.0205	.0035	.0356	.0631	.0261	.0302	1094.
.1170	220.	-118.	-295.	245.	17.	150.	-.0194	.0036	.0361	.0616	.0228	.0280	1202.

ADLPIPE PAGE 2454

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.35.

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	62	MEMBER	2	SEQUENCE	90	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)		
.1180	195.	-108.	-293.	277.	31.	158.	-.0183	.0035	.0361	.0583	.0180	.0257	1336.		
.1190	148.	-97.	-289.	304.	47.	165.	-.0171	.0033	.0356	.0542	.0109	.0228	1458.		
.1200	72.	-92.	-284.	316.	65.	161.	-.0153	.0032	.0344	.0508	.0014	.0194	1505.		
.1210	-11.	-88.	-263.	314.	83.	145.	-.0125	.0031	.0324	.0470	-.0091	.0150	1485.		
.1220	-90.	-80.	-228.	307.	94.	122.	-.0085	.0030	.0297	.0415	-.0188	.0083	1435.		
.1230	-149.	-61.	-191.	300.	95.	93.	-.0029	.0028	.0262	.0335	-.0250	-.0010	1370.		
.1240	-187.	-32.	-170.	290.	86.	52.	.0042	.0025	.0218	.0238	-.0268	-.0127	1279.		
.1250	-204.	7.	-160.	275.	67.	4.	.0126	.0023	.0166	.0125	-.0250	-.0265	1182.		
.1260	-201.	57.	-152.	257.	41.	-47.	.0218	.0019	.0108	-.0007	-.0209	-.0417	1105.		
.1270	-196.	111.	-164.	231.	14.	-103.	.0311	.0015	.0047	-.0135	-.0157	-.0566	1058.		
.1280	-200.	166.	-192.	196.	-10.	-164.	.0398	.0011	-.0013	-.0249	-.0109	-.0700	1067.		
.1290	-221.	218.	-214.	164.	-29.	-215.	.0474	.0008	-.0067	-.0348	-.0082	-.0818	1137.		
.1300	-254.	264.	-219.	147.	-43.	-248.	.0534	.0005	-.0110	-.0440	-.0083	-.0918	1217.		
.1310	-291.	310.	-211.	143.	-50.	-263.	.0576	.0003	-.0140	-.0518	-.0099	-.0992	1267.		
.1320	-334.	347.	-200.	145.	-48.	-269.	.0600	.0001	-.0155	-.0562	-.0132	-.1034	1292.		
.1330	-375.	372.	-168.	147.	-38.	-268.	.0608	.0001	-.0157	-.0574	-.0190	-.1048	1285.		
.1340	-406.	383.	-118.	148.	-23.	-257.	.0603	.0001	-.0148	-.0561	-.0265	-.1041	1243.		
.1350	-427.	386.	-77.	143.	-5.	-243.	.0586	.0003	-.0132	-.0522	-.0331	-.1012	1177.		
.1360	-420.	381.	-55.	131.	13.	-224.	.0560	.0005	-.0113	-.0466	-.0373	-.0968	1084.		
.1370	-413.	361.	-51.	117.	28.	-197.	.0528	.0007	-.0093	-.0398	-.0398	-.0923	963.		
.1380	-396.	326.	-50.	103.	36.	-160.	.0492	.0010	-.0073	-.0329	-.0407	-.0882	807.		
.1390	-368.	279.	-58.	79.	42.	-123.	.0453	.0014	-.0052	-.0246	-.0394	-.0837	635.		
.1400	-334.	211.	-66.	36.	48.	-98.	.0414	.0019	-.0030	-.0134	-.0373	-.0783	479.		
.1410	-294.	117.	-48.	-20.	52.	-79.	.0376	.0025	-.0005	.0001	-.0361	-.0730	405.		
.1420	-246.	6.	-10.	-77.	53.	-60.	.0338	.0033	.0022	.0145	-.0351	-.0683	464.		
.1430	-177.	-99.	22.	-124.	51.	-34.	.0300	.0040	.0052	.0280	-.0310	-.0637	577.		
.1440	-92.	-123.	37.	-165.	48.	-5.	.0258	.0046	.0083	.0409	-.0242	-.0583	716.		
.1450	-16.	-209.	49.	-208.	49.	22.	.0213	.0052	.0115	.0545	-.0189	-.0520	898.		
.1460	41.	-392.	71.	-257.	54.	48.	.0163	.0059	.0147	.0691	-.0176	-.0448	1116.		
.1470	75.	-488.	81.	-304.	65.	73.	.0108	.0066	.0179	.0837	-.0184	-.0365	1331.		
.1480	100.	-562.	74.	-334.	80.	105.	.0048	.0070	.0212	.0964	-.0188	-.0270	1500.		
.1490	114.	-617.	67.	-344.	95.	145.	-.0014	.0074	.0247	.1066	-.0197	-.0176	1607.		
.1500	109.	-666.	82.	-378.	111.	185.	-.0071	.0077	.0281	.1150	-.0232	-.0092	1673.		
.1510	97.	-705.	116.	-326.	126.	217.	-.0120	.0079	.0313	.1218	-.0280	-.0015	1717.		
.1520	80.	-730.	147.	-312.	139.	232.	-.0158	.0080	.0339	.1269	-.0319	.0052	1724.		
.1530	68.	-732.	172.	-287.	143.	239.	-.0180	.0080	.0355	.1281	-.0336	.0095	1671.		
.1540	63.	-711.	184.	-246.	135.	243.	-.0185	.0077	.0358	.1238	-.0321	.0104	1548.		
.1550	66.	-661.	168.	-196.	115.	238.	-.0173	.0072	.0346	.1145	-.0263	.0085	1373.		

ADLPIPE PAGE 2455

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.35.

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

.1440	-92.	-193.	37.	-165.	48.	-5.	.0258	.0046	.0083	.0409	-.0242	-.0583	716.
.1450	-16.	-209.	49.	-208.	49.	22.	.0213	.0052	.0115	.0545	-.0189	-.0520	898.
.1460	41.	-392.	71.	-257.	54.	48.	.163	.0059	.0147	.0691	-.0176	-.0448	1116.
.1470	75.	-488.	81.	-304.	65.	73.	.0108	.0066	.0179	.0837	-.0184	-.0365	1331.
.1480	100.	-562.	74.	-334.	80.	105.	.0048	.0070	.0212	.0964	-.0188	-.0270	1500.
.1490	114.	-617.	67.	-344.	95.	145.	-.0014	.0074	.0247	.1066	-.0197	-.0176	1607.
.1500	109.	-666.	82.	-378.	111.	185.	-.0071	.0077	.0281	.1150	-.0232	-.0092	1673.
.1510	97.	-705.	116.	-326.	126.	217.	-.0120	.0079	.0315	.1218	-.0280	-.0015	1717.
.1520	80.	-730.	147.	-312.	139.	252.	-.0158	.0080	.0339	.1269	-.0319	.0052	1724.
.1530	68.	-732.	172.	-207.	143.	239.	-.0180	.0080	.0355	.1281	-.0336	.0095	1671.
.1540	63.	-711.	184.	-246.	135.	243.	-.0185	.0077	.0358	.1238	-.0321	.0104	1548.
.1550	66.	-661.	168.	-196.	115.	238.	-.0173	.0072	.0346	.1145	-.0263	.0085	1373.

ADLPIPE PAGE 2455

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.29.35.

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	END	TYPE	RU	DX	DY	DZ	RX	RY	RZ	STRESS
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
.1560	74.	-506.	123.	-149.	86.	218.	-.0145	.0065	.0319	.1014	-.0167	.0048	1158.
.1570	71.	-501.	60.	-103.	50.	183.	-.0104	.0057	.0278	.0858	-.0061	-.0007	902.
.1580	66.	-401.	-1.	-49.	7.	145.	-.0054	.0048	.0228	.0666	.0050	-.0080	640.
.1590	69.	-277.	-63.	18.	-40.	108.	.0000	.0036	.0172	.0440	.0180	-.0157	488.
.1600	70.	-176.	-131.	93.	-85.	68.	.0053	.0023	.0116	.0201	.0318	-.0223	597.
.1610	61.	5.	-180.	172.	-127.	27.	.0101	.0010	.0062	-.0036	.0430	-.0278	898.
.1620	45.	147.	-197.	256.	-163.	-7.	.0139	-.0004	.0012	-.0275	.0507	-.0319	1267.
.1630	23.	294.	-216.	342.	-191.	-35.	.0164	-.0018	-.0034	-.0505	.0567	-.0333	1642.
.1640	-2.	449.	-250.	425.	-210.	-57.	.0174	-.0032	-.0077	-.0724	.0621	-.0314	1991.
.1650	-32.	597.	-282.	498.	-221.	-71.	.0169	-.0047	-.0117	-.0925	.0649	-.0270	2292.
.1660	-75.	724.	-308.	557.	-226.	-80.	.0152	-.0060	-.0153	-.1095	.0643	-.0209	2529.
.1670	-112.	835.	-333.	601.	-225.	-82.	.0124	-.0071	-.0186	-.1237	.0627	-.0131	2701.
.1680	-129.	933.	-361.	635.	-220.	-76.	.0087	-.0082	-.0214	-.1354	.0624	-.0041	2821.
.1690	-121.	1009.	-372.	656.	-213.	-61.	.0046	-.0092	-.0236	-.1444	.0626	.0052	2888.
.1700	-97.	1048.	-357.	655.	-204.	-42.	.0001	-.0098	-.0252	-.1491	.0617	.0141	2870.
.1710	-61.	1046.	-326.	627.	-191.	-24.	-.0045	-.0102	-.0262	-.1486	.0597	.0229	2739.
.1720	-4.	1013.	-280.	573.	-174.	-1.	-.0093	-.0103	-.0268	-.1440	.0579	.0316	2500.
.1730	59.	943.	-228.	496.	-155.	29.	-.0144	-.0101	-.0270	-.1353	.0556	.0398	2172.
.1740	117.	835.	-169.	399.	-133.	68.	-.0197	-.0096	-.0269	-.1227	.0518	.0467	1719.
.1750	171.	694.	-101.	283.	-107.	118.	-.0252	-.0089	-.0265	-.1066	.0467	.0527	1357.
.1760	219.	522.	-27.	148.	-78.	172.	-.0307	-.0080	-.0256	-.0869	.0404	.0579	1002.
.1770	261.	321.	62.	-3.	-45.	227.	-.0360	-.0068	-.0243	-.0638	.0324	.0622	968.
.1780	295.	95.	174.	-165.	-10.	283.	-.0408	-.0054	-.0226	-.0382	.0224	.0647	1367.
.1790	332.	-145.	308.	-370.	23.	338.	-.0447	-.0038	-.0206	-.0115	.0118	.0654	1973.
.1800	370.	-387.	449.	-494.	54.	389.	-.0476	-.0022	-.0184	.0152	.0023	.0642	2635.
.1810	401.	-628.	584.	-654.	79.	432.	-.0492	-.0005	-.0165	.0412	-.0063	.0607	3289.
.1820	428.	-857.	718.	-803.	96.	471.	-.0494	.0011	-.0151	.0643	-.0135	.0544	3904.
.1830	449.	-1062.	834.	-937.	104.	501.	-.0481	.0025	-.0144	.0836	-.0185	.0458	4455.
.1840	460.	-1235.	915.	-1056.	102.	518.	-.0453	.0038	-.0147	.0988	-.0203	.0355	4926.
.1850	462.	-1371.	968.	-1155.	91.	519.	-.0412	.0047	-.0159	.1093	-.0195	.0238	5300.
.1860	458.	-1467.	998.	-1227.	70.	508.	-.0359	.0055	-.0177	.1143	-.0165	.0107	5548.
.1870	457.	-1509.	1010.	-1263.	39.	487.	-.0296	.0058	-.0201	.1131	-.0106	-.0027	5651.
.1880	459.	-1495.	993.	-1262.	2.	453.	-.0228	.0058	-.0228	.1064	-.0014	-.0152	5596.
.1890	461.	-1427.	957.	-1225.	-38.	409.	-.0159	.0055	-.0254	.0946	.0094	-.0261	5391.
.1900	458.	-1309.	909.	-1152.	-79.	359.	-.0095	.0048	-.0279	.0782	.0200	-.0346	5045.
.1910	442.	-1144.	830.	-1046.	-117.	303.	-.0042	.0037	-.0302	.0584	.0299	-.0396	4573.
.1920	414.	-933.	741.	-911.	-148.	247.	-.0003	.0024	-.0320	.0355	.0392	-.0404	3990.
.1930	371.	-687.	623.	-751.	-173.	195.	.0017	.0008	-.0334	.0104	.0469	-.0368	3317.

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ADLPIPE STRESS ANALYSIS

8/12/02. 18.29.35.

S/RV PIPING KEWAUNEE GKW02F 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

.1820	427.	-857.	218.	-873.	92.	471.	-.0494	.0011	-.0151	.0643	-.0135	.0544	3904.
.1830	440.	-1062.	834.	-977.	104.	501.	-.0481	.0025	-.0144	.0836	-.0185	.0458	4455.
.1840	460.	-1235.	915.	-1056.	102.	518.	-.0453	.0038	-.0147	.0988	-.0203	.0355	4926.
.1850	463.	-1371.	968.	-1155.	91.	519.	-.0412	.0047	-.0159	.1093	-.0195	.0238	5300.
.1860	457.	-1467.	998.	-1227.	76.	508.	-.0359	.0055	-.0177	.1143	-.0165	.0107	5548.
.1870	457.	-1509.	1010.	-1263.	39.	487.	-.0296	.0058	-.0201	.1131	-.0106	-.0027	5651.
.1880	459.	-1495.	993.	-1262.	2.	453.	-.0228	.0058	-.0228	.1064	-.0014	-.0152	5596.
.1890	461.	-1427.	957.	-1225.	-38.	409.	-.0159	.0055	-.0254	.0946	.0094	-.0261	5391.
.1900	458.	-1309.	909.	-1152.	-79.	359.	-.0095	.0048	-.0279	.0782	.0200	-.0346	5045.
.1910	442.	-1144.	839.	-1046.	-117.	303.	-.0042	.0037	-.0302	.0584	.0299	-.0396	4573.
.1920	414.	-933.	741.	-911.	-148.	247.	-.0003	.0024	-.0320	.0355	.0392	-.0404	3990.
.1930	371.	-687.	627.	-751.	-173.	195.	.0017	.0008	-.0334	.0104	.0469	-.0368	3317.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.35.

S/RV PIPING KEWAUNEE GKWOSE 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	MEMBER	SEQUENCE	LOCATION	END	TYPE	RU								
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)	
.1940	309.	-421.	492.	-570.	-190.	149.	.0019	-.0010	-.0342	-.0156	.0519	-.0294	2583.	
.1950	236.	-144.	356.	-375.	-199.	109.	.0004	-.0029	-.0344	-.0416	.0547	-.0186	1827.	
.1960	166.	136.	217.	-171.	-201.	76.	-.0025	-.0048	-.0339	-.0671	.0567	-.0050	1146.	
.1970	108.	408.	84.	34.	-199.	50.	-.0066	-.0067	-.0327	-.0910	.0583	.0106	867.	
.1980	65.	655.	-35.	230.	-193.	28.	-.0113	-.0084	-.0310	-.1121	.0592	.0271	1256.	
.1990	40.	868.	-138.	407.	-184.	11.	-.0164	-.0099	-.0289	-.1298	.0598	.0434	1865.	
.2000	36.	1043.	-233.	560.	-175.	-1.	-.0216	-.0112	-.0266	-.1438	.0611	.0591	2450.	
.2010	50.	1174.	-325.	685.	-165.	-6.	-.0268	-.0122	-.0243	-.1537	.0634	.0736	2943.	
.2020	74.	1254.	-406.	778.	-154.	-3.	-.0318	-.0129	-.0219	-.1591	.0655	.0862	3311.	
.2030	100.	1276.	-469.	834.	-141.	7.	-.0367	-.0132	-.0194	-.1592	.0663	.0967	3530.	
.2040	126.	1240.	-511.	852.	-126.	22.	-.0412	-.0131	-.0168	-.1536	.0656	.1052	3594.	
.2050	152.	1150.	-529.	836.	-107.	43.	-.0453	-.0126	-.0139	-.1426	.0635	.1115	3521.	
.2060	181.	1013.	-515.	793.	-87.	70.	-.0489	-.0117	-.0105	-.1271	.0600	.1152	3343.	
.2070	214.	838.	-469.	728.	-65.	104.	-.0518	-.0105	-.0067	-.1077	.0553	.1164	3082.	
.2080	249.	633.	-399.	641.	-43.	139.	-.0539	-.0090	-.0026	-.0849	.0497	.1154	2745.	
.2090	282.	408.	-315.	535.	-20.	171.	-.0550	-.0073	.0016	-.0593	.0433	.1122	2345.	
.2100	310.	175.	-222.	415.	1.	200.	-.0552	-.0054	.0057	-.0325	.0363	.1070	1922.	
.2110	331.	-54.	-132.	289.	19.	226.	-.0544	-.0035	.0095	-.0060	.0296	.0997	1533.	
.2120	341.	-267.	-54.	162.	33.	247.	-.0526	-.0016	.0127	.0192	.0237	.0906	1242.	
.2130	341.	-457.	12.	39.	43.	260.	-.0497	.0001	.0155	.0423	.0187	.0802	1113.	
.2140	329.	-621.	72.	-77.	47.	263.	-.0457	.0018	.0177	.0627	.0142	.0686	1159.	
.2150	308.	-752.	128.	-180.	46.	253.	-.0406	.0033	.0194	.0799	.0103	.0560	1310.	
.2160	287.	-843.	178.	-268.	40.	230.	-.0345	.0045	.0206	.0933	.0079	.0431	1481.	
.2170	258.	-892.	218.	-336.	27.	194.	-.0276	.0055	.0212	.1023	.0071	.0301	1621.	
.2180	232.	-898.	246.	-383.	11.	147.	-.0202	.0062	.0214	.1071	.0076	.0175	1713.	
.2190	200.	-864.	258.	-410.	-10.	91.	-.0126	.0066	.0210	.1076	.0090	.0057	1754.	
.2200	166.	-791.	245.	-417.	-32.	30.	-.0051	.0068	.0200	.1039	.0116	-.0046	1750.	
.2210	126.	-681.	207.	-405.	-54.	-34.	.0019	.0066	.0186	.0967	.0148	-.0129	1711.	
.2220	80.	-546.	151.	-376.	-74.	-99.	.0080	.0061	.0170	.0867	.0177	-.0189	1653.	
.2230	26.	-395.	87.	-334.	-88.	-161.	.0130	.0055	.0153	.0752	.0191	-.0224	1590.	
.2240	-31.	-237.	21.	-277.	-97.	-218.	.0167	.0048	.0138	.0626	.0192	-.0234	1526.	
.2250	-85.	-77.	-42.	-206.	-100.	-267.	.0192	.0040	.0128	.0495	.0182	-.0221	1466.	
.2260	-132.	78.	-97.	-123.	-96.	-304.	.0204	.0031	.0122	.0364	.0161	-.0189	1426.	
.2270	-171.	219.	-143.	-35.	-87.	-330.	.0204	.0022	.0121	.0241	.0127	-.0140	1433.	
.2280	-204.	338.	-182.	52.	-71.	-348.	.0194	.0014	.0123	.0134	.0081	-.0079	1497.	
.2290	-229.	434.	-220.	133.	-51.	-356.	.0176	.0006	.0127	.0043	.0028	-.0009	1599.	
.2300	-245.	506.	-262.	208.	-27.	-353.	.0150	-.0000	.0132	-.0034	-.0026	.0062	1714.	
.2310	-252.	552.	-305.	277.	-2.	-338.	.0121	-.0006	.0136	-.0097	-.0078	.0129	1824.	

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ADLPIPE STRESS ANALYSIS

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S/RV PIPING KEWAUNEE GKWOSE 2 RUP DISK
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