

50-305

RESPONSE TO NUREG-0737 ITEM II.D.1

Docket # *50-305*

Control # *8403280048*

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

.3770	-384.	237.	-3.	52.	299.	-364.	.0401	-.0869	-.0219	.1226	-.0002	.0151	3299.
.3780	-355.	210.	-9.	23.	265.	-337.	.0373	-.0804	-.0195	.1176	-.0004	.0146	2992.
.3790	-316.	172.	-14.	-9.	222.	-301.	.0341	-.0729	-.0161	.1104	.0005	.0142	2605.
.3800	-268.	130.	-17.	-42.	169.	-257.	.0304	-.0646	-.0118	.1014	.0023	.0135	2163.
.3810	-215.	88.	-21.	-76.	111.	-207.	.0263	-.0554	-.0072	.0909	.0044	.0120	1716.
.3820	-157.	42.	-28.	-112.	50.	-150.	.0217	-.0456	-.0025	.0796	.0064	.0102	1349.
.3830	-99.	-10.	-37.	-151.	-10.	-87.	.0167	-.0355	.0021	.0676	.0079	.0082	1215.
.3840	-40.	-63.	-48.	-192.	-70.	-20.	.0113	-.0252	.0063	.0554	.0086	.0060	1427.
.3850	14.	-116.	-61.	-234.	-122.	48.	.0056	-.0150	.0102	.0430	.0085	.0036	1885.
.3860	63.	-174.	-71.	-276.	-180.	118.	-.0001	-.0050	.0138	.0309	.0078	.0016	2439.
.3870	104.	-231.	-91.	-317.	-225.	187.	-.0055	.0045	.0171	.0192	.0067	-.0002	3001.

ADLPIPE PAGE 2020

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.58.

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	69	MEMBER	3	SEQUENCE	104	LOCATION	END	TYPE	RU					
TIME	FX	FY	FZ	MX	MY	MZ		DX	DY	DZ	RX	RY	RZ	STRESS
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)		(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
.3880	134.	-282.	-106.	-355.	-261.	252.		-.0105	.0133	.0200	.0081	.0052	-.0017	3532.
.3890	154.	-332.	-119.	-390.	-288.	313.		-.0151	.0212	.0227	-.0021	.0034	-.0025	4017.
.3900	162.	-385.	-132.	-422.	-306.	367.		-.0191	.0279	.0249	-.0110	.0009	-.0025	4439.
.3910	160.	-431.	-145.	-448.	-312.	411.		-.0226	.0336	.0265	-.0182	-.0021	-.0024	4760.
.3920	146.	-456.	-156.	-466.	-306.	442.		-.0255	.0380	.0273	-.0254	-.0056	-.0029	4949.
.3930	119.	-465.	-167.	-475.	-285.	459.		-.0278	.0413	.0272	-.0267	-.0097	-.0039	5011.
.3940	81.	-473.	-177.	-479.	-254.	465.		-.0295	.0431	.0265	-.0278	-.0143	-.0044	4972.
.3950	36.	-476.	-185.	-475.	-215.	459.		-.0306	.0435	.0251	-.0269	-.0193	-.0044	4835.
.3960	-10.	-461.	-190.	-461.	-166.	440.		-.0311	.0428	.0233	-.0242	-.0242	-.0049	4584.
.3970	-81.	-428.	-191.	-438.	-108.	407.		-.0309	.0410	.0211	-.0200	-.0285	-.0060	4231.
.3980	-149.	-390.	-189.	-408.	-44.	365.		-.0300	.0382	.0187	-.0146	-.0323	-.0069	3823.
.3990	-215.	-352.	-185.	-372.	21.	315.		-.0287	.0345	.0162	-.0083	-.0356	-.0074	3400.
.4000	-280.	-306.	-177.	-333.	84.	257.		-.0272	.0301	.0138	-.0014	-.0385	-.0080	2985.

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)
.2650	380.	-644.	-176.	-727.	-492.	652.	.0115	.0638	-.0010	-.0416	-.0214	-.0335	7657.

SECTION	70	MEMBER	1	SEQUENCE	104	LOCATION	BEG	TYPE	EL					
TIME	FX	FY	FZ	MX	MY	MZ		DX	DY	DZ	RX	RY	RZ	STRESS
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)		(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
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	1.	-0.	0.	0.	-0.	-0.		-.0000	.0000	-.0000	-.0000	.0000	-.0000	3.
.0060	2.	0.	0.	0.	-1.	-0.		-.0000	-.0000	-.0001	.0000	-.0000	-.0000	8.
.0070	6.	1.	0.	1.	-2.	-1.		-.0001	-.0000	-.0002	.0001	-.0002	-.0000	19.
.0080	10.	2.	1.	2.	-5.	-2.		-.0003	-.0000	-.0005	.0003	-.0005	-.0001	39.
.0090	16.	3.	1.	4.	-8.	-3.		-.0006	-.0000	-.0009	.0006	-.0010	-.0002	67.
.0100	24.	7.	3.	7.	-13.	-6.		-.0010	-.0001	-.0015	.0011	-.0018	-.0002	109.
.0110	37.	12.	6.	12.	-20.	-9.		-.0017	-.0001	-.0025	.0019	-.0030	-.0003	172.

ADLPIPE PAGE 2021

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.58.

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

.0400	164.	-145.	-32.	-17.	-158.	142.	.0057	-.0160	-.0253	.0408	-.0165	.0021	1488.
.0410	131.	-166.	6.	-6.	-184.	136.	-.0006	-.0159	-.0367	.0542	-.0348	-.0036	1597.
.0420	187.	-184.	8.	-22.	-226.	135.	-.0014	-.0148	-.0398	.0600	-.0374	-.0074	1837.
.0430	297.	-222.	-23.	-59.	-283.	177.	.0031	-.0126	-.0345	.0565	-.0251	-.0097	2226.
.0440	335.	-243.	-46.	-107.	-295.	131.	.0099	-.0101	-.0221	.0459	-.0062	-.0066	2367.
.0450	373.	-152.	-68.	-135.	-262.	98.	.0159	-.0081	-.0056	.0317	.0146	.0058	2160.
.0460	465.	2.	-95.	-134.	-237.	47.	.0194	-.0061	.0082	.0187	.0316	.0196	1924.
.0470	499.	46.	-95.	-126.	-245.	10.	.0193	-.0023	.0124	.0119	.0358	.0201	1922.
.0480	455.	-38.	-63.	-114.	-274.	-12.	.0146	.0031	.0063	.0124	.0257	.0061	2070.
.0490	444.	-74.	-20.	-68.	-301.	-47.	.0055	.0085	-.0048	.0167	.0070	-.0083	2174.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.58.

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	70	MEMBER	1	SEQUENCE	104	LOCATION	BEG	TYPE	EL	DX	DY	DZ	RX	RY	RZ	STRESS
TIME	FX	FY	FZ	MX	MY	MZ	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(DEG)	(DEG)	(DEG)	(PSI)
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)										
.0500	428.	4.	14.	14.	-298.	-105.	-.0060	.0128	-.0163	.0206	-.0155	-.0150	2203.			
.0510	322.	89.	74.	92.	-263.	-164.	-.0164	.0169	-.0250	.0218	-.0365	-.0188	2252.			
.0520	241.	107.	111.	137.	-235.	-206.	-.0219	.0217	-.0271	.0166	-.0452	-.0245	2375.			
.0530	270.	116.	98.	159.	-220.	-239.	-.0218	.0266	-.0202	.0028	-.0368	-.0273	2518.			
.0540	267.	195.	82.	175.	-166.	-274.	-.0183	.0303	-.0060	-.0168	-.0195	-.0208	2541.			
.0550	168.	327.	86.	188.	-62.	-310.	-.0139	.0326	.0113	-.0376	-.0014	-.0075	2563.			
.0560	121.	425.	75.	199.	22.	-336.	-.0105	.0346	.0266	-.0561	.0154	.0025	2720.			
.0570	145.	477.	51.	209.	53.	-343.	-.0095	.0367	.0350	-.0685	.0260	.0029	2822.			
.0580	90.	408.	62.	223.	69.	-340.	-.0124	.0382	.0340	-.0711	.0225	-.0030	2870.			
.0590	-33.	397.	102.	251.	93.	-335.	-.0191	.0383	.0260	-.0656	.0068	-.0096	2983.			
.0600	-112.	392.	128.	287.	116.	-325.	-.0272	.0375	.0162	-.0576	-.0113	-.0164	3123.			
.0610	-182.	346.	142.	304.	140.	-297.	-.0333	.0362	.0086	-.0505	-.0249	-.0245	3117.			
.0620	-294.	277.	155.	284.	168.	-250.	-.0343	.0343	.0062	-.0461	-.0295	-.0308	2881.			
.0630	-357.	218.	139.	233.	192.	-190.	-.0297	.0317	.0120	-.0472	-.0199	-.0319	2481.			
.0640	-338.	169.	85.	164.	223.	-128.	-.0211	.0283	.0262	-.0552	.0026	-.0275	2123.			
.0650	-332.	152.	32.	93.	278.	-73.	-.0111	.0240	.0441	-.0658	.0286	-.0172	2100.			
.0660	-740.	190.	-2.	33.	325.	-33.	-.0020	.0186	.0589	-.0729	.0498	-.0031	2284.			
.0670	-292.	214.	-31.	-8.	320.	1.	.0040	.0133	.0650	-.0726	.0612	.0056	2226.			
.0680	-231.	138.	-43.	-35.	275.	43.	.0045	.0088	.0593	-.0627	.0572	.0016	1950.			
.0690	-234.	25.	-19.	-40.	225.	81.	-.0012	.0045	.0428	-.0430	.0355	-.0094	1689.			
.0700	-253.	-15.	25.	-13.	173.	96.	-.0110	-.0006	.0200	-.0172	.0030	-.0176	1380.			
.0710	-239.	-23.	60.	23.	114.	96.	-.0207	-.0057	-.0028	.0079	-.0288	-.0233	1051.			
.0720	-230.	-88.	85.	33.	65.	103.	-.0263	-.0099	-.0196	.0270	-.0508	-.0299	881.			
.0730	-227.	-155.	92.	12.	35.	112.	-.0255	-.0135	-.0264	.0369	-.0569	-.0317	820.			
.0740	-169.	-134.	68.	-24.	21.	108.	-.0188	-.0176	-.0221	.0371	-.0462	-.0221	784.			
.0750	-106.	-71.	23.	-71.	33.	99.	-.0085	-.0216	-.0095	.0300	-.0244	-.0056	879.			
.0760	-77.	-52.	-21.	-131.	67.	98.	.0025	-.0249	.0055	.0206	.0000	.0090	1231.			
.0770	-29.	-59.	-61.	-186.	83.	99.	.0118	-.0274	.0163	.0145	.0198	.0189	1577.			
.0780	25.	-58.	-85.	-216.	61.	94.	.0172	-.0296	.0180	.0155	.0282	.0240	1693.			
.0790	28.	-85.	-75.	-220.	27.	88.	.0171	-.0313	.0096	.0250	.0212	.0222	1662.			
.0800	-3.	-143.	-43.	-206.	-7.	80.	.0122	-.0326	-.0059	.0406	.0023	.0149	1541.			
.0810	-2.	-177.	-14.	-175.	-50.	67.	.0052	-.0339	-.0237	.0578	-.0196	.0078	1351.			
.0820	12.	-180.	8.	-145.	-98.	54.	-.0000	-.0354	-.0387	.0725	-.0368	.0039	1274.			
.0830	4.	-200.	22.	-139.	-129.	57.	-.0009	-.0364	-.0465	.0811	-.0428	.0019	1381.			
.0840	25.	-235.	7.	-162.	-141.	74.	.0036	-.0371	-.0445	.0810	-.0333	.0028	1584.			
.0850	86.	-234.	-38.	-196.	-137.	97.	.0122	-.0379	-.0338	.0732	-.0107	.0098	1797.			
.0860	108.	-193.	-83.	-233.	-110.	121.	.0227	-.0390	-.0191	.0620	-.0163	.0214	1979.			
.0870	86.	-172.	-117.	-271.	-73.	153.	.0326	-.0398	-.0054	.0518	.0410	.0311	2224.			

ADLPIPE PAGE 2027

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.58.

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

.2300	-7.	-107.	-4.	-63.	13.	157.	.0122	-.0437	.0088	.0324	-.0266	.0172	1565.
.2310	-33.	-74.	3.	-21.	37.	111.	.0109	-.0324	.0038	.0270	-.0233	.0038	826.
.2320	-60.	-44.	9.	24.	57.	68.	.0090	-.0261	-.0010	.0266	-.0236	-.0028	637.
.2330	-75.	-32.	10.	63.	72.	32.	.0076	-.0200	-.0053	.0260	-.0223	-.0098	704.
.2340	-82.	-19.	7.	96.	85.	3.	.0075	-.0143	-.0079	.0244	-.0179	-.0150	890.
.2350	-84.	11.	-1.	121.	97.	-23.	.0091	-.0095	-.0079	.0215	-.0100	-.0169	1091.
.2360	-79.	42.	-14.	135.	109.	-41.	.0123	-.0052	-.0056	.0173	.0011	-.0168	1244.
.2370	-65.	52.	-32.	137.	118.	-50.	.0167	-.0014	-.0015	.0125	.0145	-.0166	1305.
.2380	-46.	50.	-52.	120.	110.	-52.	.0217	.0020	.0031	.0085	.0279	-.0165	1274.
.2390	-24.	50.	-67.	118.	110.	-50.	.0267	.0047	.0071	.0062	.0396	-.0161	1175.

ADLPIPE PAGE 2027

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.58.

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	70	MEMBER	1	SEQUENCE	104	LOCATION	BEG	TYPE	EL				STRESS
TIME	Fx	Fy	Fz	Mx	My	Mz	Dx	Dy	Dz	Px	Ry	Rz	(PSI)
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	
.2400	2.	45.	-78.	105.	90.	-48.	.0312	.0071	.0099	.0061	.0483	-.0163	1017.
.2410	36.	27.	-84.	89.	60.	-45.	.0348	.0092	.0112	.0082	.0536	-.0180	809.
.2420	80.	6.	-84.	73.	20.	-42.	.0378	.0111	.0113	.0122	.0556	-.0207	602.
.2430	136.	-7.	-79.	57.	-31.	-44.	.0402	.0128	.0105	.0175	.0549	-.0234	549.
.2440	205.	-15.	-70.	43.	-91.	-49.	.0422	.0145	.0092	.0233	.0521	-.0263	779.
.2450	288.	-25.	-59.	29.	-155.	-59.	.0437	.0164	.0079	.0291	.0478	-.0299	1170.
.2460	376.	-26.	-44.	20.	-219.	-75.	.0445	.0184	.0066	.0344	.0417	-.0333	1615.
.2470	461.	-10.	-25.	19.	-280.	-101.	.0446	.0206	.0049	.0394	.0336	-.0362	2073.
.2480	538.	14.	0.	28.	-336.	-133.	.0439	.0232	.0026	.0439	.0237	-.0393	2520.
.2490	606.	36.	28.	45.	-384.	-170.	.0423	.0262	-.0003	.0477	.0123	-.0436	2941.
.2500	660.	61.	59.	72.	-422.	-213.	.0398	.0296	-.0037	.0505	-.0003	-.0485	3328.
.2510	695.	102.	92.	111.	-445.	-262.	.0365	.0333	-.0072	.0521	-.0136	-.0528	3678.
.2520	710.	156.	125.	161.	-451.	-315.	.0326	.0372	-.0104	.0518	-.0266	-.0561	3991.
.2530	706.	212.	155.	216.	-438.	-370.	.0287	.0414	-.0129	.0494	-.0383	-.0592	4267.
.2540	680.	266.	182.	276.	-407.	-424.	.0249	.0457	-.0145	.0448	-.0479	-.0619	4517.
.2550	631.	327.	207.	339.	-359.	-475.	.0215	.0500	-.0152	.0381	-.0554	-.0635	4770.
.2560	561.	394.	226.	405.	-293.	-525.	.0183	.0541	-.0151	.0297	-.0604	-.0637	5044.
.2570	473.	454.	240.	471.	-211.	-568.	.0154	.0579	-.0141	.0202	-.0631	-.0632	5343.
.2580	367.	507.	249.	534.	-117.	-605.	.0128	.0612	-.0127	.0100	-.0637	-.0623	5675.
.2590	249.	556.	254.	593.	-16.	-635.	.0107	.0640	-.0111	-.0002	-.0622	-.0603	6048.
.2600	125.	599.	253.	645.	85.	-658.	.0093	.0661	-.0093	-.0100	-.0587	-.0575	6443.
.2610	1.	630.	248.	688.	186.	-674.	.0084	.0674	-.0075	-.0192	-.0535	-.0541	6827.
.2620	-117.	652.	237.	721.	282.	-681.	.0082	.0679	-.0055	-.0274	-.0468	-.0497	7175.
.2630	-224.	669.	222.	741.	368.	-681.	.0086	.0674	-.0036	-.0340	-.0390	-.0443	7450.
.2640	-315.	671.	203.	746.	440.	-671.	.0097	.0660	-.0021	-.0389	-.0304	-.0387	7625.
.2650	-384.	655.	180.	737.	492.	-652.	.0115	.0638	-.0010	-.0416	-.0214	-.0335	7657.
.2660	-434.	626.	154.	714.	527.	-626.	.0138	.0608	-.0005	-.0420	-.0127	-.0284	7558.
.2670	-466.	591.	129.	679.	545.	-594.	.0165	.0570	-.0008	-.0401	-.0047	-.0231	7334.
.2680	-478.	546.	104.	632.	543.	-556.	.0197	.0526	-.0017	-.0358	.0025	-.0181	6973.
.2690	-466.	485.	78.	574.	520.	-512.	.0234	.0478	-.0032	-.0295	.0089	-.0142	6462.
.2700	-430.	412.	52.	506.	477.	-463.	.0274	.0426	-.0052	-.0217	.0143	-.0111	5817.
.2710	-374.	339.	27.	433.	419.	-412.	.0318	.0372	-.0075	-.0128	.0186	-.0080	5079.
.2720	-306.	269.	5.	355.	349.	-359.	.0365	.0315	-.0098	-.0031	.0217	-.0050	4273.
.2730	-221.	194.	-15.	274.	267.	-305.	.0412	.0259	-.0124	.0071	.0236	-.0028	3407.
.2740	-122.	111.	-33.	193.	174.	-252.	.0459	.0206	-.0155	.0175	.0240	-.0017	2517.
.2750	-15.	36.	-46.	117.	73.	-203.	.0502	.0154	-.0191	.0279	.0225	-.0006	1710.
.2760	90.	-21.	-54.	51.	-27.	-160.	.0539	.0103	-.0232	.0383	.0188	.0011	1184.
.2770	190.	-74.	-57.	-9.	-123.	-120.	.0568	.0055	-.0277	.0484	.0135	.0023	1200.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.58.

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

.2670	-487.	291.	129.	679.	543.	-594.	.0165	.0570	-.0008	-.0401	-.0047	-.0231	7334.
.2680	-478.	346.	104.	632.	543.	-556.	.0197	.0526	-.0017	-.0358	.0025	-.0181	6973.
.2690	-466.	485.	78.	574.	520.	-512.	.0234	.0478	-.0032	-.0295	.0089	-.0142	6462.
.2700	-430.	412.	52.	506.	477.	-463.	.0274	.0426	-.0052	-.0217	.0143	-.0111	5817.
.2710	-374.	339.	27.	433.	419.	-412.	.0318	.0372	-.0075	-.0128	.0186	-.0080	5079.
.2720	-306.	269.	5.	355.	349.	-359.	.0365	.0315	-.0098	-.0031	.0217	-.0050	4273.
.2730	-221.	194.	-15.	274.	267.	-305.	.0412	.0259	-.0124	.0071	.0236	-.0028	3407.
.2740	-122.	111.	-33.	193.	174.	-292.	.0459	.0206	-.0155	.0175	.0240	-.0017	2517.
.2750	-15.	36.	-46.	117.	73.	-203.	.0502	.0154	-.0191	.0279	.0225	-.0006	1710.
.2760	92.	-21.	-54.	51.	-27.	-160.	.0539	.0103	-.0232	.0383	.0188	.0011	1184.
.2770	190.	-74.	-57.	-9.	-123.	-120.	.0568	.0055	-.0277	.0484	.0135	.0023	1200.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.29.58.

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	70	MEMBER	1	SEQUENCE	104	LOCATION	DEG	TYPE	FL	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)										
.2780	284.	-136.	-50.	-64.	-216.	-81.	.0592	.0012	-.0324	.0577	.0075	.0023	.0577	.0075	.0023	1669.
.2790	372.	-191.	-58.	-109.	-305.	-47.	.0612	-.0026	-.0370	.0656	.0008	.0024	.0656	.0008	.0024	2280.
.2800	450.	-222.	-55.	-144.	-383.	-18.	.0628	-.0063	-.0409	.0718	-.0054	.0040	.0718	-.0054	.0040	2853.
.2810	510.	-241.	-51.	-172.	-444.	7.	.0639	-.0096	-.0438	.0760	-.0110	.0067	.0760	-.0110	.0067	3314.
.2820	558.	-264.	-50.	-194.	-490.	32.	.0645	-.0124	-.0456	.0782	-.0152	.0092	.0782	-.0152	.0092	3673.
.2830	599.	-281.	-51.	-210.	-525.	54.	.0646	-.0149	-.0467	.0785	-.0182	.0121	.0785	-.0182	.0121	3952.
.2840	626.	-277.	-51.	-216.	-549.	70.	.0640	-.0172	-.0476	.0776	-.0207	.0165	.0776	-.0207	.0165	4135.
.2850	630.	-261.	-50.	-215.	-556.	83.	.0622	-.0192	-.0484	.0760	-.0232	.0213	.0760	-.0232	.0213	4190.
.2860	612.	-256.	-49.	-208.	-546.	98.	.0592	-.0207	-.0492	.0737	-.0258	.0249	.0737	-.0258	.0249	4123.
.2870	576.	-257.	-49.	-198.	-522.	113.	.0551	-.0218	-.0501	.0709	-.0282	.0274	.0709	-.0282	.0274	3965.
.2880	521.	-247.	-49.	-183.	-487.	128.	.0503	-.0225	-.0509	.0674	-.0302	.0300	.0674	-.0302	.0300	3732.
.2890	444.	-235.	-51.	-168.	-439.	143.	.0450	-.0228	-.0508	.0628	-.0309	.0324	.0628	-.0309	.0324	3419.
.2900	351.	-234.	-57.	-157.	-373.	162.	.0397	-.0225	-.0490	.0563	-.0295	.0340	.0563	-.0295	.0340	3031.
.2910	246.	-237.	-67.	-149.	-290.	182.	.0345	-.0216	-.0450	.0475	-.0254	.0356	.0475	-.0254	.0356	2603.
.2920	130.	-224.	-80.	-143.	-198.	200.	.0299	-.0203	-.0391	.0366	-.0190	.0381	.0366	-.0190	.0381	2196.
.2930	7.	-205.	-94.	-138.	-99.	216.	.0256	-.0185	-.0317	.0241	-.0109	.0409	.0241	-.0109	.0409	1911.
.2940	-116.	-198.	-109.	-136.	5.	231.	.0213	-.0160	-.0234	.0104	-.0022	.0423	.0104	-.0022	.0423	1864.
.2950	-240.	-194.	-122.	-131.	110.	242.	.0165	-.0129	-.0151	-.0037	.0054	.0425	-.0037	.0054	.0425	2066.
.2960	-366.	-173.	-128.	-119.	214.	246.	.0109	-.0094	-.0077	-.0173	.0103	.0427	-.0173	.0103	.0427	2418.
.2970	-491.	-144.	-125.	-101.	310.	243.	.0046	-.0056	-.0017	-.0296	.0120	.0420	-.0296	.0120	.0420	2851.
.2980	-602.	-131.	-118.	-82.	397.	237.	-.0023	-.0012	-.0029	-.0409	.0110	.0389	-.0409	.0110	.0389	3244.
.2990	-697.	-128.	-108.	-61.	463.	226.	-.0095	.0036	.0065	-.0515	.0077	.0343	-.0515	.0077	.0343	3612.
.3000	-779.	-104.	-91.	-37.	523.	205.	-.0166	.0083	.0096	-.0613	.0026	.0310	-.0613	.0026	.0310	3921.
.3010	-844.	-60.	-72.	-14.	572.	177.	-.0231	.0129	.0128	-.0705	-.0031	.0292	-.0705	-.0031	.0292	4169.
.3020	-884.	-31.	-54.	2.	605.	149.	-.0288	.0175	.0164	-.0793	-.0084	.0269	-.0793	-.0084	.0269	4337.
.3030	-896.	-20.	-39.	8.	620.	121.	-.0335	.0221	.0200	-.0873	-.0129	.0238	-.0873	-.0129	.0238	4397.
.3040	-889.	-0.	-24.	8.	619.	90.	-.0372	.0261	.0235	-.0939	-.0173	.0221	-.0939	-.0173	.0221	4355.
.3050	-869.	32.	-7.	5.	605.	57.	-.0403	.0295	.0264	-.0984	-.0222	.0219	-.0984	-.0222	.0219	4230.
.3060	-832.	46.	9.	-9.	577.	29.	-.0430	.0325	.0284	-.1006	-.0273	.0209	-.1006	-.0273	.0209	4018.
.3070	-775.	31.	21.	-33.	530.	8.	-.0450	.0351	.0292	-.1004	-.0323	.0185	-.1004	-.0323	.0185	3697.
.3080	-701.	12.	32.	-64.	466.	-11.	-.0464	.0370	.0290	-.0978	-.0372	.0166	-.0978	-.0372	.0166	3275.
.3090	-616.	4.	41.	-99.	391.	-29.	-.0471	.0380	.0282	-.0932	-.0414	.0164	-.0932	-.0414	.0164	2813.
.3100	-510.	-13.	46.	-141.	310.	-41.	-.0471	.0384	.0272	-.0874	-.0441	.0168	-.0874	-.0441	.0168	2388.
.3110	-411.	-46.	45.	-189.	225.	-46.	-.0462	.0383	.0263	-.0808	-.0446	.0171	-.0808	-.0446	.0171	2071.
.3120	-294.	-77.	38.	-239.	136.	-46.	-.0443	.0377	.0254	-.0737	-.0430	.0184	-.0737	-.0430	.0184	1940.
.3130	-178.	-98.	30.	-287.	45.	-43.	-.0418	.0365	.0243	-.0663	-.0396	.0210	-.0663	-.0396	.0210	2043.
.3140	-67.	-123.	18.	-331.	-39.	-35.	-.0389	.0350	.0229	-.0587	-.0350	.0237	-.0587	-.0350	.0237	2331.
.3150	34.	-156.	3.	-368.	-114.	-23.	-.0361	.0334	.0212	-.0516	-.0295	.0259	-.0516	-.0295	.0259	2682.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.29.58.

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

.3040	-869.	32.	-7.	5.	605.	57.	-.0372	.0261	.0235	-.0939	-.0173	.0221	4355.
.3050	-869.	32.	-7.	5.	605.	57.	-.0403	.0295	.0264	-.0984	-.0222	.0219	4250.
.3060	-832.	46.	9.	-9.	577.	29.	-.0430	.0325	.0284	-.1006	-.0273	.0209	4018.
.3070	-775.	31.	21.	-33.	530.	8.	-.0450	.0351	.0292	-.1004	-.0323	.0185	3697.
.3080	-701.	12.	32.	-74.	466.	-11.	-.0464	.0370	.0290	-.0978	-.0372	.0166	3275.
.3090	-616.	4.	41.	-99.	391.	-29.	-.0471	.0380	.0282	-.0932	-.0414	.0164	2813.
.3100	-510.	-13.	46.	-141.	310.	-41.	-.0471	.0384	.0272	-.0874	-.0441	.0168	2388.
.3110	-411.	-46.	45.	-189.	225.	-46.	-.0462	.0383	.0263	-.0808	-.0446	.0171	2071.
.3120	-294.	-77.	39.	-239.	136.	-46.	-.0443	.0377	.0254	-.0737	-.0430	.0184	1940.
.3130	-178.	-98.	30.	-287.	45.	-43.	-.0418	.0365	.0243	-.0663	-.0396	.0210	2043.
.3140	-68.	-123.	18.	-331.	-39.	-35.	-.0389	.0350	.0229	-.0587	-.0350	.0237	2331.
.3150	34.	-156.	3.	-368.	-114.	-23.	-.0361	.0334	.0212	-.0516	-.0295	.0259	2682.

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DIS/ADLPIPE
S/RV PIPING KEWAUNEE GKWOOD 2 RUP DISK
2 SAFETY COLD FKW24F--2 PSV

ADLPIPE STRESS ANALYSIS

8/31/02. 18.29.58.

CONDITION 24
LOADS
SHOCK
PRESSURE
ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION				TYPE			EL			STRESS
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	NX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	(PSI)
.3160	120.	-178.	-11.	-392.	-177.	-10.	-.0333	.0316	.0190	-.0449	-.0237	.0286	2998.
.3170	189.	-194.	-24.	-403.	-231.	3.	-.0306	.0298	.0163	-.0390	-.0177	.0320	3233.
.3180	241.	-189.	-36.	-402.	-271.	17.	-.0278	.0281	.0133	-.0345	-.0113	.0349	3376.
.3190	279.	-195.	-50.	-387.	-296.	31.	-.0252	.0266	.0107	-.0320	-.0044	.0373	3399.
.3200	298.	-190.	-62.	-357.	-302.	41.	-.0227	.0252	.0085	-.0316	.0028	.0407	3268.
.3210	296.	-139.	-70.	-312.	-292.	47.	-.0202	.0238	.0068	-.0330	.0101	.0453	2993.
.3220	280.	-98.	-77.	-258.	-269.	52.	-.0177	.0227	.0054	-.0363	.0173	.0493	2621.
.3230	257.	-66.	-84.	-106.	-237.	57.	-.0154	.0218	.0044	-.0411	.0242	.0519	2180.
.3240	213.	-23.	-87.	-127.	-195.	58.	-.0133	.0209	.0035	-.0469	.0300	.0547	1668.
.3250	157.	41.	-84.	-51.	-144.	53.	-.0116	.0198	.0027	-.0530	.0343	.0584	1124.
.3260	95.	102.	-78.	24.	-90.	47.	-.0101	.0184	.0021	-.0592	.0373	.0614	723.
.3270	38.	141.	-73.	92.	-38.	43.	-.0087	.0171	.0016	-.0652	.0395	.0625	754.
.3280	-15.	175.	-67.	152.	8.	39.	-.0073	.0153	.0013	-.0705	.0408	.0632	1091.
.3290	-64.	219.	-58.	203.	49.	32.	-.0059	.0129	.0014	-.0747	.0410	.0646	1471.
.3300	-105.	257.	-49.	242.	84.	27.	-.0044	.0098	.0018	-.0775	.0404	.0659	1790.
.3310	-132.	270.	-42.	263.	108.	26.	-.0030	.0063	.0023	-.0786	.0395	.0656	1987.
.3320	-146.	266.	-36.	268.	119.	27.	-.0016	.0022	.0028	-.0778	.0374	.0643	2049.
.3330	-148.	262.	-30.	259.	116.	29.	-.0001	-.0025	.0029	-.0747	.0346	.0632	1990.
.3340	-141.	250.	-24.	237.	104.	33.	.0011	-.0079	.0030	-.0697	.0310	.0618	1819.
.3350	-124.	217.	-20.	201.	85.	40.	.0022	-.0137	.0031	-.0630	.0272	.0593	1542.
.3360	-97.	173.	-18.	153.	57.	49.	.0032	-.0198	.0031	-.0550	.0233	.0561	1183.
.3370	-62.	133.	-16.	97.	21.	58.	.0042	-.0262	.0031	-.0460	.0195	.0531	801.
.3380	-22.	91.	-16.	36.	-19.	68.	.0051	-.0327	.0032	-.0365	.0161	.0500	552.
.3390	21.	40.	-17.	-28.	-57.	79.	.0058	-.0390	.0033	-.0270	.0130	.0460	706.
.3400	61.	-10.	-19.	-90.	-92.	88.	.0060	-.0450	.0034	-.0177	.0099	.0417	1088.
.3410	95.	-47.	-20.	-146.	-123.	94.	.0058	-.0507	.0031	-.0088	.0067	.0376	1481.
.3420	112.	-79.	-18.	-194.	-140.	98.	.0052	-.0558	.0024	-.0007	.0034	.0330	1829.
.3430	133.	-116.	-17.	-235.	-164.	100.	.0041	-.0600	.0015	.0062	.0003	.0271	2110.
.3440	139.	-147.	-15.	-264.	-168.	100.	.0026	-.0635	.0006	.0115	-.0023	.0208	2288.
.3450	121.	-157.	-12.	-280.	-160.	94.	.0009	-.0663	-.0001	.0150	-.0042	.0154	2341.
.3460	95.	-153.	-8.	-286.	-140.	85.	-.0008	-.0683	-.0003	.0165	-.0050	.0104	2293.
.3470	63.	-152.	-7.	-283.	-111.	74.	-.0024	-.0694	.0001	.0158	-.0041	.0048	2180.
.3480	24.	-147.	-7.	-273.	-73.	62.	-.0038	-.0697	.0009	.0133	-.0020	-.0009	2012.
.3490	-25.	-125.	-6.	-252.	-27.	46.	-.0052	-.0695	.0020	.0095	.0009	-.0055	1794.
.3500	-80.	-91.	-4.	-224.	24.	28.	-.0065	-.0690	.0031	.0050	.0041	-.0094	1577.
.3510	-136.	-63.	-3.	-192.	77.	10.	-.0078	-.0679	.0040	.0003	.0076	-.0138	1440.
.3520	-191.	-45.	-2.	-159.	126.	-5.	-.0090	-.0666	.0043	-.0040	.0111	-.0189	1416.
.3530	-243.	-23.	-2.	-126.	171.	-18.	-.0099	-.0653	.0043	-.0076	.0143	-.0234	1486.

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DIS/ADLPIPE
S/RV PIPING KEWAUNEE GKWOOD 2 RUP DISK
2 SAFETY COLD FKW24F--2 PSV

ADLPIPE STRESS ANALYSIS

8/31/02. 18.29.58.

CONDITION 24
LOADS
SHOCK
PRESSURE
ENGLISH UNITS

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

.3430	133.	-116.	-17.	-235.	-164.	-164.	100.	.0041	-.0600	.0015	.0062	.0005	.0271	2110.
.3440	135.	-147.	-15.	-244.	-168.	-168.	100.	.0026	-.0635	.0006	.0115	-.0023	.0208	2288.
.3450	121.	-157.	-12.	-280.	-160.	-160.	94.	.0009	-.0663	-.0001	.0150	-.0042	.0154	2341.
.3460	95.	-153.	-8.	-276.	-140.	-140.	85.	-.0008	-.0683	-.0003	.0165	-.0050	.0104	2293.
.3470	67.	-152.	-7.	-283.	-111.	-111.	74.	-.0024	-.0694	.0001	.0158	-.0041	.0048	2180.
.3480	24.	-147.	-7.	-273.	-72.	-72.	62.	-.0038	-.0697	.0009	.0133	-.0020	-.0009	2012.
.3490	-25.	-125.	-6.	-252.	-27.	-27.	46.	-.0052	-.0695	.0020	.0095	.0009	-.0055	1794.
.3500	-80.	-91.	-4.	-224.	24.	24.	28.	-.0065	-.0690	.0031	.0050	.0041	-.0094	1577.
.3510	-136.	-63.	-3.	-192.	77.	77.	10.	-.0078	-.0679	.0040	.0003	.0076	-.0138	1440.
.3520	-191.	-45.	-2.	-159.	126.	126.	-5.	-.0090	-.0666	.0043	-.0040	.0111	-.0189	1416.
.3530	-243.	-23.	-2.	-126.	171.	171.	-18.	-.0099	-.0653	.0043	-.0076	.0143	-.0234	1486.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02 18.29.58.

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	70	MEMBER	1	SEQUENCE	104	LOCATION	BEG	TYPE	EL						
TIME	FX	FY	FZ	FX	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)		
.3540	-289.	3.	-1.	-93.	211.	-30.	-.0104	-.0642	.0040	-.0103	.0174	-.0269	1622.		
.3550	-326.	22.	-1.	-66.	245.	-38.	-.0104	-.0633	.0037	-.0119	.0207	-.0301	1783.		
.3560	-349.	28.	-4.	-46.	268.	-40.	-.0097	-.0628	.0035	-.0124	.0244	-.0330	1912.		
.3570	-356.	31.	-9.	-33.	279.	-37.	-.0082	-.0628	.0032	-.0114	.0282	-.0348	1972.		
.3580	-349.	34.	-13.	-27.	278.	-31.	-.0059	-.0635	.0028	-.0089	.0318	-.0353	1954.		
.3590	-328.	30.	-19.	-26.	265.	-19.	-.0032	-.0649	.0020	-.0045	.0348	-.0350	1861.		
.3600	-294.	15.	-24.	-32.	242.	-2.	-.0002	-.0668	.0008	.0017	.0367	-.0343	1701.		
.3610	-249.	-4.	-29.	-42.	207.	20.	.0031	-.0693	-.0012	.0098	.0373	-.0330	1479.		
.3620	-195.	-27.	-31.	-54.	162.	45.	.0067	-.0724	-.0039	.0198	.0365	-.0311	1227.		
.3630	-135.	-57.	-33.	-70.	100.	75.	.0104	-.0758	-.0070	.0310	.0347	-.0289	1038.		
.3640	-69.	-94.	-36.	-87.	51.	109.	.0143	-.0796	-.0102	.0428	.0323	-.0263	1037.		
.3650	-2.	-128.	-37.	-105.	-7.	145.	.0185	-.0835	-.0131	.0548	.0297	-.0227	1248.		
.3660	65.	-156.	-39.	-122.	-65.	182.	.0230	-.0875	-.0154	.0664	.0274	-.0180	1590.		
.3670	133.	-186.	-42.	-139.	-121.	220.	.0278	-.0913	-.0170	.0772	.0257	-.0131	1998.		
.3680	199.	-219.	-46.	-155.	-172.	258.	.0325	-.0947	-.0180	.0869	.0244	-.0083	2418.		
.3690	258.	-244.	-49.	-167.	-219.	293.	.0369	-.0976	-.0186	.0956	.0231	-.0030	2798.		
.3700	309.	-257.	-49.	-171.	-257.	324.	.0406	-.0999	-.0191	.1034	.0214	.0024	3115.		
.3710	351.	-268.	-48.	-170.	-289.	350.	.0435	-.1014	-.0198	.1103	.0189	.0070	3376.		
.3720	384.	-283.	-45.	-164.	-315.	372.	.0453	-.1018	-.0207	.1162	.0159	.0100	3580.		
.3730	408.	-292.	-40.	-151.	-332.	388.	.0460	-.1011	-.0218	.1210	.0122	.0121	3707.		
.3740	419.	-288.	-32.	-131.	-340.	394.	.0457	-.0993	-.0229	.1244	.0081	.0140	3735.		
.3750	418.	-275.	-22.	-107.	-337.	391.	.0444	-.0964	-.0234	.1259	.0043	.0153	3668.		
.3760	407.	-261.	-14.	-80.	-323.	381.	.0425	-.0923	-.0232	.1254	.0014	.0156	3521.		
.3770	387.	-244.	-6.	-52.	-299.	364.	.0401	-.0869	-.0219	.1226	-.0002	.0151	3299.		
.3780	358.	-217.	1.	-23.	-265.	337.	.0373	-.0804	-.0195	.1176	-.0004	.0146	2992.		
.3790	319.	-179.	7.	9.	-222.	301.	.0341	-.0729	-.0161	.1104	.0005	.0142	2605.		
.3800	272.	-136.	14.	42.	-169.	257.	.0304	-.0646	-.0118	.1014	.0023	.0135	2163.		
.3810	218.	-93.	21.	76.	-111.	207.	.0263	-.0554	-.0072	.0909	.0044	.0120	1716.		
.3820	161.	-45.	29.	112.	-50.	150.	.0217	-.0456	-.0025	.0796	.0064	.0102	1349.		
.3830	102.	9.	39.	151.	10.	87.	.0167	-.0355	.0021	.0676	.0079	.0082	1215.		
.3840	43.	63.	50.	192.	70.	20.	.0113	-.0252	.0063	.0554	.0086	.0060	1427.		
.3850	-14.	118.	64.	234.	128.	-48.	.0056	-.0150	.0102	.0430	.0085	.0036	1885.		
.3860	-65.	177.	78.	276.	180.	-118.	-.0001	-.0050	.0138	.0309	.0078	.0016	2439.		
.3870	-106.	235.	93.	317.	225.	-187.	-.0055	.0045	.0171	.0192	.0067	-.0002	3001.		
.3880	-138.	288.	100.	355.	261.	-252.	-.0105	.0133	.0200	.0081	.0052	-.0017	3532.		
.3890	-157.	340.	123.	390.	288.	-313.	-.0151	.0212	.0227	-.0021	.0034	-.0025	4017.		
.3900	-166.	393.	137.	422.	306.	-367.	-.0191	.0279	.0249	-.0110	.0009	-.0025	4439.		
.3910	-165.	439.	151.	448.	312.	-411.	-.0226	.0336	.0265	-.0182	-.0021	-.0024	4760.		

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02 18.29.58.

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

.3810	218.	-93.	21.	76.	-111.	207.	.0263	-.0554	-.0072	.0909	.0044	.0120	1716.
.3820	161.	-45.	29.	112.	-50.	150.	.0217	-.0456	-.0025	.0796	.0064	.0102	1349.
.3830	102.	9.	39.	151.	10.	87.	.0167	-.0355	.0021	.0676	.0079	.0082	1215.
.3840	47.	63.	50.	192.	70.	20.	.0113	-.0252	.0063	.0554	.0086	.0060	1427.
.3850	-14.	118.	64.	234.	128.	-48.	.0056	-.0150	.0102	.0430	.0085	.0036	1885.
.3860	-65.	177.	70.	276.	180.	-118.	-.0001	-.0050	.0138	.0309	.0078	.0016	2439.
.3870	-106.	235.	93.	317.	225.	-187.	-.0055	.0045	.0171	.0192	.0067	-.0002	3001.
.3880	-138.	288.	100.	355.	261.	-252.	-.0105	.0133	.0200	.0081	.0052	-.0017	3532.
.3890	-157.	340.	123.	390.	288.	-313.	-.0151	.0212	.0227	-.0021	.0034	-.0025	4017.
.3900	-166.	393.	137.	422.	306.	-367.	-.0191	.0279	.0249	-.0110	.0009	-.0025	4439.
.3910	-165.	439.	151.	448.	312.	-411.	-.0226	.0336	.0265	-.0182	-.0021	-.0024	4760.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.58.

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	70	MEMBER	1	SEQUENCE	104	LOCATION	BEG	TYPE	EL					
TIME	FX	FY	FZ	MX	MY	MZ		DX	DY	DZ	RX	RY	RZ	STRESS
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)		(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
.3920	-151.	465.	163.	466.	306.	-442.		-.0255	.0380	.0273	-.0234	-.0056	-.0029	4949.
.3930	-123.	476.	173.	475.	285.	-459.		-.0278	.0413	.0272	-.0267	-.0097	-.0039	5011.
.3940	-86.	483.	182.	479.	254.	-465.		-.0295	.0431	.0265	-.0278	-.0143	-.0044	4972.
.3950	-41.	485.	189.	475.	215.	-459.		-.0306	.0435	.0251	-.0269	-.0193	-.0044	4835.
.3960	12.	469.	193.	461.	166.	-440.		-.0311	.0428	.0233	-.0242	-.0242	-.0049	4584.
.3970	76.	436.	193.	438.	108.	-407.		-.0309	.0410	.0211	-.0200	-.0285	-.0060	4231.
.3980	145.	397.	190.	408.	44.	-365.		-.0300	.0382	.0187	-.0146	-.0323	-.0069	3823.
.3990	213.	357.	186.	373.	-21.	-315.		-.0287	.0345	.0162	-.0083	-.0356	-.0074	3400.
.4000	279.	309.	178.	333.	-84.	-257.		-.0272	.0301	.0138	-.0014	-.0385	-.0080	2985.

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)
.2650	384.	-655.	-180.	-737.	-492.	652.		.0115	.0638	-.0010	-.0416	-.0214	-.0335	7657.

SECTION	70	MEMBER	1	SEQUENCE	834	LOCATION	END	TYPE	EL					
TIME	FX	FY	FZ	MX	MY	MZ		DX	DY	DZ	RX	RY	RZ	STRESS
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)		(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
0.0000	0.	0.	0.	0.	0.	0.		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.
.0010	0.	0.	0.	0.	0.	-0.		-.0000	.0000	-.0000	-.0000	-.0000	-.0000	0.
.0020	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	1.
.0050	-1.	0.	-0.	-0.	0.	0.		-.0000	.0000	-.0000	-.0000	.0001	-.0000	3.
.0060	-3.	-0.	-0.	-0.	1.	0.		-.0000	-.0000	-.0001	.0000	.0001	.0000	9.
.0070	-6.	-1.	-0.	-1.	3.	1.		-.0001	-.0000	-.0002	.0001	.0002	.0001	20.
.0080	-10.	-2.	-1.	-2.	5.	2.		-.0003	-.0000	-.0005	.0002	.0003	.0001	41.
.0090	-16.	-3.	-1.	-4.	9.	4.		-.0006	-.0000	-.0009	.0005	.0002	.0002	71.
.0100	-24.	-7.	-3.	-8.	14.	6.		-.0011	-.0001	-.0016	.0009	.0001	.0004	115.
.0110	-37.	-12.	-6.	-12.	22.	8.		-.0017	-.0001	-.0026	.0014	-.0000	.0006	182.
.0120	-53.	-18.	-9.	-18.	34.	9.		-.0027	-.0002	-.0040	.0022	-.0002	.0009	275.
.0130	-73.	-27.	-14.	-27.	49.	14.		-.0040	-.0003	-.0058	.0032	-.0007	.0016	398.
.0140	-94.	-40.	-21.	-37.	66.	20.		-.0056	-.0005	-.0082	.0046	-.0016	.0027	543.
.0150	-118.	-55.	-28.	-48.	84.	28.		-.0077	-.0007	-.0108	.0062	-.0029	.0040	699.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.58.

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

.0050	-1.	0.	-0.	-0.	0.	0.	0.	-0.000	.0000	-0.0000	-0.0000	.0000	-0.0000	1.
.0060	-3.	-0.	-0.	-0.	1.	0.	0.	-0.0000	-0.0000	-0.0001	.0000	.0001	.0000	3.
.0070	-6.	-1.	-0.	-1.	3.	1.	1.	-0.0001	-0.0000	-0.0002	.0001	.0002	.0001	9.
.0080	-10.	-2.	-1.	-2.	5.	1.	1.	-0.0003	-0.0000	-0.0005	.0002	.0003	.0001	41.
.0090	-16.	-3.	-1.	-4.	9.	2.	2.	-0.0006	-0.0000	-0.0009	.0005	.0002	.0002	71.
.0100	-24.	-7.	-3.	-8.	14.	4.	4.	-0.0011	-0.0001	-0.0016	.0005	.0001	.0004	115.
.0110	-37.	-12.	-6.	-12.	22.	6.	6.	-0.0017	-0.0001	-0.0026	.0014	-0.0000	.0006	182.
.0120	-53.	-18.	-9.	-18.	34.	9.	9.	-0.0027	-0.0002	-0.0040	.0022	-0.0002	.0009	275.
.0130	-73.	-27.	-14.	-27.	49.	14.	14.	-0.0040	-0.0003	-0.0058	.0032	-0.0007	.0016	398.
.0140	-96.	-40.	-21.	-37.	66.	20.	20.	-0.0056	-0.0005	-0.0082	.0046	-0.0016	.0027	543.
.0150	-110.	-55.	-28.	-48.	84.	28.	28.	-0.0077	-0.0007	-0.0108	.0062	-0.0029	.0040	699.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.58.

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	MEMBER	SEQUENCE	LOCATION	END	TYPE EL									STRESS
TIME	FX	FY	FZ		FX	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)	
.0160	-136.	-69.	-35.		-59.	100.	35.	-0.0098	-0.0009	-0.0136	.0080	-0.0047	.0050	844.
.0170	-146.	-77.	-42.		-66.	113.	42.	-0.0117	-0.0009	-0.0162	.0098	-0.0067	.0052	954.
.0180	-143.	-73.	-46.		-68.	117.	46.	-0.0132	-0.0007	-0.0179	.0110	-0.0088	.0042	997.
.0190	-123.	-60.	-47.		-63.	110.	48.	-0.0139	-0.0003	-0.0182	.0112	-0.0106	.0024	945.
.0200	-86.	-38.	-44.		-51.	90.	45.	-0.0134	.0002	-0.0165	.0098	-0.0115	.0001	784.
.0210	-36.	-16.	-38.		-33.	56.	38.	-0.0115	.0008	-0.0119	.0066	-0.0111	-0.0019	520.
.0220	27.	-5.	-30.		-7.	10.	26.	-0.0081	.0010	-0.0052	.0021	-0.0091	-0.0023	199.
.0230	89.	1.	-21.		22.	-39.	12.	-0.0039	.0011	.0032	-0.0034	-0.0054	-0.0016	323.
.0240	134.	3.	-6.		50.	-84.	-0.	.0006	.0009	.0118	-0.0091	-0.0004	.0002	682.
.0250	173.	6.	12.		70.	-128.	-10.	.0042	.0006	.0191	-0.0144	.0032	.0019	1016.
.0260	229.	17.	21.		82.	-174.	-20.	.0068	.0003	.0240	-0.0186	.0026	.0021	1345.
.0270	293.	16.	18.		89.	-214.	-35.	.0085	-0.0003	.0260	-0.0200	-0.0009	.0012	1629.
.0280	310.	24.	20.		92.	-226.	-48.	.0096	-0.0008	.0251	-0.0189	-0.0024	-0.0017	1729.
.0290	321.	72.	31.		90.	-221.	-56.	.0097	-0.0009	.0221	-0.0171	-0.0039	-0.0019	1708.
.0300	389.	112.	25.		87.	-244.	-67.	.0092	-0.0016	.0189	-0.0146	-0.0120	-0.0128	1864.
.0310	454.	101.	18.		82.	-278.	-89.	.0098	-0.0033	.0177	-0.0127	-0.0190	-0.0153	2107.
.0320	451.	106.	31.		83.	-284.	-107.	.0128	-0.0048	.0191	-0.0134	-0.0157	-0.0136	2189.
.0330	426.	156.	50.		99.	-270.	-115.	.0179	-0.0058	.0228	-0.0154	-0.0052	-0.0144	2158.
.0340	382.	161.	66.		115.	-259.	-124.	.0231	-0.0079	.0281	-0.0174	.0064	-0.0097	2154.
.0350	286.	88.	88.		110.	-246.	-139.	.0267	-0.0111	.0327	-0.0185	.0167	.0007	2109.
.0360	186.	34.	102.		95.	-213.	-149.	.0276	-0.0139	.0322	-0.0161	.0227	.0075	1926.
.0370	110.	60.	91.		90.	-147.	-146.	.0258	-0.0151	.0242	-0.0068	.0237	.0051	1573.
.0380	14.	104.	74.		82.	-43.	-135.	.0213	-0.0155	.0099	.0084	.0231	-0.0018	1137.
.0390	-120.	121.	60.		54.	75.	-119.	.0142	-0.0159	-0.0079	.0250	.0190	-0.0080	1051.
.0400	-164.	145.	32.		22.	154.	-101.	.0056	-0.0159	-0.0256	.0404	.0058	-0.0139	1292.
.0410	-131.	166.	-6.		11.	190.	-89.	-0.0009	-0.0155	-0.0380	.0533	-0.0084	-0.0186	1462.
.0420	-183.	184.	-0.		27.	233.	-83.	-0.0017	-0.0142	-0.0410	.0599	-0.0048	-0.0217	1733.
.0430	-293.	222.	23.		66.	285.	-74.	.0029	-0.0119	-0.0348	.0581	.0153	-0.0232	2100.
.0440	-335.	243.	46.		114.	292.	-61.	.0098	-0.0095	-0.0212	.0498	.0357	-0.0184	2224.
.0450	-373.	152.	68.		139.	254.	-54.	.0159	-0.0084	-0.0036	.0371	.0517	-0.0031	2051.
.0460	-465.	-7.	95.		134.	224.	-48.	.0195	-0.0073	.0111	.0243	.0650	.0145	1847.
.0470	-499.	-46.	95.		125.	233.	-23.	.0194	-0.0036	.0156	.0175	.0706	.0191	1848.
.0480	-455.	38.	63.		115.	270.	22.	.0147	.0026	.0090	.0178	.0649	.0095	2050.
.0490	-444.	74.	28.		70.	307.	68.	.0055	.0086	-0.0031	.0203	.0506	.0001	2240.
.0500	-428.	-4.	-14.		-15.	315.	104.	-0.0062	.0131	-0.0159	.0209	.0284	-0.0011	2311.
.0510	-322.	-89.	-74.		-95.	294.	138.	-0.0167	.0173	-0.0260	.0190	.0031	.0005	2356.
.0520	-241.	-107.	-111.		-140.	274.	175.	-0.0223	.0223	-0.0288	.0122	-0.0090	-0.0003	2466.
.0530	-270.	-116.	-98.		-162.	257.	206.	-0.0221	.0274	-0.0215	-0.0023	-0.0028	.0009	2553.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.58.

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

.0440	-335.	243.	46.	114.	292.	-61.	.0098	-.0095	-.0212	.0498	.0357	-.0184	2224.
.0450	-373.	152.	68.	139.	254.	-54.	.0159	-.0084	-.0036	.0371	.0517	-.0031	2051.
.0460	-467.	-2.	95.	174.	224.	-48.	.0195	-.0073	.0111	.0243	.0650	.0145	1847.
.0470	-495.	-46.	95.	125.	233.	-23.	.0194	-.0036	.0156	.0175	.0706	.0191	1848.
.0480	-455.	38.	63.	115.	270.	22.	.0147	.0026	.0090	.0178	.0649	.0095	2050.
.0490	-444.	74.	20.	70.	307.	66.	.0055	.0086	-.0031	.0203	.0506	.0001	2240.
.0500	-428.	-4.	-14.	-15.	315.	104.	-.0062	.0151	-.0159	.0209	.0284	-.0011	2311.
.0510	-322.	-89.	-74.	-95.	294.	138.	-.0167	.0173	-.0260	.0190	.0032	.0005	2356.
.0520	-241.	-107.	-111.	-140.	274.	175.	-.0223	.0223	-.0288	.0122	-.0090	-.0003	2466.
.0530	-270.	-116.	-90.	-162.	257.	206.	-.0221	.0274	-.0215	-.0023	-.0028	.0009	2553.

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ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.58.

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	70	MEMBER	1	SEQUENCE	834	LOCATION	END	TYPE	EL	DZ	RX	RY	RZ	STRESS
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)		(PSI)
.0540	-267.	-105.	-82.	-181.	197.	219.	-.0184	.0307	-.0064	-.0224	.0065	.0105		2405.
.0550	-160.	-327.	-86.	-198.	92.	217.	-.0140	.0322	.0115	-.0436	.0098	.0259		2143.
.0560	-121.	-425.	-75.	-211.	3.	215.	-.0105	.0336	.0275	-.0625	.0144	.0374		2097.
.0570	-145.	-437.	-51.	-222.	-34.	219.	-.0094	.0358	.0364	-.0752	.0202	.0384		2181.
.0580	-90.	-408.	-62.	-235.	-49.	223.	-.0122	.0376	.0351	-.0785	.0145	.0324		2284.
.0590	33.	-397.	-102.	-263.	-65.	221.	-.0190	.0381	.0261	-.0744	-.0043	.0251		2435.
.0600	112.	-392.	-128.	-289.	-83.	213.	-.0273	.0377	.0151	-.0680	-.0255	.0168		2618.
.0610	182.	-346.	-142.	-314.	-105.	198.	-.0334	.0370	.0065	-.0619	-.0426	.0057		2690.
.0620	294.	-277.	-155.	-292.	-133.	171.	-.0345	.0357	.0037	-.0570	-.0513	-.0054		2531.
.0630	357.	-218.	-139.	-239.	-163.	128.	-.0298	.0333	.0100	-.0563	-.0456	-.0129		2202.
.0640	330.	-169.	-85.	-169.	-209.	79.	-.0210	.0299	.0254	-.0617	-.0284	-.0153		1952.
.0650	332.	-152.	-32.	-97.	-279.	30.	-.0109	.0252	.0446	-.0695	-.0111	-.0113		2065.
.0660	340.	-190.	2.	-39.	-336.	-21.	-.0016	.0192	.0605	-.0743	.0028	-.0027		2356.
.0670	292.	-214.	31.	2.	-337.	-63.	.0044	.0134	.0672	-.0725	.0146	.0014		2387.
.0680	231.	-138.	43.	31.	-294.	-83.	.0049	.0093	.0615	-.0617	.0169	-.0066		2136.
.0690	234.	-25.	19.	39.	-238.	-88.	-.0010	.0057	.0439	-.0419	.0026	-.0203		1785.
.0700	257.	15.	-25.	14.	-174.	-91.	-.0109	.0010	.0194	-.0175	-.0218	-.0300		1369.
.0710	230.	23.	-60.	-23.	-104.	-90.	-.0209	-.0040	-.0050	.0059	-.0447	-.0360		969.
.0720	232.	88.	-85.	-31.	-48.	-78.	-.0266	-.0078	-.0229	.0246	-.0593	-.0424		673.
.0730	223.	155.	-92.	-7.	-15.	-68.	-.0259	-.0114	-.0300	.0355	-.0610	-.0438		486.
.0740	169.	134.	-68.	28.	-7.	-70.	-.0191	-.0161	-.0249	.0373	-.0486	-.0338		526.
.0750	106.	71.	-23.	73.	-30.	-79.	-.0086	-.0211	-.0111	.0324	-.0291	-.0168		776.
.0760	77.	52.	21.	133.	-75.	-83.	.0025	-.0252	.0052	.0258	-.0101	-.0018		1209.
.0770	29.	59.	61.	188.	-101.	-82.	.0119	-.0283	.0171	.0221	.0070	.0086		1592.
.0780	-25.	58.	85.	217.	-85.	-78.	.0174	-.0309	.0194	.0246	.0182	.0145		1711.
.0790	-20.	85.	70.	223.	-47.	-63.	.0173	-.0326	.0108	.0343	.0161	.0142		1647.
.0800	3.	143.	43.	211.	-5.	-39.	.0122	-.0336	-.0058	.0494	.0024	.0089		1491.
.0810	2.	177.	14.	181.	46.	-16.	.0051	-.0346	-.0246	.0654	-.0128	.0039		1302.
.0820	-17.	180.	-8.	150.	101.	-3.	-.0003	-.0359	-.0404	.0788	-.0228	.0014		1258.
.0830	-4.	200.	-22.	145.	136.	1.	-.0012	-.0369	-.0485	.0871	-.0243	-.0005		1384.
.0840	-25.	235.	-7.	169.	144.	-7.	.0033	-.0376	-.0458	.0880	-.0133	-.0011		1547.
.0850	-86.	234.	38.	203.	129.	-30.	.0121	-.0387	-.0339	.0815	.0081	.0032		1687.
.0860	-108.	123.	83.	239.	90.	-65.	.0228	-.0403	-.0177	.0717	.0306	.0112		1832.
.0870	-86.	172.	117.	276.	43.	-104.	.0328	-.0416	-.0026	.0629	.0494	.0165		2074.
.0880	-81.	205.	153.	308.	13.	-138.	.0403	-.0417	.0076	.0574	.0648	.0142		2352.
.0890	-64.	267.	177.	324.	3.	-167.	.0440	-.0410	.0107	.0562	.0727	.0060		2536.
.0900	19.	317.	170.	319.	-6.	-194.	.0442	-.0404	.0075	.0590	.0694	-.0037		2603.
.0910	110.	348.	153.	301.	-15.	-220.	.0426	-.0398	.0022	.0626	.0616	-.0126		2600.

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ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.58.

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

0810	2.	177.	14.	101.	46.	-16.	.051	-.0336	-.0058	.0494	.0024	.0089	1491.
0820	-12.	180.	-8.	150.	101.	-3.	-.0003	-.0359	-.0404	.0788	-.0228	.0014	1258.
0830	-4.	209.	-22.	145.	136.	1.	-.0012	-.0369	-.0455	.0871	-.0243	-.0005	1384.
0840	-20.	235.	-7.	169.	144.	-7.	.0033	-.0376	-.0458	.0880	-.0133	-.0011	1547.
0850	-86.	234.	30.	203.	129.	-30.	.0121	-.0387	-.0339	.0815	.0081	.0032	1687.
0860	-108.	193.	82.	229.	90.	-65.	.0228	-.0403	-.0177	.0717	.0306	.0112	1832.
0870	-86.	172.	117.	276.	43.	-104.	.0328	-.0416	-.0026	.0629	.0494	.0165	2074.
0880	-81.	205.	153.	308.	13.	-138.	.0403	-.0417	.0076	.0574	.0648	.0142	2352.
0890	-64.	267.	177.	324.	3.	-167.	.0440	-.0410	.0107	.0562	.0727	.0060	2536.
0900	19.	317.	170.	319.	-6.	-194.	.0442	-.0404	.0075	.0590	.0694	-.0037	2603.
0910	110.	348.	153.	301.	-15.	-220.	.0426	-.0398	.0022	.0626	.0616	-.0126	2600.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

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S/RV PIPING KEWAUNEE GROUND 2 RUP DISK
2 SAFETY COLD FK24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	TO	MEMBER	1	SEQUENCE	234	LOCATION	END	TYPE	EL							
TIME	FX	FY	FZ	MX	MY	MZ		DX	DY	DZ	RX	RY	RZ	STRESS		
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)		(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		
0920	135.	379.	151.	281.	-16.	-242.		.0416	-.0388	-.0009	.0638	.0586	-.0204	2584.		
0930	124.	398.	155.	267.	-10.	-258.		.0424	-.0378	.0002	.0614	.0620	-.0248	2585.		
0940	96.	365.	158.	250.	-5.	-274.		.0447	-.0374	.0053	.0555	.0694	-.0223	2583.		
0950	14.	277.	167.	222.	2.	-287.		.0469	-.0374	.0125	.0473	.0791	-.0141	2529.		
0960	-98.	185.	175.	182.	17.	-292.		.0467	-.0370	.0174	.0398	.0854	-.0063	2402.		
0970	-168.	123.	159.	133.	43.	-287.		.0427	-.0355	.0151	.0373	.0819	-.0037	2218.		
0980	-205.	87.	119.	69.	91.	-272.		.0342	-.0328	.0040	.0411	.0685	-.0075	2053.		
0990	-245.	72.	72.	-7.	156.	-249.		.0219	-.0291	-.0136	.0492	.0484	-.0166	2047.		
1000	-265.	77.	20.	-85.	213.	-219.		.0075	-.0245	-.0334	.0588	.0226	-.0286	2210.		
1010	-249.	70.	-39.	-156.	246.	-189.		-.0065	-.0196	-.0506	.0666	-.0047	-.0387	2417.		
1020	-247.	26.	-74.	-213.	259.	-164.		-.0174	-.0149	-.0608	.0695	-.0253	-.0441	2602.		
1030	-267.	-22.	-86.	-245.	252.	-143.		-.0238	-.0097	-.0624	.0663	-.0355	-.0464	2643.		
1040	-261.	-39.	-86.	-246.	214.	-120.		-.0263	-.0037	-.0563	.0579	-.0401	-.0480	2419.		
1050	-215.	-60.	-80.	-232.	144.	-98.		-.0267	.0023	-.0453	.0460	-.0434	-.0470	2017.		
1060	-150.	-106.	-70.	-216.	57.	-78.		-.0265	.0081	-.0329	.0329	-.0476	-.0432	1647.		
1070	-49.	-128.	-67.	-195.	-34.	-51.		-.0269	.0143	-.0221	.0210	-.0352	-.0406	1425.		
1080	91.	-87.	-73.	-167.	-123.	-10.		-.0282	.0212	-.0141	.0110	-.0664	-.0420	1447.		
1090	233.	-39.	-81.	-145.	-205.	36.		-.0299	.0280	-.0078	.0016	-.0787	-.0431	1763.		
1100	349.	-85.	-84.	-172.	-282.	73.		-.0312	.0328	-.0014	-.0065	-.0895	-.0358	2225.		
1110	439.	-125.	-103.	-116.	-348.	116.		-.0316	.0371	.0059	-.0149	-.0965	-.0262	2680.		
1120	487.	-108.	-102.	-94.	-397.	172.		-.0311	.0415	.0137	-.0244	-.0985	-.0177	3083.		
1130	481.	-153.	-94.	-83.	-429.	218.		-.0299	.0443	.0210	-.0329	-.0967	-.0043	3395.		
1140	467.	-262.	-94.	-83.	-448.	245.		-.0291	.0453	.0256	-.0374	-.0958	.0117	3597.		
1150	484.	-282.	-104.	-72.	-452.	271.		-.0293	.0469	.0253	-.0371	-.0980	.0185	3700.		
1160	472.	-200.	-110.	-54.	-431.	300.		-.0303	.0494	.0205	-.0330	-.1004	.0153	3673.		
1170	471.	-163.	-110.	-52.	-392.	310.		-.0313	.0505	.0135	-.0268	-.1014	.0126	3500.		
1180	501.	-194.	-121.	-50.	-367.	293.		-.0311	.0497	.0070	-.0184	-.1039	.0134	3291.		
1190	548.	-123.	-115.	-18.	-355.	272.		-.0277	.0497	.0047	-.0117	-.1009	.0071	3112.		
1200	531.	39.	-71.	43.	-340.	247.		-.0194	.0506	.0095	-.0101	-.0840	-.0045	2944.		
1210	479.	96.	-17.	106.	-331.	196.		-.0062	.0495	.0213	-.0126	-.0567	-.0071	2777.		
1220	411.	44.	35.	160.	-321.	121.		.0099	.0464	.0369	-.0174	-.0242	-.0017	2634.		
1230	326.	61.	86.	222.	-302.	51.		.0252	.0442	.0512	-.0209	.0077	-.0018	2631.		
1240	176.	170.	141.	273.	-247.	1.		.0367	.0433	.0588	-.0210	.0363	-.0106	2563.		
1250	21.	204.	168.	274.	-154.	-45.		.0426	.0416	.0552	-.0147	.0534	-.0176	2213.		
1260	-40.	153.	130.	232.	-48.	-94.		.0427	.0388	.0394	-.0000	.0525	-.0224	1776.		
1270	-84.	215.	99.	185.	72.	-118.		.0390	.0381	.0164	.0185	.0432	-.0376	1608.		
1280	-165.	376.	73.	147.	194.	-118.		.0348	.0394	-.0067	.0357	.0354	-.0590	1880.		
1290	-264.	415.	50.	93.	307.	-123.		.0333	.0391	-.0239	.0471	.0331	-.0677	2367.		

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.58.

S/RV PIPING KEWAUNEE GROUND 2 RUP DISK
2 SAFETY COLD FK24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

.1200	531.	39.	-71.	43.	-340.	247.	-.0194	.0506	.0095	-.0101	-.0840	-.0045	3112.
.1210	479.	96.	-17.	106.	-331.	196.	-.0062	.0495	.0213	-.0126	-.0567	-.0071	2777.
.1220	411.	44.	35.	160.	-321.	121.	.0099	.0464	.0369	-.0174	-.0242	-.0017	2634.
.1230	326.	61.	86.	222.	-302.	51.	.0252	.0442	.0512	-.0209	.0077	-.0018	2631.
.1240	176.	170.	141.	273.	-247.	1.	.0367	.0433	.0588	-.0210	.0363	-.0106	2563.
.1250	21.	204.	160.	274.	-154.	-45.	.0426	.0416	.0552	-.0147	.0534	-.0176	2213.
.1260	-40.	153.	130.	232.	-48.	-94.	.0427	.0388	.0394	-.0000	.0525	-.0224	1776.
.1270	-84.	215.	99.	185.	72.	-118.	.0390	.0381	.0164	.0185	.0432	-.0376	1608.
.1280	-165.	376.	73.	147.	194.	-118.	.0348	.0394	-.0067	.0357	.0354	-.0590	1880.
.1290	-264.	415.	50.	93.	303.	-123.	.0333	.0391	-.0239	.0471	.0331	-.0677	2367.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.58.

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	70	MEMBER	1	SEQUENCE	834	LOCATION	END	TYPE	EL					
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.1300	-351.	290.	28.	30.	383.	-141.	.0356	.0366	-.0317	.0510	.0373	-.0588	2848.	
.1310	-455.	198.	30.	-3.	428.	-146.	.0413	.0347	-.0297	.0479	.0497	-.0462	3146.	
.1320	-628.	209.	71.	-15.	460.	-123.	.0486	.0348	-.0213	.0380	.0703	-.0364	3317.	
.1330	-762.	131.	95.	-49.	483.	-98.	.0551	.0341	-.0136	.0269	.0867	-.0187	3447.	
.1340	-802.	-66.	77.	-115.	500.	-77.	.0582	.0320	-.0123	.0196	.0903	.0056	3614.	
.1350	-804.	-153.	49.	-179.	520.	-36.	.0560	.0321	-.0189	.0180	.0827	.0183	3836.	
.1360	-803.	-73.	23.	-228.	544.	36.	.0490	.0352	-.0317	.0209	.0673	.0161	4112.	
.1370	-789.	-52.	-12.	-297.	571.	107.	.0394	.0377	-.0474	.0248	.0468	.0172	4540.	
.1380	-710.	-195.	-67.	-325.	573.	157.	.0299	.0378	-.0608	.0275	.0229	.0309	4927.	
.1390	-636.	-293.	-100.	-442.	539.	207.	.0235	.0388	-.0663	.0247	.0049	.0430	5061.	
.1400	-606.	-252.	-90.	-450.	476.	263.	.0217	.0421	-.0615	.0141	-.0009	.0466	4912.	
.1410	-557.	-274.	-80.	-442.	391.	296.	.0241	.0445	-.0490	-.0017	.0006	.0552	4596.	
.1420	-480.	-424.	-70.	-443.	295.	297.	.0282	.0449	-.0330	-.0197	.0043	.0715	4242.	
.1430	-386.	-490.	-50.	-425.	184.	295.	.0309	.0465	-.0170	-.0367	.0049	.0792	3824.	
.1440	-296.	-393.	-25.	-391.	69.	308.	.0306	.0504	-.0046	-.0513	.0003	.0716	3494.	
.1450	-178.	-345.	-21.	-382.	-28.	310.	.0274	.0535	.0012	-.0618	-.0114	.0635	3432.	
.1460	-2.	-431.	-53.	-407.	-103.	290.	.0223	.0544	.0004	-.0670	-.0298	.0611	3550.	
.1470	160.	-427.	-78.	-422.	-164.	274.	.0163	.0564	-.0028	-.0702	-.0478	.0495	3680.	
.1480	283.	-273.	-79.	-404.	-231.	268.	.0106	.0603	-.0036	-.0740	-.0621	.0269	3737.	
.1490	380.	-196.	-70.	-387.	-301.	243.	.0071	.0625	.0002	-.0801	-.0706	.0109	3811.	
.1500	462.	-277.	-62.	-380.	-365.	189.	.0069	.0619	.0090	-.0886	-.0716	.0081	3895.	
.1510	530.	-302.	-44.	-341.	-421.	138.	.0097	.0616	.0220	-.0984	-.0643	.0033	3890.	
.1520	514.	-177.	-0.	-268.	-457.	110.	.0139	.0633	.0369	-.1088	-.0490	-.0106	3766.	
.1530	478.	-120.	31.	-209.	-469.	81.	.0169	.0637	.0489	-.1162	-.0347	-.0186	3620.	
.1540	466.	-212.	28.	-186.	-453.	43.	.0169	.0615	.0539	-.1173	-.0281	-.0165	3423.	
.1550	447.	-236.	14.	-161.	-406.	21.	.0128	.0602	.0513	-.1110	-.0276	-.0213	3045.	
.1560	372.	-91.	4.	-109.	-326.	28.	.0057	.0616	.0427	-.0978	-.0284	-.0401	2400.	
.1570	250.	38.	-7.	-67.	-205.	44.	-.0029	.0629	.0298	-.0809	-.0277	-.0580	1535.	
.1580	155.	10.	-44.	-49.	-74.	52.	-.0115	.0618	.0157	-.0624	-.0287	-.0625	719.	
.1590	60.	-30.	-81.	-23.	43.	70.	-.0191	.0605	.0045	-.0453	-.0282	-.0621	595.	
.1600	-112.	39.	-81.	31.	157.	111.	-.0247	.0612	-.0012	-.0326	-.0185	-.0656	1355.	
.1610	-299.	90.	-69.	90.	267.	157.	-.0279	.0618	-.0028	-.0235	-.0026	-.0647	2246.	
.1620	-410.	16.	-78.	137.	359.	108.	-.0295	.0609	-.0024	-.0156	.0120	-.0531	2981.	
.1630	-515.	-40.	-77.	182.	433.	222.	-.0307	.0606	-.0005	-.0103	.0266	-.0425	3616.	
.1640	-620.	22.	-57.	236.	481.	272.	-.0323	.0626	.0019	-.0073	.0397	-.0407	4185.	
.1650	-659.	73.	-53.	275.	507.	323.	-.0345	.0647	.0028	-.0049	.0469	-.0384	4603.	
.1660	-654.	8.	-65.	274.	527.	362.	-.0370	.0654	.0017	-.0040	.0502	-.0284	4843.	
.1670	-647.	-68.	-75.	255.	534.	398.	-.0396	.0660	.0003	-.0053	.0518	-.0180	4966.	

ADLPIPE PAGE 2836

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.59.

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

.1570	250.	38.	-7.	-67.	-205.	44.	-.0029	.0629	.0278	-.0809	-.0277	-.0580	1535.
.1580	155.	10.	-44.	-49.	-74.	52.	-.0115	.0618	.0157	-.0624	-.0287	-.0625	719.
.1590	60.	-30.	-81.	-23.	43.	70.	-.0191	.0605	.0045	-.0453	-.0282	-.0621	595.
.1600	-110.	39.	-81.	21.	157.	111.	-.0247	.0612	-.0012	-.0326	-.0185	-.0656	1355.
.1610	-299.	90.	-69.	90.	267.	157.	-.0279	.0618	-.0028	-.0235	-.0026	-.0647	2246.
.1620	-410.	16.	-78.	117.	359.	188.	-.0295	.0609	-.0024	-.0156	.0120	-.0531	2981.
.1630	-515.	-40.	-77.	182.	432.	222.	-.0307	.0606	-.0005	-.0103	.0266	-.0425	3616.
.1640	-620.	22.	-57.	236.	481.	272.	-.0323	.0626	.0019	-.0073	.0397	-.0407	4185.
.1650	-659.	73.	-57.	275.	507.	323.	-.0345	.0647	.0028	-.0049	.0469	-.0384	4603.
.1660	-654.	8.	-65.	274.	527.	362.	-.0370	.0654	.0017	-.0040	.0502	-.0284	4843.
.1670	-647.	-68.	-75.	255.	534.	398.	-.0396	.0660	.0003	-.0053	.0518	-.0180	4966.

ADLPIPE PAGE 2836

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.59.

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	70	MEMBER	1	SEQUENCE	824	LOCATION	END	TYPE	EL					
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.1680	-651.	-51.	-70.	237.	517.	442.	-.0425	.0680	-.0001	-.0098	.0522	-.0145	5018.	
.1690	-621.	-58.	-72.	203.	476.	476.	-.0454	.0693	-.0001	-.0166	.0488	-.0096	4896.	
.1700	-565.	-182.	-86.	134.	427.	485.	-.0477	.0683	-.0005	-.0255	.0429	.0025	4592.	
.1710	-513.	-293.	-92.	54.	374.	482.	-.0495	.0671	-.0016	-.0360	.0367	.0117	4263.	
.1720	-425.	-290.	-99.	-11.	300.	478.	-.0513	.0665	-.0031	-.0461	.0272	.0114	3927.	
.1730	-321.	-278.	-105.	-82.	216.	461.	-.0527	.0650	-.0052	-.0562	.0157	.0091	3587.	
.1740	-201.	-366.	-116.	-174.	130.	416.	-.0536	.0606	-.0076	-.0657	.0032	.0131	3268.	
.1750	-61.	-451.	-127.	-258.	38.	354.	-.0533	.0548	-.0092	-.0737	-.0091	.0164	3063.	
.1760	60.	-410.	-115.	-307.	-56.	291.	-.0515	.0493	-.0088	-.0807	-.0172	.0103	2970.	
.1770	171.	-379.	-93.	-332.	-150.	214.	-.0477	.0428	-.0062	-.0862	-.0212	.0021	2943.	
.1780	280.	-343.	-69.	-353.	-234.	114.	-.0419	.0336	-.0021	-.0900	-.0216	-.0004	3054.	
.1790	398.	-350.	-46.	-352.	-314.	1.	-.0347	.0231	.0034	-.0908	-.0201	-.0022	3280.	
.1800	482.	-249.	-8.	-310.	-380.	-105.	-.0268	.0129	.0097	-.0882	-.0146	-.0110	3490.	
.1810	508.	-100.	45.	-247.	-417.	-205.	-.0190	.0028	.0157	-.0825	-.0047	-.0227	3663.	
.1820	545.	-27.	81.	-181.	-437.	-311.	-.0117	-.0092	.0198	-.0720	.0039	-.0281	3922.	
.1830	576.	25.	105.	-109.	-429.	-411.	-.0055	-.0216	.0219	-.0574	.0115	-.0312	4206.	
.1840	556.	157.	137.	-16.	-401.	-489.	-.0003	-.0325	.0228	-.0401	.0210	-.0391	4402.	
.1850	497.	317.	169.	88.	-350.	-546.	.0037	-.0422	.0225	-.0207	.0319	-.0480	4555.	
.1860	427.	400.	187.	180.	-277.	-594.	.0067	-.0519	.0208	-.0004	.0422	-.0501	4733.	
.1870	346.	425.	191.	265.	-194.	-629.	.0083	-.0611	.0182	.0204	.0508	-.0469	4959.	
.1880	217.	495.	202.	350.	-101.	-637.	.0082	-.0677	.0151	.0397	.0596	-.0460	5104.	
.1890	79.	582.	208.	429.	-3.	-619.	.0061	-.0720	.0108	.0577	.0660	-.0461	5245.	
.1900	-26.	594.	192.	484.	94.	-590.	.0022	-.0752	.0044	.0742	.0673	-.0409	5352.	
.1910	-118.	559.	167.	513.	185.	-548.	-.0033	-.0766	-.0031	.0877	.0650	-.0331	5383.	
.1920	-189.	564.	143.	536.	256.	-487.	-.0100	-.0750	-.0102	.0974	.0597	-.0289	5345.	
.1930	-230.	591.	117.	552.	301.	-412.	-.0169	-.0709	-.0155	.1022	.0526	-.0267	5231.	
.1940	-240.	550.	90.	547.	325.	-339.	-.0232	-.0658	-.0179	.1012	.0459	-.0197	5015.	
.1950	-254.	453.	66.	525.	328.	-267.	-.0283	-.0598	-.0167	.0940	.0411	-.0084	4690.	
.1960	-253.	379.	51.	500.	304.	-190.	-.0326	-.0522	-.0118	.0811	.0378	.0015	4283.	
.1970	-244.	316.	41.	469.	261.	-112.	-.0365	-.0435	-.0051	.0641	.0345	.0100	3813.	
.1980	-220.	202.	25.	416.	212.	-44.	-.0408	-.0351	.0008	.0455	.0295	.0206	3263.	
.1990	-176.	66.	-0.	348.	163.	13.	-.0462	-.0270	.0040	.0278	.0212	.0299	2673.	
.2000	-117.	-5.	-25.	280.	114.	66.	-.0531	-.0182	.0038	.0126	.0093	.0315	2156.	
.2010	-48.	-23.	-47.	216.	64.	113.	-.0611	-.0096	.0009	.0001	-.0055	.0265	1750.	
.2020	39.	-64.	-73.	147.	12.	140.	-.0688	-.0025	-.0032	-.0100	-.0215	.0215	1413.	
.2030	140.	-124.	-96.	84.	-43.	146.	-.0747	.0026	-.0062	-.0189	-.0353	.0175	1217.	
.2040	227.	-136.	-102.	47.	-102.	139.	-.0774	.0066	-.0055	-.0277	-.0428	.0110	1242.	
.2050	287.	-106.	-86.	38.	-165.	118.	-.0767	.0091	-.0002	-.0369	-.0425	.0031	1439.	

ADLPIPE PAGE 2837

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.59.

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

.1950	-254.	453.	66.	525.	328.	-267.	-.0283	-.0598	-.0167	.0940	.0411	-.0084	4690.
.1960	-257.	379.	51.	500.	304.	-190.	-.0326	-.0522	-.0118	.0811	.0378	.0015	4283.
.1970	-244.	316.	41.	469.	261.	-112.	-.0365	-.0435	-.0051	.0641	.0345	.0100	3813.
.1980	-220.	202.	25.	416.	212.	-44.	-.0408	-.0351	.0008	.0455	.0295	.0206	3263.
.1990	-176.	66.	-0.	340.	167.	13.	-.0462	-.0270	.0040	.0278	.0212	.0299	2673.
.2000	-117.	-5.	-25.	200.	114.	66.	-.0531	-.0182	.0038	.0126	.0093	.0315	2156.
.2010	-48.	-23.	-47.	216.	64.	113.	-.0611	-.0096	.0009	.0001	-.0055	.0265	1750.
.2020	39.	-64.	-73.	147.	12.	140.	-.0688	-.0025	-.0032	-.0100	-.0215	.0215	1413.
.2030	140.	-124.	-96.	84.	-43.	146.	-.0747	.0026	-.0062	-.0189	-.0353	.0175	1212.
.2040	227.	-136.	-102.	47.	-102.	139.	-.0774	.0066	-.0055	-.0277	-.0428	.0110	1247.
.2050	287.	-106.	-86.	38.	-165.	118.	-.0767	.0091	-.0002	-.0369	-.0425	.0031	1439.

ADLPIPE PAGE 2837

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02.

18.29.59.

S/RV PIPING KEWAUNEE GKWOBF 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	70	MEMBER	1	SEQUENCE	834	LOCATION	END	TYPE	EL						
TIME	FX	FY	FZ	MX	MY	MZ		DX	DY	DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)		(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.2060	339.	-100.	-60.	45.	-231.	77.		-.0727	.0091	.0090	-.0457	-.0367	-.0012	1721.	
.2070	387.	-117.	-30.	63.	-293.	18.		-.0667	.0067	.0199	-.0527	-.0280	-.0025	2089.	
.2080	415.	-92.	7.	95.	-342.	-46.		-.0598	.0030	.0300	-.0565	-.0176	-.0064	2490.	
.2090	426.	-15.	45.	137.	-369.	-109.		-.0533	-.0016	.0371	-.0557	-.0081	-.0141	2845.	
.2100	439.	53.	69.	171.	-375.	-173.		-.0480	-.0078	.0393	-.0496	-.0025	-.0215	3110.	
.2110	454.	93.	78.	192.	-360.	-239.		-.0441	-.0154	.0369	-.0389	-.0017	-.0272	3290.	
.2120	455.	151.	83.	210.	-330.	-297.		-.0413	-.0235	.0316	-.0251	-.0034	-.0339	3419.	
.2130	436.	238.	89.	232.	-289.	-347.		-.0385	-.0315	.0256	-.0101	-.0052	-.0417	3535.	
.2140	404.	304.	93.	253.	-242.	-393.		-.0347	-.0398	.0208	.0041	-.0055	-.0465	3666.	
.2150	350.	326.	96.	270.	-194.	-437.		-.0293	-.0485	.0184	.0158	-.0033	-.0460	3824.	
.2160	299.	338.	102.	289.	-151.	-472.		-.0226	-.0565	.0189	.0246	.0011	-.0428	3996.	
.2170	230.	359.	110.	310.	-113.	-496.		-.0154	-.0634	.0210	.0310	.0062	-.0391	4145.	
.2180	162.	365.	112.	324.	-74.	-509.		-.0088	-.0693	.0227	.0362	.0099	-.0341	4231.	
.2190	102.	346.	105.	324.	-30.	-513.		-.0036	-.0741	.0223	.0416	.0104	-.0282	4228.	
.2200	55.	336.	90.	314.	13.	-504.		-.0006	-.0772	.0189	.0476	.0065	-.0246	4132.	
.2210	27.	348.	69.	297.	52.	-481.		.0005	-.0782	.0120	.0541	-.0016	-.0243	3950.	
.2220	7.	353.	43.	272.	85.	-449.		.0003	-.0778	.0059	.0599	-.0119	-.0246	3704.	
.2230	3.	333.	17.	241.	111.	-414.		.0002	-.0762	-.0006	.0641	-.0217	-.0237	3422.	
.2240	-0.	310.	-3.	213.	124.	-374.		.0007	-.0733	-.0046	.0653	-.0286	-.0223	3118.	
.2250	-11.	296.	-10.	192.	120.	-330.		.0023	-.0691	-.0049	.0628	-.0315	-.0206	2789.	
.2260	-22.	261.	-9.	172.	101.	-288.		.0049	-.0643	-.0022	.0571	-.0311	-.0169	2440.	
.2270	-26.	199.	-6.	149.	73.	-249.		.0079	-.0590	.0020	.0495	-.0290	-.0112	2084.	
.2280	-24.	147.	-2.	125.	42.	-210.		.0106	-.0531	.0057	.0417	-.0263	-.0071	1723.	
.2290	-16.	124.	3.	99.	13.	-168.		.0121	-.0462	.0072	.0350	-.0247	-.0066	1359.	
.2300	1.	107.	4.	66.	-14.	-127.		.0120	-.0391	.0060	.0301	-.0255	-.0080	999.	
.2310	33.	74.	-3.	23.	-37.	-90.		.0107	-.0323	.0022	.0270	-.0286	-.0094	695.	
.2320	60.	44.	-9.	-22.	-56.	-55.		.0089	-.0258	-.0027	.0249	-.0317	-.0113	570.	
.2330	75.	32.	-10.	-62.	-71.	-23.		.0075	-.0194	-.0070	.0228	-.0325	-.0141	678.	
.2340	82.	19.	-7.	-95.	-85.	3.		.0074	-.0135	-.0093	.0200	-.0300	-.0159	889.	
.2350	84.	-11.	1.	-121.	-100.	20.		.0090	-.0086	-.0090	.0162	-.0240	-.0152	1102.	
.2360	79.	-42.	14.	-137.	-115.	29.		.0123	-.0044	-.0060	.0114	-.0148	-.0133	1262.	
.2370	65.	-52.	32.	-139.	-129.	35.		.0168	-.0016	-.0012	.0067	-.0029	-.0122	1340.	
.2380	46.	-50.	52.	-131.	-135.	37.		.0219	.0028	.0043	.0030	.0102	-.0118	1334.	
.2390	24.	-50.	67.	-120.	-130.	36.		.0270	.0055	.0090	.0012	.0229	-.0114	1252.	
.2400	-2.	-45.	78.	-106.	-112.	35.		.0315	.0079	.0124	.0017	.0342	-.0117	1101.	
.2410	-36.	-27.	84.	-90.	-83.	37.		.0352	.0101	.0142	.0045	.0437	-.0134	889.	
.2420	-80.	-6.	84.	-73.	-41.	41.		.0381	.0121	.0145	.0092	.0315	-.0158	649.	
.2430	-136.	7.	79.	-57.	13.	46.		.0406	.0139	.0139	.0153	.0584	-.0179	518.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02.

18.29.59.

S/RV PIPING KEWAUNEE GKWOBF 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

.2340	82.	19.	-7.	-95.	-85.	3.	.0074	-.0135	-.0093	.0228	-.0325	-.0141	678.
.2350	84.	-11.	1.	-121.	-100.	20.	.0090	-.0086	-.0090	.0162	-.0240	-.0152	1102.
.2360	79.	-42.	14.	-117.	-115.	29.	.0123	-.0044	-.0060	.0114	-.0148	-.0133	1262.
.2370	65.	-52.	32.	-139.	-129.	35.	.0168	-.0006	-.0012	.0067	-.0029	-.0122	1340.
.2380	46.	-50.	52.	-131.	-135.	37.	.0219	.0028	.0043	.0030	.0102	-.0118	1334.
.2390	24.	-50.	67.	-120.	-130.	36.	.0270	.0055	.0090	.0012	.0229	-.0114	1252.
.2400	-2.	-45.	78.	-106.	-112.	35.	.0315	.0079	.0124	.0017	.0342	-.0117	1101.
.2410	-36.	-27.	84.	-90.	-83.	37.	.0352	.0101	.0142	.0045	.0437	-.0134	889.
.2420	-80.	-6.	84.	-73.	-41.	41.	.0381	.0121	.0145	.0092	.0515	-.0158	649.
.2430	-136.	7.	79.	-57.	13.	46.	.0406	.0139	.0139	.0153	.0584	-.0179	518.

ADLPIPE PAGE 2030

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.59.

S/RV PIPING KEWAUNEE CROWDF 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	70	MEMBER	1	SEQUENCE	834	LOCATION	END	TYPE	FL						
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)	
.2440	-205.	15.	70.	-42.	77.	54.		.0425	.0157	.0127	.0218	.0644	-.0198	718.	
.2450	-288.	25.	59.	-28.	147.	66.		.0439	.0177	.0115	.0283	.0696	-.0217	1136.	
.2460	-376.	26.	44.	-19.	217.	83.		.0447	.0199	.0100	.0343	.0731	-.0229	1624.	
.2470	-461.	10.	25.	-19.	286.	104.		.0448	.0221	.0081	.0395	.0744	-.0227	2124.	
.2480	-538.	-14.	-8.	-29.	352.	129.		.0440	.0247	.0055	.0438	.0731	-.0221	2615.	
.2490	-606.	-36.	-28.	-46.	410.	160.		.0423	.0278	.0021	.0472	.0694	-.0220	3082.	
.2500	-660.	-61.	-59.	-74.	459.	195.		.0297	.0314	-.0019	.0491	.0629	-.0220	3508.	
.2510	-695.	-102.	-92.	-114.	492.	233.		.0363	.0352	-.0061	.0493	.0537	-.0208	3874.	
.2520	-710.	-156.	-125.	-165.	508.	271.		.0324	.0391	-.0100	.0473	.0422	-.0185	4169.	
.2530	-706.	-212.	-155.	-223.	504.	310.		.0283	.0433	-.0133	.0426	.0293	-.0158	4397.	
.2540	-680.	-266.	-187.	-284.	480.	348.		.0245	.0476	-.0156	.0359	.0157	-.0130	4572.	
.2550	-631.	-327.	-207.	-349.	437.	382.		.0210	.0519	-.0170	.0267	.0018	-.0094	4713.	
.2560	-561.	-394.	-226.	-417.	374.	412.		.0179	.0559	-.0174	.0158	-.0124	-.0049	4842.	
.2570	-473.	-454.	-240.	-485.	294.	439.		.0149	.0596	-.0169	.0035	-.0267	-.0005	4988.	
.2580	-367.	-507.	-249.	-549.	199.	460.		.0124	.0629	-.0160	-.0093	-.0407	.0038	5177.	
.2590	-249.	-556.	-254.	-610.	96.	476.		.0103	.0655	-.0147	-.0219	-.0537	.0083	5426.	
.2600	-125.	-599.	-253.	-663.	-9.	487.		.0089	.0674	-.0132	-.0339	-.0651	.0129	5728.	
.2610	-1.	-630.	-248.	-707.	-115.	494.		.0081	.0686	-.0114	-.0450	-.0745	.0174	6057.	
.2620	117.	-652.	-237.	-740.	-217.	495.		.0079	.0688	-.0095	-.0546	-.0820	.0220	6380.	
.2630	224.	-669.	-222.	-761.	-312.	490.		.0084	.0680	-.0075	-.0622	-.0871	.0268	6660.	
.2640	315.	-671.	-203.	-766.	-391.	479.		.0096	.0664	-.0058	-.0673	-.0893	.0310	6855.	
.2650	384.	-655.	-180.	-756.	-453.	465.		.0114	.0640	-.0044	-.0698	-.0885	.0341	6937.	
.2660	434.	-626.	-154.	-732.	-496.	447.		.0138	.0608	-.0035	-.0694	-.0853	.0365	6900.	
.2670	466.	-591.	-129.	-697.	-522.	425.		.0166	.0568	-.0034	-.0661	-.0804	.0385	6743.	
.2680	470.	-546.	-104.	-649.	-528.	400.		.0198	.0521	-.0039	-.0600	-.0735	.0397	6452.	
.2690	466.	-485.	-78.	-589.	-512.	373.		.0235	.0472	-.0050	-.0514	-.0644	.0394	6019.	
.2700	430.	-412.	-52.	-519.	-475.	345.		.0276	.0419	-.0064	-.0409	-.0534	.0381	5455.	
.2710	376.	-339.	-27.	-443.	-423.	315.		.0320	.0364	-.0082	-.0290	-.0412	.0364	4792.	
.2720	306.	-269.	-5.	-363.	-357.	282.		.0367	.0307	-.0100	-.0162	-.0284	.0345	4052.	
.2730	221.	-194.	15.	-280.	-278.	250.		.0414	.0250	-.0121	-.0027	-.0151	.0317	3251.	
.2740	127.	-111.	33.	-196.	-187.	220.		.0461	.0197	-.0148	.0109	-.0015	.0280	2430.	
.2750	15.	-36.	46.	-119.	-87.	193.		.0504	.0145	-.0181	.0244	.0113	.0248	1687.	
.2760	-90.	21.	54.	-50.	15.	166.		.0540	.0093	-.0220	.0375	.0220	.0224	1211.	
.2770	-190.	74.	57.	12.	113.	141.		.0569	.0045	-.0264	.0500	.0306	.0199	1260.	
.2780	-284.	136.	58.	68.	200.	120.		.0592	.0003	-.0310	.0615	.0377	.0164	1739.	
.2790	-372.	191.	58.	115.	300.	101.		.0611	-.0035	-.0356	.0712	.0441	.0133	2344.	
.2800	-450.	222.	55.	151.	381.	82.		.0627	-.0071	-.0396	.0787	.0491	.0121	2909.	
.2810	-510.	241.	51.	179.	445.	62.		.0637	-.0106	-.0425	.0840	.0525	.0120	3364.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.59.

S/RV PIPING KEWAUNEE CROWDF 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

.2710	376.	-339.	-27.	-443.	-423.	315.	.0270	.0419	-.0004	-.0409	-.0534	.0381	5455.
.2720	306.	-269.	-5.	-363.	-357.	282.	.0367	.0307	-.0100	-.0162	-.0284	.0345	4052.
.2730	221.	-194.	15.	-200.	-278.	250.	.0414	.0250	-.0121	-.0027	-.0151	.0317	3251.
.2740	122.	-111.	33.	-156.	-187.	220.	.0461	.0197	-.0148	.0109	-.0015	.0280	2430.
.2750	15.	-36.	46.	-110.	-87.	193.	.0504	.0145	-.0181	.0244	.0113	.0248	1687.
.2760	-90.	21.	54.	-50.	15.	166.	.0540	.0093	-.0220	.0375	.0220	.0224	1211.
.2770	-190.	74.	57.	12.	113.	141.	.0569	.0045	-.0264	.0500	.0306	.0199	1260.
.2780	-284.	136.	58.	68.	200.	120.	.0592	.0003	-.0310	.0615	.0377	.0164	1739.
.2790	-372.	191.	58.	115.	300.	101.	.0611	-.0035	-.0356	.0712	.0441	.0133	2344.
.2800	-450.	232.	55.	151.	381.	82.	.0627	-.0071	-.0396	.0787	.0491	.0121	2909.
.2810	-510.	241.	51.	170.	445.	62.	.0637	-.0106	-.0425	.0840	.0525	.0120	3364.

ADLPIPE PAGE 2830

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.59.

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	70	MEMBER	1	SEQUENCE	834	LOCATION	END	TYPE	EL						
TIME	FY	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)		
.2820	-558.	264.	50.	202.	492.	44.	.0643	-.0135	-.0444	.0871	.0548	.0118	3716.		
.2830	-599.	291.	51.	219.	528.	27.	.0644	-.0161	-.0455	.0879	.0569	.0124	3984.		
.2840	-626.	277.	51.	225.	553.	9.	.0638	-.0185	-.0464	.0872	.0579	.0146	4156.		
.2850	-630.	261.	50.	222.	561.	-8.	.0620	-.0208	-.0473	.0853	.0565	.0173	4201.		
.2860	-612.	256.	49.	216.	550.	-25.	.0589	-.0224	-.0484	.0826	.0524	.0187	4118.		
.2870	-576.	257.	42.	206.	525.	-40.	.0548	-.0236	-.0495	.0791	.0464	.0190	3936.		
.2880	-521.	247.	49.	191.	489.	-57.	.0500	-.0243	-.0506	.0748	.0394	.0193	3675.		
.2890	-444.	235.	51.	175.	438.	-76.	.0448	-.0247	-.0508	.0694	.0314	.0194	3324.		
.2900	-351.	224.	57.	164.	367.	-95.	.0394	-.0243	-.0492	.0622	.0231	.0184	2875.		
.2910	-246.	237.	67.	156.	278.	-115.	.0343	-.0234	-.0453	.0528	.0150	.0171	2362.		
.2920	-130.	224.	80.	149.	179.	-136.	.0297	-.0221	-.0394	.0415	.0077	.0170	1878.		
.2930	-7.	205.	94.	144.	72.	-157.	.0255	-.0203	-.0320	.0285	.0011	.0173	1568.		
.2940	116.	198.	109.	142.	-39.	-174.	.0213	-.0178	-.0236	.0146	-.0056	.0166	1587.		
.2950	240.	194.	122.	137.	-152.	-187.	.0166	-.0145	-.0153	.0002	-.0136	.0151	1931.		
.2960	366.	172.	128.	124.	-262.	-197.	.0111	-.0110	-.0080	-.0139	-.0239	.0143	2438.		
.2970	491.	144.	125.	105.	-360.	-202.	.0048	-.0070	-.0023	-.0271	-.0360	.0132	2969.		
.2980	602.	131.	118.	86.	-445.	-199.	-.0021	-.0024	.0018	-.0393	-.0490	.0105	3445.		
.2990	697.	128.	108.	65.	-515.	-189.	-.0093	.0027	.0049	-.0506	-.0624	.0072	3845.		
.3000	779.	104.	91.	40.	-573.	-176.	-.0164	.0077	.0075	-.0614	-.0759	.0059	4179.		
.3010	844.	60.	72.	16.	-618.	-160.	-.0230	.0123	.0101	-.0715	-.0884	.0068	4443.		
.3020	884.	31.	54.	-1.	-647.	-140.	-.0287	.0170	.0132	-.0807	-.0981	.0076	4607.		
.3030	896.	20.	39.	-7.	-658.	-115.	-.0334	.0217	.0165	-.0888	-.1045	.0080	4650.		
.3040	889.	0.	24.	-8.	-653.	-90.	-.0372	.0258	.0197	-.0951	-.1085	.0100	4586.		
.3050	862.	-32.	7.	-5.	-632.	-67.	-.0403	.0291	.0224	-.0992	-.1109	.0135	4430.		
.3060	832.	-46.	-9.	7.	-599.	-42.	-.0430	.0320	.0242	-.1005	-.1115	.0162	4179.		
.3070	775.	-31.	-21.	32.	-547.	-16.	-.0451	.0346	.0250	-.0990	-.1096	.0172	3817.		
.3080	701.	-12.	-32.	64.	-478.	8.	-.0465	.0365	.0248	-.0948	-.1050	.0185	3356.		
.3090	616.	-4.	-41.	99.	-397.	28.	-.0473	.0374	.0240	-.0885	-.0981	.0211	2857.		
.3100	519.	13.	-46.	141.	-313.	45.	-.0473	.0377	.0232	-.0806	-.0890	.0238	2407.		
.3110	411.	46.	-49.	190.	-225.	59.	-.0464	.0375	.0227	-.0717	-.0771	.0259	2091.		
.3120	294.	77.	-38.	242.	-133.	68.	-.0446	.0367	.0222	-.0623	-.0625	.0282	1978.		
.3130	179.	98.	-30.	290.	-42.	71.	-.0420	.0353	.0217	-.0527	-.0462	.0313	2098.		
.3140	60.	122.	-10.	324.	42.	70.	-.0392	.0336	.0210	-.0432	-.0294	.0339	2397.		
.3150	-34.	156.	-3.	372.	116.	67.	-.0363	.0318	.0200	-.0344	-.0134	.0354	2753.		
.3160	-120.	178.	11.	398.	178.	60.	-.0335	.0299	.0184	-.0267	.0014	.0370	3061.		
.3170	-189.	194.	24.	409.	230.	49.	-.0307	.0278	.0162	-.0204	.0149	.0389	3281.		
.3180	-241.	199.	36.	407.	268.	37.	-.0280	.0260	.0138	-.0162	.0270	.0401	3405.		
.3190	-279.	195.	50.	393.	290.	25.	-.0253	.0244	.0117	-.0144	.0373	.0406	3405.		

ADLPIPE PAGE 2840

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.59.

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

.3090	616.	-4.	-41.	99.	-397.	28.	-.0473	.0374	.0240	-.0885	-.0981	.0211	2857.
.3100	519.	13.	-46.	141.	-313.	45.	-.0473	.0377	.0232	-.0806	-.0890	.0238	2407.
.3110	411.	46.	-45.	190.	-225.	59.	-.0464	.0375	.0227	-.0717	-.0771	.0259	2091.
.3120	294.	77.	-38.	242.	-137.	68.	-.0446	.0367	.0222	-.0623	-.0625	.0282	1978.
.3130	177.	98.	-30.	290.	-42.	71.	-.0420	.0353	.0217	-.0527	-.0462	.0313	2098.
.3140	65.	123.	-10.	334.	42.	70.	-.0392	.0336	.0210	-.0432	-.0294	.0339	2397.
.3150	-34.	156.	-7.	372.	116.	67.	-.0363	.0318	.0200	-.0344	-.0134	.0354	2753.
.3160	-120.	178.	11.	398.	178.	60.	-.0335	.0299	.0184	-.0267	.0014	.0370	3061.
.3170	-189.	184.	24.	409.	230.	49.	-.0307	.0278	.0162	-.0204	.0149	.0389	3281.
.3180	-241.	189.	36.	407.	268.	37.	-.0280	.0260	.0138	-.0162	.0270	.0401	3405.
.3190	-270.	195.	50.	393.	290.	25.	-.0253	.0244	.0117	-.0144	.0373	.0406	3405.

ADLPIPE PAGE 2840

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.59.

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	70	MEMBER	1	SEQUENCE	834	LOCATION	END	TYPE	EL						
TIME	FX	FY	FZ	MX	MY	MZ		DX	DY	DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)		(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.3200	-298.	180.	62.	363.	293.	10.		-.0227	.0229	.0100	-.0155	.0452	.0420	3247.	
.3210	-296.	139.	70.	317.	281.	-7.		-.0202	.0213	.0086	-.0191	.0508	.0446	2945.	
.3220	-280.	98.	77.	261.	256.	-24.		-.0177	.0200	.0076	-.0249	.0547	.0467	2548.	
.3230	-253.	66.	84.	198.	221.	-38.		-.0153	.0191	.0068	-.0326	.0569	.0474	2084.	
.3240	-213.	23.	87.	128.	177.	-51.		-.0132	.0181	.0061	-.0416	.0565	.0486	1558.	
.3250	-157.	-41.	84.	50.	125.	-64.		-.0114	.0168	.0054	-.0512	.0535	.0510	1036.	
.3260	-95.	-102.	78.	-27.	70.	-76.		-.0099	.0154	.0047	-.0608	.0487	.0530	743.	
.3270	-38.	-141.	73.	-96.	18.	-83.		-.0085	.0140	.0041	-.0699	.0436	.0532	894.	
.3280	15.	-175.	67.	-157.	-27.	-89.		-.0070	.0122	.0037	-.0780	.0383	.0532	1269.	
.3290	64.	-219.	58.	-210.	-67.	-95.		-.0056	.0097	.0036	-.0845	.0327	.0541	1669.	
.3300	105.	-257.	49.	-249.	-101.	-100.		-.0042	.0066	.0038	-.0890	.0273	.0550	1998.	
.3310	132.	-270.	42.	-271.	-124.	-103.		-.0027	.0032	.0042	-.0911	.0227	.0544	2195.	
.3320	146.	-266.	36.	-276.	-134.	-103.		-.0013	-.0008	.0045	-.0905	.0194	.0530	2252.	
.3330	148.	-262.	30.	-267.	-129.	-104.		.0001	-.0056	.0045	-.0871	.0171	.0518	2190.	
.3340	141.	-250.	24.	-249.	-115.	-104.		.0013	-.0109	.0044	-.0811	.0153	.0504	2018.	
.3350	124.	-217.	20.	-207.	-94.	-102.		.0023	-.0166	.0043	-.0727	.0144	.0479	1735.	
.3360	97.	-173.	18.	-158.	-65.	-99.		.0033	-.0225	.0043	-.0626	.0146	.0447	1371.	
.3370	62.	-133.	16.	-101.	-27.	-96.		.0043	-.0288	.0042	-.0511	.0161	.0418	990.	
.3380	22.	-91.	16.	-59.	14.	-94.		.0052	-.0352	.0042	-.0388	.0183	.0388	715.	
.3390	-21.	-40.	17.	27.	53.	-90.		.0059	-.0413	.0044	-.0265	.0207	.0350	752.	
.3400	-61.	10.	19.	91.	88.	-85.		.0061	-.0471	.0044	-.0144	.0226	.0309	1063.	
.3410	-95.	47.	20.	148.	120.	-81.		.0059	-.0526	.0041	-.0030	.0239	.0273	1438.	
.3420	-119.	79.	18.	197.	146.	-75.		.0052	-.0575	.0033	.0073	.0242	.0233	1783.	
.3430	-133.	116.	17.	238.	163.	-67.		.0041	-.0614	.0022	.0161	.0235	.0181	2062.	
.3440	-135.	147.	15.	268.	168.	-58.		.0026	-.0646	.0012	.0228	.0216	.0128	2241.	
.3450	-121.	157.	12.	285.	160.	-49.		.0008	-.0671	.0004	.0271	.0185	.0085	2303.	
.3460	-95.	153.	8.	290.	141.	-41.		-.0009	-.0689	.0000	.0289	.0149	.0047	2264.	
.3470	-63.	152.	7.	288.	111.	-31.		-.0024	-.0697	.0003	.0282	.0110	.0004	2158.	
.3480	-24.	147.	7.	277.	72.	-20.		-.0039	-.0697	.0011	.0253	.0082	-.0038	1997.	
.3490	25.	125.	6.	256.	25.	-11.		-.0052	-.0693	.0022	.0207	.0043	-.0069	1790.	
.3500	80.	91.	4.	226.	-28.	-2.		-.0065	-.0685	.0033	.0150	.0003	-.0092	1587.	
.3510	136.	63.	3.	194.	-82.	8.		-.0077	-.0672	.0041	.0090	-.0038	-.0122	1464.	
.3520	191.	45.	2.	161.	-133.	17.		-.0089	-.0655	.0045	-.0033	-.0075	-.0159	1456.	
.3530	243.	23.	2.	127.	-179.	25.		-.0097	-.0640	.0044	-.0017	-.0108	-.0194	1537.	
.3540	289.	-3.	1.	93.	-220.	29.		-.0102	-.0627	.0041	-.0057	-.0135	-.0221	1677.	
.3550	326.	-22.	1.	65.	-255.	32.		-.0102	-.0616	.0039	-.0086	-.0150	-.0248	1844.	
.3560	349.	-26.	4.	45.	-280.	32.		-.0095	-.0609	.0038	-.0099	-.0147	-.0278	1984.	
.3570	356.	-31.	9.	33.	-292.	28.		-.0079	-.0609	.0037	-.0096	-.0126	-.0302	2055.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.59.

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

.3470	-67.	152.	7.	288.	111.	-31.	-.0024	-.0697	.0005	.0282	.0116	.0004	2158.
.3480	-24.	147.	7.	277.	72.	-20.	-.0039	-.0697	.0011	.0253	.0082	-.0038	1997.
.3490	25.	125.	6.	256.	25.	-11.	-.0052	-.0693	.0022	.0207	.0045	-.0069	1790.
.3500	80.	91.	4.	226.	-25.	-2.	-.0065	-.0685	.0033	.0150	.0003	-.0092	1587.
.3510	136.	63.	3.	194.	-82.	8.	-.0077	-.0672	.0041	.0090	-.0038	-.0122	1464.
.3520	191.	45.	2.	161.	-133.	17.	-.0089	-.0655	.0045	.0033	-.0075	-.0159	1456.
.3530	247.	23.	2.	127.	-179.	25.	-.0097	-.0640	.0044	-.0017	-.0108	-.0194	1537.
.3540	280.	-3.	1.	93.	-220.	29.	-.0102	-.0627	.0041	-.0057	-.0135	-.0221	1677.
.3550	326.	-22.	1.	65.	-255.	32.	-.0102	-.0616	.0039	-.0086	-.0150	-.0248	1844.
.3560	349.	-28.	4.	45.	-280.	32.	-.0095	-.0609	.0038	-.0099	-.0147	-.0278	1984.
.3570	356.	-31.	9.	33.	-292.	28.	-.0079	-.0609	.0037	-.0096	-.0126	-.0302	2055.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.59.

S/RV PIPING KEWAUNEE GROUP 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	EL								
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.3580	349.	-34.	13.	26.	-292.	21.	-.0057	-.0615	.0035	-.0074	-.0089	-.0316	2046.	
.3590	328.	-30.	19.	26.	-281.	10.	-.0030	-.0628	.0030	-.0032	-.0042	-.0328	1963.	
.3600	294.	-15.	24.	32.	-258.	-2.	.0001	-.0647	.0019	.0031	.0010	-.0340	1810.	
.3610	249.	4.	29.	42.	-223.	-18.	.0034	-.0673	.0002	.0116	.0066	-.0352	1585.	
.3620	195.	27.	31.	55.	-176.	-38.	.0069	-.0705	-.0024	.0219	.0124	-.0361	1312.	
.3630	135.	57.	33.	72.	-122.	-59.	.0106	-.0740	-.0054	.0355	.0184	-.0372	1065.	
.3640	69.	94.	36.	90.	-63.	-83.	.0146	-.0779	-.0085	.0459	.0242	-.0383	958.	
.3650	2.	128.	37.	109.	-4.	-109.	.0187	-.0820	-.0113	.0584	.0300	-.0386	1071.	
.3660	-65.	156.	39.	127.	56.	-137.	.0232	-.0862	-.0135	.0704	.0360	-.0382	1358.	
.3670	-137.	186.	42.	145.	113.	-167.	.0279	-.0903	-.0150	.0817	.0424	-.0376	1728.	
.3680	-199.	219.	46.	162.	166.	-195.	.0326	-.0939	-.0158	.0918	.0486	-.0370	2111.	
.3690	-258.	244.	49.	174.	213.	-223.	.0370	-.0970	-.0163	.1008	.0539	-.0359	2465.	
.3700	-309.	257.	49.	179.	253.	-250.	.0407	-.0996	-.0167	.1085	.0578	-.0343	2771.	
.3710	-351.	268.	48.	178.	286.	-274.	.0435	-.1012	-.0174	.1151	.0600	-.0331	3021.	
.3720	-384.	283.	45.	172.	313.	-292.	.0453	-.1017	-.0184	.1205	.0608	-.0327	3212.	
.3730	-408.	292.	40.	160.	333.	-304.	.0460	-.1011	-.0197	.1246	.0597	-.0326	3333.	
.3740	-419.	288.	32.	140.	344.	-311.	.0456	-.0995	-.0209	.1270	.0569	-.0318	3372.	
.3750	-418.	275.	22.	115.	343.	-313.	.0444	-.0967	-.0217	.1274	.0528	-.0307	3327.	
.3760	-407.	261.	14.	88.	331.	-307.	.0424	-.0925	-.0217	.1257	.0481	-.0296	3200.	
.3770	-387.	244.	6.	60.	300.	-294.	.0400	-.0871	-.0206	.1218	.0433	-.0283	2998.	
.3780	-358.	217.	-1.	29.	276.	-276.	.0372	-.0807	-.0184	.1157	.0384	-.0261	2724.	
.3790	-319.	179.	-7.	-4.	233.	-250.	.0340	-.0733	-.0151	.1074	.0331	-.0227	2382.	
.3800	-272.	136.	-14.	-38.	181.	-219.	.0304	-.0650	-.0110	.0972	.0274	-.0187	1993.	
.3810	-218.	93.	-21.	-73.	123.	-180.	.0263	-.0558	-.0064	.0856	.0213	-.0145	1603.	
.3820	-161.	45.	-29.	-111.	64.	-137.	.0217	-.0461	-.0018	.0731	.0148	-.0100	1304.	
.3830	-102.	-9.	-39.	-151.	4.	-89.	.0167	-.0360	.0025	.0599	.0077	-.0050	1224.	
.3840	-43.	-63.	-50.	-194.	-54.	-38.	.0113	-.0257	.0065	.0464	-.0000	.0002	1424.	
.3850	14.	-118.	-64.	-237.	-110.	15.	.0057	-.0155	.0102	.0327	-.0082	.0056	1824.	
.3860	65.	-177.	-78.	-281.	-160.	68.	.0000	-.0056	.0135	.0192	-.0161	.0114	2302.	
.3870	106.	-235.	-93.	-324.	-201.	120.	-.0054	.0038	.0165	.0062	-.0234	.0173	2783.	
.3880	138.	-288.	-108.	-364.	-234.	170.	-.0104	.0126	.0192	-.0060	-.0297	.0231	3233.	
.3890	157.	-340.	-123.	-400.	-258.	216.	-.0150	.0203	.0217	-.0173	-.0352	.0290	3639.	
.3900	166.	-393.	-137.	-434.	-272.	255.	-.0191	.0270	.0237	-.0272	-.0399	.0350	3982.	
.3910	165.	-439.	-151.	-461.	-274.	286.	-.0226	.0325	.0250	-.0353	-.0436	.0399	4233.	
.3920	151.	-465.	-163.	-480.	-264.	309.	-.0255	.0369	.0256	-.0410	-.0458	.0428	4375.	
.3930	123.	-476.	-173.	-490.	-240.	323.	-.0278	.0402	.0254	-.0445	-.0467	.0438	4412.	
.3940	86.	-483.	-182.	-493.	-205.	327.	-.0295	.0420	.0245	-.0458	-.0467	.0440	4360.	
.3950	41.	-485.	-189.	-489.	-162.	321.	-.0307	.0425	.0230	-.0447	-.0458	.0432	4227.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.59.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING

.3860	67.	-177.	-70.	-201.	-160.	68.	.0000	-.0056	.0135	.0192	-.0161	.0114	2302.
.3870	100.	-235.	-93.	-374.	-201.	120.	-.0054	.0038	.0165	.0062	-.0234	.0173	2783.
.3880	130.	-208.	-100.	-364.	-234.	170.	-.0104	.0126	.0192	-.0060	-.0297	.0231	3233.
.3890	157.	-340.	-127.	-400.	-250.	216.	-.0150	.0203	.0217	-.0173	-.0352	.0290	3639.
.3900	166.	-393.	-127.	-474.	-272.	255.	-.0191	.0270	.0237	-.0272	-.0399	.0350	3982.
.3910	165.	-439.	-151.	-461.	-274.	286.	-.0226	.0325	.0250	-.0353	-.0436	.0399	4233.
.3920	151.	-465.	-163.	-480.	-264.	309.	-.0255	.0369	.0256	-.0410	-.0458	.0428	4375.
.3930	123.	-476.	-173.	-490.	-240.	323.	-.0278	.0402	.0254	-.0445	-.0467	.0438	4412.
.3940	86.	-483.	-180.	-493.	-205.	327.	-.0295	.0420	.0245	-.0458	-.0467	.0440	4360.
.3950	41.	-485.	-180.	-490.	-162.	321.	-.0307	.0425	.0230	-.0447	-.0458	.0432	4227.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.59.

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	70	MEMBER	1	SEQUENCE	074	LOCATION	END	TYPE	EL					
TIME	FX	FY	FZ	MX	MY	MZ		DX	DY	DZ	RX	RY	RZ	STRESS
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)		(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
.3960	-10.	-469.	-193.	-475.	-111.	306.		-.0312	.0418	.0211	-.0416	-.0435	.0405	4009.
.3970	-76.	-436.	-193.	-451.	-51.	283.		-.0310	.0402	.0190	-.0367	-.0394	.0359	3724.
.3980	-145.	-397.	-190.	-420.	15.	252.		-.0302	.0376	.0166	-.0303	-.0340	.0303	3410.
.3990	-213.	-357.	-186.	-384.	80.	213.		-.0290	.0340	.0142	-.0227	-.0281	.0243	3105.
.4000	-279.	-309.	-178.	-342.	143.	169.		-.0274	.0298	.0119	-.0145	-.0220	.0173	2836.

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)
.2650	384.	-655.	-180.	-756.	-453.	465.		.0114	.0640	-.0044	-.0698	-.0885	.0341	6937.

SECTION	70	MEMBER	2	SEQUENCE	105	LOCATION	END	TYPE	EL					
TIME	FX	FY	FZ	MX	MY	MZ		DX	DY	DZ	RX	RY	RZ	STRESS
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)		(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
0.0000	0.	0.	0.	0.	0.	0.		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.
.0010	0.	0.	0.	-0.	-0.	0.		-.0000	.0000	-.0000	-.0000	-.0000	-.0000	0.
.0020	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	1.
.0040	-0.	0.	0.	-0.	0.	0.		-.0000	.0000	.0000	-.0000	.0000	-.0000	1.
.0050	-1.	0.	-0.	-0.	0.	0.		-.0000	.0000	-.0000	-.0000	.0001	.0000	2.
.0060	-3.	-0.	-0.	-0.	1.	0.		-.0000	-.0000	-.0000	-.0000	.0003	.0001	6.
.0070	-6.	-1.	-0.	-1.	2.	0.		-.0001	-.0000	-.0002	-.0000	.0005	.0002	14.
.0080	-10.	-2.	-1.	-2.	4.	1.		-.0003	-.0000	-.0004	.0000	.0009	.0003	29.
.0090	-16.	-3.	-1.	-4.	6.	2.		-.0006	-.0000	-.0009	.0001	.0013	.0006	52.
.0100	-24.	-7.	-3.	-6.	10.	2.		-.0011	-.0001	-.0015	.0002	.0019	.0010	87.
.0110	-37.	-12.	-6.	-10.	17.	3.		-.0018	-.0001	-.0025	.0003	.0028	.0015	139.
.0120	-53.	-18.	-9.	-15.	26.	5.		-.0028	-.0002	-.0039	.0005	.0041	.0024	215.
.0130	-73.	-27.	-14.	-22.	39.	8.		-.0041	-.0004	-.0057	.0008	.0056	.0038	313.
.0140	-96.	-40.	-21.	-30.	57.	12.		-.0058	-.0006	-.0080	.0013	.0069	.0057	430.
.0150	-118.	-55.	-28.	-38.	68.	16.		-.0078	-.0008	-.0107	.0019	.0080	.0080	556.
.0160	-136.	-69.	-35.	-46.	83.	20.		-.0099	-.0010	-.0136	.0027	.0084	.0101	677.
.0170	-146.	-77.	-42.	-52.	96.	25.		-.0118	-.0010	-.0162	.0037	.0082	.0111	777.
.0180	-147.	-73.	-46.	-55.	107.	30.		-.0132	-.0008	-.0180	.0045	.0069	.0107	831.
.0190	-123.	-60.	-47.	-52.	99.	34.		-.0138	-.0003	-.0183	.0048	.0044	.0090	814.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.59.

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

.0090	-10.	-3.	-1.	-4.	2.	2.	-.0006	-.0000	-.0009	.0001	.0013	.0006	52.
.0100	-24.	-7.	-3.	-6.	10.	2.	-.0011	-.0001	-.0015	.0002	.0019	.0010	87.
.0110	-37.	-12.	-6.	-10.	17.	3.	-.0018	-.0001	-.0025	.0003	.0028	.0015	139.
.0120	-53.	-18.	-9.	-15.	26.	5.	-.0028	-.0002	-.0039	.0005	.0041	.0024	215.
.0130	-73.	-27.	-14.	-22.	39.	8.	-.0041	-.0004	-.0057	.0008	.0056	.0038	313.
.0140	-96.	-40.	-21.	-30.	53.	12.	-.0058	-.0006	-.0080	.0013	.0069	.0057	430.
.0150	-118.	-55.	-28.	-38.	68.	16.	-.0078	-.0008	-.0107	.0019	.0080	.0080	556.
.0160	-136.	-69.	-35.	-46.	83.	20.	-.0099	-.0010	-.0136	.0027	.0084	.0101	677.
.0170	-146.	-77.	-42.	-52.	96.	25.	-.0118	-.0010	-.0162	.0037	.0082	.0111	777.
.0180	-147.	-73.	-46.	-55.	107.	30.	-.0132	-.0008	-.0180	.0045	.0069	.0107	831.
.0190	-123.	-60.	-47.	-52.	99.	34.	-.0138	-.0003	-.0183	.0048	.0044	.0090	814.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.59.

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	70	MEMBER	2	SEQUENCE	105	LOCATION	END	TYPE	FL	DX	DY	DZ	RX	RY	RZ	STRESS
TIME	(SEC)	FX	FY	FZ	MX	MY	MZ	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		
.0200		-86.	-38.	-44.	-44.	84.	37.	-.0132	.0003	-.0166	.0042	.0008	.0063	709.		
.0210		-26.	-16.	-30.	-30.	50.	34.	-.0112	.0009	-.0123	.0025	-.0031	.0031	510.		
.0220		27.	-5.	-30.	-6.	22.	25.	-.0078	.0011	-.0056	.0004	-.0069	.0005	233.		
.0230		89.	1.	-21.	22.	-10.	12.	-.0035	.0010	.0028	-.0022	-.0096	-.0013	216.		
.0240		134.	3.	-6.	49.	-59.	0.	.0008	.0007	.0115	-.0051	-.0107	-.0019	535.		
.0250		173.	6.	12.	69.	-99.	-9.	.0045	.0002	.0188	-.0084	-.0130	-.0021	843.		
.0260		229.	17.	21.	79.	-137.	-17.	.0072	-.0002	.0236	-.0113	-.0197	-.0033	1107.		
.0270		293.	16.	18.	86.	-165.	-31.	.0092	-.0008	.0253	-.0116	-.0279	-.0059	1310.		
.0280		310.	24.	20.	88.	-173.	-43.	.0104	-.0011	.0244	-.0097	-.0309	-.0102	1381.		
.0290		321.	72.	31.	77.	-170.	-40.	.0105	-.0008	.0213	-.0084	-.0320	-.0163	1330.		
.0300		389.	112.	25.	67.	-179.	-42.	.0104	-.0011	.0176	-.0061	-.0424	-.0217	1364.		
.0310		454.	101.	18.	64.	-200.	-66.	.0114	-.0027	.0160	-.0035	-.0532	-.0243	1530.		
.0320		451.	106.	31.	64.	-209.	-83.	.0143	-.0041	.0176	-.0034	-.0511	-.0263	1630.		
.0330		426.	156.	50.	71.	-204.	-81.	.0190	-.0052	.0218	-.0044	-.0393	-.0279	1607.		
.0340		382.	161.	66.	85.	-205.	-89.	.0237	-.0074	.0277	-.0048	-.0269	-.0247	1664.		
.0350		286.	88.	88.	94.	-214.	-120.	.0268	-.0112	.0327	-.0047	-.0161	-.0166	1826.		
.0360		186.	34.	102.	89.	-202.	-141.	.0274	-.0141	.0327	-.0023	-.0068	-.0109	1824.		
.0370		118.	60.	91.	79.	-146.	-132.	.0253	-.0149	.0249	.0061	.0028	-.0124	1480.		
.0380		14.	104.	74.	63.	-56.	-111.	.0206	-.0145	.0109	.0195	.0160	-.0172	975.		
.0390		-120.	121.	60.	32.	40.	-92.	.0132	-.0141	-.0068	.0331	.0272	-.0205	734.		
.0400		-164.	145.	32.	-5.	118.	-69.	.0049	-.0133	-.0249	.0448	.0251	-.0228	948.		
.0410		-131.	166.	-6.	-19.	168.	-52.	-.0011	-.0123	-.0378	.0560	.0169	-.0254	1228.		
.0420		-183.	184.	-8.	-6.	202.	-42.	-.0023	-.0106	-.0406	.0633	.0259	-.0284	1436.		
.0430		-293.	222.	23.	26.	227.	-24.	.0014	-.0082	-.0332	.0638	.0316	-.0302	1598.		
.0440		-335.	243.	46.	70.	221.	-7.	.0075	-.0063	-.0187	.0585	.0722	-.0260	1617.		
.0450		-373.	152.	68.	112.	171.	-20.	.0132	-.0063	-.0004	.0487	.0820	-.0124	1431.		
.0460		-465.	-2.	95.	135.	119.	-49.	.0164	-.0065	.0148	.0373	.0897	.0038	1294.		
.0470		-499.	-46.	95.	173.	122.	-34.	.0160	-.0035	.0195	.0292	.0962	.0106	1278.		
.0480		-455.	38.	63.	109.	174.	31.	.0114	.0030	.0128	.0256	.0967	.0072	1442.		
.0490		-444.	74.	28.	57.	220.	85.	.0026	.0093	.0002	.0220	.0885	.0048	1689.		
.0500		-420.	-4.	-14.	-14.	241.	103.	-.0082	.0136	-.0137	.0152	.0681	.0098	1825.		
.0510		-322.	-89.	-74.	-79.	252.	118.	-.0177	.0173	-.0250	.0065	.0421	.0171	2015.		
.0520		-241.	-107.	-111.	-121.	255.	152.	-.0228	.0219	-.0284	-.0054	.0287	.0217	2231.		
.0530		-270.	-116.	-98.	-142.	230.	180.	-.0228	.0262	-.0209	-.0229	.0319	.0268	2257.		
.0540		-267.	-125.	-82.	-146.	167.	175.	-.0193	.0282	-.0056	-.0440	.0327	.0373	1968.		
.0550		-168.	-327.	-86.	-139.	81.	144.	-.0146	.0282	.0122	-.0648	.0223	.0515	1503.		
.0560		-121.	-425.	-75.	-135.	-2.	120.	-.0110	.0283	.0281	-.0834	.0149	.0618	1256.		
.0570		-145.	-437.	-51.	-143.	-49.	121.	-.0100	.0299	.0372	-.0970	.0148	.0635	1348.		

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.59.

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

.0470	-490.	-46.	95.	173.	122.	-34.	.0160	-.0035	.0195	.0292	.0962	.0106	1278.
.0480	-455.	38.	63.	109.	174.	31.	.0114	.0030	.0128	.0256	.0967	.0072	1442.
.0490	-444.	74.	28.	57.	220.	85.	.0026	.0093	.0002	.0220	.0885	.0048	1689.
.0500	-420.	-4.	-14.	-14.	241.	103.	-.0082	.0136	-.0137	.0152	.0681	.0098	1825.
.0510	-320.	-89.	-74.	-79.	252.	118.	-.0177	.0173	-.0250	.0065	.0421	.0171	2015.
.0520	-241.	-107.	-111.	-121.	255.	152.	-.0228	.0219	-.0174	-.0054	.0287	.0217	2231.
.0530	-270.	-116.	-98.	-142.	230.	180.	-.0228	.0262	-.0209	-.0229	.0319	.0268	2257.
.0540	-267.	-195.	-82.	-146.	167.	175.	-.0193	.0282	-.0056	-.0440	.0327	.0373	1968.
.0550	-168.	-327.	-86.	-139.	81.	144.	-.0146	.0282	.0122	-.0648	.0223	.0515	1503.
.0560	-121.	-425.	-75.	-135.	-2.	120.	-.0110	.0283	.0281	-.0834	.0149	.0618	1256.
.0570	-145.	-437.	-51.	-143.	-49.	121.	-.0100	.0299	.0372	-.0970	.0148	.0635	1348.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.59.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	70	MEMBER	2	SEQUENCE	105	LOCATION	END	TYPE	EL					
TIME	FX	FY	FZ	RX	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)	
.0580	-90.	-408.	-62.	-162.	-51.	132.	-.0127	.0319	.0356	-.1020	.0078	.0590	1497.	
.0590	33.	-397.	-102.	-191.	-36.	133.	-.0187	.0328	.0257	-.1001	-.0113	.0529	1639.	
.0600	112.	-392.	-128.	-228.	-35.	125.	-.0261	.0330	.0136	-.0963	-.0338	.0454	1826.	
.0610	182.	-346.	-142.	-252.	-41.	121.	-.0315	.0330	.0042	-.0914	-.0529	.0342	1966.	
.0620	294.	-277.	-155.	-242.	-45.	109.	-.0321	.0325	.0009	-.0844	-.0640	.0203	1876.	
.0630	357.	-218.	-139.	-200.	-67.	79.	-.0276	.0308	.0074	-.0784	-.0622	.0072	1569.	
.0640	330.	-169.	-85.	-139.	-129.	42.	-.0193	.0276	.0234	-.0766	-.0526	-.0024	1350.	
.0650	332.	-152.	-32.	-70.	-212.	-4.	-.0096	.0228	.0433	-.0766	-.0460	-.0063	1552.	
.0660	340.	-190.	2.	-5.	-275.	-64.	-.0007	.0165	.0596	-.0741	-.0405	-.0058	1961.	
.0670	292.	-214.	31.	40.	-291.	-110.	.0049	.0108	.0669	-.0669	-.0300	-.0080	2187.	
.0680	231.	-138.	43.	56.	-262.	-114.	.0052	.0076	.0614	-.0538	-.0225	-.0181	2024.	
.0690	234.	-25.	19.	44.	-200.	-94.	-.0003	.0054	.0433	-.0346	-.0285	-.0311	1564.	
.0700	253.	15.	-25.	11.	-123.	-88.	-.0096	.0020	.0179	-.0126	-.0430	-.0394	1052.	
.0710	239.	23.	-60.	-27.	-47.	-85.	-.0189	-.0018	-.0074	.0078	-.0556	-.0436	701.	
.0720	232.	88.	-85.	-46.	13.	-59.	-.0242	-.0047	-.0258	.0244	-.0620	-.0475	530.	
.0730	223.	155.	-92.	-35.	46.	-33.	-.0235	-.0078	-.0328	.0359	-.0592	-.0480	462.	
.0740	169.	134.	-60.	4.	39.	-40.	-.0172	-.0128	-.0272	.0409	-.0466	-.0400	391.	
.0750	106.	71.	-23.	60.	-6.	-63.	-.0074	-.0187	-.0126	.0408	-.0318	-.0268	606.	
.0760	73.	52.	21.	124.	-67.	-71.	.0031	-.0236	.0045	.0394	-.0202	-.0151	1096.	
.0770	29.	59.	61.	178.	-109.	-69.	.0120	-.0272	.0171	.0401	-.0078	-.0070	1528.	
.0780	-25.	58.	85.	207.	-108.	-65.	.0170	-.0299	.0200	.0447	.0046	-.0019	1686.	
.0790	-28.	85.	75.	208.	-69.	-44.	.0168	-.0312	.0114	.0539	.0080	-.0007	1554.	
.0800	3.	143.	43.	185.	-14.	-8.	.0121	-.0315	-.0057	.0662	.0010	-.0022	1291.	
.0810	2.	177.	14.	149.	44.	23.	.0054	-.0319	-.0251	.0783	-.0066	-.0031	1090.	
.0820	-12.	180.	-8.	117.	100.	37.	.0003	-.0327	-.0412	.0886	-.0088	-.0029	1106.	
.0830	-4.	200.	-22.	109.	140.	45.	-.0007	-.0333	-.0493	.0962	-.0051	-.0040	1275.	
.0840	-25.	235.	-7.	127.	141.	45.	.0034	-.0338	-.0461	.0988	.0067	-.0059	1356.	
.0850	-86.	234.	38.	161.	105.	22.	.0115	-.0352	-.0331	.0961	.0245	-.0054	1345.	
.0860	-108.	193.	83.	204.	52.	-22.	.0214	-.0374	-.0160	.0912	.0405	-.0030	1471.	
.0870	-86.	172.	117.	245.	1.	-66.	.0309	-.0390	-.0002	.0874	.0524	-.0035	1765.	
.0880	-81.	205.	153.	271.	-35.	-92.	.0378	-.0390	.0106	.0855	.0632	-.0101	2009.	
.0890	-64.	267.	177.	276.	-48.	-107.	.0413	-.0379	.0141	.0861	.0694	-.0210	2085.	
.0900	19.	317.	170.	262.	-40.	-124.	.0416	-.0366	.0107	.0891	.0659	-.0324	2037.	
.0910	110.	348.	153.	238.	-30.	-143.	.0404	-.0354	.0050	.0920	.0580	-.0426	1945.	
.0920	135.	379.	151.	213.	-25.	-157.	.0394	-.0340	.0018	.0921	.0553	-.0513	1850.	
.0930	124.	398.	155.	195.	-23.	-170.	.0401	-.0329	.0031	.0890	.0592	-.0564	1804.	
.0940	96.	365.	158.	184.	-23.	-193.	.0421	-.0328	.0085	.0829	.0670	-.0552	1862.	
.0950	14.	277.	167.	172.	-32.	-226.	.0439	-.0335	.0162	.0742	.0767	-.0484	1988.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.59.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

.0860	-100.	123.	83.	204.	52.	-22.	.214	-.0374	-.0160	.0912	.0405	-.0030	1471.
.0870	-86.	172.	117.	245.	1.	-66.	.0309	-.0390	-.0002	.0874	.0524	-.0035	1765.
.0880	-81.	205.	153.	271.	-35.	-92.	.0378	-.0390	.0106	.0855	.0632	-.0101	2009.
.0890	-64.	267.	177.	276.	-48.	-107.	.0413	-.0379	.0141	.0861	.0694	-.0210	2085.
.0900	19.	317.	170.	262.	-40.	-124.	.0416	-.0366	.0107	.0891	.0659	-.0324	2037.
.0910	110.	348.	153.	238.	-30.	-143.	.0404	-.0354	.0050	.0920	.0580	-.0426	1945.
.0920	135.	379.	151.	213.	-25.	-157.	.0394	-.0340	.0018	.0921	.0553	-.0513	1850.
.0930	124.	398.	155.	195.	-23.	-170.	.0401	-.0329	.0031	.0890	.0592	-.0564	1804.
.0940	96.	365.	158.	184.	-23.	-193.	.0421	-.0328	.0085	.0829	.0670	-.0552	1862.
.0950	14.	277.	167.	172.	-32.	-226.	.0439	-.0335	.0162	.0742	.0767	-.0484	1988.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.59.

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	70	MEMBER	2	SEQUENCE	105	LOCATION	END	TYPE	FL	DX	DY	DZ	RX	RY	RZ	STRESS
TIME	(SEC)	FX	FY	FZ	MX	MY	MZ	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		
.0960	-98.	185.	175.	149.	-40.	-251.	.0435	-.0338	.0214	.0650	.0837	-.0406	2052.			
.0970	-168.	123.	159.	110.	-23.	-259.	.0395	-.0326	.0190	.0590	.0834	-.0362	1967.			
.0980	-205.	87.	119.	54.	27.	-253.	.0313	-.0299	.0075	.0575	.0770	-.0362	1806.			
.0990	-245.	72.	72.	-20.	96.	-233.	.0196	-.0257	-.0108	.0587	.0664	-.0399	1759.			
.1000	-265.	77.	20.	-98.	161.	-202.	.0060	-.0204	-.0317	.0607	.0493	-.0455	1926.			
.1010	-249.	70.	-35.	-168.	209.	-174.	-.0071	-.0151	-.0501	.0615	.0276	-.0496	2225.			
.1020	-247.	26.	-74.	-218.	231.	-159.	-.0172	-.0101	-.0613	.0593	.0096	-.0506	2472.			
.1030	-267.	-22.	-86.	-241.	223.	-148.	-.0232	-.0051	-.0633	.0532	-.0016	-.0501	2509.			
.1040	-261.	-39.	-86.	-239.	186.	-129.	-.0255	.0005	-.0575	.0439	-.0115	-.0495	2291.			
.1050	-215.	-60.	-80.	-221.	122.	-112.	-.0255	.0060	-.0469	.0325	-.0245	-.0473	1923.			
.1060	-150.	-106.	-70.	-197.	46.	-102.	-.0249	.0111	-.0350	.0203	-.0400	-.0429	1575.			
.1070	-49.	-128.	-67.	-172.	-28.	-80.	-.0247	.0167	-.0247	.0092	-.0593	-.0389	1334.			
.1080	91.	-87.	-73.	-152.	-90.	-30.	-.0253	.0232	-.0175	-.0009	-.0813	-.0369	1245.			
.1090	233.	-39.	-81.	-138.	-145.	27.	-.0263	.0296	-.0121	-.0111	-.1035	-.0357	1403.			
.1100	340.	-85.	-94.	-117.	-198.	54.	-.0270	.0337	-.0064	-.0192	-.1235	-.0240	1641.			
.1110	439.	-125.	-103.	-93.	-246.	88.	-.0269	.0371	.0004	-.0276	-.1388	-.0115	1932.			
.1120	487.	-108.	-102.	-74.	-287.	147.	-.0261	.0406	.0080	-.0380	-.1471	.0018	2303.			
.1130	481.	-153.	-94.	-56.	-321.	183.	-.0250	.0423	.0153	-.0471	-.1498	.0187	2601.			
.1140	467.	-262.	-94.	-36.	-342.	186.	-.0241	.0424	.0198	-.0514	-.1518	.0358	2723.			
.1150	484.	-282.	-104.	-21.	-341.	208.	-.0242	.0436	.0194	-.0511	-.1542	.0444	2784.			
.1160	492.	-200.	-110.	-18.	-317.	255.	-.0252	.0463	.0146	-.0480	-.1535	.0445	2837.			
.1170	471.	-163.	-110.	-22.	-283.	274.	-.0263	.0478	.0076	-.0425	-.1493	.0433	2743.			
.1180	501.	-194.	-121.	-15.	-250.	250.	-.0260	.0474	.0011	-.0328	-.1479	.0419	2463.			
.1190	548.	-123.	-115.	4.	-230.	244.	-.0228	.0480	-.0011	-.0235	-.1426	.0350	2335.			
.1200	531.	39.	-71.	36.	-229.	256.	-.0152	.0497	.0043	-.0181	-.1248	.0187	2403.			
.1210	479.	96.	-17.	89.	-240.	218.	-.0030	.0490	.0177	-.0140	-.0975	.0090	2340.			
.1220	411.	44.	35.	152.	-254.	131.	.0118	.0458	.0349	-.0104	-.0653	.0039	2255.			
.1230	326.	61.	86.	211.	-262.	65.	.0258	.0438	.0507	-.0061	-.0325	-.0056	2384.			
.1240	176.	170.	141.	243.	-247.	39.	.0361	.0437	.0598	-.0013	.0013	-.0200	2423.			
.1250	21.	204.	168.	237.	-188.	0.	.0411	.0427	.0572	.0066	.0292	-.0312	2108.			
.1260	-40.	153.	138.	205.	-86.	-59.	.0409	.0407	.0418	.0208	.0430	-.0397	1600.			
.1270	-84.	215.	99.	147.	35.	-70.	.0372	.0414	.0186	.0358	.0507	-.0543	1155.			
.1280	-165.	376.	73.	79.	148.	-34.	.0329	.0442	-.0045	.0478	.0595	-.0717	1189.			
.1290	-264.	415.	50.	18.	244.	-31.	.0311	.0447	-.0214	.0546	.0717	-.0780	1718.			
.1300	-751.	290.	28.	-22.	313.	-77.	.0330	.0418	-.0289	.0559	.0865	-.0699	2249.			
.1310	-455.	198.	30.	-19.	339.	-102.	.0381	.0391	-.0261	.0515	.1041	-.0577	2477.			
.1320	-620.	209.	71.	-83.	331.	-77.	.0445	.0383	-.0166	.0396	.1267	-.0449	2393.			
.1330	-762.	131.	95.	-72.	324.	-69.	.0504	.0361	-.0081	.0256	.1445	-.0243	2361.			

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.59.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

.1230	326.	61.	86.	211.	-262.	65.	.258	.0438	.0507	-.0061	-.0325	-.0056	2255.
.1240	176.	170.	141.	243.	-247.	39.	.0361	.0437	.0598	-.0013	.0013	-.0200	2423.
.1250	21.	204.	160.	277.	-180.	0.	.0411	.0427	.0572	.0066	.0292	-.0312	2108.
.1260	-40.	153.	130.	205.	-86.	-59.	.0409	.0407	.0418	.0208	.0430	-.0397	1600.
.1270	-84.	215.	99.	147.	35.	-70.	.0372	.0414	.0186	.0358	.0507	-.0543	1755.
.1280	-160.	376.	73.	79.	140.	-24.	.0329	.0442	-.0045	.0478	.0595	-.0717	1189.
.1290	-264.	415.	50.	18.	244.	-31.	.0311	.0447	-.0214	.0546	.0717	-.0780	1718.
.1300	-351.	290.	20.	-22.	313.	-77.	.0330	.0418	-.0289	.0559	.0865	-.0699	2249.
.1310	-455.	190.	30.	-39.	339.	-102.	.0381	.0391	-.0261	.0515	.1041	-.0577	2477.
.1320	-620.	209.	71.	-53.	331.	-77.	.0445	.0383	-.0166	.0396	.1267	-.0449	2393.
.1330	-762.	101.	95.	-72.	324.	-69.	.0504	.0361	-.0081	.0256	.1445	-.0243	2361.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.29.59.

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	70	MEMBER	2	SEQUENCE	105	LOCATION	END	TYPE	EL						
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS		
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		
.1340	-802.	-66.	77.	-104.	338.	-92.	.0532	.0324	-.0067	.0146	.1505	.0021	2544.		
.1350	-804.	-153.	49.	-151.	364.	-70.	.0513	.0316	-.0136	.0072	.1460	.0204	2786.		
.1360	-803.	-73.	23.	-214.	394.	19.	.0448	.0346	-.0270	.0020	.1344	.0286	3124.		
.1370	-788.	-52.	-12.	-288.	431.	95.	.0358	.0368	-.0436	-.0031	.1184	.0401	3669.		
.1380	-710.	-195.	-67.	-349.	459.	114.	.0273	.0360	-.0581	-.0078	.0966	.0606	4095.		
.1390	-636.	-293.	-100.	-389.	446.	142.	.0216	.0360	-.0645	-.0161	.0752	.0788	4237.		
.1400	-606.	-252.	-92.	-405.	387.	207.	.0202	.0385	-.0602	-.0304	.0607	.0889	4154.		
.1410	-557.	-274.	-80.	-393.	308.	235.	.0228	.0398	-.0478	-.0468	.0506	.1001	3840.		
.1420	-480.	-424.	-70.	-366.	224.	203.	.0271	.0389	-.0519	-.0628	.0417	.1143	3304.		
.1430	-386.	-490.	-52.	-336.	126.	186.	.0302	.0394	-.0162	-.0774	.0275	.1201	2816.		
.1440	-296.	-393.	-25.	-320.	22.	220.	.0303	.0432	-.0044	-.0911	.0075	.1136	2705.		
.1450	-170.	-345.	-21.	-320.	-55.	233.	.0279	.0463	.0005	-.1017	-.0168	.1061	2782.		
.1460	-2.	-431.	-53.	-329.	-91.	194.	.0237	.0471	-.0013	-.1068	-.0432	.1015	2733.		
.1470	160.	-427.	-78.	-345.	-117.	179.	.0186	.0496	-.0055	-.1106	-.0676	.0891	2822.		
.1480	287.	-273.	-70.	-355.	-162.	207.	.0137	.0544	-.0072	-.1147	-.0900	.0673	3074.		
.1490	380.	-196.	-70.	-352.	-217.	199.	.0107	.0573	-.0039	-.1194	-.1074	.0492	3194.		
.1500	468.	-277.	-62.	-330.	-266.	127.	.0107	.0566	.0046	-.1239	-.1165	.0395	3081.		
.1510	530.	-302.	-44.	-286.	-315.	71.	.0135	.0565	.0178	-.1279	-.1167	.0276	3005.		
.1520	514.	-177.	-0.	-236.	-364.	70.	.0171	.0587	.0333	-.1329	-.1074	.0095	3060.		
.1530	478.	-120.	31.	-188.	-390.	54.	.0197	.0594	.0459	-.1350	-.0957	-.0031	3035.		
.1540	466.	-212.	20.	-148.	-375.	-4.	.0193	.0573	.0512	-.1314	-.0870	-.0071	2808.		
.1550	440.	-236.	14.	-118.	-329.	-32.	.0151	.0566	.0488	-.1218	-.0799	-.0155	2445.		
.1560	372.	-91.	4.	-93.	-260.	8.	.0077	.0594	.0404	-.1066	-.0700	-.0338	1920.		
.1570	250.	38.	-7.	-74.	-150.	52.	-.0013	.0622	.0280	-.0887	-.0536	-.0502	1271.		
.1580	155.	10.	-44.	-51.	-36.	54.	-.0102	.0620	.0141	-.0688	-.0367	-.0550	578.		
.1590	60.	-30.	-81.	-17.	73.	63.	-.0182	.0614	.0034	-.0498	-.0200	-.0546	680.		
.1600	-112.	39.	-81.	24.	154.	120.	-.0245	.0627	-.0016	-.0355	.0036	-.0554	1372.		
.1610	-299.	90.	-69.	74.	220.	177.	-.0287	.0637	-.0022	-.0243	.0327	-.0518	2076.		
.1620	-410.	16.	-70.	134.	303.	192.	-.0311	.0625	-.0008	-.0131	.0592	-.0402	2665.		
.1630	-515.	-40.	-77.	190.	357.	213.	-.0330	.0619	.0020	-.0050	.0829	-.0291	3181.		
.1640	-620.	22.	-57.	232.	382.	277.	-.0353	.0639	.0052	-.0006	.1013	-.0238	3662.		
.1650	-659.	73.	-53.	262.	400.	340.	-.0379	.0659	.0065	.0020	.1117	-.0174	4081.		
.1660	-654.	8.	-65.	272.	424.	364.	-.0405	.0660	.0055	.0020	.1181	-.0045	4324.		
.1670	-647.	-68.	-75.	267.	434.	383.	-.0432	.0660	.0043	-.0014	.1209	.0092	4439.		
.1680	-651.	-51.	-70.	247.	415.	431.	-.0461	.0674	.0039	-.0095	.1188	.0181	4505.		
.1690	-621.	-58.	-72.	214.	380.	463.	-.0487	.0680	.0036	-.0206	.1100	.0278	4427.		
.1700	-565.	-102.	-86.	167.	344.	444.	-.0507	.0660	.0027	-.0337	.0980	.0419	4080.		
.1710	-513.	-293.	-92.	107.	302.	417.	-.0521	.0637	.0012	-.0491	.0852	.0529	3658.		

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.29.59.

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

.1620	-410.	16.	-70.	134.	303.	192.	-.0311	.0625	-.0008	-.0131	.0592	-.0402	2665.
.1630	-515.	-40.	-77.	190.	357.	213.	-.0330	.0619	.0020	-.0050	.0829	-.0291	3181.
.1640	-620.	22.	-57.	232.	382.	277.	-.0353	.0639	.0052	-.0006	.1013	-.0238	3662.
.1650	-659.	73.	-53.	262.	400.	340.	-.0379	.0659	.0065	.0020	.1117	-.0174	4081.
.1660	-654.	8.	-65.	272.	424.	364.	-.0405	.0660	.0055	.0020	.1181	-.0045	4324.
.1670	-647.	-68.	-75.	267.	434.	383.	-.0432	.0660	.0043	-.0014	.1209	.0092	4439.
.1680	-651.	-51.	-70.	247.	415.	431.	-.0461	.0674	.0039	-.0095	.1188	.0181	4505.
.1690	-621.	-58.	-72.	214.	380.	463.	-.0487	.0680	.0036	-.0206	.1100	.0278	4427.
.1700	-565.	-102.	-86.	167.	344.	444.	-.0507	.0660	.0027	-.0337	.0980	.0419	4080.
.1710	-513.	-293.	-92.	107.	302.	417.	-.0521	.0637	.0012	-.0491	.0852	.0529	3658.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.59.

S/RV PIPING KEWAUNEE CKWOLF 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	EL							STRESS
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
.1720	-425.	-290.	-99.	41.	245.	413.	-.0532	.0627	-.0009	-.0643	.0663	.0550	3356.
.1730	-321.	-278.	-105.	-32.	181.	399.	-.0540	.0608	-.0038	-.0795	.0443	.0543	3057.
.1740	-201.	-366.	-116.	-108.	120.	334.	-.0541	.0558	-.0070	-.0933	.0213	.0567	2585.
.1750	-61.	-451.	-127.	-177.	55.	254.	-.0531	.0495	-.0095	-.1042	-.0022	.0563	2185.
.1760	60.	-410.	-115.	-233.	-20.	199.	-.0507	.0441	-.0098	-.1129	-.0225	.0467	2138.
.1770	171.	-339.	-93.	-271.	-98.	139.	-.0465	.0380	-.0077	-.1179	-.0387	.0330	2227.
.1780	280.	-343.	-69.	-291.	-160.	37.	-.0404	.0291	-.0037	-.1189	-.0502	.0214	2355.
.1790	398.	-350.	-46.	-208.	-232.	-77.	-.0329	.0189	.0015	-.1145	-.0589	.0084	2630.
.1800	482.	-249.	-8.	-265.	-291.	-160.	-.0251	.0097	.0079	-.1052	-.0625	-.0113	2957.
.1810	508.	-100.	45.	-228.	-336.	-227.	-.0175	.0008	.0143	-.0920	-.0584	-.0336	3239.
.1820	545.	-27.	81.	-177.	-353.	-317.	-.0105	-.0100	.0187	-.0726	-.0523	-.0513	3523.
.1830	576.	25.	105.	-114.	-349.	-405.	-.0046	-.0212	.0212	-.0484	-.0442	-.0667	3805.
.1840	556.	157.	137.	-44.	-332.	-454.	.0001	-.0306	.0226	-.0219	-.0316	-.0845	3923.
.1850	497.	317.	169.	31.	-298.	-475.	.0036	-.0387	.0229	.0063	-.0147	-.1014	3910.
.1860	427.	400.	187.	108.	-242.	-505.	.0060	-.0473	.0219	.0351	.0047	-.1111	3970.
.1870	346.	425.	191.	188.	-175.	-534.	.0071	-.0555	.0200	.0638	.0240	-.1147	4124.
.1880	217.	495.	202.	261.	-107.	-526.	.0063	-.0612	.0176	.0894	.0443	-.1173	4154.
.1890	78.	582.	208.	324.	-35.	-490.	.0036	-.0647	.0139	.1119	.0629	-.1179	4094.
.1900	-26.	594.	192.	376.	46.	-458.	-.0006	-.0674	.0078	.1314	.0768	-.1121	4139.
.1910	-118.	559.	167.	413.	127.	-424.	-.0063	-.0687	.0005	.1458	.0868	-.1020	4207.
.1920	-180.	564.	147.	474.	190.	-361.	-.0130	-.0671	-.0067	.1546	.0909	-.0926	4145.
.1930	-230.	591.	117.	445.	233.	-281.	-.0198	-.0631	-.0122	.1570	.0901	-.0833	4005.
.1940	-248.	550.	90.	447.	260.	-216.	-.0259	-.0587	-.0148	.1529	.0872	-.0694	3903.
.1950	-254.	453.	66.	443.	267.	-166.	-.0309	-.0538	-.0138	.1420	.0831	-.0514	3780.
.1960	-253.	379.	51.	432.	247.	-105.	-.0349	-.0475	-.0092	.1247	.0767	-.0339	3540.
.1970	-244.	316.	41.	412.	208.	-41.	-.0386	-.0401	-.0028	.1026	.0676	-.0171	3221.
.1980	-220.	202.	25.	379.	166.	1.	-.0426	-.0332	.0028	.0782	.0563	.0008	2884.
.1990	-176.	66.	-0.	336.	131.	28.	-.0475	-.0265	.0055	.0543	.0421	.0168	2515.
.2000	-117.	-5.	-25.	281.	98.	65.	-.0538	-.0188	.0046	.0323	.0243	.0256	2123.
.2010	-48.	-23.	-47.	220.	65.	107.	-.0611	-.0107	.0009	.0128	.0037	.0278	1763.
.2020	39.	-64.	-73.	158.	35.	125.	-.0680	-.0040	-.0042	-.0036	-.0182	.0279	1427.
.2030	140.	-124.	-96.	107.	3.	118.	-.0732	.0008	-.0079	-.0169	-.0383	.0265	1110.
.2040	227.	-136.	-102.	72.	-39.	109.	-.0755	.0047	-.0078	-.0282	-.0529	.0207	947.
.2050	287.	-106.	-86.	58.	-94.	95.	-.0746	.0073	-.0026	-.0376	-.0610	.0116	1012.
.2060	339.	-100.	-60.	63.	-156.	55.	-.0706	.0073	.0066	-.0441	-.0643	.0030	1232.
.2070	387.	-117.	-30.	84.	-216.	-8.	-.0647	.0049	.0177	-.0469	-.0643	-.0052	1617.
.2080	415.	-92.	7.	112.	-260.	-66.	-.0580	.0015	.0282	-.0456	-.0611	-.0165	2076.
.2090	426.	-15.	45.	139.	-303.	-112.	-.0518	-.0024	.0356	-.0397	-.0559	-.0311	2447.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.59.

S/RV PIPING KEWAUNEE CKWOLF 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

.1980	-220.	202.	25.	270.	166.	1.	-.0426	-.0332	.0028	-.0782	.0563	.0008	2884.
.1990	-176.	66.	-0.	336.	131.	28.	-.0475	-.0269	.0055	.0543	.0421	.0168	2515.
.2000	-117.	-5.	-25.	281.	98.	65.	-.0538	-.0188	.0046	.0323	.0243	.0256	2123.
.2010	-48.	-23.	-47.	220.	65.	107.	-.0611	-.0107	.0009	.0128	.0037	.0278	1763.
.2020	39.	-64.	-77.	158.	35.	125.	-.0680	-.0040	-.0042	-.0036	-.0182	.0279	1427.
.2030	140.	-124.	-96.	107.	7.	118.	-.0732	.0008	-.0079	-.0169	-.0383	.0265	1110.
.2040	227.	-136.	-102.	72.	-39.	109.	-.0755	.0047	-.0078	-.0282	-.0529	.0207	947.
.2050	287.	-106.	-86.	58.	-94.	95.	-.0746	.0073	-.0026	-.0376	-.0610	.0116	1012.
.2060	339.	-100.	-60.	63.	-156.	55.	-.0706	.0073	.0066	-.0441	-.0643	.0030	1232.
.2070	387.	-117.	-39.	84.	-216.	-8.	-.0647	.0049	.0177	-.0469	-.0643	-.0052	1617.
.2080	415.	-92.	7.	112.	-269.	-66.	-.0580	.0015	.0282	-.0456	-.0611	-.0165	2076.
.2090	426.	-15.	45.	139.	-303.	-112.	-.0518	-.0024	.0356	-.0397	-.0559	-.0311	2447.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.29.59.

S/RV PIPING KEWAUNEE GROUND 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	70	MEMBER	2	SEQUENCE	105	LOCATION	END	TYPE	EL						
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)
.2100	439.	53.	69.	161.	-311.	-162.	-.0467	-.0077	.0381	-.0289	-.0514	-.0454	2685.		
.2110	454.	93.	78.	175.	-296.	-218.	-.0429	-.0144	.0358	-.0141	-.0486	-.0579	2832.		
.2120	455.	151.	83.	183.	-266.	-264.	-.0401	-.0214	.0305	.0029	-.0461	-.0704	2902.		
.2130	436.	238.	89.	189.	-230.	-294.	-.0374	-.0283	.0245	.0207	-.0425	-.0829	2913.		
.2140	404.	304.	93.	198.	-190.	-325.	-.0338	-.0356	.0198	.0378	-.0366	-.0922	2963.		
.2150	359.	326.	96.	212.	-151.	-364.	-.0286	-.0437	.0177	.0526	-.0283	-.0964	3114.		
.2160	290.	338.	102.	228.	-120.	-397.	-.0222	-.0514	.0185	.0642	-.0186	-.0974	3294.		
.2170	230.	359.	110.	245.	-96.	-415.	-.0153	-.0581	.0209	.0751	-.0090	-.0966	3424.		
.2180	162.	365.	112.	258.	-70.	-428.	-.0089	-.0639	.0230	.0799	-.0006	-.0935	3511.		
.2190	102.	346.	105.	261.	-35.	-436.	-.0039	-.0688	.0226	.0857	.0055	-.0883	3547.		
.2200	50.	336.	90.	253.	3.	-429.	-.0008	-.0718	.0192	.0907	.0074	-.0835	3466.		
.2210	23.	348.	69.	234.	41.	-403.	.0004	-.0728	.0131	.0946	.0048	-.0800	3256.		
.2220	7.	353.	43.	208.	77.	-371.	.0005	-.0723	.0056	.0970	-.0006	-.0760	3007.		
.2230	7.	333.	17.	181.	108.	-340.	.0006	-.0708	-.0013	.0974	-.0065	-.0705	2782.		
.2240	-0.	310.	-3.	157.	124.	-305.	.0014	-.0681	-.0055	.0948	-.0113	-.0642	2538.		
.2250	-11.	296.	-10.	139.	120.	-265.	.0032	-.0643	-.0060	.0889	-.0147	-.0575	2242.		
.2260	-22.	261.	-9.	125.	100.	-230.	.0058	-.0600	-.0033	.0802	-.0170	-.0492	1949.		
.2270	-26.	199.	-6.	113.	70.	-204.	.0088	-.0555	.0008	.0699	-.0189	-.0395	1698.		
.2280	-24.	147.	-2.	98.	39.	-177.	.0114	-.0502	.0045	.0591	-.0206	-.0312	1433.		
.2290	-16.	124.	3.	77.	9.	-140.	.0130	-.0438	.0061	.0487	-.0231	-.0258	1112.		
.2300	3.	107.	4.	47.	-14.	-103.	.0131	-.0370	.0047	.0396	-.0275	-.0219	792.		
.2310	37.	74.	-3.	10.	-31.	-73.	.0119	-.0305	.0008	.0319	-.0334	-.0182	556.		
.2320	60.	44.	-9.	-30.	-47.	-46.	.0103	-.0242	-.0043	.0250	-.0387	-.0151	485.		
.2330	75.	32.	-10.	-68.	-55.	-16.	.0089	-.0179	-.0087	.0184	-.0414	-.0132	621.		
.2340	82.	19.	-7.	-99.	-60.	7.	.0088	-.0123	-.0109	.0120	-.0409	-.0112	838.		
.2350	84.	-11.	1.	-119.	-85.	17.	.0102	-.0077	-.0104	.0057	-.0371	-.0081	1025.		
.2360	79.	-42.	14.	-129.	-104.	20.	.0132	-.0038	-.0070	-.0003	-.0303	-.0050	1164.		
.2370	65.	-52.	32.	-129.	-124.	24.	.0173	-.0002	-.0017	-.0054	-.0207	-.0033	1259.		
.2380	46.	-50.	52.	-122.	-138.	26.	.0219	.0030	.0043	-.0085	-.0091	-.0030	1295.		
.2390	24.	-50.	67.	-111.	-140.	25.	.0265	.0057	.0097	-.0093	.0039	-.0032	1254.		
.2400	-2.	-45.	78.	-98.	-130.	25.	.0306	.0081	.0136	-.0077	.0172	-.0042	1145.		
.2410	-36.	-27.	84.	-85.	-108.	31.	.0338	.0105	.0160	-.0040	.0303	-.0062	981.		
.2420	-80.	-6.	84.	-72.	-75.	39.	.0363	.0129	.0168	.0017	.0435	-.0087	771.		
.2430	-136.	7.	79.	-58.	-29.	47.	.0383	.0151	.0166	.0086	.0574	-.0108	562.		
.2440	-205.	15.	70.	-45.	25.	57.	.0398	.0172	.0160	.0159	.0719	-.0124	534.		
.2450	-288.	25.	59.	-32.	82.	72.	.0409	.0195	.0152	.0228	.0860	-.0136	790.		
.2460	-376.	26.	44.	-24.	139.	89.	.0413	.0219	.0141	.0287	.0987	-.0134	1163.		
.2470	-461.	10.	25.	-21.	190.	106.	.0411	.0243	.0124	.0332	.1091	-.0114	1568.		

ADLPIPE PAGE 2049

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.29.59.

S/RV PIPING KEWAUNEE GROUND 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

.2370	67.	-52.	52.	-122.	-124.	24.	.173	-.0002	-.0017	-.0054	-.0207	-.0033	1259.
.2380	46.	-50.	52.	-122.	-138.	26.	.219	.0030	.0043	-.0085	-.0091	-.0030	1295.
.2390	24.	-50.	67.	-111.	-140.	25.	.0265	.0057	.0097	-.0093	.0039	-.0032	1254.
.2400	-2.	-45.	70.	-98.	-130.	25.	.0306	.0081	.0136	-.0077	.0172	-.0042	1145.
.2410	-36.	-27.	84.	-85.	-100.	31.	.0338	.0105	.0160	-.0040	.0303	-.0062	981.
.2420	-80.	-6.	84.	-72.	-75.	39.	.0363	.0129	.0168	.0017	.0435	-.0087	771.
.2430	-136.	7.	79.	-58.	-29.	47.	.0383	.0151	.0166	.0086	.0574	-.0108	562.
.2440	-205.	15.	70.	-45.	25.	57.	.0398	.0172	.0160	.0159	.0719	-.0124	534.
.2450	-288.	35.	59.	-32.	82.	72.	.0409	.0195	.0152	.0228	.0800	-.0136	790.
.2460	-376.	26.	44.	-24.	139.	89.	.0413	.0219	.0141	.0287	.0987	-.0134	1163.
.2470	-461.	10.	25.	-21.	190.	106.	.0411	.0243	.0124	.0332	.1091	-.0114	1568.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02. 18.29.59.

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	70	MEMBER	2	SEQUENCE	105	LOCATION	END	TYPE	EL						
TIME	FX	FY	FZ	MX	MY	MZ		DX	DY	DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)		(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.2480	-538.	-14.	-0.	-26.	255.	126.		.0401	.0269	.0059	.0360	.1166	-.0083	1985.	
.2490	-606.	-36.	-28.	-40.	307.	152.		.0384	.0300	.0065	.0369	.1208	-.0047	2401.	
.2500	-667.	-61.	-59.	-63.	352.	182.		.0359	.0335	.0024	.0354	.1210	-.0003	2795.	
.2510	-695.	-102.	-92.	-96.	387.	210.		.0327	.0370	-.0022	.0312	.1167	.0058	3139.	
.2520	-710.	-156.	-125.	-137.	408.	236.		.0292	.0405	-.0066	.0241	.1077	.0134	3414.	
.2530	-706.	-212.	-155.	-184.	411.	262.		.0256	.0441	-.0104	.0141	.0948	.0216	3626.	
.2540	-680.	-266.	-182.	-236.	398.	288.		.0224	.0478	-.0135	.0012	.0787	.0300	3790.	
.2550	-631.	-327.	-207.	-290.	369.	309.		.0196	.0513	-.0156	-.0139	.0596	.0391	3910.	
.2560	-561.	-394.	-226.	-346.	323.	325.		.0171	.0544	-.0169	-.0308	.0378	.0486	3996.	
.2570	-477.	-454.	-240.	-403.	262.	337.		.0150	.0572	-.0173	-.0489	.0134	.0578	4085.	
.2580	-367.	-507.	-249.	-458.	188.	347.		.0133	.0596	-.0173	-.0671	-.0126	.0663	4209.	
.2590	-249.	-556.	-254.	-509.	108.	352.		.0120	.0613	-.0169	-.0846	-.0385	.0743	4374.	
.2600	-125.	-599.	-253.	-555.	25.	354.		.0113	.0624	-.0162	-.1008	-.0633	.0817	4583.	
.2610	-1.	-630.	-248.	-593.	-60.	353.		.0112	.0628	-.0152	-.1154	-.0863	.0883	4825.	
.2620	117.	-652.	-237.	-622.	-143.	349.		.0116	.0624	-.0140	-.1274	-.1070	.0942	5067.	
.2630	224.	-669.	-222.	-640.	-221.	340.		.0126	.0610	-.0125	-.1361	-.1244	.0991	5274.	
.2640	315.	-671.	-203.	-645.	-289.	330.		.0141	.0590	-.0111	-.1413	-.1371	.1025	5428.	
.2650	384.	-655.	-180.	-638.	-343.	319.		.0161	.0565	-.0098	-.1425	-.1445	.1040	5510.	
.2660	434.	-626.	-154.	-619.	-384.	308.		.0185	.0533	-.0090	-.1398	-.1474	.1040	5503.	
.2670	466.	-591.	-129.	-590.	-409.	293.		.0212	.0495	-.0086	-.1331	-.1462	.1027	5397.	
.2680	478.	-546.	-104.	-550.	-418.	278.		.0242	.0452	-.0088	-.1226	-.1404	.0999	5185.	
.2690	466.	-485.	-78.	-501.	-410.	265.		.0275	.0408	-.0094	-.1088	-.1297	.0953	4870.	
.2700	430.	-412.	-52.	-444.	-386.	253.		.0311	.0362	-.0103	-.0924	-.1143	.0892	4460.	
.2710	376.	-339.	-27.	-382.	-349.	239.		.0349	.0315	-.0113	-.0741	-.0957	.0822	3965.	
.2720	304.	-269.	-5.	-314.	-301.	222.		.0388	.0267	-.0124	-.0543	-.0749	.0745	3400.	
.2730	221.	-194.	15.	-245.	-242.	207.		.0429	.0220	-.0137	-.0337	-.0519	.0659	2793.	
.2740	122.	-111.	33.	-176.	-172.	195.		.0467	.0176	-.0154	-.0131	-.0269	.0569	2189.	
.2750	15.	-36.	46.	-112.	-94.	185.		.0502	.0133	-.0178	.0069	-.0015	.0485	1641.	
.2760	-90.	21.	54.	-54.	-14.	171.		.0531	.0090	-.0209	.0259	.0222	.0414	1249.	
.2770	-190.	74.	57.	-2.	66.	158.		.0554	.0051	-.0246	.0438	.0433	.0344	1190.	
.2780	-284.	136.	58.	43.	144.	151.		.0571	.0017	-.0287	.0599	.0628	.0273	1481.	
.2790	-372.	191.	58.	80.	220.	144.		.0586	-.0015	-.0327	.0735	.0810	.0211	1913.	
.2800	-450.	222.	55.	111.	288.	131.		.0597	-.0047	-.0362	.0844	.0967	.0168	2332.	
.2810	-510.	241.	51.	135.	341.	115.		.0604	-.0077	-.0388	.0926	.1083	.0137	2679.	
.2820	-550.	264.	50.	155.	380.	102.		.0607	-.0104	-.0404	.0980	.1168	.0110	2944.	
.2830	-599.	281.	51.	168.	409.	89.		.0606	-.0129	-.0414	.1007	.1234	.0094	3138.	
.2840	-626.	277.	51.	175.	429.	71.		.0599	-.0154	-.0421	.1012	.1276	.0096	3260.	
.2850	-630.	261.	50.	175.	436.	50.		.0581	-.0178	-.0431	.1001	.1273	.0104	3290.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02. 18.29.59.

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

.2750	15.	-36.	46.	-112.	-94.	185.	46.	.0502	.0133	-.0178	.0069	-.0015	.0485	1641.
.2760	-90.	21.	54.	-54.	-14.	171.	51.	.0531	.0090	-.0209	.0259	.0222	.0414	1249.
.2770	-190.	74.	57.	-2.	66.	158.	55.	.0554	.0051	-.0246	.0438	.0433	.0344	1190.
.2780	-284.	136.	58.	43.	144.	151.	58.	.0571	.0017	-.0287	.0599	.0628	.0273	1481.
.2790	-372.	191.	58.	80.	220.	144.	58.	.0586	-.0015	-.0327	.0735	.0810	.0211	1913.
.2800	-450.	222.	55.	111.	280.	131.	55.	.0597	-.0047	-.0362	.0844	.0967	.0168	2332.
.2810	-510.	241.	51.	135.	341.	115.	50.	.0604	-.0077	-.0388	.0926	.1083	.0157	2679.
.2820	-558.	264.	50.	155.	380.	102.	50.	.0607	-.0104	-.0404	.0980	.1168	.0110	2944.
.2830	-599.	281.	51.	168.	409.	89.	50.	.0606	-.0129	-.0414	.1007	.1234	.0094	3138.
.2840	-626.	277.	51.	175.	429.	71.	50.	.0599	-.0154	-.0421	.1012	.1276	.0096	3260.
.2850	-630.	261.	50.	175.	436.	50.	50.	.0581	-.0178	-.0431	.1001	.1273	.0104	3290.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.59.

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	MEMBER	SEQUENCE	LOCATION	END	TYPE	EL	EL	EL	EL	EL	EL	EL	EL	EL	STRESS
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	FX	FY	FZ	STRESS	(PSI)	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(DEG)	(DEG)	
.2860	-612.	256.	49.	170.	429.	33.	.0553	-.0196	-.0443	.0977	.1219	.0104	3217.		
.2870	-576.	257.	49.	160.	410.	17.	.0514	-.0208	-.0458	.0941	.1128	.0097	3065.		
.2880	-521.	247.	49.	146.	384.	-2.	.0470	-.0218	-.0473	.0895	.1015	.0088	2859.		
.2890	-444.	235.	51.	133.	346.	-24.	.0422	-.0223	-.0480	.0838	.0870	.0075	2586.		
.2900	-351.	234.	57.	122.	291.	-43.	.0374	-.0222	-.0470	.0765	.0696	.0051	2215.		
.2910	-246.	237.	67.	113.	219.	-62.	.0329	-.0215	-.0438	.0674	.0501	.0023	1771.		
.2920	-130.	224.	80.	109.	137.	-86.	.0289	-.0206	-.0385	.0566	.0299	.0002	1359.		
.2930	-7.	205.	94.	107.	50.	-112.	.0253	-.0192	-.0317	.0444	.0094	-.0016	1131.		
.2940	116.	198.	109.	106.	-43.	-130.	.0217	-.0171	-.0240	.0311	-.0117	-.0041	1206.		
.2950	240.	194.	122.	102.	-136.	-144.	.0176	-.0143	-.0164	.0169	-.0344	-.0066	1551.		
.2960	366.	173.	128.	93.	-224.	-158.	.0128	-.0112	-.0099	.0025	-.0587	-.0082	2016.		
.2970	491.	144.	125.	79.	-300.	-170.	.0073	-.0078	-.0051	-.0116	-.0833	-.0094	2462.		
.2980	602.	131.	118.	62.	-362.	-170.	.0012	-.0035	-.0018	-.0253	-.1068	-.0111	2820.		
.2990	697.	128.	108.	42.	-413.	-161.	-.0053	.0013	.0005	-.0387	-.1288	-.0126	3098.		
.3000	779.	104.	91.	22.	-452.	-153.	-.0117	.0057	.0023	-.0518	-.1493	-.0118	3327.		
.3010	844.	60.	72.	5.	-481.	-147.	-.0177	.0098	.0042	-.0640	-.1669	-.0089	3502.		
.3020	884.	31.	54.	-6.	-499.	-133.	-.0230	.0140	.0067	-.0750	-.1800	-.0058	3597.		
.3030	896.	20.	39.	-11.	-505.	-111.	-.0274	.0183	.0097	-.0845	-.1876	-.0028	3599.		
.3040	889.	0.	24.	-9.	-497.	-90.	-.0311	.0220	.0128	-.0918	-.1906	.0014	3518.		
.3050	869.	-32.	7.	0.	-478.	-74.	-.0342	.0249	.0154	-.0963	-.1902	.0067	3363.		
.3060	832.	-46.	-9.	16.	-447.	-52.	-.0369	.0276	.0173	-.0975	-.1862	.0111	3131.		
.3070	775.	-31.	-21.	38.	-402.	-23.	-.0393	.0302	.0183	-.0953	-.1775	.0138	2817.		
.3080	701.	-12.	-32.	66.	-344.	5.	-.0411	.0322	.0185	-.0899	-.1637	.0163	2439.		
.3090	616.	-4.	-41.	100.	-277.	27.	-.0423	.0332	.0183	-.0817	-.1463	.0194	2057.		
.3100	519.	13.	-46.	139.	-208.	47.	-.0429	.0337	.0181	-.0714	-.1263	.0222	1774.		
.3110	411.	46.	-45.	182.	-141.	69.	-.0428	.0338	.0184	-.0596	-.1034	.0240	1673.		
.3120	294.	77.	-38.	228.	-72.	85.	-.0418	.0334	.0189	-.0469	-.0774	.0254	1764.		
.3130	178.	98.	-30.	272.	-3.	93.	-.0402	.0323	.0194	-.0338	-.0497	.0270	2001.		
.3140	68.	123.	-18.	312.	59.	98.	-.0382	.0309	.0197	-.0210	-.0225	.0279	2313.		
.3150	-34.	156.	-3.	344.	110.	102.	-.0362	.0295	.0197	-.0095	.0024	.0279	2613.		
.3160	-120.	178.	11.	366.	154.	100.	-.0341	.0279	.0190	.0002	.0248	.0280	2846.		
.3170	-189.	184.	24.	375.	190.	90.	-.0320	.0260	.0176	.0078	.0446	.0285	2997.		
.3180	-241.	189.	36.	373.	217.	79.	-.0298	.0243	.0159	.0125	.0613	.0286	3054.		
.3190	-279.	195.	50.	358.	228.	68.	-.0276	.0228	.0143	.0135	.0740	.0286	2994.		
.3200	-298.	180.	62.	330.	226.	50.	-.0253	.0212	.0129	.0109	.0819	.0296	2806.		
.3210	-296.	139.	70.	291.	211.	24.	-.0230	.0193	.0118	.0049	.0857	.0320	2511.		
.3220	-280.	98.	77.	243.	180.	-2.	-.0205	.0176	.0109	-.0042	.0861	.0342	2139.		
.3230	-253.	66.	84.	187.	156.	-23.	-.0181	.0162	.0101	-.0158	.0836	.0359	1702.		

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.59.

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

.3140	68.	127.	-18.	312.	59.	98.	-0.382	.0309	.0197	-.0210	-.0225	.0279	2313.
.3150	-34.	156.	-3.	344.	110.	102.	-.0362	.0295	.0197	-.0095	.0024	.0279	2613.
.3160	-120.	178.	11.	366.	154.	100.	-.0341	.0279	.0190	.0002	.0248	.0280	2846.
.3170	-180.	184.	24.	375.	190.	90.	-.0320	.0260	.0176	.0078	.0446	.0285	2997.
.3180	-241.	189.	36.	373.	217.	79.	-.0298	.0243	.0159	.0125	.0613	.0286	3054.
.3190	-279.	195.	50.	358.	228.	68.	-.0276	.0228	.0143	.0135	.0740	.0286	2994.
.3200	-290.	180.	62.	330.	226.	50.	-.0253	.0212	.0129	.0109	.0819	.0296	2806.
.3210	-296.	139.	70.	291.	211.	24.	-.0230	.0193	.0118	.0049	.0857	.0320	2511.
.3220	-280.	98.	77.	243.	180.	-2.	-.0205	.0176	.0109	-.0042	.0861	.0342	2139.
.3230	-257.	66.	84.	187.	156.	-23.	-.0181	.0162	.0101	-.0158	.0836	.0359	1702.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.59.

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	70	MEMBER	2	SEQUENCE	105	LOCATION	END	TYPE	EL						
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)		DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)	
.3240	-217.	23.	87.	124.	110.	-46.		-.0158	.0147	.0093	-.0294	.0775	.0383	1255.	
.3250	-157.	-41.	84.	57.	78.	-74.		-.0138	.0128	.0082	-.0439	.0678	.0419	844.	
.3260	-95.	-102.	78.	-9.	35.	-99.		-.0120	.0108	.0071	-.0584	.0561	.0452	732.	
.3270	-30.	-141.	73.	-71.	-9.	-115.		-.0102	.0089	.0062	-.0721	.0445	.0472	939.	
.3280	15.	-175.	67.	-125.	-40.	-128.		-.0084	.0067	.0055	-.0844	.0335	.0487	1276.	
.3290	64.	-219.	58.	-170.	-69.	-144.		-.0066	.0038	.0050	-.0943	.0230	.0508	1623.	
.3300	105.	-257.	49.	-203.	-93.	-158.		-.0049	.0005	.0048	-.1013	.0134	.0524	1902.	
.3310	132.	-270.	42.	-222.	-110.	-163.		-.0032	-.0031	.0049	-.1049	.0060	.0523	2065.	
.3320	146.	-266.	36.	-228.	-115.	-163.		-.0016	-.0070	.0050	-.1047	.0016	.0511	2108.	
.3330	147.	-262.	30.	-220.	-109.	-162.		-.0001	-.0115	.0049	-.1006	.0000	.0495	2049.	
.3340	141.	-250.	24.	-200.	-95.	-159.		.0011	-.0166	.0048	-.0929	.0003	.0473	1898.	
.3350	124.	-217.	20.	-168.	-76.	-150.		.0021	-.0217	.0047	-.0821	.0022	.0438	1655.	
.3360	97.	-173.	18.	-126.	-51.	-137.		.0030	-.0270	.0047	-.0687	.0063	.0394	1347.	
.3370	62.	-153.	16.	-77.	-20.	-126.		.0038	-.0326	.0049	-.0532	.0126	.0348	1038.	
.3380	22.	-91.	16.	-22.	14.	-114.		.0045	-.0382	.0051	-.0366	.0202	.0299	818.	
.3390	-21.	-40.	17.	34.	45.	-99.		.0049	-.0435	.0055	-.0198	.0276	.0243	795.	
.3400	-61.	10.	19.	89.	73.	-83.		.0050	-.0486	.0057	-.0035	.0340	.0186	987.	
.3410	-95.	47.	20.	139.	98.	-70.		.0046	-.0534	.0055	-.0118	.0392	.0135	1282.	
.3420	-119.	79.	18.	182.	121.	-58.		.0038	-.0576	.0048	-.0254	.0430	.0083	1574.	
.3430	-137.	116.	17.	217.	135.	-41.		.0027	-.0609	.0038	-.0367	.0446	.0027	1904.	
.3440	-135.	147.	15.	242.	140.	-25.		.0012	-.0635	.0027	-.0450	.0434	-.0026	1954.	
.3450	-121.	157.	12.	257.	136.	-14.		-.0004	-.0657	.0017	-.0501	.0394	-.0067	2024.	
.3460	-95.	153.	8.	263.	122.	-7.		-.0019	-.0672	.0011	-.0520	.0335	-.0099	2016.	
.3470	-62.	152.	7.	260.	98.	3.		-.0032	-.0679	.0012	-.0507	.0263	-.0131	1937.	
.3480	-24.	147.	7.	250.	66.	13.		-.0044	-.0678	.0017	-.0465	.0179	-.0159	1805.	
.3490	25.	125.	6.	233.	28.	17.		-.0054	-.0675	.0025	-.0401	.0081	-.0174	1639.	
.3500	80.	91.	4.	210.	-14.	18.		-.0064	-.0669	.0032	-.0321	-.0028	-.0181	1470.	
.3510	136.	63.	3.	182.	-57.	22.		-.0074	-.0658	.0037	-.0235	-.0138	-.0190	1340.	
.3520	191.	45.	2.	153.	-99.	27.		-.0082	-.0644	.0037	-.0149	-.0241	-.0206	1280.	
.3530	243.	23.	2.	122.	-136.	30.		-.0088	-.0629	.0034	-.0071	-.0333	-.0271	1289.	
.3540	289.	-3.	1.	94.	-168.	29.		-.0091	-.0617	.0029	-.0005	-.0412	-.0233	1355.	
.3550	326.	-22.	1.	69.	-196.	27.		-.0089	-.0607	.0025	-.0044	-.0471	-.0749	1460.	
.3560	340.	-28.	4.	50.	-218.	26.		-.0081	-.0600	.0023	-.0073	-.0502	-.0271	1565.	
.3570	356.	-31.	6.	38.	-230.	21.		-.0065	-.0598	.0022	-.0078	-.0498	-.0292	1628.	
.3580	349.	-34.	13.	32.	-232.	13.		-.0044	-.0603	.0022	-.0058	-.0462	-.0312	1632.	
.3590	328.	-30.	19.	31.	-226.	4.		-.0019	-.0614	.0020	-.0012	-.0403	-.0333	1586.	
.3600	294.	-15.	24.	34.	-210.	-6.		.0009	-.0630	.0012	.0060	-.0323	-.0359	1485.	
.3610	249.	4.	29.	41.	-185.	-17.		.0038	-.0651	-.0002	.0157	-.0224	-.0388	1321.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.00.

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

.3520	191.	45.	2.	122.	-99.	27.	-.082	-.0644	.0037	.0149	-.0241	-.0206	1280.
.3530	243.	23.	2.	122.	-136.	30.	-.088	-.0629	.0034	.0071	-.0333	-.0221	1289.
.3540	289.	-3.	1.	94.	-160.	29.	-.091	-.0617	.0029	.0005	-.0412	-.0233	1355.
.3550	326.	-22.	1.	69.	-196.	27.	-.089	-.0607	.0025	-.0044	-.0471	-.0249	1460.
.3560	340.	-28.	4.	50.	-210.	26.	-.081	-.0600	.0023	-.0073	-.0502	-.0271	1565.
.3570	356.	-31.	9.	38.	-230.	21.	-.065	-.0598	.0022	-.0078	-.0498	-.0292	1628.
.3580	340.	-34.	13.	32.	-232.	13.	-.044	-.0603	.0022	-.0058	-.0462	-.0312	1632.
.3590	328.	-30.	19.	31.	-226.	4.	-.019	-.0614	.0020	-.0012	-.0403	-.0333	1586.
.3600	294.	-15.	24.	34.	-210.	-6.	.009	-.0630	.0012	.0060	-.0323	-.0359	1485.
.3610	240.	4.	29.	41.	-185.	-17.	.0038	-.0651	-.0002	.0157	-.0224	-.0388	1321.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.00.

S/RV PIPING KEWAUNEE CKW00F 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	70	MEMBER	2	SEQUENCE	105	LOCATION	END	TYPE	EL					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)		
.3620	195.	27.	31.	50.	-148.	-32.	.0070	-.0677	-.0023	.0276	-.0107	-.0419		1111.
.3630	135.	57.	33.	61.	-105.	-47.	.0103	-.0707	-.0049	.0411	.0022	-.0454		904.
.3640	69.	94.	36.	73.	-59.	-62.	.0138	-.0739	-.0075	.0556	.0155	-.0491		781.
.3650	2.	128.	37.	86.	-12.	-89.	.0176	-.0774	-.0099	.0702	.0289	-.0523		822.
.3660	-65.	156.	39.	99.	35.	-103.	.0217	-.0811	-.0116	.0846	.0424	-.0551		1021.
.3670	-133.	186.	42.	111.	80.	-125.	.0260	-.0845	-.0127	.0983	.0561	-.0578		1291.
.3680	-199.	219.	46.	122.	120.	-147.	.0303	-.0876	-.0131	.1106	.0689	-.0604		1570.
.3690	-259.	244.	49.	130.	155.	-169.	.0343	-.0904	-.0132	.1214	.0801	-.0622		1835.
.3700	-309.	257.	49.	133.	186.	-193.	.0378	-.0926	-.0133	.1305	.0889	-.0633		2080.
.3710	-351.	268.	48.	130.	212.	-214.	.0404	-.0940	-.0137	.1380	.0955	-.0641		2282.
.3720	-384.	283.	45.	121.	234.	-229.	.0421	-.0943	-.0146	.1435	.0997	-.0651		2428.
.3730	-408.	292.	40.	107.	251.	-239.	.0427	-.0936	-.0159	.1470	.1013	-.0655		2524.
.3740	-419.	288.	32.	88.	261.	-247.	.0424	-.0919	-.0172	.1482	.1000	-.0647		2576.
.3750	-417.	275.	22.	65.	262.	-251.	.0413	-.0891	-.0182	.1469	.0959	-.0627		2569.
.3760	-407.	261.	14.	41.	254.	-249.	.0396	-.0852	-.0185	.1429	.0897	-.0601		2492.
.3770	-387.	244.	6.	16.	237.	-240.	.0374	-.0801	-.0177	.1364	.0822	-.0566		2351.
.3780	-358.	217.	-1.	-10.	212.	-227.	.0349	-.0741	-.0158	.1274	.0732	-.0515		2163.
.3790	-319.	179.	-7.	-36.	177.	-211.	.0320	-.0674	-.0129	.1158	.0625	-.0448		1932.
.3800	-272.	136.	-14.	-62.	135.	-188.	.0288	-.0598	-.0092	.1021	.0500	-.0368		1669.
.3810	-210.	93.	-21.	-90.	88.	-160.	.0251	-.0515	-.0051	.0865	.0365	-.0278		1416.
.3820	-161.	45.	-29.	-119.	41.	-127.	.0210	-.0427	-.0010	.0696	.0224	-.0180		1245.
.3830	-102.	-9.	-39.	-150.	-5.	-91.	.0164	-.0336	.0029	.0518	.0079	-.0073		1221.
.3840	-47.	-63.	-50.	-102.	-51.	-52.	.0115	-.0243	.0064	.0333	-.0072	.0040		1366.
.3850	14.	-118.	-64.	-216.	-93.	-12.	.0063	-.0151	.0095	.0145	-.0223	.0158		1640.
.3860	65.	-177.	-78.	-249.	-131.	28.	.0011	-.0063	.0123	-.0041	-.0364	.0279		1971.
.3870	106.	-235.	-97.	-282.	-161.	67.	-.0039	.0021	.0148	-.0220	-.0488	.0400		2307.
.3880	139.	-288.	-108.	-312.	-185.	105.	-.0086	.0098	.0172	-.0390	-.0590	.0518		2626.
.3890	157.	-340.	-123.	-339.	-202.	140.	-.0129	.0167	.0193	-.0546	-.0674	.0631		2914.
.3900	166.	-393.	-137.	-363.	-211.	167.	-.0168	.0225	.0210	-.0682	-.0737	.0737		3146.
.3910	165.	-439.	-151.	-382.	-211.	188.	-.0201	.0273	.0222	-.0792	-.0775	.0822		3308.
.3920	151.	-465.	-163.	-396.	-200.	205.	-.0230	.0313	.0227	-.0871	-.0782	.0878		3400.
.3930	123.	-476.	-173.	-404.	-179.	217.	-.0253	.0342	.0226	-.0919	-.0759	.0906		3424.
.3940	86.	-483.	-182.	-406.	-149.	220.	-.0272	.0360	.0218	-.0935	-.0713	.0912		3376.
.3950	41.	-485.	-189.	-402.	-112.	213.	-.0285	.0366	.0204	-.0919	-.0647	.0895		3260.
.3960	-12.	-469.	-193.	-391.	-70.	201.	-.0293	.0363	.0188	-.0872	-.0558	.0849		3097.
.3970	-76.	-436.	-193.	-373.	-21.	185.	-.0294	.0352	.0170	-.0797	-.0440	.0775		2901.
.3980	-145.	-397.	-190.	-348.	31.	163.	-.0290	.0332	.0151	-.0699	-.0302	.0580		2687.
.3990	-213.	-357.	-186.	-319.	83.	133.	-.0282	.0304	.0132	-.0583	-.0160	.0571		2478.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.00.

S/RV PIPING KEWAUNEE CKW00F 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

.3900	166.	-393.	-137.	-363.	-211.	-393.	167.	-.168	.0225	.0210	-.0682	-.0737	.0737	3146.
.3910	165.	-439.	-151.	-382.	-211.	188.	-.201	.0273	.0222	-.0792	-.0775	.0822	3308.	
.3920	151.	-465.	-163.	-396.	-200.	205.	-.230	.0313	.0227	-.0871	-.0782	.0878	3400.	
.3930	123.	-476.	-177.	-404.	-179.	217.	-.0253	.0342	.0226	-.0919	-.0759	.0906	3424.	
.3940	86.	-483.	-182.	-406.	-149.	220.	-.0272	.0360	.0218	-.0935	-.0713	.0912	3376.	
.3950	41.	-485.	-189.	-402.	-112.	213.	-.0285	.0366	.0204	-.0919	-.0647	.0895	3260.	
.3960	-12.	-469.	-193.	-391.	-70.	201.	-.0293	.0363	.0188	-.0872	-.0558	.0849	3097.	
.3970	-76.	-436.	-193.	-373.	-21.	185.	-.0294	.0352	.0170	-.0797	-.0440	.0775	2901.	
.3980	-145.	-397.	-190.	-348.	31.	163.	-.0290	.0332	.0151	-.0699	-.0302	.0680	2687.	
.3990	-213.	-357.	-186.	-319.	83.	133.	-.0282	.0304	.0132	-.0583	-.0160	.0571	2478.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02. 18.30.00.

S/RV PIPING KEWAUNEE CKW00F 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	70	MEMBER	2	SEQUENCE	105	LOCATION	END	TYPE	EL						
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS		
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		
.4000	-279.	-309.	-178.	-287.	132.	100.	-.0271	.0271	.0113	-.0454	-.0019	.0446	2304.		

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)		
.2650	384.	-655.	-180.	-638.	-343.	319.	.0161	.0565	-.0098	-.1425	-.1445	.1040	5510.		

SECTION	71	MEMBER	1	SEQUENCE	105	LOCATION	BEG	TYPE	RU						
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS		
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		
0.0000	0.	0.	0.	0.	0.	0.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.		
.0010	-0.	-0.	-0.	0.	0.	-0.	-.0000	.0000	-.0000	-.0000	-.0000	-.0000	0.		
.0020	-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	1.		
.0040	0.	0.	0.	0.	-0.	-0.	-.0000	.0000	.0000	-.0000	.0000	-.0000	1.		
.0050	1.	0.	1.	0.	-0.	-0.	-.0000	.0000	-.0000	-.0000	.0001	.0000	2.		
.0060	4.	1.	1.	0.	-1.	-0.	-.0000	-.0000	-.0000	-.0000	.0003	.0001	6.		
.0070	7.	2.	2.	1.	-2.	-0.	-.0001	-.0000	-.0002	-.0000	.0003	.0002	14.		
.0080	12.	3.	4.	2.	-4.	-1.	-.0003	-.0000	-.0004	.0000	.0009	.0003	29.		
.0090	19.	5.	5.	4.	-6.	-2.	-.0006	-.0000	-.0009	.0001	.0013	.0006	52.		
.0100	28.	8.	8.	6.	-10.	-2.	-.0011	-.0001	-.0015	.0002	.0019	.0010	87.		
.0110	42.	13.	12.	10.	-17.	-3.	-.0018	-.0001	-.0025	.0003	.0028	.0015	139.		
.0120	60.	20.	17.	15.	-26.	-5.	-.0028	-.0002	-.0039	.0005	.0041	.0024	215.		
.0130	80.	29.	22.	22.	-30.	-8.	-.0041	-.0004	-.0057	.0008	.0056	.0038	313.		
.0140	102.	40.	27.	30.	-53.	-12.	-.0058	-.0006	-.0080	.0013	.0069	.0057	430.		
.0150	121.	51.	31.	38.	-68.	-16.	-.0078	-.0008	-.0107	.0019	.0080	.0080	556.		
.0160	134.	60.	31.	46.	-83.	-20.	-.0099	-.0010	-.0136	.0027	.0084	.0101	677.		
.0170	130.	65.	27.	52.	-96.	-25.	-.0118	-.0010	-.0162	.0037	.0082	.0111	777.		
.0180	128.	64.	19.	55.	-102.	-30.	-.0132	-.0008	-.0180	.0045	.0069	.0107	831.		
.0190	101.	57.	8.	52.	-99.	-34.	-.0138	-.0003	-.0183	.0048	.0044	.0090	814.		
.0200	58.	47.	-3.	44.	-84.	-37.	-.0132	.0003	-.0166	.0042	.0008	.0063	709.		
.0210	6.	34.	-9.	30.	-58.	-34.	-.0112	.0009	-.0123	.0025	-.0031	.0031	510.		
.0220	-48.	23.	-4.	6.	-22.	-25.	-.0078	.0011	-.0056	.0004	-.0069	.0005	233.		
.0230	-93.	13.	11.	-22.	18.	-12.	-.0035	.0010	.0028	-.0022	-.0096	-.0013	216.		

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02. 18.30.00.

S/RV PIPING KEWAUNEE CKW00F 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

.0130	80.	29.	22.	22.	-30.	-8.	-.0041	-.0004	-.0057	.0008	.0056	.0038	313.
.0140	102.	40.	27.	30.	-53.	-12.	-.0058	-.0006	-.0080	.0013	.0069	.0057	430.
.0150	121.	51.	31.	38.	-68.	-16.	-.0078	-.0008	-.0107	.0019	.0080	.0080	556.
.0160	134.	60.	31.	46.	-83.	-20.	-.0099	-.0010	-.0136	.0027	.0084	.0101	677.
.0170	138.	65.	27.	52.	-96.	-25.	-.0118	-.0010	-.0162	.0037	.0082	.0111	777.
.0180	128.	64.	19.	59.	-102.	-30.	-.0132	-.0008	-.0180	.0045	.0069	.0107	831.
.0190	101.	57.	8.	52.	-99.	-34.	-.0138	-.0003	-.0183	.0048	.0044	.0090	814.
.0200	58.	47.	-3.	44.	-84.	-37.	-.0132	.0003	-.0166	.0042	.0008	.0063	709.
.0210	6.	34.	-9.	30.	-58.	-34.	-.0112	.0009	-.0123	.0025	-.0031	.0031	510.
.0220	-48.	23.	-4.	6.	-22.	-25.	-.0078	.0011	-.0056	.0004	-.0069	.0005	233.
.0230	-93.	13.	11.	-22.	18.	-12.	-.0035	.0010	.0028	-.0022	-.0096	-.0013	216.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02. 18.30.00.

S/RV PIPING KEWAUNEE CKW03F 2 RUP DISK
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION	BEG	TYPE	RU	DX	DY	DZ	RX	RY	RZ	STRESS
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	FX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
.0240	-122.	3.	27.	-49.	59.	-0.	.0008	.0007	.0115	-.0051	-.0107	-.0019	535.
.0250	-155.	-6.	35.	-69.	99.	9.	.0045	.0002	.0188	-.0084	-.0130	-.0021	843.
.0260	-216.	-12.	32.	-79.	137.	17.	.0072	-.0002	.0236	-.0113	-.0197	-.0033	1107.
.0270	-279.	-20.	32.	-86.	165.	31.	.0092	-.0008	.0253	-.0116	-.0279	-.0059	1310.
.0280	-297.	-40.	22.	-88.	173.	43.	.0104	-.0011	.0244	-.0097	-.0309	-.0102	1381.
.0290	-313.	-68.	-18.	-77.	170.	40.	.0105	-.0009	.0213	-.0084	-.0320	-.0163	1330.
.0300	-400.	-96.	-66.	-67.	179.	42.	.0104	-.0011	.0176	-.0061	-.0424	-.0217	1364.
.0310	-492.	-116.	-81.	-64.	200.	66.	.0114	-.0027	.0160	-.0035	-.0532	-.0243	1530.
.0320	-485.	-128.	-81.	-64.	209.	83.	.0143	-.0041	.0176	-.0034	-.0511	-.0263	1630.
.0330	-429.	-139.	-87.	-71.	204.	81.	.0190	-.0052	.0218	-.0044	-.0393	-.0279	1607.
.0340	-350.	-134.	-60.	-85.	205.	89.	.0237	-.0074	.0277	-.0048	-.0269	-.0247	1664.
.0350	-237.	-106.	8.	-94.	214.	120.	.0268	-.0112	.0327	-.0047	-.0161	-.0166	1826.
.0360	-137.	-80.	49.	-89.	202.	141.	.0274	-.0141	.0327	-.0023	-.0068	-.0109	1824.
.0370	-66.	-86.	32.	-79.	146.	132.	.0253	-.0149	.0249	.0061	.0028	-.0124	1480.
.0380	40.	-109.	1.	-63.	56.	111.	.0206	-.0145	.0109	.0195	.0160	-.0172	975.
.0390	145.	-126.	-39.	-32.	-40.	92.	.0132	-.0141	-.0068	.0331	.0272	-.0205	734.
.0400	123.	-144.	-119.	5.	-118.	69.	.0049	-.0133	-.0249	.0448	.0251	-.0228	948.
.0410	36.	-170.	-187.	19.	-168.	52.	-.0011	-.0123	-.0378	.0560	.0169	-.0254	1228.
.0420	87.	-196.	-187.	8.	-202.	42.	-.0023	-.0106	-.0406	.0633	.0259	-.0284	1436.
.0430	243.	-209.	-160.	-26.	-227.	24.	.0014	-.0082	-.0332	.0638	.0516	-.0302	1598.
.0440	341.	-195.	-127.	-70.	-221.	7.	.0075	-.0063	-.0187	.0585	.0722	-.0260	1617.
.0450	417.	-137.	-24.	-112.	-171.	20.	.0132	-.0063	-.0004	.0487	.0820	-.0124	1431.
.0460	530.	-60.	110.	-135.	-119.	49.	.0164	-.0065	.0148	.0373	.0897	.0038	1294.
.0470	578.	-23.	133.	-133.	-122.	34.	.0160	-.0035	.0195	.0292	.0962	.0106	1278.
.0480	537.	-32.	51.	-109.	-174.	-31.	.0114	.0030	.0128	.0256	.0967	.0072	1442.
.0490	493.	-28.	-3.	-57.	-220.	-85.	.0026	.0093	.0002	.0220	.0883	.0048	1689.
.0500	406.	17.	-22.	14.	-241.	-103.	-.0082	.0136	-.0137	.0152	.0681	.0098	1825.
.0510	239.	68.	-72.	79.	-252.	-118.	-.0177	.0173	-.0250	.0355	.0421	.0171	2015.
.0520	142.	109.	-106.	121.	-255.	-152.	-.0228	.0219	-.0284	-.0034	.0287	.0217	2231.
.0530	200.	161.	-54.	142.	-230.	-180.	-.0228	.0262	-.0209	-.0229	.0319	.0268	2257.
.0540	243.	238.	37.	146.	-167.	-175.	-.0193	.0282	-.0056	-.0440	.0327	.0373	1968.
.0550	185.	323.	111.	139.	-81.	-144.	-.0146	.0282	.0122	-.0648	.0223	.0515	1503.
.0560	169.	392.	198.	135.	2.	-120.	-.0110	.0283	.0281	-.0834	.0149	.0618	1256.
.0570	213.	428.	261.	143.	49.	-121.	-.0100	.0299	.0372	-.0970	.0148	.0635	1348.
.0580	159.	429.	230.	162.	51.	-132.	-.0127	.0319	.0356	-.1020	.0078	.0590	1497.
.0590	-1.	411.	143.	191.	36.	-133.	-.0187	.0328	.0257	-.1001	-.0113	.0529	1639.
.0600	-147.	389.	83.	228.	35.	-125.	-.0261	.0330	.0136	-.0963	-.0338	.0454	1826.
.0610	-273.	354.	34.	252.	41.	-121.	-.0315	.0330	.0042	-.0914	-.0529	.0342	1966.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02. 18.30.00.

S/RV PIPING KEWAUNEE CKW03F 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

.0510	219.	68.	-72.	79.	-252.	-118.	-.0177	.0173	-.0250	.0065	.0421	.0171	2015.
.0520	142.	109.	-106.	121.	-255.	-152.	-.0228	.0219	-.0284	-.0054	.0287	.0217	2231.
.0530	200.	161.	-54.	142.	-230.	-180.	-.0228	.0262	-.0209	-.0229	.0319	.0268	2257.
.0540	241.	238.	37.	146.	-167.	-175.	-.0193	.0282	-.0056	-.0440	.0327	.0373	1968.
.0550	185.	323.	111.	179.	-81.	-144.	-.0146	.0282	.0122	-.0648	.0223	.0515	1503.
.0560	169.	392.	198.	175.	2.	-120.	-.0110	.0283	.0281	-.0834	.0149	.0618	1256.
.0570	213.	428.	261.	143.	49.	-121.	-.0100	.0249	.0372	-.0970	.0148	.0635	1348.
.0580	159.	429.	230.	162.	51.	-132.	-.0127	.0319	.0356	-.1020	.0078	.0590	1497.
.0590	-1.	411.	143.	171.	36.	-133.	-.0187	.0328	.0257	-.1001	-.0113	.0529	1639.
.0600	-147.	389.	83.	218.	35.	-125.	-.0261	.0330	.0136	-.0963	-.0338	.0454	1826.
.0610	-271.	354.	34.	252.	41.	-121.	-.0315	.0330	.0042	-.0914	-.0529	.0342	1966.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02. 18.30.00.

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	MEMBER	SEQUENCE	LOCATION	DEG	TYPE	RU	DX	DY	DZ	PX	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)
.0620	-395.	298.	-31.	242.	45.	-109.	-.0321	.0325	.0009	-.0844	-.0640	.0203	1876.
.0630	-429.	238.	-54.	200.	67.	-79.	-.0276	.0308	.0074	-.0784	-.0622	.0072	1569.
.0640	-369.	198.	4.	129.	129.	-42.	-.0193	.0276	.0234	-.0766	-.0526	-.0024	1350.
.0650	-320.	181.	92.	70.	212.	4.	-.0096	.0228	.0433	-.0766	-.0460	-.0063	1552.
.0660	-281.	177.	165.	5.	275.	64.	-.0007	.0165	.0596	-.0741	-.0405	-.0058	1961.
.0670	-190.	161.	212.	-40.	291.	110.	.0049	.0108	.0669	-.0669	-.0300	-.0080	2187.
.0680	-118.	115.	206.	-56.	262.	114.	.0052	.0076	.0614	-.0538	-.0225	-.0181	2024.
.0690	-157.	51.	131.	-44.	200.	94.	-.0003	.0054	.0433	-.0346	-.0285	-.0311	1564.
.0700	-242.	-3.	22.	-11.	123.	88.	-.0096	.0020	.0179	-.0126	-.0430	-.0394	1052.
.0710	-311.	-45.	-61.	27.	47.	85.	-.0189	-.0018	-.0074	.0078	-.0556	-.0436	701.
.0720	-348.	-86.	-129.	46.	-13.	59.	-.0242	-.0047	-.0258	.0244	-.0620	-.0475	530.
.0730	-333.	-119.	-153.	35.	-46.	33.	-.0235	-.0078	-.0328	.0359	-.0592	-.0480	462.
.0740	-238.	-114.	-112.	-4.	-39.	40.	-.0172	-.0128	-.0272	.0409	-.0466	-.0400	391.
.0750	-124.	-93.	-30.	-60.	6.	63.	-.0074	-.0187	-.0126	.0408	-.0318	-.0268	606.
.0760	-44.	-79.	55.	-124.	67.	71.	.0031	-.0236	.0045	.0394	-.0202	-.0151	1096.
.0770	42.	-77.	122.	-178.	109.	69.	.0120	-.0272	.0171	.0401	-.0078	-.0070	1528.
.0780	123.	-86.	141.	-207.	108.	65.	.0170	-.0299	.0200	.0447	.0046	-.0019	1686.
.0790	119.	-110.	91.	-208.	69.	44.	.0168	-.0312	.0114	.0539	.0080	-.0007	1554.
.0800	39.	-143.	8.	-185.	14.	8.	.0121	-.0315	-.0057	.0662	.0010	-.0022	1291.
.0810	-27.	-169.	-68.	-149.	-44.	-23.	.0054	-.0319	-.0251	.0783	-.0066	-.0031	1090.
.0820	-69.	-187.	-140.	-117.	-100.	-77.	.0003	-.0327	-.0412	.0886	-.0088	-.0029	1106.
.0830	-93.	-206.	-194.	-109.	-140.	-45.	-.0007	-.0333	-.0493	.0962	-.0051	-.0040	1275.
.0840	-53.	-219.	-187.	-127.	-141.	-45.	.0034	-.0338	-.0461	.0988	.0067	-.0059	1356.
.0850	47.	-216.	-122.	-161.	-105.	-22.	.0115	-.0352	-.0331	.0961	.0245	-.0054	1345.
.0860	115.	-205.	-62.	-204.	-52.	22.	.0214	-.0374	-.0160	.0912	.0405	-.0030	1471.
.0870	131.	-206.	-28.	-245.	-1.	66.	.0309	-.0390	-.0002	.0874	.0524	-.0035	1765.
.0880	147.	-206.	-12.	-271.	35.	92.	.0378	-.0390	.0106	.0855	.0632	-.0101	2009.
.0890	125.	-270.	-40.	-276.	48.	107.	.0413	-.0379	.0141	.0861	.0694	-.0210	2085.
.0900	13.	-317.	-121.	-262.	40.	124.	.0416	-.0366	.0107	.0891	.0659	-.0324	2037.
.0910	-116.	-357.	-201.	-238.	30.	143.	.0404	-.0354	.0050	.0920	.0580	-.0426	1945.
.0920	-167.	-381.	-235.	-213.	25.	157.	.0394	-.0340	.0018	.0921	.0553	-.0513	1850.
.0930	-152.	-384.	-235.	-195.	23.	170.	.0401	-.0329	.0031	.0890	.0592	-.0564	1804.
.0940	-94.	-355.	-205.	-184.	23.	193.	.0421	-.0328	.0085	.0829	.0670	-.0552	1862.
.0950	27.	-295.	-125.	-172.	32.	226.	.0439	-.0335	.0162	.0742	.0767	-.0484	1988.
.0960	166.	-224.	-27.	-149.	40.	251.	.0435	-.0338	.0214	.0650	.0837	-.0406	2052.
.0970	247.	-167.	26.	-110.	23.	259.	.0395	-.0326	.0190	.0590	.0834	-.0362	1967.
.0980	276.	-131.	21.	-54.	-27.	253.	.0313	-.0299	.0075	.0575	.0770	-.0362	1806.
.0990	287.	-110.	-10.	20.	-96.	233.	.0196	-.0257	-.0108	.0587	.0664	-.0399	1759.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02. 18.30.00.

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

.0890	125.	-270.	-40.	-276.	48.	107.	.0413	-.0379	.0141	.0861	.0694	-.0210	2085.
.0900	17.	-317.	-121.	-262.	40.	124.	.0416	-.0366	.0107	.0891	.0659	-.0324	2037.
.0910	-116.	-357.	-201.	-238.	30.	143.	.0404	-.0354	.0050	.0920	.0580	-.0426	1945.
.0920	-167.	-381.	-235.	-213.	25.	157.	.0394	-.0340	.0018	.0921	.0553	-.0513	1850.
.0930	-152.	-384.	-235.	-195.	23.	170.	.0401	-.0329	.0031	.0890	.0592	-.0564	1804.
.0940	-94.	-355.	-205.	-174.	23.	193.	.0421	-.0328	.0085	.0829	.0670	-.0552	1862.
.0950	27.	-295.	-125.	-172.	32.	226.	.0439	-.0335	.0162	.0742	.0767	-.0484	1988.
.0960	166.	-224.	-27.	-149.	40.	251.	.0435	-.0338	.0214	.0650	.0837	-.0406	2052.
.0970	247.	-167.	26.	-110.	23.	259.	.0395	-.0326	.0190	.0590	.0834	-.0362	1967.
.0980	276.	-131.	21.	-54.	-27.	253.	.0313	-.0299	.0075	.0575	.0770	-.0362	1806.
.0990	287.	-110.	-10.	20.	-96.	233.	.0196	-.0257	-.0108	.0587	.0664	-.0399	1759.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.00.

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	71	MEMBER	1	SEQUENCE	105	LOCATION	BEG	TYPE	RU	DX	DZ	RX	RY	RZ	STRESS
TIME	FX	FY	FZ	FX	MY	MZ	(IN)	DY	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)									
.1000	258.	-95.	-53.	98.	-161.	202.	.0060	-.0204	-.0317	.0607	.0493	-.0455	1926.		
.1010	195.	-75.	-92.	168.	-209.	174.	-.0071	-.0151	-.0501	.0615	.0276	-.0496	2225.		
.1020	169.	-42.	-96.	218.	-231.	159.	-.0172	-.0101	-.0613	.0593	.0096	-.0506	2472.		
.1030	196.	-4.	-59.	241.	-223.	148.	-.0232	-.0051	-.0633	.0532	-.0016	-.0501	2509.		
.1040	217.	31.	-5.	239.	-186.	129.	-.0255	.0005	-.0575	.0439	-.0115	-.0495	2291.		
.1050	202.	63.	52.	221.	-122.	112.	-.0255	.0060	-.0469	.0325	-.0243	-.0473	1923.		
.1060	158.	91.	105.	197.	-46.	102.	-.0249	.0111	-.0350	.0203	-.0400	-.0429	1575.		
.1070	65.	102.	127.	172.	28.	80.	-.0247	.0167	-.0247	.0092	-.0593	-.0389	1334.		
.1080	-82.	94.	107.	152.	90.	30.	-.0253	.0232	-.0175	-.0009	-.0813	-.0369	1245.		
.1090	-240.	87.	73.	138.	145.	-27.	-.0263	.0296	-.0121	-.0111	-.1035	-.0337	1403.		
.1100	-364.	96.	73.	117.	198.	-54.	-.0270	.0337	-.0064	-.0192	-.1235	-.0240	1641.		
.1110	-453.	115.	85.	93.	246.	-88.	-.0269	.0371	.0004	-.0276	-.1388	-.0115	1932.		
.1120	-495.	145.	101.	74.	287.	-147.	-.0261	.0406	.0080	-.0380	-.1471	.0018	2303.		
.1130	-476.	191.	145.	56.	321.	-183.	-.0250	.0423	.0153	-.0471	-.1498	.0187	2601.		
.1140	-450.	234.	192.	36.	342.	-186.	-.0241	.0424	.0198	-.0514	-.1518	.0358	2723.		
.1150	-466.	245.	192.	21.	341.	-208.	-.0242	.0436	.0194	-.0511	-.1542	.0444	2784.		
.1160	-487.	224.	154.	18.	317.	-255.	-.0252	.0463	.0146	-.0480	-.1535	.0445	2837.		
.1170	-493.	199.	109.	22.	283.	-274.	-.0263	.0478	.0076	-.0425	-.1493	.0433	2743.		
.1180	-554.	159.	46.	15.	250.	-250.	-.0260	.0474	.0011	-.0328	-.1479	.0419	2463.		
.1190	-631.	89.	-33.	-4.	230.	-244.	-.0228	.0480	-.0011	-.0235	-.1426	.0330	2335.		
.1200	-627.	8.	-70.	-76.	229.	-256.	-.0152	.0497	.0045	-.0181	-.1248	.0187	2403.		
.1210	-533.	-47.	-63.	-89.	240.	-218.	-.0030	.0490	.0177	-.0140	-.0975	.0090	2340.		
.1220	-400.	-75.	-17.	-152.	254.	-131.	.0118	.0458	.0349	-.0104	-.0653	.0039	2255.		
.1230	-256.	-111.	34.	-211.	262.	-65.	.0258	.0438	.0507	-.0061	-.0325	-.0056	2384.		
.1240	-76.	-155.	81.	-243.	247.	-39.	.0361	.0437	.0398	-.0013	.0013	-.0200	2423.		
.1250	79.	-184.	88.	-237.	188.	-0.	.0411	.0427	.0372	.0066	.0292	-.0312	2108.		
.1260	111.	-215.	10.	-205.	86.	59.	.0409	.0407	.0418	.0208	.0430	-.0397	1600.		
.1270	98.	-271.	-94.	-147.	-35.	70.	.0372	.0414	.0186	.0358	.0507	-.0543	1155.		
.1280	120.	-333.	-183.	-79.	-148.	34.	.0329	.0442	-.0045	.0478	.0595	-.0717	1189.		
.1290	192.	-345.	-226.	-18.	-244.	31.	.0311	.0447	-.0214	.0546	.0717	-.0780	1718.		
.1300	289.	-304.	-226.	22.	-313.	77.	.0330	.0418	-.0289	.0559	.0865	-.0699	2249.		
.1310	426.	-249.	-168.	39.	-339.	102.	.0381	.0391	-.0261	.0515	.1041	-.0577	2477.		
.1320	637.	-106.	-58.	53.	-331.	77.	.0445	.0383	-.0166	.0396	.1267	-.0449	2393.		
.1330	817.	-95.	43.	72.	-324.	69.	.0504	.0361	-.0081	.0256	.1445	-.0243	2361.		
.1340	892.	4.	85.	104.	-338.	92.	.0532	.0324	-.0067	.0146	.1503	.0021	2544.		
.1350	894.	64.	79.	151.	-364.	70.	.0513	.0316	-.0136	.0072	.1460	.0204	2786.		
.1360	854.	83.	46.	214.	-394.	-19.	.0448	.0346	-.0270	.0020	.1344	.0286	3124.		
.1370	782.	115.	-15.	288.	-431.	-95.	.0358	.0368	-.0436	-.0031	.1184	.0401	3669.		

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.00.

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

.1280	120.	-333.	-183.	-79.	-148.	34.	.329	.0442	-.0045	.0478	.0595	-.0717	1189.
.1290	192.	-345.	-226.	-18.	-244.	31.	.311	.0447	-.0214	.0546	.0717	-.0780	1718.
.1300	289.	-304.	-226.	22.	-713.	77.	.0330	.0418	-.0289	.0559	.0865	-.0699	2249.
.1310	426.	-249.	-160.	39.	-339.	102.	.0381	.0391	-.0261	.0515	.1041	-.0577	2477.
.1320	637.	-186.	-58.	53.	-331.	77.	.0445	.0383	-.0166	.0396	.1267	-.0449	2393.
.1330	817.	-95.	43.	72.	-324.	69.	.0504	.0361	-.0081	.0256	.1445	-.0243	2361.
.1340	892.	4.	85.	104.	-338.	92.	.0532	.0324	-.0067	.0146	.1503	.0021	2544.
.1350	894.	64.	79.	151.	-364.	70.	.0513	.0316	-.0136	.0072	.1460	.0204	2786.
.1360	854.	83.	44.	214.	-394.	-19.	.0448	.0346	-.0270	.0020	.1344	.0286	3124.
.1370	787.	115.	-15.	288.	-431.	-95.	.0358	.0368	-.0436	-.0031	.1184	.0401	3669.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.30.00.

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	MEMBER	SEQUENCE	LOCATION	BEG	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)
.1380	659.	173.	-85.	349.	-459.	-114.	.0273	.0360	-.0581	-.0078	.0966	.0606	4095.
.1390	555.	228.	-108.	389.	-446.	-142.	.0216	.0360	-.0645	-.0161	.0752	.0788	4257.
.1400	526.	271.	-63.	405.	-387.	-207.	.0207	.0385	-.0602	-.0304	.0607	.0889	4154.
.1410	521.	325.	9.	393.	-308.	-235.	.0228	.0398	-.0478	-.0468	.0506	.1001	3840.
.1420	503.	386.	70.	366.	-224.	-203.	.0271	.0389	-.0319	-.0628	.0417	.1143	3304.
.1430	443.	413.	120.	336.	-126.	-186.	.0302	.0394	-.0162	-.0774	.0275	.1201	2816.
.1440	346.	404.	159.	320.	-22.	-220.	.0303	.0432	-.0044	-.0911	.0073	.1136	2705.
.1450	209.	395.	158.	320.	55.	-233.	.0279	.0463	.0005	-.1017	-.0168	.1061	2782.
.1460	23.	391.	103.	329.	91.	-194.	.0237	.0471	-.0013	-.1068	-.0432	.1015	2733.
.1470	-160.	363.	31.	345.	117.	-179.	.0186	.0496	-.0055	-.1106	-.0676	.0891	2822.
.1480	-318.	308.	-14.	355.	162.	-207.	.0137	.0544	-.0072	-.1147	-.0900	.0673	3074.
.1490	-440.	270.	-28.	352.	217.	-199.	.0107	.0573	-.0039	-.1194	-.1074	.0492	3194.
.1500	-521.	260.	-30.	330.	266.	-127.	.0107	.0566	.0046	-.1239	-.1165	.0395	3081.
.1510	-550.	240.	-8.	286.	315.	-71.	.0135	.0565	.0178	-.1279	-.1167	.0276	3005.
.1520	-495.	203.	51.	236.	364.	-70.	.0171	.0587	.0333	-.1329	-.1074	.0095	3060.
.1530	-423.	181.	109.	188.	390.	-54.	.0197	.0594	.0459	-.1350	-.0957	-.0031	3035.
.1540	-392.	179.	122.	148.	375.	4.	.0193	.0573	.0512	-.1314	-.0870	-.0071	2808.
.1550	-381.	153.	101.	118.	329.	32.	.0151	.0566	.0488	-.1218	-.0799	-.0155	2445.
.1560	-340.	85.	78.	93.	260.	-8.	.0077	.0594	.0404	-.1066	-.0700	-.0338	1920.
.1570	-250.	23.	43.	74.	159.	-52.	-.0013	.0622	.0280	-.0887	-.0536	-.0502	1271.
.1580	-172.	-6.	-0.	51.	36.	-54.	-.0102	.0620	.0141	-.0688	-.0367	-.0550	578.
.1590	-89.	-21.	-32.	17.	-73.	-63.	-.0182	.0614	.0034	-.0498	-.0200	-.0546	680.
.1600	72.	-37.	-2.	-24.	-154.	-120.	-.0245	.0627	-.0016	-.0355	.0036	-.0554	1372.
.1610	264.	-42.	36.	-74.	-228.	-177.	-.0287	.0637	-.0022	-.0243	.0327	-.0518	2076.
.1620	401.	-21.	49.	-124.	-303.	-192.	-.0311	.0625	-.0008	-.0131	.0592	-.0402	2665.
.1630	523.	-21.	66.	-190.	-357.	-213.	-.0330	.0619	.0020	-.0050	.0829	-.0291	3181.
.1640	625.	-29.	95.	-232.	-382.	-277.	-.0353	.0639	.0052	-.0006	.1015	-.0238	3662.
.1650	659.	-22.	99.	-262.	-400.	-340.	-.0379	.0659	.0065	.0020	.1117	-.0174	4081.
.1660	657.	-9.	72.	-272.	-424.	-364.	-.0405	.0660	.0055	.0020	.1181	-.0045	4324.
.1670	651.	28.	56.	-267.	-434.	-383.	-.0432	.0660	.0043	-.0014	.1209	.0092	4439.
.1680	646.	62.	68.	-247.	-415.	-431.	-.0461	.0674	.0039	-.0095	.1188	.0181	4505.
.1690	609.	110.	36.	-214.	-380.	-463.	-.0487	.0680	.0036	-.0206	.1100	.0278	4427.
.1700	555.	183.	97.	-167.	-344.	-444.	-.0507	.0660	.0027	-.0337	.0980	.0419	4080.
.1710	508.	256.	107.	-107.	-302.	-417.	-.0521	.0637	.0012	-.0491	.0852	.0529	3658.
.1720	419.	300.	115.	-41.	-245.	-413.	-.0532	.0627	-.0009	-.0643	.0663	.0550	3356.
.1730	308.	338.	116.	32.	-181.	-399.	-.0540	.0608	-.0038	-.0795	.0443	.0543	3057.
.1740	182.	387.	105.	108.	-120.	-334.	-.0541	.0558	-.0070	-.0933	.0213	.0567	2585.
.1750	36.	421.	85.	177.	-55.	-254.	-.0531	.0495	-.0095	-.1042	-.0022	.0563	2185.

ADLPIPE PAGE 2858

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.30.00.

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

.1650	659.	-32.	99.	-262.	-400.	-340.	-.379	.0659	.0065	.0020	.1117	-.0174	4081.
.1660	657.	-9.	72.	-272.	-424.	-364.	-.0405	.0660	.0055	.0020	.1181	-.0045	4324.
.1670	651.	28.	56.	-267.	-434.	-383.	-.0432	.0660	.0043	-.0014	.1209	.0092	4439.
.1680	646.	62.	68.	-247.	-415.	-431.	-.0461	.0674	.0039	-.0095	.1188	.0181	4505.
.1690	609.	110.	86.	-214.	-380.	-463.	-.0487	.0680	.0036	-.0206	.1100	.0278	4427.
.1700	555.	183.	97.	-167.	-344.	-444.	-.0507	.0660	.0027	-.0337	.0980	.0419	4080.
.1710	508.	256.	107.	-107.	-302.	-417.	-.0521	.0637	.0012	-.0491	.0852	.0529	3658.
.1720	419.	300.	115.	-41.	-245.	-413.	-.0532	.0627	-.0009	-.0643	.0663	.0550	3356.
.1730	308.	338.	116.	32.	-181.	-399.	-.0540	.0608	-.0038	-.0795	.0443	.0543	3057.
.1740	182.	387.	105.	108.	-120.	-334.	-.0541	.0558	-.0070	-.0933	.0213	.0567	2585.
.1750	36.	421.	85.	177.	-55.	-254.	-.0531	.0495	-.0095	-.1042	-.0022	.0563	2185.

ADLPIPE PAGE 2050

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02.

18.30.00.

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	MEMBER	SEQUENCE	LOCATION	BEG	TYPE	RU	DZ	RX	RY	RZ	STRESS		
TIME (SEC)	FX (LB)	Fy (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.1760	-95.	418.	70.	233.	20.	-199.	-.0507	.0441	-.0098	-.1129	-.0225	.0467	2138.
.1770	-208.	392.	60.	271.	98.	-139.	-.0465	.0380	-.0077	-.1179	-.0387	.0330	2227.
.1780	-306.	365.	45.	291.	160.	-37.	-.0404	.0291	-.0077	-.1189	-.0502	.0214	2355.
.1790	-407.	320.	23.	288.	232.	77.	-.0329	.0189	.0015	-.1145	-.0589	.0084	2630.
.1800	-478.	237.	7.	265.	291.	160.	-.0251	.0097	.0079	-.1052	-.0625	-.0113	2957.
.1810	-498.	176.	-8.	228.	336.	227.	-.0175	.0008	.0143	-.0920	-.0584	-.0336	3239.
.1820	-527.	35.	-42.	177.	353.	317.	-.0105	-.0100	.0187	-.0726	-.0523	-.0513	3523.
.1830	-552.	-70.	-85.	114.	349.	405.	-.0046	-.0212	.0212	-.0484	-.0442	-.0667	3805.
.1840	-534.	-189.	-117.	44.	332.	454.	.0001	-.0306	.0226	-.0219	-.0316	-.0845	3923.
.1850	-478.	-309.	-141.	-31.	298.	475.	.0036	-.0387	.0229	.0063	-.0147	-.1014	3910.
.1860	-407.	-407.	-168.	-108.	242.	505.	.0060	-.0473	.0219	.0351	.0047	-.1111	3970.
.1870	-311.	-482.	-184.	-188.	175.	534.	.0071	-.0555	.0200	.0638	.0240	-.1147	4124.
.1880	-181.	-547.	-174.	-261.	107.	526.	.0063	-.0612	.0176	.0894	.0443	-.1173	4154.
.1890	-48.	-598.	-160.	-324.	35.	490.	.0036	-.0647	.0139	.1119	.0629	-.1179	4094.
.1900	57.	-623.	-161.	-376.	-46.	458.	-.0006	-.0674	.0078	.1314	.0768	-.1121	4139.
.1910	138.	-625.	-168.	-412.	-127.	424.	-.0063	-.0687	.0005	.1458	.0868	-.1020	4207.
.1920	193.	-620.	-169.	-434.	-190.	361.	-.0130	-.0671	-.0067	.1546	.0909	-.0926	4145.
.1930	217.	-605.	-166.	-445.	-233.	281.	-.0198	-.0631	-.0122	.1570	.0901	-.0833	4005.
.1940	227.	-562.	-159.	-447.	-260.	216.	-.0259	-.0587	-.0148	.1529	.0872	-.0694	3903.
.1950	237.	-491.	-135.	-443.	-267.	166.	-.0309	-.0538	-.0138	.1420	.0831	-.0514	3780.
.1960	245.	-408.	-87.	-432.	-247.	105.	-.0349	-.0475	-.0092	.1247	.0767	-.0339	3540.
.1970	248.	-313.	-25.	-412.	-208.	41.	-.0386	-.0401	-.0028	.1026	.0676	-.0171	3221.
.1980	239.	-204.	33.	-379.	-166.	-1.	-.0426	-.0332	.0028	.0782	.0563	.0008	2884.
.1990	204.	-97.	70.	-336.	-131.	-28.	-.0475	-.0265	.0055	.0543	.0421	.0168	2515.
.2000	138.	-14.	84.	-281.	-98.	-65.	-.0538	-.0188	.0046	.0323	.0243	.0256	2123.
.2010	45.	45.	78.	-220.	-65.	-107.	-.0611	-.0107	.0009	.0128	.0037	.0278	1763.
.2020	-71.	93.	55.	-158.	-35.	-125.	-.0680	-.0040	-.0042	-.0036	-.0182	.0279	1427.
.2030	-193.	131.	25.	-107.	-3.	-118.	-.0732	.0008	-.0079	-.0169	-.0383	.0265	1110.
.2040	-288.	149.	6.	-72.	39.	-109.	-.0755	.0047	-.0078	-.0282	-.0529	.0207	947.
.2050	-344.	149.	9.	-58.	94.	-95.	-.0746	.0073	-.0026	-.0376	-.0610	.0116	1012.
.2060	-378.	142.	23.	-63.	156.	-55.	-.0706	.0073	.0066	-.0441	-.0643	.0030	1232.
.2070	-401.	127.	39.	-84.	216.	8.	-.0647	.0049	.0177	-.0469	-.0643	-.0052	1617.
.2080	-408.	92.	51.	-112.	268.	66.	-.0580	.0015	.0282	-.0456	-.0611	-.0165	2076.
.2090	-405.	36.	50.	-139.	303.	112.	-.0518	-.0024	.0356	-.0397	-.0559	-.0311	2447.
.2100	-413.	-28.	26.	-161.	311.	162.	-.0467	-.0077	.0381	-.0289	-.0514	-.0454	2685.
.2110	-434.	-93.	-18.	-175.	296.	218.	-.0429	-.0144	.0358	-.0141	-.0486	-.0579	2832.
.2120	-453.	-162.	-66.	-183.	266.	264.	-.0401	-.0214	.0305	.0029	-.0461	-.0704	2902.
.2130	-454.	-233.	-109.	-189.	230.	294.	-.0374	-.0283	.0245	.0207	-.0425	-.0829	2913.

ADLPIPE PAGE 2050

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02.

18.30.00.

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

.2030	-197.	151.	25.	-107.	-3.	-118.	-.0732	.0008	-.0079	-.0169	-.0383	.0265	1110.
.2040	-288.	149.	6.	-72.	39.	-109.	-.0755	.0047	-.0078	-.0282	-.0529	.0207	947.
.2050	-344.	149.	9.	-58.	94.	-95.	-.0746	.0073	-.0026	-.0376	-.0610	.0116	1012.
.2060	-378.	142.	23.	-63.	156.	-55.	-.0706	.0073	.0066	-.0441	-.0643	.0030	1232.
.2070	-401.	127.	39.	-84.	216.	8.	-.0647	.0049	.0177	-.0469	-.0643	-.0052	1617.
.2080	-409.	92.	51.	-112.	267.	66.	-.0580	.0015	.0282	-.0456	-.0611	-.0165	2076.
.2090	-405.	36.	50.	-129.	303.	112.	-.0518	-.0024	.0356	-.0397	-.0559	-.0311	2447.
.2100	-417.	-28.	26.	-161.	311.	162.	-.0467	-.0077	.0381	-.0289	-.0514	-.0454	2685.
.2110	-434.	-93.	-18.	-175.	296.	218.	-.0429	-.0144	.0358	-.0141	-.0486	-.0579	2832.
.2120	-453.	-162.	-66.	-183.	266.	264.	-.0401	-.0214	.0305	.0029	-.0461	-.0704	2902.
.2130	-454.	-233.	-109.	-189.	230.	294.	-.0374	-.0283	.0245	.0207	-.0425	-.0829	2913.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.30.00.

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	MEMBER	SEQUENCE	LOCATION	BEG	TYPE	RU	STRESS													
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	FX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	(PSI)							
.2140	-433.	-294.	-140.	-198.	190.	325.	-.0338	-.0356	.0198	.0378	-.0366	-.0922	2963.							
.2150	-384.	-336.	-151.	-212.	151.	364.	-.0286	-.0437	.0177	.0526	-.0283	-.0964	3114.							
.2160	-310.	-362.	-135.	-228.	120.	397.	-.0222	-.0514	.0185	.0642	-.0186	-.0974	3294.							
.2170	-222.	-379.	-101.	-245.	96.	415.	-.0153	-.0581	.0209	.0731	-.0090	-.0966	3424.							
.2180	-136.	-386.	-66.	-258.	70.	428.	-.0089	-.0639	.0230	.0799	-.0006	-.0935	3511.							
.2190	-64.	-384.	-44.	-261.	35.	436.	-.0039	-.0688	.0226	.0857	.0055	-.0883	3547.							
.2200	-19.	-381.	-35.	-253.	-3.	429.	-.0008	-.0718	.0192	.0907	.0074	-.0835	3466.							
.2210	-2.	-381.	-38.	-234.	-41.	403.	.0004	-.0728	.0131	.0946	.0048	-.0800	3256.							
.2220	-6.	-375.	-50.	-208.	-77.	371.	.0005	-.0723	.0056	.0970	-.0006	-.0760	3007.							
.2230	-16.	-360.	-65.	-181.	-108.	340.	.0006	-.0708	-.0013	.0974	-.0065	-.0705	2782.							
.2240	-10.	-338.	-68.	-157.	-124.	305.	.0014	-.0681	-.0055	.0948	-.0113	-.0642	2538.							
.2250	-6.	-308.	-52.	-139.	-120.	265.	.0032	-.0643	-.0060	.0889	-.0147	-.0575	2242.							
.2260	14.	-268.	-20.	-125.	-100.	230.	.0058	-.0600	-.0033	.0802	-.0170	-.0492	1949.							
.2270	37.	-219.	15.	-113.	-70.	204.	.0088	-.0555	.0008	.0699	-.0189	-.0395	1698.							
.2280	49.	-173.	42.	-58.	-39.	177.	.0114	-.0502	.0045	.0591	-.0206	-.0312	1433.							
.2290	44.	-136.	54.	-77.	-9.	140.	.0130	-.0438	.0061	.0487	-.0231	-.0258	1112.							
.2300	21.	-105.	49.	-47.	14.	103.	.0131	-.0370	.0047	.0396	-.0275	-.0219	792.							
.2310	-21.	-75.	27.	-10.	31.	73.	.0119	-.0305	.0008	.0319	-.0334	-.0182	556.							
.2320	-66.	-47.	-2.	30.	43.	46.	.0103	-.0242	-.0043	.0250	-.0387	-.0151	485.							
.2330	-97.	-23.	-20.	68.	55.	16.	.0089	-.0179	-.0087	.0184	-.0414	-.0132	621.							
.2340	-112.	-1.	-45.	99.	69.	-7.	.0088	-.0123	-.0109	.0120	-.0409	-.0112	838.							
.2350	-113.	23.	-54.	119.	85.	-17.	.0102	-.0077	-.0104	.0057	-.0371	-.0081	1025.							
.2360	-101.	44.	-53.	129.	104.	-20.	.0132	-.0038	-.0070	-.0003	-.0303	-.0050	1164.							
.2370	-76.	56.	-46.	129.	124.	-24.	.0173	-.0002	-.0017	-.0054	-.0207	-.0033	1259.							
.2380	-46.	59.	-40.	122.	138.	-26.	.0219	.0030	.0043	-.0085	-.0091	-.0030	1295.							
.2390	-14.	54.	-40.	111.	140.	-25.	.0265	.0057	.0097	-.0093	.0039	-.0032	1254.							
.2400	17.	44.	-47.	98.	130.	-25.	.0306	.0081	.0136	-.0077	.0172	-.0042	1145.							
.2410	50.	28.	-56.	85.	100.	-31.	.0338	.0105	.0160	-.0040	.0303	-.0062	981.							
.2420	90.	10.	-64.	72.	75.	-39.	.0363	.0129	.0168	.0017	.0435	-.0087	771.							
.2430	144.	-6.	-69.	58.	29.	-47.	.0383	.0151	.0166	.0086	.0574	-.0108	562.							
.2440	215.	-18.	-67.	45.	-25.	-57.	.0398	.0172	.0160	.0159	.0719	-.0124	534.							
.2450	299.	-25.	-55.	32.	-82.	-72.	.0409	.0195	.0152	.0228	.0860	-.0136	790.							
.2460	380.	-24.	-33.	24.	-139.	-89.	.0413	.0219	.0141	.0287	.0987	-.0134	1163.							
.2470	474.	-12.	-9.	21.	-198.	-106.	.0411	.0243	.0124	.0332	.1091	-.0114	1568.							
.2480	557.	8.	16.	26.	-255.	-126.	.0401	.0269	.0099	.0360	.1166	-.0083	1985.							
.2490	621.	32.	42.	40.	-307.	-152.	.0384	.0300	.0065	.0369	.1208	-.0047	2401.							
.2500	672.	65.	67.	63.	-353.	-182.	.0359	.0335	.0024	.0354	.1210	-.0003	2795.							
.2510	702.	107.	90.	66.	-387.	-210.	.0327	.0370	-.0022	.0312	.1167	.0058	3139.							

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.30.00.

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

.2400	17.	44.	47.	28.	130.	-25.	.0306	.0081	.0136	-.0077	.0172	-.0042	1145.
.2410	50.	28.	-56.	85.	100.	-31.	.0338	.0105	.0160	-.0040	.0303	-.0062	981.
.2420	90.	10.	-64.	72.	75.	-39.	.0362	.0129	.0168	.0017	.0435	-.0087	771.
.2430	144.	-6.	-69.	58.	29.	-47.	.0303	.0151	.0166	.0086	.0574	-.0108	562.
.2440	215.	-18.	-67.	45.	-25.	-57.	.0398	.0172	.0160	.0159	.0719	-.0124	534.
.2450	290.	-25.	-55.	32.	-82.	-72.	.0409	.0195	.0152	.0228	.0860	-.0136	790.
.2460	380.	-24.	-33.	24.	-139.	-59.	.0413	.0219	.0141	.0287	.0987	-.0134	1163.
.2470	474.	-12.	-9.	21.	-198.	-106.	.0411	.0243	.0124	.0332	.1091	-.0114	1568.
.2480	552.	8.	16.	26.	-255.	-126.	.0401	.0269	.0099	.0360	.1166	-.0083	1985.
.2490	621.	32.	42.	40.	-307.	-152.	.0384	.0300	.0065	.0369	.1208	-.0047	2401.
.2500	672.	65.	67.	63.	-353.	-182.	.0359	.0335	.0024	.0354	.1210	-.0003	2795.
.2510	702.	107.	90.	96.	-387.	-210.	.0327	.0370	-.0022	.0312	.1167	.0058	3139.

ADLPIPE PAGE 2060

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02.

18.30.00.

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

CONDITION 24
LOADS
SHOCK
PRESSURE
ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION	BEG	TYPE	RU								
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)	
.2520	711.	158.	113.	137.	-400.	-236.	.0292	.0405	-.0066	.0241	.1077	.0134	3414.	
.2530	701.	215.	139.	184.	-411.	-262.	.0256	.0441	-.0104	.0141	.0948	.0216	3626.	
.2540	672.	276.	165.	236.	-390.	-208.	.0224	.0478	-.0135	.0012	.0787	.0300	3790.	
.2550	624.	341.	188.	290.	-369.	-309.	.0196	.0513	-.0156	-.0139	.0596	.0391	3910.	
.2560	556.	407.	210.	346.	-323.	-325.	.0171	.0544	-.0169	-.0308	.0378	.0486	3996.	
.2570	466.	471.	228.	403.	-262.	-337.	.0150	.0572	-.0173	-.0489	.0134	.0578	4085.	
.2580	358.	529.	241.	458.	-188.	-347.	.0133	.0596	-.0173	-.0671	-.0126	.0663	4209.	
.2590	238.	581.	246.	509.	-108.	-352.	.0120	.0613	-.0169	-.0846	-.0385	.0743	4374.	
.2600	114.	625.	244.	555.	-25.	-354.	.0113	.0624	-.0162	-.1008	-.0633	.0817	4583.	
.2610	-9.	660.	238.	593.	60.	-353.	.0112	.0628	-.0152	-.1154	-.0865	.0883	4825.	
.2620	-127.	685.	230.	622.	143.	-349.	.0116	.0624	-.0140	-.1274	-.1070	.0942	5067.	
.2630	-235.	698.	219.	640.	221.	-340.	.0126	.0610	-.0125	-.1361	-.1244	.0991	5274.	
.2640	-324.	698.	203.	645.	289.	-330.	.0141	.0590	-.0111	-.1413	-.1371	.1025	5428.	
.2650	-392.	682.	183.	638.	343.	-319.	.0161	.0565	-.0098	-.1425	-.1445	.1040	5510.	
.2660	-440.	653.	161.	619.	384.	-308.	.0185	.0533	-.0090	-.1398	-.1474	.1040	5503.	
.2670	-472.	613.	136.	590.	409.	-293.	.0212	.0495	-.0086	-.1331	-.1462	.1027	5397.	
.2680	-484.	561.	109.	550.	418.	-278.	.0242	.0452	-.0088	-.1226	-.1404	.0999	5185.	
.2690	-471.	498.	81.	501.	410.	-265.	.0275	.0408	-.0094	-.1088	-.1297	.0953	4870.	
.2700	-435.	426.	52.	444.	386.	-253.	.0311	.0362	-.0103	-.0924	-.1143	.0892	4460.	
.2710	-379.	351.	26.	382.	349.	-239.	.0349	.0315	-.0113	-.0741	-.0957	.0822	3965.	
.2720	-308.	273.	7.	314.	301.	-222.	.0388	.0267	-.0124	-.0543	-.0749	.0745	3400.	
.2730	-219.	193.	-8.	245.	242.	-207.	.0429	.0220	-.0137	-.0337	-.0519	.0659	2793.	
.2740	-116.	114.	-21.	176.	172.	-195.	.0467	.0176	-.0154	-.0131	-.0269	.0569	2189.	
.2750	-4.	42.	-33.	112.	94.	-185.	.0502	.0132	-.0178	.0069	-.0015	.0485	1641.	
.2760	102.	-23.	-43.	54.	14.	-171.	.0531	.0090	-.0209	.0259	.0222	.0414	1249.	
.2770	199.	-83.	-50.	2.	-66.	-158.	.0554	.0051	-.0246	.0438	.0433	.0344	1190.	
.2780	290.	-140.	-58.	-43.	-144.	-151.	.0571	.0017	-.0287	.0599	.0628	.0273	1481.	
.2790	378.	-187.	-67.	-80.	-220.	-144.	.0586	-.0015	-.0327	.0735	.0810	.0211	1913.	
.2800	456.	-222.	-72.	-111.	-288.	-131.	.0597	-.0047	-.0362	.0844	.0967	.0168	2332.	
.2810	517.	-248.	-71.	-135.	-341.	-115.	.0604	-.0077	-.0388	.0926	.1085	.0137	2679.	
.2820	566.	-267.	-64.	-155.	-380.	-102.	.0607	-.0104	-.0404	.0980	.1168	.0110	2944.	
.2830	610.	-277.	-54.	-168.	-409.	-89.	.0606	-.0129	-.0414	.1007	.1234	.0094	3138.	
.2840	644.	-277.	-47.	-175.	-429.	-71.	.0599	-.0154	-.0421	.1012	.1276	.0096	3260.	
.2850	652.	-271.	-44.	-175.	-436.	-50.	.0581	-.0178	-.0431	.1001	.1273	.0104	3290.	
.2860	631.	-265.	-43.	-170.	-429.	-33.	.0553	-.0196	-.0443	.0977	.1219	.0104	3217.	
.2870	580.	-260.	-48.	-160.	-410.	-17.	.0514	-.0208	-.0458	.0941	.1128	.0097	3065.	
.2880	527.	-253.	-63.	-146.	-384.	2.	.0470	-.0218	-.0473	.0895	.1013	.0088	2859.	
.2890	445.	-247.	-83.	-133.	-346.	24.	.0422	-.0223	-.0480	.0838	.0870	.0075	2586.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02.

18.30.00.

S/RV PIPING KEWAUNEE CROWDF 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	378.	-187.	-67.	-80.	-220.	-144.	-151.	.0571	.0017	-.0287	.0599	.0628	.0273	1481.
.2800	456.	-222.	-72.	-111.	-288.	-131.	-131.	.0597	-.0047	-.0362	.0844	.0967	.0168	2332.
.2810	517.	-248.	-71.	-135.	-341.	-115.	-115.	.0604	-.0077	-.0388	.0926	.1083	.0137	2679.
.2820	566.	-267.	-64.	-155.	-380.	-102.	-102.	.0607	-.0104	-.0404	.0980	.1168	.0110	2944.
.2830	610.	-277.	-54.	-168.	-409.	-89.	-89.	.0606	-.0129	-.0414	.1007	.1234	.0094	3138.
.2840	644.	-277.	-47.	-175.	-429.	-71.	-71.	.0599	-.0154	-.0421	.1012	.1276	.0096	3260.
.2850	652.	-271.	-44.	-175.	-436.	-50.	-50.	.0581	-.0178	-.0431	.1001	.1273	.0104	3290.
.2860	631.	-265.	-43.	-170.	-429.	-33.	-33.	.0553	-.0196	-.0443	.0977	.1219	.0104	3217.
.2870	588.	-260.	-48.	-160.	-410.	-17.	-17.	.0514	-.0208	-.0458	.0941	.1128	.0097	3065.
.2880	527.	-253.	-63.	-146.	-384.	2.	2.	.0470	-.0218	-.0473	.0895	.1013	.0088	2859.
.2890	445.	-247.	-83.	-133.	-346.	24.	24.	.0422	-.0223	-.0480	.0838	.0870	.0075	2586.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.00.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION	BEG	TYPE	RU	TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS
71	1	105					(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
.2900	346.	-243.	-99.	-122.	-291.	43.	.0374	-.0222	-.0470	.0765	.0696	.0051	2215.							
.2910	236.	-239.	-107.	-113.	-219.	62.	.0329	-.0215	-.0438	.0674	.0501	.0023	1771.							
.2920	122.	-230.	-111.	-109.	-137.	86.	.0289	-.0206	-.0385	.0566	.0299	.0002	1359.							
.2930	7.	-219.	-113.	-107.	-50.	112.	.0253	-.0192	-.0317	.0444	.0094	-.0016	1131.							
.2940	-108.	-209.	-110.	-106.	43.	130.	.0217	-.0171	-.0240	.0311	-.0117	-.0041	1206.							
.2950	-226.	-196.	-102.	-102.	136.	144.	.0176	-.0143	-.0164	.0169	-.0344	-.0066	1551.							
.2960	-352.	-178.	-97.	-93.	224.	158.	.0128	-.0112	-.0099	.0025	-.0587	-.0082	2016.							
.2970	-479.	-158.	-97.	-79.	300.	170.	.0073	-.0078	-.0051	-.0116	-.0833	-.0094	2462.							
.2980	-595.	-139.	-99.	-62.	362.	170.	.0012	-.0035	-.0018	-.0253	-.1068	-.0111	2820.							
.2990	-697.	-120.	-99.	-42.	413.	161.	-.0053	.0013	.0005	-.0387	-.1288	-.0126	3098.							
.3000	-787.	-93.	-95.	-22.	452.	153.	-.0117	.0057	.0023	-.0518	-.1493	-.0118	3327.							
.3010	-858.	-61.	-84.	-5.	481.	147.	-.0177	.0098	.0042	-.0640	-.1669	-.0089	3502.							
.3020	-900.	-31.	-65.	6.	499.	133.	-.0230	.0140	.0067	-.0750	-.1800	-.0058	3597.							
.3030	-910.	-6.	-41.	11.	505.	111.	-.0274	.0183	.0097	-.0845	-.1876	-.0028	3599.							
.3040	-899.	19.	-17.	9.	497.	90.	-.0311	.0220	.0128	-.0918	-.1906	.0014	3518.							
.3050	-875.	39.	6.	-0.	478.	74.	-.0342	.0249	.0154	-.0963	-.1902	.0067	3363.							
.3060	-840.	49.	24.	-16.	447.	52.	-.0369	.0276	.0173	-.0975	-.1862	.0111	3131.							
.3070	-785.	46.	37.	-38.	402.	23.	-.0393	.0302	.0183	-.0953	-.1775	.0138	2817.							
.3080	-712.	34.	40.	-66.	344.	-5.	-.0411	.0322	.0185	-.0899	-.1637	.0163	2439.							
.3090	-628.	19.	38.	-100.	277.	-27.	-.0423	.0332	.0183	-.0817	-.1463	.0194	2057.							
.3100	-534.	-3.	37.	-139.	208.	-47.	-.0429	.0337	.0181	-.0714	-.1263	.0222	1774.							
.3110	-427.	-31.	39.	-182.	141.	-69.	-.0428	.0338	.0184	-.0596	-.1034	.0240	1673.							
.3120	-307.	-60.	38.	-228.	72.	-85.	-.0418	.0334	.0189	-.0469	-.0774	.0254	1764.							
.3130	-184.	-90.	32.	-272.	3.	-93.	-.0402	.0323	.0194	-.0338	-.0497	.0270	2001.							
.3140	-69.	-119.	23.	-312.	-59.	-98.	-.0382	.0309	.0197	-.0210	-.0225	.0279	2313.							
.3150	37.	-147.	14.	-344.	-110.	-102.	-.0362	.0295	.0197	-.0095	.0024	.0279	2613.							
.3160	119.	-169.	1.	-366.	-154.	-100.	-.0341	.0279	.0190	.0002	.0248	.0280	2846.							
.3170	187.	-183.	-18.	-375.	-190.	-90.	-.0320	.0260	.0176	.0078	.0446	.0285	2997.							
.3180	241.	-189.	-39.	-373.	-217.	-79.	-.0298	.0243	.0159	.0125	.0613	.0286	3034.							
.3190	278.	-186.	-56.	-358.	-228.	-68.	-.0276	.0228	.0143	.0135	.0740	.0286	2994.							
.3200	296.	-169.	-67.	-330.	-226.	-50.	-.0253	.0212	.0129	.0109	.0819	.0296	2806.							
.3210	294.	-139.	-75.	-291.	-211.	-24.	-.0230	.0193	.0118	.0049	.0857	.0320	2511.							
.3220	280.	-101.	-81.	-243.	-188.	2.	-.0205	.0176	.0109	-.0042	.0861	.0342	2139.							
.3230	256.	-58.	-84.	-187.	-156.	23.	-.0181	.0162	.0101	-.0158	.0836	.0359	1702.							
.3240	217.	-8.	-84.	-124.	-119.	46.	-.0158	.0147	.0093	-.0294	.0775	.0383	1235.							
.3250	160.	49.	-84.	-57.	-78.	74.	-.0138	.0128	.0082	-.0439	.0678	.0419	844.							
.3260	96.	104.	-83.	9.	-35.	99.	-.0120	.0108	.0071	-.0584	.0561	.0452	732.							
.3270	37.	153.	-79.	71.	5.	115.	-.0102	.0089	.0062	-.0721	.0443	.0472	939.							

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.00.

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

.3180	241.	-189.	-39.	-373.	-217.	-79.	-.2298	.0243	.0159	.0125	.0615	.0285	2997.
.3190	278.	-186.	-56.	-358.	-228.	-68.	-.2276	.0228	.0143	.0135	.0740	.0286	2994.
.3200	296.	-169.	-67.	-330.	-226.	-50.	-.2253	.0212	.0129	.0109	.0819	.0296	2806.
.3210	294.	-139.	-75.	-291.	-211.	-24.	-.2230	.0193	.0118	.0049	.0857	.0320	2511.
.3220	280.	-101.	-81.	-243.	-186.	2.	-.2205	.0176	.0109	-.0042	.0861	.0342	2139.
.3230	256.	-58.	-84.	-187.	-156.	23.	-.2181	.0162	.0101	-.0158	.0836	.0359	1702.
.3240	217.	-8.	-84.	-124.	-119.	46.	-.2158	.0147	.0093	-.0294	.0775	.0383	1235.
.3250	160.	49.	-84.	-67.	-78.	74.	-.2138	.0128	.0082	-.0439	.0678	.0419	844.
.3260	96.	104.	-83.	9.	-35.	99.	-.2120	.0108	.0071	-.0584	.0561	.0452	732.
.3270	37.	153.	-79.	71.	5.	115.	-.2102	.0089	.0062	-.0721	.0445	.0472	939.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.00.

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	MEMBER	SEQUENCE	LOCATION	BEG	TYPE	RU	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS
TIME (SEC)	(LB)	(LB)	(LB)	(FT-LP)	(FT-LP)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(DEG)	(DEG)	(DEG)	(DEG)	(DEG)	(DEG)	(PSI)
.3280	-15.	126.	-73.	125.	40.	128.	-.0084	.0067	.0055	-.0844	.0535	.0487	1276.						
.3290	-63.	236.	-67.	170.	69.	144.	-.0066	.0038	.0050	-.0943	.0230	.0508	1623.						
.3300	-104.	267.	-56.	203.	93.	158.	-.0049	.0005	.0048	-.1013	.0134	.0524	1902.						
.3310	-131.	284.	-44.	222.	110.	163.	-.0032	-.0031	.0049	-.1049	.0060	.0523	2065.						
.3320	-144.	287.	-35.	228.	115.	163.	-.0016	-.0070	.0050	-.1047	.0016	.0511	2108.						
.3330	-144.	279.	-30.	220.	109.	162.	-.0001	-.0115	.0049	-.1006	.0000	.0495	2049.						
.3340	-137.	260.	-27.	200.	95.	159.	.0011	-.0166	.0048	-.0929	.0003	.0473	1898.						
.3350	-122.	229.	-24.	168.	76.	150.	.0021	-.0217	.0047	-.0821	.0022	.0438	1655.						
.3360	-94.	188.	-21.	126.	51.	137.	.0030	-.0270	.0047	-.0687	.0065	.0394	1347.						
.3370	-60.	143.	-21.	77.	20.	126.	.0038	-.0326	.0049	-.0532	.0126	.0348	1038.						
.3380	-16.	95.	-21.	22.	-14.	114.	.0045	-.0382	.0051	-.0366	.0202	.0299	818.						
.3390	28.	44.	-18.	-34.	-45.	99.	.0049	-.0435	.0055	-.0198	.0276	.0243	795.						
.3400	68.	-5.	-14.	-89.	-73.	83.	.0050	-.0486	.0057	-.0035	.0340	.0186	987.						
.3410	102.	-48.	-12.	-139.	-98.	70.	.0046	-.0534	.0055	.0118	.0392	.0135	1282.						
.3420	126.	-36.	-14.	-182.	-121.	58.	.0038	-.0576	.0048	.0254	.0430	.0083	1574.						
.3430	139.	-120.	-18.	-217.	-135.	41.	.0027	-.0609	.0038	.0367	.0446	.0027	1804.						
.3440	137.	-145.	-20.	-242.	-140.	25.	.0012	-.0635	.0027	.0450	.0434	-.0026	1954.						
.3450	120.	-158.	-22.	-257.	-136.	14.	-.0004	-.0657	.0017	.0501	.0394	-.0067	2024.						
.3460	92.	-161.	-23.	-263.	-122.	7.	-.0019	-.0672	.0011	.0520	.0335	-.0099	2016.						
.3470	60.	-156.	-20.	-260.	-98.	-3.	-.0032	-.0679	.0012	.0507	.0265	-.0131	1937.						
.3480	21.	-143.	-14.	-250.	-66.	-13.	-.0044	-.0678	.0017	.0465	.0179	-.0159	1805.						
.3490	-26.	-120.	-8.	-233.	-28.	-17.	-.0054	-.0675	.0025	.0401	.0081	-.0174	1639.						
.3500	-81.	-91.	-2.	-210.	14.	-18.	-.0064	-.0669	.0032	.0321	-.0028	-.0181	1470.						
.3510	-138.	-61.	2.	-182.	57.	-22.	-.0074	-.0658	.0037	.0235	-.0138	-.0190	1340.						
.3520	-194.	-34.	3.	-153.	99.	-27.	-.0082	-.0644	.0037	.0149	-.0241	-.0206	1280.						
.3530	-249.	-8.	-1.	-122.	136.	-30.	-.0088	-.0629	.0034	.0071	-.0335	-.0221	1289.						
.3540	-298.	16.	-6.	-94.	160.	-29.	-.0091	-.0617	.0029	.0005	-.0412	-.0233	1355.						
.3550	-339.	36.	-9.	-69.	196.	-27.	-.0089	-.0607	.0025	-.0044	-.0471	-.0249	1460.						
.3560	-362.	48.	-11.	-59.	218.	-26.	-.0081	-.0600	.0023	-.0073	-.0502	-.0271	1565.						
.3570	-368.	54.	-12.	-58.	230.	-21.	-.0065	-.0598	.0022	-.0078	-.0498	-.0292	1628.						
.3580	-357.	55.	-13.	-52.	232.	-13.	-.0044	-.0603	.0022	-.0058	-.0462	-.0312	1632.						
.3590	-333.	49.	-14.	-51.	226.	-4.	-.0019	-.0614	.0020	-.0012	-.0403	-.0333	1586.						
.3600	-298.	36.	-14.	-54.	210.	6.	.0009	-.0630	.0012	.0060	-.0323	-.0359	1485.						
.3610	-257.	16.	-18.	-41.	185.	17.	.0038	-.0651	-.0002	.0157	-.0224	-.0388	1321.						
.3620	-199.	-11.	-26.	-50.	148.	32.	.0070	-.0677	-.0023	.0276	-.0107	-.0419	1111.						
.3630	-138.	-43.	-35.	-61.	105.	47.	.0103	-.0707	-.0049	.0411	.0022	-.0454	904.						
.3640	-74.	-79.	-44.	-73.	59.	62.	.0138	-.0739	-.0075	.0556	.0155	-.0491	781.						
.3650	-9.	-115.	-51.	-86.	12.	80.	.0176	-.0774	-.0099	.0702	.0289	-.0523	822.						

ADLPIPE PAGE 2863

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.00.

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

.3550	-338.	36.	-9.	-69.	196.	-27.	-.0039	-.0607	.0025	-.0044	-.0471	-.0249	1460.
.3560	-368.	48.	-11.	-50.	218.	-26.	-.0081	-.0600	.0023	-.0073	-.0502	-.0271	1565.
.3570	-368.	54.	-12.	-20.	230.	-21.	-.0065	-.0598	.0022	-.0078	-.0498	-.0292	1628.
.3580	-357.	55.	-13.	-32.	232.	-13.	-.0044	-.0603	.0022	-.0058	-.0462	-.0312	1632.
.3590	-337.	49.	-14.	-31.	226.	-4.	-.0019	-.0614	.0020	-.0012	-.0403	-.0333	1586.
.3600	-298.	36.	-14.	-34.	210.	6.	.0009	-.0630	.0012	.0060	-.0323	-.0359	1485.
.3610	-253.	16.	-18.	-41.	185.	17.	.0038	-.0651	-.0002	.0157	-.0224	-.0388	1321.
.3620	-199.	-11.	-26.	-50.	148.	32.	.0070	-.0677	-.0023	.0276	-.0107	-.0419	1111.
.3630	-138.	-43.	-35.	-61.	105.	47.	.0103	-.0707	-.0049	.0411	.0022	-.0454	904.
.3640	-74.	-79.	-44.	-73.	59.	62.	.0138	-.0739	-.0075	.0556	.0155	-.0491	781.
.3650	-7.	-115.	-51.	-86.	12.	80.	.0176	-.0774	-.0099	.0702	.0289	-.0523	822.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.00.

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	71	MEMBER	1	SEQUENCE	105	LOCATION	BEG	TYPE	RU	DX	DY	DZ	FX	FY	FZ	STRESS
TIME	(SEC)	FX	FY	FZ	MX	MY	MZ	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		
.3660	60.	-150.	-56.	-99.	-35.	103.	.0217	-.0811	-.0116	.0846	.0424	-.0551	1021.			
.3670	132.	-184.	-57.	-111.	-80.	125.	.0260	-.0845	-.0127	.0983	.0561	-.0578	1291.			
.3680	203.	-217.	-55.	-122.	-120.	147.	.0303	-.0876	-.0131	.1106	.0689	-.0604	1570.			
.3690	268.	-244.	-51.	-130.	-155.	169.	.0343	-.0904	-.0132	.1214	.0801	-.0622	1835.			
.3700	327.	-265.	-46.	-133.	-186.	193.	.0378	-.0926	-.0133	.1305	.0889	-.0633	2080.			
.3710	368.	-282.	-42.	-130.	-212.	214.	.0404	-.0940	-.0137	.1380	.0955	-.0641	2282.			
.3720	403.	-295.	-40.	-121.	-234.	229.	.0421	-.0943	-.0146	.1435	.0997	-.0651	2428.			
.3730	426.	-303.	-30.	-107.	-251.	239.	.0427	-.0936	-.0159	.1470	.1013	-.0655	2524.			
.3740	434.	-301.	-40.	-88.	-261.	247.	.0424	-.0919	-.0172	.1482	.1000	-.0647	2576.			
.3750	429.	-292.	-38.	-65.	-262.	251.	.0413	-.0891	-.0182	.1469	.0959	-.0627	2569.			
.3760	415.	-277.	-35.	-41.	-254.	249.	.0396	-.0852	-.0185	.1429	.0897	-.0601	2492.			
.3770	394.	-256.	-29.	-16.	-237.	240.	.0374	-.0801	-.0177	.1364	.0822	-.0566	2351.			
.3780	365.	-228.	-21.	10.	-212.	227.	.0349	-.0741	-.0158	.1274	.0732	-.0515	2163.			
.3790	327.	-191.	-9.	36.	-177.	211.	.0320	-.0674	-.0129	.1158	.0625	-.0448	1932.			
.3800	280.	-148.	5.	62.	-135.	188.	.0288	-.0598	-.0092	.1021	.0500	-.0368	1669.			
.3810	226.	-101.	19.	90.	-80.	160.	.0251	-.0515	-.0051	.0865	.0365	-.0278	1416.			
.3820	169.	-49.	37.	119.	-41.	127.	.0210	-.0427	-.0010	.0696	.0224	-.0180	1245.			
.3830	110.	6.	45.	150.	5.	91.	.0164	-.0336	.0029	.0518	.0079	-.0073	1221.			
.3840	48.	64.	57.	182.	51.	52.	.0115	-.0243	.0064	.0333	-.0072	.0040	1366.			
.3850	-17.	124.	69.	216.	93.	12.	.0063	-.0151	.0095	.0145	-.0223	.0158	1640.			
.3860	-68.	186.	83.	249.	131.	-28.	.0011	-.0063	.0123	-.0041	-.0364	.0279	1971.			
.3870	-112.	246.	97.	282.	161.	-67.	-.0039	.0021	.0148	-.0220	-.0488	.0400	2307.			
.3880	-144.	304.	112.	312.	185.	-105.	-.0086	.0098	.0172	-.0390	-.0590	.0518	2626.			
.3890	-165.	359.	129.	339.	202.	-140.	-.0129	.0167	.0193	-.0546	-.0674	.0631	2914.			
.3900	-175.	411.	148.	363.	211.	-167.	-.0168	.0225	.0210	-.0682	-.0737	.0737	3146.			
.3910	-175.	453.	164.	382.	211.	-188.	-.0201	.0273	.0222	-.0792	-.0775	.0822	3308.			
.3920	-160.	481.	177.	396.	200.	-205.	-.0230	.0313	.0227	-.0871	-.0782	.0878	3400.			
.3930	-132.	498.	186.	404.	179.	-217.	-.0253	.0342	.0226	-.0919	-.0759	.0906	3424.			
.3940	-95.	504.	193.	406.	149.	-220.	-.0272	.0360	.0218	-.0935	-.0713	.0912	3376.			
.3950	-52.	499.	196.	402.	112.	-213.	-.0285	.0366	.0204	-.0919	-.0647	.0895	3260.			
.3960	0.	481.	197.	391.	70.	-201.	-.0293	.0363	.0188	-.0872	-.0558	.0849	3097.			
.3970	66.	451.	196.	373.	21.	-185.	-.0294	.0352	.0170	-.0797	-.0440	.0775	2901.			
.3980	137.	411.	192.	348.	-31.	-163.	-.0290	.0332	.0151	-.0699	-.0302	.0680	2687.			
.3990	208.	364.	186.	319.	-83.	-133.	-.0282	.0304	.0132	-.0583	-.0160	.0571	2478.			
.4000	274.	311.	179.	287.	-132.	-100.	-.0271	.0271	.0113	-.0454	-.0019	.0446	2304.			

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.00.

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

CONDITION 24

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ENGLISH UNITS

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

.3930	-132.	498.	186.	404.	179.	-217.	-.0253	.0342	.0226	-.0919	-.0759	.0906	5424.
.3940	-95.	504.	193.	406.	149.	-220.	-.0272	.0360	.0218	-.0935	-.0713	.0912	5316.
.3950	-52.	499.	196.	402.	112.	-213.	-.0285	.0366	.0204	-.0919	-.0647	.0895	5260.
.3960	0.	481.	197.	391.	70.	-201.	-.0293	.0363	.0188	-.0872	-.0558	.0849	5097.
.3970	66.	451.	196.	373.	21.	-185.	-.0294	.0352	.0170	-.0797	-.0440	.0775	2901.
.3980	137.	411.	192.	348.	-31.	-163.	-.0290	.0332	.0151	-.0699	-.0302	.0680	2687.
.3990	208.	364.	186.	319.	-83.	-133.	-.0282	.0304	.0132	-.0583	-.0160	.0571	2478.
.4000	274.	311.	179.	287.	-132.	-100.	-.0271	.0271	.0113	-.0454	-.0019	.0446	2304.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

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S/RV PIPING KEWAUNEE CKWOOD 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

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)
.2650	392.	-602.	-183.	-618.	-342.	319.	.0161	.0565	-.0098	-.1425	-.1445	.1040	5510.

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)
71	1	106					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	1.
							.0030	0.	0.	0.	-0.	0.	0.	.0000	.0000	.0000	-.0000	.0000	.0000	1.
							.0040	-0.	-0.	-0.	-0.	-0.	0.	-.0000	.0000	.0000	-.0000	.0000	.0000	2.
							.0050	-1.	-0.	-1.	0.	-1.	-0.	-.0000	-.0000	.0000	-.0000	.0000	.0000	8.
							.0060	-4.	-1.	-1.	1.	-3.	-0.	-.0001	-.0000	-.0000	-.0000	.0001	.0001	20.
							.0070	-7.	-2.	-2.	1.	-5.	-1.	-.0003	-.0000	-.0001	.0000	.0003	.0002	38.
							.0080	-12.	-3.	-4.	1.	-9.	-1.	-.0006	-.0001	-.0003	-.0000	.0005	.0004	63.
							.0090	-19.	-5.	-5.	2.	-13.	-1.	-.0010	-.0002	-.0007	-.0001	.0008	.0006	92.
							.0100	-28.	-8.	-8.	3.	-18.	-3.	-.0016	-.0003	-.0013	-.0001	.0013	.0009	132.
							.0110	-42.	-13.	-12.	6.	-26.	-5.	-.0026	-.0004	-.0021	-.0001	.0021	.0013	189.
							.0120	-60.	-20.	-17.	9.	-35.	-8.	-.0040	-.0006	-.0033	.0000	.0034	.0021	260.
							.0130	-80.	-29.	-22.	14.	-45.	-11.	-.0058	-.0009	-.0048	.0002	.0051	.0034	337.
							.0140	-102.	-40.	-27.	19.	-54.	-15.	-.0080	-.0014	-.0069	.0004	.0069	.0054	410.
							.0150	-121.	-51.	-31.	25.	-59.	-19.	-.0105	-.0019	-.0093	.0008	.0086	.0077	466.
							.0160	-134.	-60.	-31.	28.	-61.	-20.	-.0129	-.0023	-.0120	.0013	.0101	.0099	486.
							.0170	-130.	-65.	-27.	28.	-56.	-19.	-.0149	-.0023	-.0145	.0018	.0110	.0114	453.
							.0180	-120.	-64.	-19.	23.	-43.	-12.	-.0162	-.0019	-.0164	.0022	.0112	.0120	350.
							.0190	-101.	-57.	-8.	17.	-20.	-4.	-.0162	-.0011	-.0171	.0024	.0101	.0114	185.
							.0200	-58.	-47.	3.	13.	11.	5.	-.0146	-.0002	-.0158	.0021	.0077	.0097	123.
							.0210	-6.	-34.	0.	12.	44.	11.	-.0114	.0005	-.0121	.0016	.0043	.0070	329.
							.0220	48.	-23.	4.	22.	78.	9.	-.0067	.0010	-.0061	.0019	.0003	.0036	570.
							.0230	27.	-13.	-11.	37.	103.	4.	-.0014	.0010	.0016	.0025	-.0035	.0006	762.
							.0240	122.	-3.	-27.	52.	109.	-1.	.0038	.0005	.0099	.0027	-.0070	-.0011	841.
							.0250	155.	6.	-35.	62.	115.	-5.	.0085	-.0004	.0167	.0016	-.0118	-.0021	909.
							.0260	216.	12.	-32.	65.	150.	-9.	.0133	-.0011	.0203	-.0004	-.0187	-.0043	1139.
							.0270	279.	20.	-32.	61.	199.	-18.	.0175	-.0012	.0208	-.0007	-.0255	-.0090	1452.
							.0280	297.	40.	-22.	39.	207.	-17.	.0196	-.0004	.0194	-.0005	-.0284	-.0144	1472.
							.0290	317.	68.	18.	-6.	202.	6.	.0200	.0003	.0162	-.0032	-.0297	-.0187	1407.
							.0300	408.	96.	66.	-51.	277.	22.	.0223	.0012	.0112	-.0050	-.0353	-.0233	1968.
							.0310	492.	116.	81.	-78.	351.	11.	.0259	.0007	.0082	-.0051	-.0423	-.0293	2501.
							.0320	485.	128.	81.	-94.	332.	2.	.0285	-.0003	.0100	-.0064	-.0422	-.0338	2401.
							.0330	429.	179.	87.	-100.	264.	12.	.0304	-.0014	.0156	-.0073	-.0350	-.0343	1970.

.0190	-121.	-64.	-19.	23.	-43.	-12.	-.0162	-.0019	-.0164	.0022	.0112	.0120	350.
.0190	-101.	-57.	-8.	17.	-20.	-4.	-.0162	-.0011	-.0171	.0024	.0101	.0114	185.
.0200	-59.	-47.	3.	13.	11.	5.	-.0146	-.0002	-.0158	.0021	.0077	.0097	123.
.0210	-6.	-34.	9.	12.	44.	11.	-.0114	.0005	-.0121	.0016	.0043	.0070	329.
.0220	48.	-23.	4.	22.	78.	9.	-.0067	.0010	-.0061	.0019	.0003	.0036	570.
.0230	97.	-13.	-11.	37.	103.	4.	-.0014	.0010	.0016	.0025	-.0035	.0006	762.
.0240	122.	-3.	-27.	52.	109.	-1.	.0038	.0005	.0059	.0027	-.0070	-.0011	841.
.0250	155.	6.	-35.	62.	115.	-5.	.0085	-.0004	.0167	.0016	-.0118	-.0021	909.
.0260	216.	12.	-32.	65.	150.	-9.	.0133	-.0011	.0203	-.0004	-.0187	-.0043	1139.
.0270	279.	20.	-32.	61.	190.	-18.	.0175	-.0012	.0208	-.0007	-.0255	-.0090	1452.
.0280	297.	40.	-22.	39.	207.	-17.	.0196	-.0004	.0194	-.0005	-.0284	-.0144	1472.
.0290	313.	68.	18.	-6.	202.	6.	.0200	.0006	.0162	-.0032	-.0297	-.0187	1407.
.0300	408.	76.	66.	-51.	277.	22.	.0223	.0012	.0112	-.0050	-.0353	-.0233	1968.
.0310	492.	116.	81.	-78.	351.	11.	.0259	.0007	.0082	-.0051	-.0423	-.0293	2501.
.0320	485.	128.	81.	-94.	332.	2.	.0285	-.0003	.0100	-.0064	-.0422	-.0338	2401.

.0330	429.	139.	87.	-100.	264.	12.	.0304	-.0014	.0156	-.0073	-.0350	-.0343	1970.
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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

85/12/02.

18.30.00.

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

CONDITION 24
LOADS
SHOCK
PRESSURE
ENGLISH UNITS

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

S/RV PIPING KEWAUNEE 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	TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS
71	(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
.0710	350.	134.	60.	-79.	185.	1.	.0324	-.0039	.0230	-.0051	-.0284	-.0325	1401.	
.0350	277.	106.	-8.	-36.	83.	-49.	.0334	-.0080	.0292	-.0018	-.0256	-.0311	716.	
.0260	137.	80.	-49.	-9.	-1.	-88.	.0318	-.0108	.0302	.0017	-.0215	-.0306	614.	
.0370	66.	86.	-32.	-26.	-44.	-75.	.0268	-.0095	.0241	.0084	-.0110	-.0304	654.	
.0380	-40.	109.	-1.	-70.	-105.	-39.	.0178	-.0057	.0124	.0177	.0043	-.0307	920.	
.0390	-145.	126.	39.	-123.	-165.	-8.	.0066	-.0022	-.0032	.0252	.0181	-.0302	1431.	
.0400	-123.	144.	119.	-181.	-113.	27.	-.0025	.0008	-.0209	.0300	.0254	-.0282	1499.	
.0410	-36.	170.	187.	-229.	-1.	62.	-.0077	.0044	-.0342	.0369	.0290	-.0268	1648.	
.0420	-87.	196.	187.	-247.	-30.	89.	-.0114	.0083	-.0356	.0442	.0384	-.0265	1839.	
.0430	-243.	209.	160.	-231.	-179.	115.	-.0139	.0114	-.0249	.0488	.0551	-.0240	2182.	
.0440	-341.	195.	127.	-169.	-282.	123.	-.0125	.0121	-.0078	.0519	.0678	-.0166	2443.	
.0450	-417.	137.	24.	-56.	-357.	71.	-.0083	.0090	.0112	.0534	.0686	-.0074	2565.	
.0460	-530.	60.	-110.	61.	-459.	-9.	-.0059	.0050	.0268	.0518	.0651	.0005	3226.	
.0470	-579.	23.	-133.	105.	-501.	-18.	-.0077	.0052	.0323	.0471	.0688	.0081	3564.	
.0480	-537.	32.	-51.	69.	-451.	52.	-.0134	.0100	.0262	.0401	.0767	.0161	3196.	
.0490	-490.	28.	3.	23.	-383.	103.	-.0210	.0143	.0129	.0298	.0765	.0223	2764.	
.0500	-406.	-17.	22.	7.	-271.	92.	-.0275	.0150	-.0033	.0165	.0658	.0271	1996.	
.0510	-239.	-68.	72.	5.	-89.	73.	-.0314	.0145	-.0176	.0026	.0540	.0334	801.	
.0520	-142.	-109.	106.	13.	11.	79.	-.0336	.0146	-.0225	-.0116	.0479	.0413	562.	
.0530	-200.	-161.	54.	56.	-53.	73.	-.0338	.0135	-.0149	-.0272	.0447	.0485	736.	
.0540	-243.	-238.	-33.	146.	-109.	17.	-.0294	.0092	-.0001	-.0423	.0368	.0544	1276.	
.0550	-185.	-323.	-111.	257.	-73.	-71.	-.0211	.0030	.0156	-.0550	.0229	.0591	1925.	
.0560	-169.	-392.	-198.	346.	-78.	-141.	-.0145	-.0022	.0299	-.0673	.0091	.0618	2658.	
.0570	-213.	-428.	-261.	383.	-137.	-164.	-.0125	-.0042	.0384	-.0789	.0013	.0619	3050.	
.0580	-159.	-429.	-230.	364.	-93.	-153.	-.0135	-.0033	.0360	-.0865	-.0026	.0590	2827.	
.0590	1.	-411.	-143.	313.	60.	-141.	-.0156	-.0017	.0240	-.0907	-.0096	.0532	2427.	
.0600	147.	-389.	-83.	250.	201.	-134.	-.0180	-.0003	.0092	-.0947	-.0218	.0448	2419.	
.0610	273.	-354.	-34.	183.	317.	-115.	-.0190	.0018	-.0025	-.0967	-.0329	.0341	2673.	
.0620	395.	-298.	31.	124.	420.	-90.	-.0173	.0049	-.0071	-.0934	-.0369	.0209	3108.	
.0630	429.	-238.	54.	92.	423.	-79.	-.0129	.0071	-.0005	-.0867	-.0364	.0062	3066.	
.0640	269.	-198.	-4.	104.	327.	-90.	-.0058	.0070	.0161	-.0797	-.0383	-.0071	2469.	
.0650	320.	-181.	-92.	153.	242.	-125.	.0038	.0043	.0360	-.0714	-.0437	-.0170	2177.	
.0660	281.	-177.	-165.	213.	180.	-182.	.0124	.0003	.0325	-.0602	-.0473	-.0257	2316.	
.0670	190.	-161.	-212.	238.	84.	-218.	.0160	-.0020	.0608	-.0484	-.0450	-.0347	2316.	
.0680	118.	-115.	-206.	197.	21.	-190.	.0143	-.0005	.0564	-.0370	-.0399	-.0429	1910.	
.0690	157.	-51.	-131.	107.	80.	-128.	.0092	.0030	.0381	-.0250	-.0371	-.0495	1286.	
.0700	248.	3.	-29.	7.	201.	-86.	.0021	.0053	.0116	-.0128	-.0373	-.0547	1521.	
.0710	311.	45.	61.	-82.	294.	-55.	-.0055	.0062	-.0146	-.0019	-.0377	-.0570	2162.	

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

.0610	273.	-354.	-34.	103.	317.	-115.	-.0190	.0018	-.0025	-.0947	-.0218	.0448	2419.
.0620	395.	-298.	31.	124.	420.	-90.	-.0173	.0049	-.0071	-.0934	-.0369	.0209	3108.
.0630	429.	-238.	54.	92.	423.	-79.	-.0129	.0071	-.0005	-.0867	-.0364	.0062	3066.
.0640	369.	-198.	-4.	104.	327.	-90.	-.0058	.0070	.0161	-.0797	-.0383	-.0071	2469.
.0650	320.	-101.	-92.	153.	242.	-125.	.0038	.0043	.0360	-.0714	-.0437	-.0170	2177.
.0660	281.	-177.	-165.	213.	180.	-182.	.0124	.0003	.0525	-.0602	-.0473	-.0257	2316.
.0670	190.	-161.	-212.	236.	84.	-218.	.0160	-.0020	.0608	-.0484	-.0450	-.0347	2316.
.0680	118.	-115.	-206.	197.	21.	-190.	.0143	-.0005	.0564	-.0370	-.0399	-.0429	1910.
.0690	157.	-51.	-131.	107.	80.	-128.	.0092	.0030	.0381	-.0250	-.0371	-.0495	1286.
.0700	240.	3.	-29.	7.	201.	-86.	.0021	.0053	.0116	-.0128	-.0373	-.0547	1521.
.0710	311.	45.	61.	-82.	294.	-55.	-.0055	.0062	-.0146	-.0019	-.0377	-.0570	2162.

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DIS/ADLPIPE
S/RV PIPING KEWAUNEE GKWOOD 2 RUP DISK
2 SAFETY COLD FKW24F--2 PSV

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.00.

CONDITION 24
LOADS
SHOCK
PRESSURE
ENGLISH UNITS

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

SECTION	71	MEMBER	1	SEQUENCE	106	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)	
.0720	340.	86.	129.	-152.	354.	-2.	-.0103	.0072	-.0333	.0085	-.0354	-.0547	2681.	
.0730	333.	115.	153.	-176.	353.	43.	-.0107	.0068	-.0397	.0198	-.0304	-.0490	2759.	
.0740	230.	114.	112.	-136.	256.	36.	-.0071	.0028	-.0326	.0307	-.0252	-.0416	2035.	
.0750	124.	93.	30.	-54.	126.	-1.	.0001	-.0035	-.0167	.0406	-.0230	-.0324	958.	
.0760	44.	79.	-55.	27.	23.	-19.	.0091	-.0090	.0012	.0502	-.0234	-.0217	279.	
.0770	-42.	77.	-122.	83.	-79.	-18.	.0159	-.0126	.0150	.0595	-.0215	-.0123	811.	
.0780	-127.	86.	-141.	101.	-166.	-7.	.0181	-.0143	.0194	.0678	-.0152	-.0055	1352.	
.0790	-119.	110.	-91.	73.	-154.	29.	.0165	-.0139	.0115	.0755	-.0082	.0005	1202.	
.0800	-39.	143.	-8.	10.	-57.	87.	.0124	-.0119	-.0058	.0819	-.0042	.0067	751.	
.0810	27.	169.	68.	-59.	32.	136.	.0064	-.0102	-.0256	.0867	-.0011	.0119	1051.	
.0820	68.	187.	140.	-112.	90.	162.	.0007	-.0093	-.0414	.0908	.0051	.0150	1510.	
.0830	93.	206.	194.	-144.	124.	183.	-.0019	-.0082	-.0485	.0956	.0141	.0160	1834.	
.0840	53.	219.	187.	-142.	82.	191.	-.0006	-.0075	-.0438	.0998	.0228	.0151	1754.	
.0850	-47.	210.	122.	-104.	-34.	166.	.0040	-.0087	-.0290	.1022	.0296	.0119	1384.	
.0860	-115.	205.	62.	-48.	-130.	114.	.0110	-.0112	-.0103	.1041	.0348	.0066	1250.	
.0870	-131.	206.	28.	-8.	-179.	72.	.0183	-.0125	.0066	.1058	.0395	-.0008	1344.	
.0880	-147.	230.	12.	-11.	-224.	61.	.0232	-.0116	.0185	.1054	.0444	-.0105	1616.	
.0890	-125.	270.	40.	-56.	-228.	73.	.0253	-.0089	.0228	.1027	.0495	-.0220	1709.	
.0900	-13.	317.	121.	-127.	-137.	87.	.0260	-.0057	.0192	.0992	.0531	-.0344	1433.	
.0910	116.	357.	201.	-199.	-22.	95.	.0260	-.0029	.0129	.0946	.0542	-.0465	1545.	
.0920	167.	381.	235.	-255.	23.	97.	.0255	-.0008	.0095	.0884	.0551	-.0570	1907.	
.0930	152.	384.	235.	-277.	8.	86.	.0252	-.0000	.0113	.0819	.0581	-.0645	2018.	
.0940	94.	355.	209.	-252.	-45.	44.	.0255	-.0014	.0176	.0764	.0621	-.0690	1807.	
.0950	-27.	295.	125.	-190.	-148.	-29.	.0254	-.0047	.0262	.0705	.0636	-.0712	1690.	
.0960	-166.	224.	27.	-126.	-261.	-102.	.0239	-.0080	.0320	.0635	.0619	-.0719	2141.	
.0970	-247.	167.	-26.	-95.	-309.	-148.	.0200	-.0091	.0296	.0565	.0593	-.0723	2476.	
.0980	-276.	131.	-21.	-108.	-298.	-165.	.0127	-.0076	.0176	.0495	.0574	-.0739	2484.	
.0990	-287.	110.	10.	-155.	-263.	-160.	.0027	-.0039	-.0017	.0417	.0543	-.0765	2398.	
.1000	-258.	95.	53.	-215.	-191.	-139.	-.0078	.0009	-.0242	.0333	.0471	-.0787	2226.	
.1010	-195.	75.	92.	-260.	-92.	-124.	-.0165	.0057	-.0450	.0257	.0360	-.0800	2107.	
.1020	-169.	42.	96.	-270.	-40.	-131.	-.0225	.0094	-.0584	.0190	.0235	-.0808	2104.	
.1030	-196.	4.	59.	-246.	-56.	-145.	-.0255	.0125	-.0621	.0129	.0105	-.0806	2024.	
.1040	-217.	-31.	5.	-202.	-84.	-149.	-.0246	.0158	-.0580	.0073	-.0041	-.0783	1840.	
.1050	-202.	-63.	-52.	-144.	-91.	-153.	-.0205	.0185	-.0497	.0019	-.0220	-.0743	1597.	
.1060	-158.	-91.	-105.	-95.	-79.	-162.	-.0148	.0205	-.0405	-.0039	-.0424	-.0690	1388.	
.1070	-65.	-102.	-127.	-47.	-22.	-148.	-.0090	.0229	-.0333	-.0098	-.0630	-.0611	1089.	
.1080	82.	-94.	-107.	-36.	82.	-93.	-.0036	.0264	-.0293	-.0165	-.0819	-.0496	898.	
.1090	240.	-87.	-73.	-30.	199.	-31.	.0012	.0293	-.0270	-.0241	-.0995	-.0356	1419.	

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