

50-305

RESPONSE TO NUREG-0737 ITEM II.D.1

Docket # *50-305*

Control # *8403280048*

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

.0390	77.	-110.	54.	144.	179.	-18.	.0063	-.0002	-.0030	.0144	-.0061	-.0238	1602.
.0400	-19.	-174.	-221.	210.	160.	-63.	-.0032	.0026	-.0201	.0124	.0066	-.0150	1890.
.0410	-16.	-190.	-553.	261.	94.	-102.	-.0088	.0022	-.0329	.0138	.0230	-.0078	2057.
.0420	54.	-176.	-568.	210.	136.	-130.	-.0128	.0102	-.0329	.0183	.0274	-.0039	2349.
.0430	107.	-140.	-355.	261.	270.	-152.	-.0156	.0133	-.0230	.0233	.0239	.0001	2817.
.0440	220.	-74.	-189.	101.	369.	-149.	-.0144	.0140	-.0057	.0315	.0220	.0048	3072.
.0450	487.	-91.	67.	76.	432.	-95.	-.0101	.0110	.0130	.0446	.0125	.0038	3124.
.0460	669.	-193.	418.	-75.	502.	-24.	-.0073	.0071	.0281	.0555	-.0038	-.0008	3507.
.0470	702.	-181.	501.	-83.	537.	-10.	-.0092	.0069	.0336	.0549	-.0056	.0037	3784.
.0480	595.	-12.	279.	-66.	513.	-56.	-.0153	.0108	.0281	.0431	.0079	.0185	3619.
.0490	455.	93.	99.	-71.	455.	-92.	-.0220	.0141	.0150	.0277	.0169	.0307	3240.

ADLPIPE PAGE 2909

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02.

18.30.03.

S/RV PIPING KEWAUNEE CRKWOEF 2 RUP DISK  
2 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)
.0500	320.	52.	-56.	-13.	344.	-84.	-.0294	.0141	-.0012	.0134	.0222	.0354	2466.
.0510	191.	40.	-356.	-14.	182.	-62.	-.0333	.0128	-.0154	.0004	.0351	.0396	1339.
.0520	80.	145.	-509.	-37.	89.	-50.	-.0355	.0121	-.0203	-.0125	.0429	.0464	752.
.0530	49.	260.	-280.	-97.	115.	-23.	-.0354	.0101	-.0130	-.0234	.0331	.0497	1059.
.0540	106.	302.	6.	-197.	134.	45.	-.0305	.0054	.0012	-.0281	.0195	.0453	1687.
.0550	233.	295.	142.	-312.	83.	139.	-.0218	-.0009	.0164	-.0277	.0114	.0360	2449.
.0560	326.	292.	357.	-406.	60.	215.	-.0146	-.0062	.0300	-.0295	-.0015	.0275	3220.
.0570	309.	334.	605.	-449.	79.	247.	-.0123	-.0085	.0380	-.0367	-.0151	.0230	3611.
.0580	190.	406.	542.	-440.	30.	246.	-.0132	-.0079	.0355	-.0458	-.0122	.0213	3517.
.0590	11.	421.	235.	-389.	-103.	234.	-.0154	-.0063	.0237	-.0546	.0015	.0189	3239.
.0600	-186.	361.	3.	-317.	-240.	217.	-.0176	-.0049	.0090	-.0645	.0095	.0147	3151.
.0610	-359.	314.	-177.	-243.	-356.	189.	-.0184	-.0026	-.0029	-.0732	.0150	.0095	3275.
.0620	-473.	317.	-378.	-100.	-445.	160.	-.0168	.0010	-.0072	-.0760	.0248	.0017	3520.
.0630	-515.	312.	-377.	-144.	-453.	143.	-.0124	.0040	-.0006	-.0725	.0262	-.0102	3451.
.0640	-460.	278.	-104.	-148.	-389.	145.	-.0051	.0048	.0156	-.0646	.0127	-.0244	3072.
.0650	-702.	225.	187.	-191.	-332.	172.	.0049	.0032	.0349	-.0512	-.0032	-.0394	2922.
.0660	-120.	131.	399.	-239.	-283.	215.	.0138	.0004	.0510	-.0335	-.0151	-.0554	2978.
.0670	-18.	38.	600.	-252.	-200.	236.	.0176	-.0009	.0591	-.0188	-.0258	-.0679	2778.
.0680	-16.	45.	649.	-209.	-138.	206.	.0158	.0012	.0547	-.0121	-.0295	-.0714	2259.
.0690	-89.	97.	404.	-121.	-168.	146.	.0104	.0051	.0367	-.0099	-.0200	-.0681	1762.
.0700	-228.	47.	32.	-12.	-250.	92.	.0030	.0077	.0106	-.0082	-.0054	-.0639	1855.
.0710	-393.	-55.	-276.	92.	-317.	43.	-.0047	.0088	-.0152	-.0068	.0060	-.0579	2314.
.0720	-484.	-53.	-504.	164.	-352.	-13.	-.0097	.0097	-.0336	-.0043	.0153	-.0472	2701.
.0730	-461.	4.	-575.	183.	-334.	-52.	-.0104	.0093	-.0398	.0033	.0191	-.0364	2675.
.0740	-356.	-34.	-397.	147.	-248.	-50.	-.0067	.0055	-.0329	.0175	.0111	-.0311	2036.
.0750	-189.	-120.	-98.	74.	-140.	-24.	.0007	-.0006	-.0173	.0350	-.0040	-.0283	1116.
.0760	22.	-137.	168.	-6.	-52.	-7.	.0099	-.0059	.0002	.0519	-.0183	-.0229	365.
.0770	191.	-128.	399.	-64.	35.	-6.	.0168	-.0095	.0137	.0657	-.0304	-.0161	517.
.0780	243.	-155.	525.	-78.	116.	-22.	.0190	-.0112	.0181	.0748	-.0359	-.0087	984.
.0790	190.	-160.	396.	-47.	122.	-61.	.0171	-.0109	.0105	.0784	-.0282	.0023	1001.
.0800	105.	-129.	93.	15.	58.	-118.	.0127	-.0093	-.0062	.0773	-.0125	.0170	919.
.0810	-27.	-145.	-180.	86.	-6.	-170.	.0064	-.0081	-.0255	.0743	.0018	.0303	1325.
.0820	-161.	-159.	-400.	147.	-46.	-205.	.0003	-.0073	-.0408	.0725	.0154	.0390	1787.
.0830	-214.	-199.	-562.	180.	-60.	-227.	-.0027	-.0062	-.0474	.0738	.0280	.0435	2060.
.0840	-155.	-159.	-510.	175.	-16.	-232.	-.0016	-.0054	-.0425	.0779	.0304	.0431	2023.
.0850	-35.	-174.	-250.	138.	79.	-208.	.0029	-.0062	-.0278	.0844	.0220	.0359	1821.
.0860	100.	-239.	-16.	88.	156.	-165.	.0100	-.0080	-.0092	.0927	.0147	.0236	1695.
.0870	210.	-279.	115.	54.	190.	-128.	.0172	-.0088	.0078	.0990	.0127	.0106	1685.

ADLPIPE PAGE 2910

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02.

18.30.03.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

.0770	21.	-127.	167.	-6.	-57.	-7.	.0099	-.0059	.0002	.0519	-.0183	-.0229	365.
.0770	191.	-128.	199.	-64.	35.	-6.	.1168	-.0095	.0137	.0657	-.0304	-.0161	517.
.0780	243.	-155.	525.	-73.	116.	-22.	.1190	-.0112	.0181	.0748	-.0359	-.0087	984.
.0790	195.	-160.	396.	-47.	122.	-61.	.0171	-.0109	.0105	.0784	-.0282	.0023	1001.
.0800	105.	-128.	97.	15.	58.	-118.	.0127	-.0093	-.0062	.0773	-.0125	.0170	919.
.0810	-27.	-145.	-180.	76.	-6.	-170.	.0064	-.0081	-.0255	.0743	.0018	.0303	1325.
.0820	-161.	-199.	-400.	147.	-46.	-205.	.0003	-.0073	-.0408	.0725	.0154	.0390	1787.
.0830	-214.	-199.	-562.	100.	-60.	-227.	-.0027	-.0062	-.0474	.0738	.0280	.0435	2060.
.0840	-155.	-159.	-510.	175.	-16.	-232.	-.0016	-.0054	-.0425	.0779	.0304	.0431	2023.
.0850	-35.	-174.	-250.	130.	79.	-208.	.0029	-.0062	-.0278	.0844	.0220	.0359	1821.
.0860	100.	-239.	-16.	18.	156.	-165.	.0100	-.0080	-.0092	.0927	.0147	.0236	1695.
.0870	210.	-279.	115.	54.	195.	-128.	.0172	-.0088	.0078	.0990	.0127	.0106	1685.

ADLPIPE PAGE 2910

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

85/12/02.

18.30.03.

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	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)	STRESS (PSI)
.0880	241.	-282.	221.	59.	231.	-120.	.0220	-.0073	.0198	.0988	.0120	.0001	1857.							
.0890	166.	-285.	210.	107.	229.	-135.	.0239	-.0043	.0242	.0918	.0171	-.0080	1993.							
.0900	31.	-305.	-23.	183.	155.	-157.	.0241	-.0010	.0212	.0817	.0328	-.0153	1991.							
.0910	-96.	-336.	-292.	262.	61.	-172.	.0240	.0026	.0153	.0705	.0491	-.0229	2221.							
.0920	-174.	-346.	-395.	320.	20.	-178.	.0233	.0042	.0122	.0595	.0562	-.0305	2553.							
.0930	-176.	-320.	-377.	339.	34.	-163.	.0229	.0050	.0140	.0520	.0571	-.0384	2628.							
.0940	-80.	-290.	-280.	309.	85.	-115.	.0232	.0039	.0204	.0506	.0536	-.0486	2369.							
.0950	67.	-293.	-42.	243.	174.	-37.	.0233	.0008	.0287	.0531	.0411	-.0611	2100.							
.0960	234.	-293.	235.	175.	268.	42.	.0221	-.0023	.0339	.0548	.0243	-.0722	2247.							
.0970	349.	-254.	338.	135.	316.	98.	.0184	-.0035	.0312	.0529	.0147	-.0793	2486.							
.0980	767.	-200.	262.	139.	319.	126.	.0112	-.0021	.0191	.0462	.0134	-.0827	2579.							
.0990	296.	-155.	121.	180.	300.	128.	.0012	.0013	-.0001	.0347	.0142	-.0833	2595.							
.1000	193.	-99.	-79.	233.	246.	117.	-.0092	.0057	-.0228	.0210	.0162	-.0814	2497.							
.1010	111.	-48.	-300.	271.	168.	111.	-.0176	.0100	-.0437	.0095	.0179	-.0799	2348.							
.1020	69.	-32.	-384.	276.	120.	123.	-.0233	.0135	-.0574	.0027	.0125	-.0813	2264.							
.1030	69.	-14.	-288.	248.	122.	143.	-.0258	.0166	-.0618	-.0006	-.0018	-.0840	2163.							
.1040	108.	45.	-133.	195.	130.	158.	-.0243	.0196	-.0586	-.0019	-.0192	-.0848	1964.							
.1050	152.	90.	23.	130.	115.	171.	-.0194	.0222	-.0511	-.0021	-.0568	-.0843	1695.							
.1060	150.	75.	171.	71.	73.	180.	-.0130	.0238	-.0428	-.0027	-.0536	-.0825	1439.							
.1070	79.	67.	220.	33.	-7.	165.	-.0065	.0257	-.0363	-.0062	-.0645	-.0749	1171.							
.1080	-61.	115.	157.	17.	-126.	116.	-.0007	.0283	-.0328	-.0141	-.0674	-.0588	1198.							
.1090	-240.	154.	53.	7.	-256.	60.	.0045	.0301	-.0309	-.0237	-.0675	-.0394	1831.							
.1100	-351.	132.	20.	-22.	-371.	36.	.0096	.0302	-.0285	-.0258	-.0690	-.0240	2599.							
.1110	-419.	139.	26.	-71.	-455.	17.	.0142	.0291	-.0244	-.0255	-.0720	-.0060	3207.							
.1120	-466.	200.	78.	-136.	-493.	-11.	.0179	.0269	-.0186	-.0258	-.0775	.0174	3560.							
.1130	-460.	197.	222.	-215.	-488.	-12.	.0207	.0234	-.0124	-.0213	-.0871	.0358	3709.							
.1140	-413.	134.	342.	-203.	-480.	8.	.0227	.0203	-.0087	-.0118	-.0945	.0462	3880.							
.1150	-396.	155.	311.	-313.	-495.	-3.	.0231	.0202	-.0093	-.0063	-.0929	.0586	4075.							
.1160	-444.	240.	206.	-300.	-508.	-53.	.0213	.0225	-.0135	-.0075	-.0858	.0742	4126.							
.1170	-545.	208.	112.	-259.	-515.	-95.	.0183	.0248	-.0192	-.0094	-.0767	.0831	4070.							
.1180	-620.	92.	-88.	-201.	-561.	-118.	.0169	.0274	-.0244	-.0071	-.0600	.0830	4225.							
.1190	-690.	53.	-714.	-124.	-597.	-171.	.0177	.0317	-.0247	-.0090	-.0416	.0846	4406.							
.1200	-713.	79.	-351.	-56.	-551.	-238.	.0204	.0367	-.0162	-.0139	-.0323	.0865	4195.							
.1210	-590.	24.	-212.	-31.	-440.	-249.	.0259	.0401	.0008	-.0089	-.0299	.0750	3525.							
.1220	-375.	-128.	7.	-40.	-295.	-205.	.0329	.0419	.0223	.0044	-.0302	.0505	2515.							
.1230	-123.	-170.	219.	-47.	-139.	-173.	.0389	.0451	.0426	.0160	-.0309	.0279	1578.							
.1240	71.	-120.	448.	-28.	37.	-172.	.0407	.0496	.0564	.0196	-.0336	.0127	1237.							
.1250	166.	-174.	537.	21.	167.	-162.	.0378	.0531	.0584	.0205	-.0290	-.0036	1626.							

ADLPIPE PAGE 2911

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

85/12/02.

18.30.03.

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

.1140	-413.	134.	342.	-203.	-480.	8.	.0227	.0203	-.0087	-.0118	-.0945	.0462	3880.
.1150	-396.	155.	311.	-313.	-495.	-3.	.0231	.0202	-.0093	-.0063	-.0929	.0586	4075.
.1160	-444.	240.	206.	-300.	-508.	-53.	.0213	.0225	-.0135	-.0075	-.0858	.0742	4126.
.1170	-545.	208.	112.	-254.	-515.	-95.	.0183	.0248	-.0192	-.0094	-.0767	.0831	4070.
.1180	-620.	92.	-87.	-201.	-561.	-118.	.0169	.0274	-.0244	-.0071	-.0600	.0830	4225.
.1190	-690.	53.	-714.	-124.	-597.	-171.	.0177	.0317	-.0247	-.0090	-.0416	.0846	4406.
.1200	-713.	79.	-351.	-56.	-551.	-238.	.0204	.0367	-.0162	-.0139	-.0323	.0865	4195.
.1210	-590.	24.	-212.	-71.	-440.	-249.	.0259	.0401	.0008	-.0089	-.0299	.0750	3525.
.1220	-375.	-128.	7.	-40.	-295.	-205.	.0329	.0419	.0223	.0044	-.0302	.0505	2515.
.1230	-123.	-170.	219.	-47.	-139.	-173.	.0389	.0451	.0426	.0160	-.0309	.0279	1578.
.1240	71.	-120.	448.	-28.	37.	-172.	.0407	.0496	.0564	.0196	-.0336	.0127	1237.
.1250	166.	-174.	537.	21.	167.	-162.	.0378	.0531	.0584	.0205	-.0290	-.0036	1626.

ADLPIPE PAGE 2911

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.03.

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	73	MEMBER	1	SEQUENCE	107	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)		
.1260	191.	-300.	291.	108.	196.	-145.	.0317	.0567	.0467	.0207	-.0073	-.0210	1856.		
.1270	123.	-314.	-84.	241.	188.	-179.	.0232	.0621	.0270	.0098	.0189	-.0270	2467.		
.1280	62.	-195.	-360.	374.	204.	-243.	.0143	.0680	.0070	-.0076	.0389	-.0233	3411.		
.1290	75.	-168.	-512.	447.	253.	-251.	.0075	.0698	-.0069	-.0176	.0520	-.0253	3981.		
.1300	181.	-261.	-541.	445.	327.	-188.	.0044	.0664	-.0114	-.0162	.0592	-.0352	4063.		
.1310	394.	-235.	-395.	390.	440.	-119.	.0049	.0613	-.0061	-.0118	.0554	-.0391	4172.		
.1320	625.	-90.	-23.	304.	611.	-76.	.0068	.0550	.0055	-.0126	.0372	-.0316	4778.		
.1330	837.	-37.	299.	199.	754.	-8.	.0091	.0459	.0156	-.0109	.0209	-.0246	5431.		
.1340	972.	-115.	383.	112.	811.	79.	.0105	.0356	.0178	-.0072	.0162	-.0203	5723.		
.1350	991.	-85.	313.	79.	804.	105.	.0093	.0286	.0105	-.0131	.0170	-.0052	5670.		
.1360	917.	123.	169.	93.	758.	60.	.0051	.0254	-.0042	-.0296	.0192	.0238	5332.		
.1370	731.	225.	-38.	113.	681.	23.	-.0006	.0211	-.0224	-.0461	.0239	.0517	4808.		
.1380	549.	155.	-315.	108.	564.	37.	-.0045	.0142	-.0394	-.0555	.0320	.0696	4003.		
.1390	440.	150.	-449.	77.	467.	50.	-.0046	.0078	-.0489	-.0596	.0308	.0869	3310.		
.1400	420.	298.	-328.	19.	435.	39.	-.0009	.0033	-.0478	-.0686	.0150	.1065	3040.		
.1410	474.	387.	-113.	-72.	429.	63.	.0062	-.0015	-.0385	-.0706	-.0042	.1150	3057.		
.1420	498.	299.	94.	-167.	419.	128.	.0147	-.0073	-.0253	-.0667	-.0219	.1099	3263.		
.1430	484.	277.	257.	-230.	377.	162.	.0234	-.0105	-.0132	-.0680	-.0390	.1057	3272.		
.1440	416.	399.	379.	-249.	301.	139.	.0308	-.0100	-.0059	-.0798	-.0558	.1086	2887.		
.1450	273.	430.	369.	-240.	186.	124.	.0358	-.0091	-.0053	-.0925	-.0641	.1060	2284.		
.1460	77.	307.	173.	-212.	28.	142.	.0384	-.0084	-.0109	-.1005	-.0593	.0926	1789.		
.1470	-162.	254.	-44.	-154.	-125.	129.	.0394	-.0053	-.0184	-.1140	-.0529	.0818	1645.		
.1480	-350.	366.	-177.	-86.	-255.	76.	.0406	.0004	-.0234	-.1326	-.0518	.0765	1947.		
.1490	-474.	383.	-222.	-42.	-355.	58.	.0428	.0048	-.0231	-.1447	-.0538	.0625	2525.		
.1500	-544.	220.	-214.	-32.	-418.	99.	.0458	.0065	-.0163	-.1456	-.0551	.0359	2997.		
.1510	-517.	151.	-125.	-41.	-432.	130.	.0494	.0093	-.0037	-.1430	-.0579	.0114	3149.		
.1520	-433.	248.	114.	-55.	-781.	117.	.0518	.0140	.0123	-.1436	-.0669	-.0027	2796.		
.1530	-329.	263.	328.	-77.	-324.	119.	.0521	.0176	.0260	-.1385	-.0723	-.0173	2458.		
.1540	-270.	86.	363.	-97.	-305.	150.	.0491	.0195	.0330	-.1260	-.0661	-.0364	2453.		
.1550	-250.	-25.	273.	-76.	-306.	142.	.0419	.0241	.0326	-.1153	-.0528	-.0475	2407.		
.1560	-222.	74.	174.	-76.	-288.	66.	.0304	.0333	.0267	-.1092	-.0386	-.0448	2068.		
.1570	-220.	132.	87.	29.	-236.	-16.	.0153	.0428	.0181	-.1013	-.0232	-.0391	1657.		
.1580	-212.	31.	-88.	56.	-192.	-55.	-.0003	.0494	.0086	-.0834	-.0014	-.0378	1443.		
.1590	-106.	-44.	-230.	51.	-143.	-86.	-.0151	.0547	.0020	-.0606	.0185	-.0324	1217.		
.1600	46.	7.	-158.	24.	-33.	-148.	-.0287	.0600	.0013	-.0412	.0262	-.0162	1065.		
.1610	197.	43.	-14.	-24.	110.	-202.	-.0413	.0636	.0056	-.0206	.0310	.0022	1609.		
.1620	357.	-20.	19.	-92.	210.	-218.	-.0519	.0650	.0118	.0065	.0428	.0151	2240.		
.1630	481.	-77.	81.	-152.	315.	-241.	-.0608	.0660	.0187	.0287	.0514	.0298	2958.		

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.03.

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

.1530	-320.	263.	328.	-77.	-324.	119.	.0521	.0176	.0260	-.1385	-.0723	-.0173	2796.
.1540	-270.	86.	363.	-93.	-305.	150.	.0491	.0195	.0330	-.1260	-.0661	-.0364	2453.
.1550	-250.	-25.	273.	-76.	-306.	142.	.0419	.0241	.0326	-.1153	-.0528	-.0475	2407.
.1560	-222.	74.	174.	-76.	-287.	66.	.0304	.0333	.0267	-.1092	-.0386	-.0448	2068.
.1570	-220.	132.	87.	29.	-236.	-16.	.0153	.0428	.0181	-.1013	-.0232	-.0391	1657.
.1580	-212.	31.	-88.	76.	-192.	-53.	-.0005	.0494	.0086	-.0834	-.0014	-.0378	1443.
.1590	-106.	-44.	-230.	51.	-143.	-86.	-.0151	.0547	.0020	-.0606	.0185	-.0324	1217.
.1600	46.	7.	-158.	24.	-33.	-148.	-.0287	.0600	.0013	-.0412	.0262	-.0162	1065.
.1610	197.	43.	-14.	-24.	110.	-202.	-.0413	.0636	.0056	-.0206	.0310	.0022	1609.
.1620	357.	-20.	19.	-92.	218.	-218.	-.0519	.0650	.0118	.0065	.0428	.0151	2240.
.1630	481.	-77.	81.	-152.	315.	-241.	-.0608	.0660	.0187	.0287	.0514	.0298	2958.

ADLPIPE PAGE 2912

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.03.

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	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)							
.1640	577.	-6.	187.	-194.	396.	-300.	-.0681	.0679	.0248	.0404	.0541	.0522	5713.
.1650	640.	77.	183.	-228.	427.	-353.	-.0738	.0690	.0279	.0481	.0604	.0748	4170.
.1660	628.	34.	103.	-265.	430.	-366.	-.0788	.0669	.0285	.0549	.0697	.0905	4341.
.1670	599.	6.	61.	-303.	428.	-362.	-.0826	.0635	.0280	.0576	.0744	.1037	4437.
.1680	577.	110.	92.	-339.	423.	-369.	-.0845	.0600	.0269	.0518	.0706	.1194	4566.
.1690	560.	221.	120.	-381.	397.	-349.	-.0842	.0549	.0249	.0455	.0647	.1293	4515.
.1700	531.	205.	122.	-428.	346.	-278.	-.0824	.0470	.0217	.0361	.0586	.1268	4290.
.1710	445.	192.	160.	-458.	305.	-200.	-.0796	.0385	.0177	.0229	.0489	.1193	4073.
.1720	380.	312.	157.	-465.	233.	-145.	-.0748	.0318	.0120	.0033	.0393	.1132	3759.
.1730	284.	428.	136.	-455.	143.	-85.	-.0688	.0247	.0051	-.0194	.0296	.1026	3373.
.1740	145.	388.	89.	-437.	40.	11.	-.0620	.0154	-.0022	-.0390	.0220	.0810	3058.
.1750	8.	334.	11.	-406.	-74.	109.	-.0541	.0065	-.0087	-.0569	.0165	.0546	2972.
.1760	-125.	384.	-19.	-352.	-168.	168.	-.0453	-.0000	-.0128	-.0777	.0084	.0314	2955.
.1770	-230.	435.	-14.	-287.	-241.	217.	-.0355	-.0054	-.0139	-.0954	-.0004	.0058	3017.
.1780	-326.	343.	-9.	-221.	-298.	286.	-.0253	-.0113	-.0125	-.1051	-.0071	-.0278	3261.
.1790	-382.	220.	-37.	-150.	-351.	347.	-.0147	-.0162	-.0090	-.1081	-.0102	-.0633	3590.
.1800	-406.	189.	-30.	-64.	-376.	364.	-.0050	-.0182	-.0037	-.1095	-.0137	-.0920	3669.
.1810	-450.	150.	33.	35.	-361.	351.	.0024	-.0187	.0026	-.1086	-.0180	-.1159	3511.
.1820	-472.	18.	6.	129.	-353.	346.	.0079	-.0192	.0080	-.0979	-.0145	-.1409	3556.
.1830	-476.	-148.	-73.	221.	-346.	332.	.0114	-.0190	.0121	-.0812	-.0055	-.1625	3674.
.1840	-458.	-234.	-107.	316.	-309.	279.	.0123	-.0167	.0158	-.0640	.0022	-.1739	3637.
.1850	-415.	-277.	-114.	401.	-246.	205.	.0108	-.0133	.0191	-.0445	.0097	-.1773	3573.
.1860	-356.	-391.	-141.	463.	-173.	145.	.0072	-.0108	.0217	-.0190	.0200	-.1793	3582.
.1870	-253.	-521.	-171.	496.	-95.	99.	.0020	-.0086	.0236	.0115	.0310	-.1786	3582.
.1880	-137.	-574.	-122.	513.	4.	35.	-.0051	-.0058	.0248	.0393	.0368	-.1691	3578.
.1890	-23.	-566.	-71.	515.	101.	-38.	-.0135	-.0026	.0244	.0644	.0416	-.1524	3661.
.1900	72.	-597.	-97.	499.	167.	-93.	-.0227	-.0005	.0214	.0896	.0503	-.1344	3719.
.1910	119.	-660.	-140.	473.	212.	-138.	-.0324	.0008	.0164	.1107	.0590	-.1147	3734.
.1920	151.	-639.	-185.	442.	231.	-194.	-.0412	.0026	.0107	.1242	.0657	-.0897	3723.
.1930	171.	-553.	-232.	400.	225.	-250.	-.0486	.0045	.0056	.1313	.0707	-.0619	3640.
.1940	172.	-507.	-257.	337.	209.	-276.	-.0545	.0047	.0029	.1358	.0737	-.0380	3365.
.1950	174.	-487.	-225.	249.	193.	-272.	-.0585	.0032	.0033	.1382	.0726	-.0184	2895.
.1960	199.	-402.	-126.	142.	177.	-257.	-.0604	.0013	.0065	.1358	.0659	.0008	2390.
.1970	235.	-278.	11.	26.	157.	-233.	-.0608	-.0011	.0108	.1291	.0551	.0181	1962.
.1980	250.	-207.	135.	-92.	128.	-183.	-.0608	-.0043	.0140	.1207	.0439	.0288	1678.
.1990	224.	-165.	197.	-191.	79.	-124.	-.0613	-.0073	.0139	.1097	.0350	.0344	1676.
.2000	150.	-71.	191.	-255.	9.	-86.	-.0624	-.0083	.0100	.0930	.0280	.0396	1873.
.2010	31.	49.	132.	-283.	-80.	-67.	-.0638	-.0076	.0028	.0719	.0226	.0436	2103.

ADLPIPE PAGE 2913

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.03.

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

.1910	110.	-660.	-140.	473.	212.	-136.	-.0324	.0008	.0164	.1107	.0590	-.1147	3734.
.1920	151.	-639.	-185.	442.	231.	-194.	-.0412	.0026	.0107	.1242	.0657	-.0897	3723.
.1930	171.	-553.	-232.	400.	225.	-250.	-.0486	.0045	.0056	.1313	.0707	-.0619	3640.
.1940	172.	-507.	-257.	377.	209.	-276.	-.0545	.0047	.0029	.1358	.0737	-.0380	3365.
.1950	174.	-487.	-225.	249.	193.	-272.	-.0589	.0032	.0073	.1382	.0726	-.0184	2895.
.1960	199.	-402.	-126.	142.	177.	-257.	-.0604	.0013	.0065	.1358	.0659	.0008	2390.
.1970	235.	-278.	11.	26.	157.	-233.	-.0608	-.0011	.0108	.1291	.0551	.0181	1962.
.1980	250.	-207.	135.	-92.	128.	-183.	-.0608	-.0043	.0140	.1207	.0439	.0288	1678.
.1990	224.	-165.	197.	-191.	79.	-124.	-.0613	-.0073	.0139	.1097	.0350	.0344	1676.
.2000	150.	-71.	191.	-255.	9.	-86.	-.0624	-.0083	.0100	.0930	.0280	.0396	1873.
.2010	31.	49.	132.	-203.	-80.	-67.	-.0638	-.0076	.0028	.0719	.0226	.0436	2103.

ADLPIPE PAGE 2913

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.05.

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	73	MEMBER	1	SEQUENCE	107	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)	
.2020	-113.	106.	19.	-291.	-184.	-40.		-.0649	-.0069	-.0056	.0517	.0200	.0413	2413.	
.2030	-249.	111.	-107.	-289.	-285.	-5.		-.0646	-.0062	-.0125	.0348	.0190	.0327	2826.	
.2040	-352.	140.	-168.	-281.	-356.	23.		-.0625	-.0050	-.0148	.0198	.0154	.0218	3160.	
.2050	-409.	186.	-133.	-272.	-386.	44.		-.0584	-.0035	-.0116	.0078	.0076	.0086	3304.	
.2060	-419.	176.	-50.	-268.	-392.	77.		-.0524	-.0029	-.0037	.0021	-.0014	-.0101	3348.	
.2070	-400.	110.	39.	-262.	-383.	119.		-.0453	-.0031	.0065	.0020	-.0094	-.0329	3336.	
.2080	-374.	61.	132.	-238.	-359.	144.		-.0384	-.0028	.0167	.0052	-.0169	-.0544	3164.	
.2090	-362.	42.	197.	-191.	-328.	145.		-.0327	-.0016	.0243	.0042	-.0219	-.0725	2830.	
.2100	-370.	-4.	179.	-124.	-311.	140.		-.0287	-.0007	.0275	.0069	-.0213	-.0894	2523.	
.2110	-401.	-94.	80.	-44.	-310.	135.		-.0261	-.0004	.0260	.0115	-.0154	-.1057	2373.	
.2120	-440.	-170.	-44.	46.	-314.	118.		-.0247	-.0003	.0217	.0158	-.0077	-.1184	2355.	
.2130	-466.	-204.	-152.	136.	-308.	91.		-.0237	-.0002	.0168	.0198	-.0003	-.1267	2427.	
.2140	-465.	-242.	-225.	210.	-287.	71.		-.0224	-.0011	.0136	.0260	.0062	-.1339	2525.	
.2150	-423.	-309.	-240.	259.	-248.	69.		-.0200	-.0036	.0131	.0352	.0106	-.1413	2537.	
.2160	-335.	-361.	-185.	282.	-192.	74.		-.0165	-.0071	.0155	.0454	.0113	-.1466	2430.	
.2170	-217.	-376.	-84.	289.	-129.	78.		-.0122	-.0108	.0194	.0549	.0092	-.1483	2267.	
.2180	-107.	-390.	13.	286.	-71.	83.		-.0081	-.0148	.0227	.0635	.0072	-.1477	2133.	
.2190	-31.	-420.	70.	284.	-28.	89.		-.0051	-.0186	.0235	.0705	.0070	-.1449	2079.	
.2200	5.	-431.	71.	290.	-10.	82.		-.0031	-.0214	.0207	.0738	.0086	-.1383	2098.	
.2210	10.	-406.	23.	305.	-17.	61.		-.0019	-.0229	.0146	.0730	.0115	-.1274	2165.	
.2220	-9.	-393.	-58.	370.	-39.	76.		-.0010	-.0236	.0068	.0699	.0150	-.1151	2261.	
.2230	-37.	-374.	-141.	328.	-64.	17.		-.0000	-.0241	-.0005	.0664	.0179	-.1030	2326.	
.2240	-51.	-349.	-180.	320.	-77.	3.		.0017	-.0243	-.0053	.0625	.0177	-.0906	2291.	
.2250	-39.	-300.	-149.	254.	-73.	-9.		.0046	-.0242	-.0066	.0581	.0127	-.0779	2111.	
.2260	-2.	-260.	-67.	251.	-58.	-7.		.0085	-.0243	-.0048	.0546	.0042	-.0670	1792.	
.2270	43.	-243.	28.	198.	-38.	6.		.0128	-.0245	-.0015	.0516	-.0056	-.0587	1403.	
.2280	74.	-215.	109.	150.	-19.	17.		.0168	-.0240	.0012	.0470	-.0151	-.0505	1058.	
.2290	79.	-160.	153.	118.	-6.	15.		.0197	-.0224	.0018	.0392	-.0236	-.0413	826.	
.2300	53.	-107.	137.	101.	-8.	9.		.0215	-.0200	-.0006	.0293	-.0293	-.0323	709.	
.2310	3.	-79.	62.	96.	-25.	6.		.0221	-.0174	-.0057	.0190	-.0321	-.0249	692.	
.2320	-57.	-55.	-30.	97.	-43.	3.		.0220	-.0148	-.0116	.0083	-.0335	-.0183	742.	
.2330	-110.	-14.	-102.	100.	-48.	-3.		.0216	-.0119	-.0165	-.0024	-.0352	-.0118	774.	
.2340	-139.	24.	-142.	97.	-39.	-4.		.0216	-.0094	-.0189	-.0113	-.0372	-.0069	727.	
.2350	-140.	36.	-152.	85.	-16.	5.		.0224	-.0075	-.0180	-.0173	-.0391	-.0047	604.	
.2360	-117.	34.	-127.	68.	18.	18.		.0240	-.0059	-.0139	-.0211	-.0410	-.0041	505.	
.2370	-75.	42.	-79.	52.	62.	24.		.0260	-.0040	-.0074	-.0236	-.0425	-.0036	587.	
.2380	-29.	50.	-31.	40.	109.	25.		.0279	-.0016	.0002	-.0246	-.0418	-.0032	826.	
.2390	12.	41.	-3.	36.	153.	21.		.0291	.0012	.0075	-.0237	-.0381	-.0032	1104.	

ADLPIPE PAGE 2914

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.03.

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

.2290	79.	-160.	153.	118.	-6.	15.	.0197	-.0224	.0018	.0392	-.0151	-.0505	1058.
.2300	52.	-107.	137.	101.	-8.	9.	.0215	-.0200	-.0006	.0293	-.0293	-.0323	709.
.2310	7.	-79.	62.	56.	-25.	6.	.0221	-.0174	-.0057	.0190	-.0321	-.0249	692.
.2320	-57.	-55.	-30.	57.	-43.	3.	.0220	-.0148	-.0116	.0083	-.0335	-.0183	742.
.2330	-110.	-14.	-102.	100.	-48.	-3.	.0216	-.0119	-.0165	-.0024	-.0352	-.0118	774.
.2340	-139.	24.	-142.	57.	-39.	-4.	.0216	-.0094	-.0189	-.0113	-.0372	-.0069	727.
.2350	-140.	36.	-152.	55.	-16.	5.	.0224	-.0075	-.0180	-.0173	-.0391	-.0047	604.
.2360	-117.	34.	-127.	68.	10.	18.	.0240	-.0059	-.0139	-.0211	-.0410	-.0041	505.
.2370	-75.	42.	-79.	52.	62.	24.	.0260	-.0040	-.0074	-.0236	-.0425	-.0036	587.
.2380	-29.	50.	-31.	40.	109.	25.	.0279	-.0016	.0002	-.0246	-.0418	-.0032	826.
.2390	12.	41.	-3.	76.	152.	21.	.0291	.0012	.0075	-.0257	-.0381	-.0032	1104.

ADLPIPE PAGE 2014

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/5/12/02.

18.30.03.

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	73	MEMBER	1	SEQUENCE	107	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)		
.2400	45.	23.	0.	38.	192.	11.	.0294	.0044	.0137	-.0215	-.0315	-.0025	1363.		
.2410	78.	13.	-14.	47.	225.	-8.	.0287	.0082	.0184	-.0184	-.0227	-.0005	1602.		
.2420	117.	5.	-38.	58.	258.	-31.	.0270	.0125	.0219	-.0140	-.0124	.0024	1851.		
.2430	165.	-9.	-58.	67.	295.	-53.	.0244	.0169	.0245	-.0078	-.0014	.0050	2136.		
.2440	228.	-18.	-62.	71.	339.	-73.	.0211	.0215	.0268	-.0003	.0093	.0079	2460.		
.2450	306.	-12.	-42.	66.	387.	-92.	.0175	.0260	.0288	.0077	.0187	.0116	2806.		
.2460	391.	-2.	-6.	55.	434.	-107.	.0136	.0300	.0303	.0156	.0267	.0160	3131.		
.2470	474.	3.	29.	36.	473.	-115.	.0097	.0332	.0308	.0229	.0338	.0206	3400.		
.2480	550.	15.	58.	15.	503.	-118.	.0058	.0359	.0301	.0285	.0399	.0258	3601.		
.2490	613.	49.	84.	-8.	523.	-121.	.0021	.0382	.0279	.0312	.0445	.0323	3733.		
.2500	654.	97.	103.	-31.	528.	-120.	-.0012	.0398	.0243	.0308	.0473	.0395	3774.		
.2510	673.	141.	110.	-58.	516.	-111.	-.0038	.0403	.0194	.0278	.0481	.0465	3695.		
.2520	673.	184.	116.	-88.	488.	-92.	-.0052	.0397	.0138	.0220	.0462	.0530	3513.		
.2530	659.	238.	132.	-101.	449.	-68.	-.0054	.0381	.0079	.0153	.0409	.0593	3271.		
.2540	630.	305.	153.	-157.	400.	-38.	-.0040	.0358	.0021	.0017	.0327	.0649	3001.		
.2550	584.	370.	175.	-193.	341.	-2.	-.0012	.0325	-.0035	-.0120	.0223	.0694	2726.		
.2560	519.	426.	198.	-229.	271.	40.	.0070	.0283	-.0087	-.0275	.0096	.0725	2486.		
.2570	437.	483.	218.	-262.	190.	83.	.0084	.0235	-.0138	-.0447	-.0048	.0750	2325.		
.2580	339.	540.	229.	-289.	101.	125.	.0148	.0184	-.0187	-.0628	-.0200	.0769	2301.		
.2590	227.	589.	229.	-310.	9.	166.	.0218	.0131	-.0232	-.0807	-.0351	.0782	2448.		
.2600	109.	628.	223.	-326.	-79.	203.	.0291	.0076	-.0274	-.0977	-.0499	.0791	2727.		
.2610	-9.	661.	214.	-336.	-161.	234.	.0365	.0022	-.0309	-.1133	-.0641	.0803	3064.		
.2620	-117.	680.	203.	-342.	-235.	260.	.0438	-.0031	-.0338	-.1263	-.0775	.0812	3408.		
.2630	-211.	681.	191.	-342.	-297.	279.	.0507	-.0079	-.0359	-.1360	-.0894	.0817	3704.		
.2640	-294.	674.	178.	-335.	-342.	288.	.0567	-.0120	-.0372	-.1423	-.0991	.0825	3888.		
.2650	-363.	660.	166.	-320.	-366.	285.	.0616	-.0151	-.0378	-.1452	-.1064	.0838	3924.		
.2660	-412.	633.	150.	-299.	-375.	271.	.0655	-.0173	-.0378	-.1443	-.1108	.0853	3834.		
.2670	-439.	587.	124.	-271.	-372.	249.	.0682	-.0186	-.0375	-.1395	-.1120	.0867	3642.		
.2680	-447.	530.	91.	-237.	-354.	218.	.0698	-.0189	-.0369	-.1311	-.1099	.0882	3331.		
.2690	-437.	472.	61.	-198.	-319.	175.	.0701	-.0181	-.0357	-.1199	-.1047	.0903	2882.		
.2700	-410.	411.	34.	-155.	-267.	124.	.0692	-.0163	-.0338	-.1061	-.0969	.0926	2318.		
.2710	-362.	337.	12.	-111.	-205.	71.	.0674	-.0138	-.0314	-.0899	-.0868	.0940	1699.		
.2720	-288.	255.	-2.	-69.	-135.	19.	.0650	-.0108	-.0286	-.0716	-.0750	.0941	1065.		
.2730	-195.	183.	-8.	-26.	-57.	-36.	.0618	-.0072	-.0256	-.0524	-.0618	.0940	506.		
.2740	-95.	122.	-7.	14.	28.	-93.	.0579	-.0033	-.0226	-.0333	-.0474	.0945	682.		
.2750	3.	56.	-7.	52.	115.	-146.	.0533	.0004	-.0202	-.0146	-.0321	.0948	1340.		
.2760	103.	-20.	-14.	86.	192.	-191.	.0485	.0036	-.0186	.0036	-.0163	.0942	1977.		
.2770	202.	-84.	-33.	119.	257.	-232.	.0437	.0066	-.0180	.0203	-.0003	.0935	2548.		

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/5/12/02.

18.30.04.

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

.2670	-439.	587.	124.	-271.	-372.	249.	.0682	-.0173	-.0375	-.1395	-.1120	.0867	3834.
.2680	-447.	530.	91.	-237.	-354.	218.	.0698	-.0189	-.0369	-.1311	-.1099	.0882	3331.
.2690	-437.	472.	61.	-198.	-319.	175.	.0701	-.0181	-.0357	-.1199	-.1047	.0903	2882.
.2700	-410.	411.	34.	-155.	-267.	124.	.0692	-.0163	-.0338	-.1061	-.0969	.0926	2318.
.2710	-362.	337.	12.	-111.	-205.	71.	.0674	-.0138	-.0314	-.0899	-.0868	.0940	1699.
.2720	-289.	255.	-2.	-69.	-135.	19.	.0650	-.0108	-.0286	-.0716	-.0750	.0941	1065.
.2730	-195.	183.	-8.	-26.	-57.	-36.	.0618	-.0072	-.0256	-.0524	-.0618	.0940	506.
.2740	-95.	122.	-7.	14.	28.	-93.	.0579	-.0033	-.0226	-.0333	-.0474	.0945	682.
.2750	3.	56.	-7.	52.	115.	-146.	.0533	.0004	-.0202	-.0146	-.0321	.0948	1340.
.2760	103.	-20.	-14.	86.	192.	-191.	.0485	.0036	-.0186	.0036	-.0163	.0942	1977.
.2770	202.	-84.	-33.	119.	257.	-232.	.0437	.0066	-.0180	.0203	-.0003	.0935	2548.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.04.

S/RV PIPING KEWAUNEE GKNOEF 2 RUP DISK  
2 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	73	MEMBER	1	SEQUENCE	107	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)		
.2780	291.	-122.	-53.	151.	315.	-272.	.0389	.0096	-.0180	.0344	.0151	.0934	3086.		
.2790	365.	-154.	-68.	179.	371.	-306.	.0341	.0118	-.0182	.0463	.0294	.0929	3569.		
.2800	430.	-198.	-78.	199.	417.	-325.	.0298	.0130	-.0184	.0565	.0420	.0909	3935.		
.2810	497.	-234.	-83.	212.	450.	-334.	.0264	.0134	-.0185	.0649	.0522	.0877	4171.		
.2820	560.	-246.	-75.	219.	474.	-337.	.0238	.0132	-.0183	.0709	.0594	.0844	4329.		
.2830	608.	-248.	-48.	220.	498.	-332.	.0215	.0122	-.0179	.0747	.0635	.0806	4438.		
.2840	634.	-263.	-19.	214.	516.	-316.	.0193	.0104	-.0178	.0773	.0655	.0756	4464.		
.2850	641.	-278.	-9.	208.	515.	-292.	.0175	.0081	-.0188	.0780	.0657	.0697	4370.		
.2860	628.	-272.	-15.	205.	494.	-270.	.0162	.0059	-.0209	.0762	.0639	.0640	4172.		
.2870	587.	-259.	-35.	206.	460.	-248.	.0151	.0039	-.0240	.0719	.0603	.0580	3908.		
.2880	512.	-258.	-71.	210.	414.	-223.	.0140	.0020	-.0275	.0662	.0558	.0509	3586.		
.2890	414.	-260.	-117.	216.	357.	-197.	.0136	.0002	-.0308	.0592	.0501	.0429	3210.		
.2900	311.	-248.	-153.	221.	288.	-174.	.0142	-.0012	-.0330	.0507	.0418	.0348	2803.		
.2910	209.	-233.	-165.	222.	214.	-149.	.0161	-.0024	-.0336	.0412	.0307	.0260	2382.		
.2920	104.	-233.	-159.	215.	138.	-119.	.0188	-.0037	-.0324	.0318	.0179	.0158	1964.		
.2930	-2.	-235.	-139.	203.	62.	-86.	.0221	-.0049	-.0297	.0223	.0040	.0051	1599.		
.2940	-108.	-219.	-102.	189.	-12.	-57.	.0257	-.0057	-.0264	.0116	-.0112	-.0045	1379.		
.2950	-214.	-195.	-64.	174.	-96.	-30.	.0292	-.0062	-.0234	-.0002	-.0266	-.0131	1398.		
.2960	-326.	-187.	-49.	158.	-190.	-1.	.0323	-.0067	-.0217	-.0123	-.0405	-.0218	1720.		
.2970	-445.	-181.	-59.	145.	-290.	27.	.0344	-.0069	-.0214	-.0247	-.0520	-.0294	2263.		
.2980	-567.	-151.	-77.	136.	-387.	44.	.0355	-.0064	-.0224	-.0382	-.0618	-.0341	2872.		
.2990	-681.	-105.	-95.	125.	-479.	56.	.0355	-.0057	-.0240	-.0519	-.0701	-.0363	3470.		
.3000	-775.	-80.	-114.	107.	-567.	72.	.0350	-.0054	-.0257	-.0638	-.0766	-.0377	4051.		
.3010	-842.	-72.	-124.	82.	-645.	91.	.0340	-.0054	-.0266	-.0730	-.0814	-.0385	4572.		
.3020	-879.	-46.	-108.	51.	-702.	104.	.0325	-.0050	-.0263	-.0802	-.0852	-.0367	4955.		
.3030	-892.	-3.	-67.	18.	-735.	106.	.0301	-.0042	-.0245	-.0854	-.0877	-.0322	5171.		
.3040	-883.	21.	-23.	-18.	-751.	107.	.0271	-.0034	-.0219	-.0873	-.0877	-.0267	5283.		
.3050	-854.	17.	7.	-53.	-758.	106.	.0235	-.0024	-.0190	-.0855	-.0847	-.0208	5342.		
.3060	-808.	19.	25.	-82.	-754.	92.	.0191	-.0007	-.0160	-.0814	-.0789	-.0127	5320.		
.3070	-754.	36.	35.	-101.	-732.	63.	.0136	.0019	-.0131	-.0754	-.0707	-.0020	5165.		
.3080	-696.	39.	34.	-115.	-692.	26.	.0071	.0049	-.0100	-.0667	-.0598	.0097	4887.		
.3090	-626.	15.	22.	-126.	-639.	-11.	.0000	.0080	-.0067	-.0548	-.0468	.0209	4530.		
.3100	-535.	-11.	12.	-134.	-573.	-51.	-.0071	.0111	-.0028	-.0407	-.0333	.0324	4111.		
.3110	-427.	-25.	15.	-140.	-492.	-95.	-.0142	.0145	.0018	-.0256	-.0203	.0440	3618.		
.3120	-313.	-47.	28.	-144.	-394.	-137.	-.0212	.0178	.0071	-.0093	-.0075	.0541	3070.		
.3130	-200.	-81.	39.	-147.	-287.	-171.	-.0279	.0208	.0126	.0073	.0052	.0622	2542.		
.3140	-91.	-109.	45.	-144.	-181.	-202.	-.0341	.0234	.0178	.0226	.0170	.0688	2145.		
.3150	11.	-123.	45.	-140.	-83.	-230.	-.0395	.0256	.0221	.0353	.0273	.0742	1958.		

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.04.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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



.3050	-854.	17.	7.	-53.	-758.	106.	.0235	-.0024	-.0190	-.0855	-.0847	-.0267	5283.
.3060	-808.	19.	25.	-82.	-754.	92.	.0191	-.0007	-.0160	-.0814	-.0789	-.0127	5320.
.3070	-754.	36.	35.	-101.	-732.	63.	.0136	.0019	-.0131	-.0754	-.0707	-.0020	5165.
.3080	-696.	39.	34.	-115.	-692.	26.	.0071	.0049	-.0100	-.0667	-.0598	.0097	4887.
.3090	-626.	15.	22.	-126.	-639.	-11.	.0000	.0080	-.0067	-.0548	-.0468	.0209	4530.
.3100	-535.	-11.	12.	-174.	-572.	-51.	-.0071	.0111	-.0078	-.0407	-.0333	.0324	4111.
.3110	-427.	-25.	15.	-140.	-492.	-95.	-.0142	.0145	.0018	-.0256	-.0203	.0440	3618.
.3120	-317.	-47.	28.	-144.	-394.	-137.	-.0212	.0178	.0071	-.0093	-.0075	.0541	3070.
.3130	-200.	-81.	39.	-147.	-287.	-171.	-.0279	.0208	.0126	.0073	.0052	.0622	2542.
.3140	-91.	-109.	45.	-146.	-181.	-202.	-.0341	.0234	.0178	.0226	.0170	.0688	2145.
.3150	11.	-123.	45.	-140.	-87.	-230.	-.0395	.0256	.0221	.0353	.0273	.0742	1958.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.30.04.

S/RV PIPING KEWAUNEE CRK08F 2 RUP DISK  
2 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	73	MEMBER	1	SEQUENCE	107	LOCATION	BEG	TYPE	RU					
TIME	FX	FY	FZ	MX	MY	MZ		DX	DY	DZ	FX	RY	RZ	STRESS
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)		(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
.3160	95.	-140.	33.	-131.	5.	-246.		-.0440	.0270	.0253	.0452	.0365	.0771	1942.
.3170	158.	-161.	5.	-121.	83.	-250.		-.0477	.0275	.0273	.0521	.0449	.0772	2017.
.3180	202.	-163.	-23.	-109.	151.	-244.		-.0503	.0272	.0285	.0530	.0511	.0755	2140.
.3190	234.	-143.	-41.	-100.	206.	-228.		-.0516	.0259	.0289	.0536	.0543	.0721	2252.
.3200	255.	-127.	-54.	-96.	244.	-195.		-.0513	.0232	.0287	.0488	.0549	.0657	2276.
.3210	262.	-116.	-67.	-98.	265.	-144.		-.0496	.0192	.0280	.0412	.0536	.0563	2211.
.3220	255.	-87.	-72.	-103.	275.	-85.		-.0468	.0145	.0268	.0301	.0502	.0457	2129.
.3230	231.	-31.	-66.	-108.	274.	-24.		-.0431	.0091	.0252	.0156	.0450	.0350	2059.
.3240	195.	21.	-65.	-116.	257.	43.		-.0385	.0030	.0229	-.0008	.0389	.0235	1983.
.3250	150.	54.	-76.	-126.	221.	118.		-.0333	-.0040	.0199	-.0174	.0329	.0110	1949.
.3260	98.	91.	-89.	-136.	175.	189.		-.0277	-.0110	.0166	-.0343	.0269	-.0009	2028.
.3270	44.	147.	-91.	-144.	129.	250.		-.0222	-.0177	.0134	-.0510	.0206	-.0109	2201.
.3280	-9.	199.	-87.	-152.	86.	303.		-.0169	-.0241	.0106	-.0656	.0149	-.0196	2436.
.3290	-53.	225.	-85.	-161.	42.	353.		-.0119	-.0303	.0082	-.0767	.0103	-.0280	2716.
.3300	-83.	237.	-78.	-170.	2.	392.		-.0073	-.0360	.0063	-.0841	.0065	-.0350	2971.
.3310	-101.	257.	-63.	-175.	-30.	412.		-.0034	-.0407	.0051	-.0883	.0036	-.0391	3122.
.3320	-112.	271.	-48.	-175.	-51.	416.		-.0006	-.0444	.0045	-.0887	.0025	-.0408	3161.
.3330	-118.	260.	-42.	-171.	-62.	408.		.0011	-.0475	.0043	-.0846	.0036	-.0409	3112.
.3340	-115.	233.	-42.	-164.	-69.	387.		.0020	-.0497	.0044	-.0766	.0063	-.0393	2966.
.3350	-98.	208.	-42.	-152.	-69.	351.		.0021	-.0509	.0049	-.0656	.0100	-.0354	2706.
.3360	-73.	178.	-40.	-138.	-61.	304.		.0014	-.0514	.0059	-.0519	.0146	-.0300	2361.
.3370	-44.	132.	-35.	-124.	-42.	252.		-.0000	-.0514	.0074	-.0355	.0199	-.0244	1977.
.3380	-10.	82.	-27.	-110.	-17.	197.		-.0019	-.0510	.0092	-.0174	.0253	-.0185	1573.
.3390	32.	41.	-14.	-96.	10.	138.		-.0039	-.0501	.0111	.0008	.0300	-.0121	1171.
.3400	72.	1.	1.	-83.	34.	80.		-.0060	-.0491	.0126	.0185	.0339	-.0059	837.
.3410	103.	-47.	6.	-72.	54.	28.		-.0082	-.0482	.0135	.0354	.0375	-.0008	653.
.3420	120.	-90.	3.	-60.	67.	-20.		-.0103	-.0473	.0136	.0500	.0405	.0035	644.
.3430	124.	-112.	-4.	-49.	73.	-64.		-.0122	-.0464	.0130	.0614	.0424	.0077	759.
.3440	117.	-124.	-14.	-40.	68.	-101.		-.0134	-.0457	.0118	.0695	.0427	.0107	893.
.3450	100.	-143.	-27.	-36.	51.	-124.		-.0139	-.0457	.0102	.0748	.0418	.0117	969.
.3460	74.	-157.	-37.	-27.	28.	-136.		-.0136	-.0461	.0086	.0772	.0393	.0110	998.
.3470	41.	-147.	-33.	-42.	3.	-140.		-.0127	-.0467	.0072	.0763	.0349	.0095	1018.
.3480	5.	-124.	-18.	-52.	-25.	-137.		-.0111	-.0476	.0061	.0726	.0289	.0072	1033.
.3490	-37.	-107.	-5.	-66.	-59.	-122.		-.0088	-.0490	.0048	.0671	.0222	.0033	1050.
.3500	-83.	-96.	1.	-82.	-99.	-100.		-.0062	-.0507	.0034	.0602	.0152	-.0016	1131.
.3510	-134.	-72.	5.	-95.	-139.	-77.		-.0035	-.0522	.0016	.0517	.0082	-.0064	1291.
.3520	-189.	-35.	4.	-105.	-177.	-57.		-.0009	-.0533	-.0004	.0423	.0016	-.0108	1486.
.3530	-245.	-6.	-6.	-112.	-212.	-37.		.0015	-.0543	-.0025	.0333	-.0038	-.0156	1689.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.30.04.

S/RV PIPING KEWAUNEE CRK08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

.3440	117.	-124.	-14.	-40.	69.	-101.	-.0122	-.0464	.0130	.0614	.0424	.0077	759.
.3450	100.	-143.	-27.	-36.	51.	-124.	-.0139	-.0457	.0102	.0748	.0418	.0117	969.
.3460	74.	-157.	-37.	-77.	28.	-126.	-.0136	-.0461	.0086	.0772	.0393	.0110	998.
.3470	41.	-147.	-37.	-42.	3.	-140.	-.0127	-.0467	.0072	.0763	.0349	.0095	1018.
.3480	5.	-124.	-10.	-52.	-25.	-137.	-.0111	-.0476	.0061	.0726	.0289	.0072	1033.
.3490	-37.	-107.	-5.	-66.	-59.	-122.	-.0088	-.0490	.0048	.0671	.0222	.0033	1050.
.3500	-83.	-96.	1.	-82.	-99.	-100.	-.0062	-.0507	.0034	.0602	.0152	-.0016	1131.
.3510	-134.	-72.	5.	-95.	-139.	-77.	-.0035	-.0522	.0016	.0517	.0082	-.0064	1291.
.3520	-189.	-35.	4.	-105.	-177.	-57.	-.0009	-.0533	-.0004	.0423	.0016	-.0108	1486.
.3530	-245.	-6.	-6.	-112.	-212.	-37.	.0015	-.0543	-.0025	.0333	-.0038	-.0156	1689.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.30.04.

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	73	MEMBER	1	SEQUENCE	107	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)	
.3540	-295.	9.	-23.	-116.	-244.	-15.		.0038	-.0550	-.0046	.0255	-.0081	-.0208	1883.	
.3550	-331.	25.	-35.	-118.	-267.	4.		.0060	-.0555	-.0062	.0192	-.0117	-.0257	2034.	
.3560	-351.	44.	-38.	-118.	-278.	17.		.0080	-.0554	-.0071	.0147	-.0145	-.0301	2103.	
.3570	-356.	56.	-34.	-115.	-274.	27.		.0097	-.0551	-.0073	.0129	-.0161	-.0343	2074.	
.3580	-346.	53.	-26.	-110.	-256.	36.		.0109	-.0546	-.0068	.0139	-.0162	-.0385	1957.	
.3590	-320.	44.	-16.	-100.	-230.	40.		.0118	-.0538	-.0061	.0172	-.0151	-.0421	1767.	
.3600	-281.	34.	-10.	-85.	-196.	38.		.0123	-.0528	-.0055	.0224	-.0125	-.0450	1509.	
.3610	-236.	15.	-12.	-64.	-155.	32.		.0123	-.0515	-.0051	.0294	-.0082	-.0476	1186.	
.3620	-180.	-12.	-24.	-35.	-108.	22.		.0117	-.0500	-.0051	.0378	-.0022	-.0500	806.	
.3630	-137.	-40.	-42.	-1.	-57.	9.		.0110	-.0483	-.0052	.0470	.0049	-.0520	404.	
.3640	-79.	-68.	-60.	36.	-5.	-6.		.0102	-.0467	-.0052	.0565	.0123	-.0537	257.	
.3650	-15.	-103.	-74.	74.	48.	-20.		.0096	-.0452	-.0049	.0664	.0198	-.0559	630.	
.3660	54.	-145.	-82.	112.	102.	-30.		.0094	-.0440	-.0041	.0763	.0270	-.0586	1075.	
.3670	125.	-181.	-78.	148.	160.	-38.		.0094	-.0428	-.0026	.0856	.0334	-.0615	1537.	
.3680	198.	-208.	-63.	182.	216.	-45.		.0097	-.0417	-.0006	.0937	.0385	-.0643	1992.	
.3690	268.	-237.	-44.	213.	267.	-47.		.0103	-.0408	.0015	.1006	.0426	-.0676	2401.	
.3700	330.	-270.	-30.	242.	309.	-44.		.0110	-.0400	.0028	.1061	.0458	-.0713	2747.	
.3710	380.	-294.	-22.	269.	343.	-39.		.0115	-.0390	.0036	.1095	.0481	-.0748	3042.	
.3720	414.	-302.	-20.	295.	368.	-35.		.0118	-.0376	.0035	.1105	.0493	-.0772	3292.	
.3730	432.	-301.	-25.	319.	383.	-30.		.0118	-.0361	.0026	.1094	.0495	-.0789	3474.	
.3740	436.	-303.	-39.	336.	386.	-21.		.0118	-.0345	.0011	.1066	.0486	-.0801	3567.	
.3750	429.	-301.	-53.	347.	379.	-10.		.0118	-.0329	-.0006	.1020	.0463	-.0804	3576.	
.3760	414.	-284.	-60.	350.	365.	1.		.0119	-.0310	-.0019	.0957	.0423	-.0792	3520.	
.3770	390.	-254.	-57.	345.	347.	12.		.0121	-.0289	-.0026	.0879	.0367	-.0764	3405.	
.3780	359.	-222.	-45.	330.	324.	25.		.0125	-.0269	-.0025	.0790	.0297	-.0724	3221.	
.3790	323.	-190.	-26.	305.	294.	41.		.0131	-.0251	-.0017	.0693	.0214	-.0671	2960.	
.3800	282.	-150.	-3.	271.	257.	56.		.0139	-.0235	-.0005	.0584	.0121	-.0600	2629.	
.3810	235.	-100.	20.	232.	214.	70.		.0147	-.0218	.0009	.0465	.0023	-.0512	2251.	
.3820	180.	-45.	41.	138.	169.	83.		.0151	-.0202	.0022	.0337	-.0075	-.0411	1853.	
.3830	119.	11.	57.	141.	120.	97.		.0153	-.0188	.0032	.0204	-.0169	-.0298	1457.	
.3840	56.	71.	67.	92.	68.	110.		.0151	-.0177	.0037	.0065	-.0260	-.0176	1102.	
.3850	-7.	133.	74.	40.	13.	123.		.0147	-.0168	.0040	-.0075	-.0345	-.0048	908.	
.3860	-57.	193.	82.	-13.	-37.	138.		.0139	-.0162	.0042	-.0210	-.0422	.0079	999.	
.3870	-103.	253.	93.	-65.	-81.	153.		.0126	-.0159	.0045	-.0337	-.0490	.0206	1286.	
.3880	-138.	315.	109.	-117.	-117.	167.		.0111	-.0158	.0049	-.0455	-.0547	.0330	1635.	
.3890	-160.	368.	130.	-168.	-145.	181.		.0093	-.0160	.0054	-.0558	-.0594	.0445	1996.	
.3900	-167.	406.	152.	-215.	-167.	198.		.0073	-.0164	.0061	-.0642	-.0627	.0539	2342.	
.3910	-162.	436.	163.	-254.	-180.	213.		.0049	-.0166	.0066	-.0707	-.0641	.0612	2624.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.30.04.

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

.3810	235.	-100.	20.	232.	214.	70.	.147	-.0218	.0009	.0465	.0023	-.0512	2629.
.3820	180.	-45.	41.	188.	169.	82.	.151	-.0202	.0022	.0337	-.0075	-.0411	1853.
.3830	110.	11.	57.	141.	120.	97.	.0153	-.0188	.0032	.0204	-.0169	-.0298	1457.
.3840	56.	71.	67.	52.	60.	110.	.0151	-.0177	.0037	.0065	-.0260	-.0176	1102.
.3850	-7.	123.	74.	46.	13.	123.	.0147	-.0168	.0040	-.0075	-.0345	-.0048	908.
.3860	-57.	103.	82.	-13.	-37.	104.	.0139	-.0162	.0042	-.0210	-.0422	.0079	999.
.3870	-103.	253.	93.	-65.	-81.	153.	.0126	-.0159	.0045	-.0337	-.0490	.0206	1286.
.3880	-135.	315.	109.	-117.	-117.	167.	.0111	-.0158	.0049	-.0455	-.0547	.0330	1635.
.3890	-160.	368.	130.	-166.	-145.	181.	.0093	-.0160	.0054	-.0558	-.0594	.0445	1996.
.3900	-167.	406.	152.	-215.	-167.	198.	.0073	-.0164	.0061	-.0642	-.0627	.0539	2342.
.3910	-162.	436.	169.	-254.	-180.	213.	.0049	-.0166	.0066	-.0707	-.0641	.0612	2624.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02.

18.30.04.

S/RV PIPING KEWAUNEE CKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

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

SECTION	73	MEMBER	1	SEQUENCE	107	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)
.3920	-140.	468.	183.	-281.	-183.	221.		.0021	-.0161	.0072	-.0756	-.0637	.0665	2796.
.3930	-125.	494.	196.	-257.	-173.	225.		-.0012	-.0152	.0076	-.0788	-.0615	.0697	2863.
.3940	-97.	408.	200.	-303.	-157.	228.		-.0048	-.0140	.0078	-.0796	-.0576	.0699	2860.
.3950	-49.	483.	195.	-300.	-135.	229.		-.0085	-.0125	.0080	-.0780	-.0519	.0672	2791.
.3960	5.	464.	190.	-286.	-104.	225.		-.0124	-.0104	.0082	-.0744	-.0452	.0624	2652.
.3970	65.	444.	192.	-262.	-60.	215.		-.0164	-.0077	.0088	-.0692	-.0376	.0556	2394.
.3980	129.	409.	192.	-230.	-9.	203.		-.0205	-.0047	.0096	-.0622	-.0293	.0466	2136.
.3990	196.	358.	188.	-193.	43.	190.		-.0244	-.0015	.0105	-.0537	-.0205	.0354	1910.
.4000	264.	300.	182.	-150.	93.	175.		-.0278	.0018	.0114	-.0445	-.0118	.0226	1732.

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)
.1340	-972.	115.	-283.	-112.	-811.	-79.		.0105	.0356	.0178	-.0072	.0162	-.0203	5723.

SECTION	73	MEMBER	1	SEQUENCE	707	LOCATION	END	TYPE	RU					
TIME	FX	FY	FZ	MX	MY	MZ		DX	DY	DZ	RX	RY	RZ	STRESS
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)		(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
0.0000	0.	0.	0.	0.	0.	0.		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.
.0010	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	2.
.0040	-1.	-0.	0.	0.	-1.	-0.		-.0000	-.0000	-.0000	-.0000	-.0001	.0000	5.
.0050	-3.	-1.	-1.	0.	-1.	-1.		-.0000	-.0000	-.0000	.0000	-.0002	-.0000	10.
.0060	-6.	-2.	-3.	1.	-2.	-2.		-.0001	-.0000	-.0001	.0002	-.0005	-.0001	22.
.0070	-11.	-3.	-5.	2.	-5.	-3.		-.0002	-.0000	-.0002	.0003	-.0010	-.0001	41.
.0080	-16.	-5.	-8.	3.	-8.	-5.		-.0005	-.0001	-.0005	.0004	-.0016	-.0001	69.
.0090	-25.	-7.	-10.	5.	-13.	-8.		-.0009	-.0002	-.0010	.0006	-.0023	-.0001	110.
.0100	-37.	-11.	-14.	7.	-20.	-13.		-.0015	-.0003	-.0016	.0010	-.0032	-.0004	170.
.0110	-55.	-17.	-21.	12.	-28.	-21.		-.0025	-.0004	-.0026	.0017	-.0042	-.0008	255.
.0120	-75.	-26.	-28.	19.	-38.	-32.		-.0039	-.0005	-.0038	.0028	-.0053	-.0012	369.
.0130	-95.	-37.	-35.	27.	-50.	-45.		-.0057	-.0009	-.0054	.0043	-.0061	-.0012	504.
.0140	-112.	-46.	-38.	37.	-62.	-57.		-.0080	-.0015	-.0074	.0060	-.0067	-.0006	641.
.0150	-124.	-50.	-36.	44.	-75.	-66.		-.0105	-.0023	-.0097	.0077	-.0068	.0004	759.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02.

18.30.04.

S/RV PIPING KEWAUNEE CKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

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

.0050	-7.	-1.	-1.	0.	-1.	-1.	-1.	-.0000	-.0000	-.0000	.0000	-.0002	-.0000	10.
.0060	-6.	-2.	-3.	1.	-2.	-2.	-2.	-.0001	-.0000	-.0001	.0002	-.0005	-.0001	22.
.0070	-11.	-3.	-5.	2.	-5.	-3.	-3.	-.0002	-.0000	-.0002	.0003	-.0010	-.0001	41.
.0080	-16.	-5.	-8.	3.	-8.	-5.	-5.	-.0005	-.0001	-.0005	.0004	-.0016	-.0001	69.
.0090	-25.	-7.	-10.	5.	-17.	-8.	-8.	-.0009	-.0002	-.0010	.0006	-.0023	-.0001	110.
.0100	-37.	-11.	-14.	7.	-20.	-13.	-13.	-.0015	-.0003	-.0016	.0010	-.0032	-.0004	170.
.0110	-55.	-17.	-21.	12.	-28.	-21.	-21.	-.0025	-.0004	-.0026	.0017	-.0042	-.0008	255.
.0120	-75.	-26.	-28.	19.	-38.	-32.	-32.	-.0039	-.0005	-.0038	.0028	-.0053	-.0012	369.
.0130	-95.	-37.	-35.	27.	-50.	-45.	-45.	-.0057	-.0009	-.0054	.0043	-.0061	-.0012	504.
.0140	-112.	-46.	-38.	37.	-62.	-57.	-57.	-.0080	-.0015	-.0074	.0060	-.0067	-.0006	641.
.0150	-124.	-50.	-36.	44.	-75.	-66.	-66.	-.0105	-.0023	-.0097	.0077	-.0068	.0004	759.

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D15/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.04.

S/RV PIPING KEWAUNEE CKNOEF 2 RUP DISK  
2 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	73	MEMBER	1	SEQUENCE	707	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)		
.0160	-120.	-52.	-26.	49.	-86.	-70.	-.0130	-.0029	-.0122	.0090	-.0063	.0020	846.		
.0170	-118.	-53.	-8.	49.	-94.	-69.	-.0152	-.0032	-.0145	.0095	-.0049	.0038	884.		
.0180	-92.	-54.	18.	45.	-95.	-64.	-.0165	-.0031	-.0159	.0089	-.0025	.0056	857.		
.0190	-51.	-53.	49.	38.	-84.	-53.	-.0167	-.0025	-.0161	.0076	.0012	.0069	743.		
.0200	2.	-48.	73.	31.	-55.	-39.	-.0153	-.0017	-.0142	.0059	.0060	.0074	520.		
.0210	56.	-37.	79.	27.	-6.	-24.	-.0122	-.0006	-.0101	.0048	.0115	.0063	254.		
.0220	81.	-31.	60.	33.	57.	-19.	-.0076	.0006	-.0036	.0064	.0171	.0027	477.		
.0230	88.	-30.	11.	48.	129.	-22.	-.0022	.0017	.0044	.0099	.0217	-.0016	971.		
.0240	106.	-20.	-64.	59.	208.	-19.	.0031	.0018	.0124	.0127	.0239	-.0043	1513.		
.0250	150.	6.	-122.	59.	281.	1.	.0081	.0011	.0187	.0126	.0248	-.0048	1999.		
.0260	191.	35.	-116.	53.	328.	22.	.0131	.0007	.0222	.0105	.0269	-.0065	2316.		
.0270	192.	43.	-78.	45.	349.	21.	.0174	.0017	.0229	.0095	.0296	-.0121	2453.		
.0280	231.	45.	-72.	21.	366.	26.	.0195	.0031	.0213	.0055	.0293	-.0161	2558.		
.0290	364.	57.	-38.	-29.	372.	60.	.0201	.0034	.0178	-.0067	.0285	-.0139	2631.		
.0300	444.	59.	128.	-77.	334.	80.	.0221	.0037	.0138	-.0174	.0338	-.0155	2447.		
.0310	441.	93.	244.	-116.	313.	100.	.0257	.0041	.0114	-.0230	.0381	-.0186	2427.		
.0320	447.	128.	215.	-145.	321.	123.	.0285	.0037	.0127	-.0279	.0356	-.0222	2593.		
.0330	431.	97.	150.	-141.	298.	106.	.0304	.0024	.0178	-.0295	.0301	-.0221	2414.		
.0340	317.	69.	37.	-111.	274.	71.	.0327	.0004	.0240	-.0224	.0211	-.0244	2115.		
.0350	155.	140.	-161.	-89.	287.	79.	.0343	-.0020	.0278	-.0111	.0066	-.0306	2164.		
.0360	27.	215.	-271.	-84.	254.	102.	.0333	-.0034	.0271	-.0029	-.0061	-.0347	1991.		
.0370	-67.	170.	-203.	-86.	114.	76.	.0280	-.0021	.0212	.0015	-.0116	-.0338	1131.		
.0380	-118.	92.	-127.	-107.	-38.	49.	.0185	.0012	.0101	.0032	-.0160	-.0293	861.		
.0390	-73.	110.	-54.	-167.	-156.	97.	.0068	.0036	-.0049	-.0006	-.0190	-.0202	1728.		
.0400	19.	174.	221.	-247.	-314.	187.	-.0032	.0046	-.0202	-.0092	-.0117	-.0066	3067.		
.0410	16.	190.	553.	-301.	-485.	237.	-.0095	.0068	-.0303	-.0128	.0007	.0038	4300.		
.0420	-54.	176.	568.	-317.	-552.	256.	-.0137	.0103	-.0310	-.0098	.0009	.0094	4777.		
.0430	-107.	140.	355.	-290.	-545.	251.	-.0161	.0129	-.0212	-.0025	-.0075	.0143	4641.		
.0440	-229.	74.	180.	-206.	-552.	202.	-.0148	.0134	-.0047	.0131	-.0134	.0174	4334.		
.0450	-463.	91.	-63.	-95.	-485.	160.	-.0100	.0117	.0123	.0370	-.0228	.0133	3613.		
.0460	-669.	193.	-418.	-6.	-345.	162.	-.0065	.0095	.0247	.0574	-.0364	.0066	2655.		
.0470	-702.	181.	-501.	44.	-328.	139.	-.0082	.0087	.0298	.0616	-.0390	.0099	2500.		
.0480	-595.	12.	-279.	63.	-440.	65.	-.0149	.0097	.0264	.0499	-.0288	.0237	3125.		
.0490	-455.	-93.	-99.	51.	-481.	26.	-.0231	.0104	.0149	.0321	-.0191	.0357	3370.		
.0500	-320.	-52.	56.	25.	-452.	46.	-.0298	.0090	.0000	.0156	-.0084	.0406	3165.		
.0510	-191.	-40.	356.	23.	-476.	34.	-.0345	.0066	-.0115	.0025	.0097	.0435	3325.		
.0520	-88.	-145.	509.	68.	-470.	-54.	-.0371	.0045	-.0147	-.0074	.0214	.0466	3324.		
.0530	-49.	-260.	280.	151.	-325.	-163.	-.0366	.0019	-.0090	-.0116	.0161	.0449	2740.		

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ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.04.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

.0430	-167.	140.	55.	-200.	-545.	251.	-.0161	.0129	-.0212	-.0025	-.0075	.0143	.0074	2777.
.0440	-220.	74.	180.	-200.	-552.	202.	-.0148	.0134	-.0047	-.0131	-.0134	.0174	.0074	4334.
.0450	-467.	91.	-63.	-95.	-485.	160.	-.0100	.0117	.0123	.0370	-.0228	.0133	.0074	3613.
.0460	-669.	193.	-410.	-6.	-345.	162.	-.0065	.0095	.0247	.0574	-.0364	.0066	.0074	2655.
.0470	-702.	181.	-501.	44.	-320.	139.	-.0082	.0087	.0298	.0616	-.0390	.0099	.0074	2500.
.0480	-595.	12.	-270.	63.	-440.	65.	-.0149	.0097	.0264	.0499	-.0288	.0237	.0074	3125.
.0490	-455.	-93.	-99.	51.	-481.	26.	-.0231	.0104	.0149	.0321	-.0191	.0357	.0074	3370.
.0500	-320.	-52.	54.	25.	-452.	46.	-.0298	.0090	.0000	.0156	-.0084	.0406	.0074	3165.
.0510	-191.	-40.	356.	23.	-476.	34.	-.0345	.0066	-.0115	.0025	.0097	.0435	.0074	3325.
.0520	-87.	-145.	509.	68.	-470.	-54.	-.0371	.0045	-.0147	-.0074	.0214	.0466	.0074	3324.
.0530	-40.	-260.	280.	151.	-325.	-163.	-.0366	.0019	-.0090	-.0116	.0161	.0449	.0074	2740.

ADLPIPE PAGE 2020

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.04.

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	73	MEMBER	1	SEQUENCE	707	LOCATION	END	TYPE	FU						
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)		
.0540	-106.	-302.	-6.	260.	-153.	-260.	-.0312	-.0017	.0035	-.0066	.0084	.0347	2774.		
.0550	-237.	-295.	-142.	375.	-31.	-349.	-.0222	-.0059	.0177	.0045	.0070	.0189	3571.		
.0560	-326.	-292.	-357.	467.	126.	-422.	-.0146	-.0095	.0296	.0113	.0010	.0051	4470.		
.0570	-309.	-334.	-605.	520.	287.	-485.	-.0116	-.0111	.0356	.0086	-.0071	-.0028	5335.		
.0580	-190.	-406.	-542.	525.	316.	-535.	-.0128	-.0106	.0338	-.0008	-.0012	-.0065	5664.		
.0590	-11.	-421.	-235.	477.	268.	-535.	-.0157	-.0093	.0247	-.0145	.0158	-.0087	5327.		
.0600	186.	-361.	-3.	393.	281.	-474.	-.0184	-.0079	.0118	-.0317	.0294	-.0103	4712.		
.0610	359.	-314.	177.	309.	306.	-413.	-.0196	-.0055	.0014	-.0479	.0404	-.0125	4173.		
.0620	473.	-317.	378.	247.	275.	-386.	-.0185	-.0012	-.0011	-.0567	.0525	-.0184	3718.		
.0630	515.	-312.	377.	210.	292.	-365.	-.0142	-.0036	.0058	-.0567	.0548	-.0291	3567.		
.0640	460.	-278.	104.	207.	412.	-343.	-.0062	.0069	.0198	-.0487	.0436	-.0426	4003.		
.0650	302.	-225.	-187.	238.	529.	-332.	.0044	.0082	.0365	-.0317	.0299	-.0580	4657.		
.0660	120.	-131.	-399.	267.	592.	-308.	.0139	.0089	.0506	-.0103	.0186	-.0744	5004.		
.0670	10.	-38.	-600.	260.	631.	-263.	.0182	.0102	.0567	.0048	.0062	-.0860	5094.		
.0680	16.	-45.	-649.	219.	605.	-238.	.0167	.0129	.0515	.0075	-.0009	-.0876	4773.		
.0690	89.	-97.	-404.	141.	475.	-215.	.0110	.0159	.0550	.0018	.0048	-.0814	3759.		
.0700	228.	-47.	-32.	22.	321.	-125.	.0028	.0175	.0113	-.0072	.0165	-.0723	2402.		
.0710	393.	55.	276.	-104.	202.	-3.	-.0054	.0172	-.0126	-.0165	.0260	-.0604	1584.		
.0720	484.	53.	504.	-175.	95.	51.	-.0108	.0161	-.0295	-.0208	.0325	-.0457	1429.		
.0730	461.	-4.	575.	-182.	21.	49.	-.0116	.0142	-.0353	-.0143	.0327	-.0335	1321.		
.0740	356.	34.	397.	-154.	40.	74.	-.0075	.0103	-.0299	.0031	.0222	-.0272	1223.		
.0750	189.	120.	98.	-100.	110.	110.	.0007	.0048	-.0171	.0269	.0057	-.0236	1286.		
.0760	-22.	137.	-168.	-23.	166.	105.	.0106	-.0003	-.0021	.0515	-.0100	-.0186	1378.		
.0770	-191.	128.	-399.	37.	206.	98.	.0181	-.0042	.0091	.0710	-.0239	-.0116	1608.		
.0780	-243.	155.	-525.	45.	207.	132.	.0206	-.0067	.0123	.0814	-.0324	-.0022	1736.		
.0790	-198.	160.	-396.	13.	119.	175.	.0185	-.0082	.0058	.0821	-.0283	.0118	1474.		
.0800	-105.	129.	-97.	-42.	-14.	209.	.0133	-.0092	-.0084	.0756	-.0153	.0297	1489.		
.0810	27.	145.	180.	-117.	-116.	273.	.0063	-.0105	-.0253	.0657	-.0024	.0471	2217.		
.0820	161.	199.	400.	-189.	-205.	347.	-.0003	-.0115	-.0385	.0577	.0093	.0597	3100.		
.0830	214.	199.	562.	-222.	-296.	369.	-.0039	-.0112	-.0432	.0559	.0189	.0658	3635.		
.0840	155.	159.	510.	-208.	-315.	345.	-.0029	-.0101	-.0381	.0608	.0189	.0646	3560.		
.0850	35.	174.	250.	-175.	-249.	332.	.0021	-.0094	-.0251	.0708	.0094	.0562	3133.		
.0860	-100.	239.	16.	-139.	-189.	335.	.0096	-.0087	-.0079	.0831	.0014	.0425	2843.		
.0870	-210.	279.	-115.	-113.	-161.	327.	.0170	-.0070	.0086	.0923	-.0011	.0281	2658.		
.0880	-241.	282.	-221.	-118.	-124.	321.	.0218	-.0040	.0203	.0915	-.0016	.0170	2534.		
.0890	-166.	285.	-210.	-167.	-114.	338.	.0235	-.0003	.0256	.0799	.0039	.0099	2743.		
.0900	-31.	305.	23.	-247.	-170.	374.	.0231	.0035	.0252	.0622	.0200	.0043	3358.		
.0910	96.	326.	292.	-333.	-249.	411.	.0220	.0069	.0221	.0431	.0372	-.0018	4068.		

ADLPIPE PAGE 2021

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.04.

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

.0800	-107.	119.	-91.	-41.	-11.	289.	.0173	-.0092	-.0084	.0756	-.0153	.0297	1489.
.0810	27.	145.	180.	-117.	-116.	273.	.0063	-.0105	-.0253	.0657	-.0024	.0471	2217.
.0820	161.	199.	400.	-189.	-205.	347.	-.0003	-.0115	-.0385	.0577	.0093	.0597	3100.
.0830	214.	199.	562.	-222.	-296.	369.	-.0039	-.0112	-.0432	.0559	.0189	.0658	3635.
.0840	155.	159.	510.	-201.	-315.	345.	-.0029	-.0101	-.0381	.0608	.0189	.0646	3560.
.0850	31.	174.	250.	-175.	-249.	332.	.0021	-.0094	-.0251	.0708	.0094	.0562	3133.
.0860	-100.	229.	16.	-179.	-180.	335.	.0096	-.0087	-.0079	.0831	.0014	.0425	2843.
.0870	-210.	279.	-115.	-113.	-161.	327.	.0170	-.0070	.0086	.0923	-.0011	.0281	2658.
.0880	-241.	282.	-221.	-118.	-124.	321.	.0218	-.0040	.0203	.0915	-.0016	.0170	2534.
.0890	-166.	285.	-210.	-167.	-114.	338.	.0235	-.0003	.0256	.0799	.0039	.0099	2743.
.0900	-31.	305.	23.	-247.	-170.	374.	.0231	.0035	.0252	.0622	.0200	.0043	3358.
.0910	96.	336.	292.	-333.	-249.	411.	.0220	.0069	.0221	.0431	.0372	-.0018	4068.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.04.

S/RV PIPING KEWAUNEE CRW00F 2 RUP DISK  
2 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	73	MEMBER	1	SEQUENCE	707	LOCATION	END	TYPE	FU					
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	174.	346.	395.	-393.	-265.	424.		.0210	.0095	.0202	.0263	.0453	-.0090	4429.
.0930	176.	320.	377.	-406.	-266.	391.		.0206	.0113	.0222	.0171	.0456	-.0189	4338.
.0940	88.	290.	280.	-370.	-266.	321.		.0211	.0120	.0277	.0186	.0401	-.0336	3883.
.0950	-67.	293.	42.	-305.	-218.	245.		.0218	.0115	.0338	.0271	.0260	-.0517	3120.
.0960	-234.	293.	-235.	-236.	-150.	167.		.0214	.0107	.0361	.0350	.0081	-.0686	2269.
.0970	-349.	254.	-338.	-188.	-149.	82.		.0182	.0109	.0317	.0369	-.0032	-.0809	1767.
.0980	-367.	200.	-262.	-182.	-210.	17.		.0111	.0127	.0194	.0301	-.0070	-.0880	1937.
.0990	-296.	155.	-121.	-213.	-277.	-18.		.0010	.0155	.0003	.0149	-.0080	-.0903	2431.
.1000	-193.	99.	79.	-254.	-343.	-46.		-.0095	.0190	-.0219	-.0034	-.0065	-.0894	2991.
.1010	-111.	48.	300.	-281.	-405.	-77.		-.0181	.0225	-.0422	-.0182	-.0041	-.0890	3472.
.1020	-69.	32.	384.	-283.	-408.	-100.		-.0236	.0260	-.0565	-.0255	-.0078	-.0919	3526.
.1030	-69.	14.	288.	-251.	-342.	-132.		-.0254	.0295	-.0630	-.0259	-.0196	-.0964	3091.
.1040	-108.	-45.	133.	-185.	-247.	-190.		-.0232	.0328	-.0623	-.0217	-.0337	-.0997	2523.
.1050	-152.	-90.	-23.	-111.	-130.	-235.		-.0176	.0355	-.0573	-.0152	-.0463	-.1011	2025.
.1060	-150.	-75.	-171.	-55.	17.	-233.		-.0106	.0370	-.0511	-.0102	-.0558	-.0992	1673.
.1070	-79.	-67.	-228.	-19.	153.	-212.		-.0037	.0376	-.0458	-.0099	-.0583	-.0899	1826.
.1080	61.	-115.	-157.	8.	251.	-199.		.0020	.0372	-.0420	-.0155	-.0529	-.0713	2228.
.1090	240.	-154.	-53.	26.	345.	-170.		.0070	.0354	-.0394	-.0234	-.0442	-.0484	2681.
.1100	351.	-132.	-20.	50.	459.	-130.		.0120	.0330	-.0365	-.0228	-.0370	-.0303	3340.
.1110	419.	-139.	-26.	100.	562.	-116.		.0167	.0291	-.0324	-.0175	-.0328	-.0106	4053.
.1120	466.	-200.	-78.	178.	647.	-132.		.0205	.0234	-.0271	-.0108	-.0336	.0137	4759.
.1130	460.	-197.	-222.	256.	743.	-128.		.0237	.0175	-.0223	.0015	-.0398	.0327	5539.
.1140	413.	-134.	-342.	211.	811.	-104.		.0260	.0135	-.0197	.0170	-.0448	.0437	6089.
.1150	396.	-155.	-311.	346.	800.	-108.		.0263	.0118	-.0201	.0257	-.0431	.0566	6110.
.1160	444.	-240.	-206.	351.	749.	-118.		.0242	.0115	-.0232	.0243	-.0373	.0737	5817.
.1170	545.	-208.	-112.	303.	710.	-53.		.0208	.0120	-.0275	.0184	-.0293	.0865	5389.
.1180	620.	-92.	80.	220.	628.	52.		.0187	.0144	-.0300	.0142	-.0142	.0910	4650.
.1190	690.	-53.	314.	135.	519.	133.		.0186	.0180	-.0276	.0047	.0013	.0974	3845.
.1200	713.	-79.	351.	73.	451.	182.		.0210	.0220	-.0179	-.0063	.0063	.1035	3421.
.1210	590.	-24.	212.	36.	414.	232.		.0265	.0271	-.0011	-.0040	.0030	.0942	3310.
.1220	375.	128.	-7.	13.	370.	296.		.0337	.0334	.0196	.0086	-.0043	.0704	3348.
.1230	123.	170.	-219.	11.	321.	294.		.0400	.0406	.0390	.0203	-.0132	.0465	3032.
.1240	-71.	120.	-448.	3.	271.	258.		.0422	.0475	.0515	.0225	-.0244	.0298	2606.
.1250	-166.	174.	-537.	-58.	181.	287.		.0392	.0535	.0534	.0180	-.0285	.0138	2393.
.1260	-191.	300.	-291.	-172.	-29.	358.		.0323	.0595	.0447	.0085	-.0159	-.0021	2773.
.1270	-123.	314.	84.	-308.	-274.	403.		.0227	.0649	.0286	-.0153	.0011	-.0058	4009.
.1280	-62.	195.	369.	-415.	-480.	382.		.0130	.0690	.0114	-.0444	.0126	-.0012	5153.
.1290	-75.	168.	512.	-482.	-635.	371.		.0057	.0704	-.0009	-.0613	.0178	-.0037	6120.

ADLPIPE PAGE 2922

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.04.

S/RV PIPING KEWAUNEE CRW00F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

.1190	690.	-57.	214.	175.	519.	133.	.0186	.0180	-.0276	.0047	.0013	.0974	4850.
.1200	717.	-79.	351.	73.	451.	102.	.0210	.0220	-.0179	-.0063	.0063	.1035	3421.
.1210	590.	-24.	212.	76.	414.	232.	.0265	.0271	-.0011	-.0040	.0030	.0942	3310.
.1220	775.	128.	-7.	12.	370.	296.	.0337	.0334	.0196	.0086	-.0043	.0704	3348.
.1230	123.	170.	-219.	11.	321.	294.	.0400	.0406	.0390	.0203	-.0132	.0465	3032.
.1240	-71.	120.	-448.	3.	271.	258.	.0422	.0475	.0515	.0225	-.0244	.0298	2606.
.1250	-166.	174.	-537.	-58.	181.	287.	.0392	.0535	.0534	.0180	-.0285	.0138	2393.
.1260	-191.	300.	-291.	-172.	-29.	358.	.0323	.0595	.0447	.0085	-.0159	-.0021	2773.
.1270	-123.	314.	84.	-308.	-274.	403.	.0227	.0649	.0286	-.0153	.0011	-.0058	4009.
.1280	-67.	195.	369.	-415.	-480.	382.	.0130	.0690	.0114	-.0444	.0126	-.0012	5153.
.1290	-75.	168.	512.	-482.	-635.	371.	.0057	.0704	-.0009	-.0613	.0178	-.0037	6120.

ADLPIPE PAGE 2922

DIG/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.30.04.

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	73	MEMBER	1	SEQUENCE	707	LOCATION	END	TYPE	RU							
TIME	FX	FY	FZ	MX	MY	MZ									STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)				(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
.1300	-181.	261.	541.	-500.	-751.	374.	.0025	.0690	-.0048	-.0609	.0177	-.0160	6799.			
.1310	-394.	235.	395.	-439.	-804.	287.	.0033	.0651	-.0007	-.0512	.0076	-.0257	6685.			
.1320	-625.	90.	23.	-323.	-759.	140.	.0062	.0581	.0074	-.0427	-.0155	-.0251	5824.			
.1330	-837.	37.	-299.	-207.	-718.	34.	.0093	.0487	.0144	-.0308	-.0358	-.0242	5208.			
.1340	-972.	115.	-383.	-136.	-743.	4.	.0110	.0385	.0155	-.0196	-.0436	-.0241	5259.			
.1350	-991.	85.	-313.	-97.	-790.	-45.	.0097	.0292	.0084	-.0222	-.0443	-.0117	5549.			
.1360	-913.	-123.	-169.	-67.	-830.	-147.	.0055	.0208	-.0058	-.0381	-.0419	.0152	5887.			
.1370	-731.	-225.	38.	-66.	-863.	-183.	-.0005	.0114	-.0230	-.0556	-.0355	.0430	6156.			
.1380	-549.	-155.	315.	-75.	-904.	-148.	-.0049	.0016	-.0382	-.0631	-.0245	.0617	6396.			
.1390	-440.	-150.	449.	-45.	-879.	-157.	-.0051	-.0075	-.0473	-.0663	-.0210	.0784	6226.			
.1400	-420.	-298.	328.	44.	-757.	-252.	-.0008	-.0152	-.0484	-.0683	-.0308	.0951	5559.			
.1410	-474.	-387.	113.	153.	-609.	-339.	.0071	-.0210	-.0418	-.0608	-.0441	.0999	4969.			
.1420	-498.	-299.	-94.	230.	-457.	-341.	.0163	-.0254	-.0311	-.0487	-.0556	.0926	4282.			
.1430	-484.	-277.	-257.	288.	-796.	-359.	.0257	-.0277	-.0212	-.0442	-.0649	.0868	3810.			
.1440	-416.	-329.	-379.	323.	-119.	-423.	.0337	-.0282	-.0158	-.0530	-.0720	.0883	3841.			
.1450	-273.	-430.	-369.	331.	20.	-431.	.0388	-.0276	-.0158	-.0662	-.0705	.0859	3784.			
.1460	-77.	-307.	-173.	277.	79.	-361.	.0411	-.0253	-.0198	-.0780	-.0573	.0743	3217.			
.1470	162.	-254.	44.	208.	127.	-310.	.0416	-.0214	-.0255	-.0976	-.0432	.0656	2746.			
.1480	350.	-366.	177.	164.	203.	-337.	.0425	-.0160	-.0297	-.1217	-.0342	.0609	2965.			
.1490	474.	-383.	222.	123.	297.	-332.	.0446	-.0103	-.0291	-.1378	-.0287	.0477	3216.			
.1500	544.	-220.	214.	78.	380.	-255.	.0476	-.0046	-.0221	-.1413	-.0244	.0223	3233.			
.1510	517.	-151.	125.	73.	452.	-237.	.0513	.0022	-.0098	-.1385	-.0239	-.0027	3587.			
.1520	433.	-248.	-114.	107.	553.	-293.	.0542	.0090	.0046	-.1369	-.0310	-.0183	4422.			
.1530	329.	-263.	-328.	132.	627.	-306.	.0547	.0151	.0173	-.1296	-.0357	-.0333	4943.			
.1540	270.	-86.	-363.	111.	621.	-212.	.0514	.0205	.0251	-.1171	-.0304	-.0500	4628.			
.1550	250.	25.	-273.	71.	553.	-124.	.0437	.0270	.0267	-.1089	-.0197	-.0575	3978.			
.1560	222.	-74.	-174.	42.	459.	-119.	.0316	.0357	.0228	-.1065	-.0098	-.0519	3315.			
.1570	229.	-132.	-87.	-1.	346.	-78.	.0159	.0441	.0161	-.1030	-.0008	-.0416	2468.			
.1580	212.	-31.	88.	-50.	174.	33.	-.0008	.0510	.0095	-.0883	.0127	-.0347	1282.			
.1590	106.	44.	230.	-60.	2.	118.	-.0161	.0563	.0055	-.0654	.0241	-.0247	919.			
.1600	-46.	-7.	158.	-22.	-90.	142.	-.0299	.0597	.0053	-.0426	.0240	-.0049	1183.			
.1610	-197.	-43.	14.	33.	-161.	172.	-.0425	.0613	.0095	-.0165	.0206	.0172	1655.			
.1620	-757.	20.	-19.	87.	-280.	233.	-.0534	.0620	.0168	.0167	.0237	.0335	2605.			
.1630	-481.	77.	-81.	136.	-359.	296.	-.0626	.0616	.0245	.0446	.0254	.0519	3376.			
.1640	-577.	6.	-187.	193.	-385.	305.	-.0699	.0605	.0305	.0613	.0240	.0773	3670.			
.1650	-640.	-77.	-183.	245.	-432.	298.	-.0759	.0583	.0345	.0734	.0274	.1020	4029.			
.1660	-628.	-34.	-103.	272.	-490.	341.	-.0812	.0542	.0364	.0835	.0343	.1200	4566.			
.1670	-599.	-6.	-61.	305.	-511.	358.	-.0852	.0490	.0365	.0898	.0382	.1340	4831.			

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DIG/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.30.04.

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

.1570	221.	-132.	-87.	-1.	346.	-78.	.0316	.0357	.0228	-.1065	-.0098	-.0519	3315.
.1580	212.	-31.	80.	-50.	174.	33.	-.0008	.0510	.0095	-.0883	.0127	-.0347	1282.
.1590	106.	44.	230.	-60.	2.	118.	-.0161	-.0562	.0055	-.0654	.0241	-.0247	919.
.1600	-47.	-7.	150.	-22.	-90.	142.	-.0299	.0197	.0055	-.0426	.0240	-.0049	1183.
.1610	-197.	-43.	14.	33.	-161.	172.	-.0425	.0613	.0095	-.0165	.0206	.0172	1655.
.1620	-257.	20.	-10.	87.	-280.	233.	-.0534	.0620	.0168	.0167	.0237	.0355	2605.
.1630	-481.	77.	-81.	136.	-350.	296.	-.0626	.0616	.0245	.0446	.0254	.0519	5376.
.1640	-577.	6.	-187.	193.	-385.	305.	-.0699	.0605	.0305	.0613	.0240	.0773	5670.
.1650	-640.	-7.	-183.	245.	-432.	298.	-.0759	.0583	.0345	.0734	.0274	.1020	4029.
.1660	-620.	-34.	-103.	272.	-490.	341.	-.0812	.0547	.0364	.0835	.0345	.1200	4566.
.1670	-599.	-6.	-61.	305.	-511.	358.	-.0852	.0490	.0365	.0898	.0382	.1340	4831.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.04.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION	END	TYPE	RU								
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)	
.1680	-577.	-110.	-99.	363.	-474.	291.	-.0870	.0430	.0350	.0883	.0360	.1476	4621.	
.1690	-568.	-221.	-120.	428.	-426.	192.	-.0864	.0363	.0323	.0850	.0332	.1532	4410.	
.1700	-531.	-205.	-122.	471.	-371.	132.	-.0844	.0290	.0285	.0815	.0310	.1458	4274.	
.1710	-445.	-102.	-160.	496.	-285.	70.	-.0813	.0215	.0232	.0707	.0263	.1329	4012.	
.1720	-380.	-312.	-157.	531.	-201.	-78.	-.0762	.0152	.0165	.0525	.0225	.1190	3991.	
.1730	-284.	-428.	-136.	545.	-107.	-220.	-.0699	.0091	.0087	.0293	.0200	.1004	4161.	
.1740	-145.	-308.	-89.	519.	-8.	-287.	-.0629	.0027	.0009	.0070	.0201	.0722	4131.	
.1750	-8.	-324.	-11.	477.	80.	-347.	-.0549	-.0026	-.0058	-.0149	.0224	.0395	4141.	
.1760	125.	-304.	19.	433.	181.	-442.	-.0459	-.0063	-.0105	-.0411	.0218	.0098	4486.	
.1770	230.	-475.	14.	379.	280.	-527.	-.0359	-.0084	-.0125	-.0650	.0197	-.0215	4922.	
.1780	326.	-343.	9.	294.	361.	-530.	-.0254	-.0096	-.0117	-.0824	.0183	-.0583	4909.	
.1790	382.	-220.	37.	197.	405.	-504.	-.0148	-.0091	-.0084	-.0937	.0189	-.0958	4704.	
.1800	406.	-189.	30.	104.	440.	-499.	-.0050	-.0070	-.0035	-.1040	.0177	-.1255	4686.	
.1810	450.	-150.	-33.	-3.	479.	-458.	.0026	-.0042	.0021	-.1130	.0143	-.1480	4612.	
.1820	472.	-18.	-6.	-125.	457.	-359.	.0080	-.0007	.0080	-.1126	.0169	-.1695	4139.	
.1830	476.	140.	73.	-252.	394.	-226.	.0111	.0031	.0134	-.1062	.0230	-.1860	3618.	
.1840	458.	234.	107.	-365.	330.	-112.	.0118	.0073	.0180	-.0987	.0268	-.1914	3513.	
.1850	415.	277.	114.	-460.	253.	-7.	.0100	.0115	.0220	-.0875	.0290	-.1884	3653.	
.1860	356.	391.	141.	-545.	147.	133.	.0061	.0149	.0257	-.0686	.0323	-.1829	4037.	
.1870	253.	521.	171.	-606.	26.	272.	.0005	.0179	.0287	-.0421	.0356	-.1752	4624.	
.1880	137.	574.	122.	-634.	-63.	374.	-.0066	.0201	.0303	-.0159	.0342	-.1594	5140.	
.1890	27.	566.	71.	-634.	-147.	442.	-.0151	.0215	.0300	.0095	.0321	-.1370	5477.	
.1900	-72.	597.	97.	-625.	-251.	519.	-.0246	.0218	.0279	.0363	.0342	-.1138	5916.	
.1910	-119.	660.	140.	-612.	-330.	608.	-.0346	.0207	.0239	.0597	.0378	-.0887	6450.	
.1920	-151.	639.	185.	-577.	-395.	649.	-.0437	.0192	.0190	.0769	.0416	-.0597	6640.	
.1930	-171.	553.	232.	-517.	-426.	644.	-.0513	.0170	.0147	.0890	.0456	-.0295	6469.	
.1940	-172.	507.	257.	-444.	-420.	638.	-.0573	.0139	.0125	.1003	.0492	-.0044	6177.	
.1950	-174.	487.	225.	-352.	-390.	619.	-.0613	.0098	.0129	.1115	.0502	.0148	5650.	
.1960	-199.	402.	126.	-227.	-309.	544.	-.0630	.0052	.0152	.1202	.0472	.0312	4635.	
.1970	-235.	278.	-11.	-84.	-199.	431.	-.0630	.0003	.0181	.1257	.0414	.0439	3355.	
.1980	-250.	207.	-135.	48.	-84.	330.	-.0626	-.0043	.0198	.1291	.0357	.0495	2395.	
.1990	-224.	165.	-197.	156.	14.	242.	-.0628	-.0081	.0187	.1279	.0325	.0499	2004.	
.2000	-150.	71.	-191.	240.	96.	136.	-.0637	-.0102	.0142	.1180	.0314	.0499	2034.	
.2010	-31.	-49.	-132.	294.	168.	32.	-.0650	-.0108	.0067	.1005	.0321	.0493	2365.	
.2020	117.	-106.	-19.	313.	227.	-35.	-.0660	-.0104	-.0015	.0814	.0356	.0434	2683.	
.2030	249.	-111.	107.	312.	261.	-75.	-.0659	-.0090	-.0080	.0641	.0400	.0318	2882.	
.2040	352.	-140.	168.	311.	310.	-123.	-.0637	-.0067	-.0105	.0483	.0410	.0179	3172.	
.2050	409.	-106.	133.	312.	378.	-176.	-.0594	-.0036	-.0082	.0358	.0370	.0018	3623.	

ADLPIPE PAGE 2924

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.04.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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



.1960	-174.	402.	126.	-227.	-309.	544.	-.0613	.0098	.0129	.1115	.0502	.0148	5650.
.1970	-235.	278.	-11.	-84.	-199.	431.	-.0630	.0003	.0181	.1257	.0414	.0439	5355.
.1980	-250.	207.	-135.	41.	-84.	330.	-.0626	-.0043	.0198	.1291	.0357	.0495	2395.
.1990	-224.	165.	-197.	156.	14.	242.	-.0628	-.0081	.0187	.1279	.0325	.0499	2004.
.2000	-150.	71.	-191.	240.	96.	136.	-.0637	-.0102	.0142	.1180	.0314	.0499	2034.
.2010	-31.	-49.	-132.	294.	168.	32.	-.0650	-.0108	.0067	.1005	.0321	.0493	2365.
.2020	117.	-106.	-19.	313.	222.	-35.	-.0660	-.0104	-.0015	.0814	.0356	.0434	2683.
.2030	249.	-111.	107.	312.	261.	-75.	-.0659	-.0090	-.0080	.0641	.0400	.0318	2882.
.2040	352.	-140.	168.	311.	310.	-123.	-.0637	-.0067	-.0105	.0483	.0410	.0179	3172.
.2050	409.	-106.	133.	312.	371.	-176.	-.0594	-.0036	-.0082	.0358	.0370	.0018	3623.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.30.04.

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	RU	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)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
.2060	419.	-176.	50.	305.	445.	-202.	-.0530	-.0003	-.0016	.0294	.0308	-.0193	4009.						
.2070	400.	-110.	-39.	285.	496.	-198.	-.0455	.0031	.0074	.0278	.0244	-.0437	4210.						
.2080	374.	-61.	-132.	251.	533.	-187.	-.0383	.0068	.0165	.0262	.0175	-.0660	4300.						
.2090	362.	-42.	-197.	200.	546.	-175.	-.0323	.0106	.0232	.0224	.0117	-.0839	4223.						
.2100	370.	4.	-179.	123.	516.	-137.	-.0283	.0140	.0263	.0182	.0105	-.0995	3816.						
.2110	401.	94.	-80.	24.	452.	-67.	-.0260	.0167	.0256	.0142	.0139	-.1135	3182.						
.2120	440.	170.	44.	-82.	375.	3.	-.0249	.0186	.0224	.0091	.0188	-.1233	2670.						
.2130	466.	204.	152.	-179.	298.	54.	-.0242	.0198	.0186	.0042	.0230	-.1291	2450.						
.2140	465.	242.	225.	-261.	225.	102.	-.0231	.0199	.0161	.0029	.0259	-.1342	2502.						
.2150	423.	309.	240.	-324.	165.	151.	-.0208	.0188	.0161	.0069	.0265	-.1399	2740.						
.2160	335.	361.	185.	-358.	131.	183.	-.0172	.0165	.0183	.0143	.0237	-.1443	2946.						
.2170	217.	376.	84.	-368.	115.	190.	-.0128	.0134	.0215	.0230	.0186	-.1460	2992.						
.2180	107.	390.	-13.	-369.	103.	195.	-.0086	.0098	.0242	.0317	.0139	-.1453	2987.						
.2190	31.	420.	-70.	-373.	85.	211.	-.0054	.0059	.0247	.0387	.0114	-.1422	3036.						
.2200	-5.	431.	-71.	-381.	60.	225.	-.0035	.0022	.0221	.0414	.0113	-.1348	3105.						
.2210	-10.	406.	-23.	-390.	31.	229.	-.0024	-.0011	.0164	.0394	.0135	-.1250	3158.						
.2220	9.	383.	58.	-401.	-0.	237.	-.0017	-.0040	.0092	.0351	.0165	-.1094	3243.						
.2230	37.	374.	141.	-407.	-29.	249.	-.0009	-.0065	.0024	.0311	.0192	-.0962	3325.						
.2240	51.	349.	180.	-394.	-40.	247.	.0009	-.0088	-.0023	.0282	.0191	-.0832	3245.						
.2250	39.	300.	149.	-358.	-25.	222.	.0039	-.0107	-.0043	.0269	.0146	-.0708	2936.						
.2260	2.	260.	67.	-306.	11.	193.	.0082	-.0125	-.0039	.0279	.0068	-.0609	2516.						
.2270	-43.	243.	-28.	-249.	50.	167.	.0130	-.0140	-.0021	.0302	-.0022	-.0538	2115.						
.2280	-74.	215.	-109.	-195.	81.	136.	.0174	-.0147	-.0009	.0304	-.0113	-.0469	1750.						
.2290	-79.	160.	-153.	-151.	98.	99.	.0207	-.0147	-.0016	.0262	-.0196	-.0388	1430.						
.2300	-53.	107.	-137.	-124.	94.	67.	.0227	-.0140	-.0049	.0184	-.0254	-.0307	1180.						
.2310	-3.	79.	-62.	-113.	69.	51.	.0235	-.0130	-.0105	.0088	-.0285	-.0238	985.						
.2320	57.	55.	30.	-109.	34.	37.	.0234	-.0119	-.0164	-.0018	-.0306	-.0176	835.						
.2330	110.	14.	102.	-103.	-1.	13.	.0231	-.0105	-.0215	-.0123	-.0334	-.0118	723.						
.2340	139.	-24.	142.	-92.	-33.	-13.	.0232	-.0090	-.0242	-.0206	-.0369	-.0079	685.						
.2350	140.	-36.	152.	-77.	-62.	-31.	.0241	-.0076	-.0238	-.0254	-.0408	-.0066	723.						
.2360	117.	-34.	127.	-61.	-84.	-42.	.0259	-.0062	-.0202	-.0276	-.0450	-.0069	781.						
.2370	75.	-42.	79.	-43.	-102.	-54.	.0280	-.0044	-.0141	-.0285	-.0488	-.0070	861.						
.2380	29.	-50.	31.	-70.	-125.	-61.	.0300	-.0021	-.0067	-.0283	-.0508	-.0068	989.						
.2390	-12.	-41.	3.	-27.	-158.	-51.	.0311	.0007	.0009	-.0270	-.0501	-.0062	1169.						
.2400	-45.	-23.	-0.	-34.	-201.	-28.	.0311	.0038	.0079	-.0252	-.0466	-.0043	1430.						
.2410	-78.	-13.	14.	-45.	-252.	-1.	.0301	.0073	.0137	-.0229	-.0410	-.0005	1780.						
.2420	-117.	-5.	38.	-57.	-309.	28.	.0280	.0112	.0185	-.0195	-.0342	.0043	2199.						
.2430	-165.	9.	58.	-69.	-371.	60.	.0250	.0154	.0225	-.0142	-.0270	.0091	2661.						

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.30.04.

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

.2340	139.	-24.	142.	-92.	-33.	-13.	.0232	-.0090	-.0242	-.0206	-.0369	-.0079	685.
.2350	140.	-36.	152.	-77.	-62.	-21.	.0241	-.0076	-.0238	-.0254	-.0408	-.0066	723.
.2360	117.	-24.	127.	-61.	-84.	-42.	.0259	-.0062	-.0202	-.0276	-.0450	-.0069	781.
.2370	75.	-42.	79.	-43.	-102.	-54.	.0280	-.0044	-.0141	-.0285	-.0488	-.0070	861.
.2380	29.	-50.	31.	-70.	-125.	-61.	.0300	-.0021	-.0067	-.0283	-.0508	-.0068	989.
.2390	-12.	-41.	3.	-27.	-158.	-51.	.0311	.0007	.0009	-.0270	-.0501	-.0062	1169.
.2400	-45.	-23.	0.	-34.	-201.	-28.	.0311	.0038	.0079	-.0252	-.0466	-.0043	1430.
.2410	-70.	-13.	14.	-45.	-252.	-1.	.0301	.0073	.0137	-.0229	-.0410	-.0005	1780.
.2420	-117.	-5.	38.	-57.	-305.	28.	.0280	.0112	.0185	-.0195	-.0342	.0043	2199.
.2430	-165.	9.	58.	-69.	-371.	60.	.0250	.0154	.0225	-.0142	-.0270	.0091	2661.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.04.

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	MEMBER	SEQUENCE	LOCATION	END	TYPE	RU	DX	DY	DZ	FX	FY	FZ	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)							
.2440	-228.	18.	62.	-74.	-431.	87.	.0213	.0198	.0261	-.0069	-.0203	.0137	3102.
.2450	-306.	12.	42.	-69.	-481.	101.	.0173	.0239	.0293	.0017	-.0147	.0188	3456.
.2460	-391.	2.	6.	-55.	-521.	108.	.0131	.0276	.0317	.0109	-.0101	.0241	3722.
.2470	-474.	-3.	-29.	-36.	-552.	113.	.0089	.0305	.0331	.0201	-.0057	.0293	3935.
.2480	-550.	-15.	-58.	-11.	-578.	107.	.0048	.0326	.0331	.0279	-.0017	.0346	4093.
.2490	-613.	-49.	-84.	18.	-592.	86.	.0010	.0341	.0315	.0331	.0016	.0405	4166.
.2500	-654.	-97.	-103.	52.	-593.	51.	-.0025	.0347	.0282	.0354	.0042	.0465	4157.
.2510	-673.	-141.	-110.	87.	-580.	10.	-.0051	.0342	.0235	.0353	.0060	.0517	4080.
.2520	-673.	-184.	-116.	127.	-548.	-39.	-.0065	.0325	.0178	.0327	.0063	.0558	3921.
.2530	-659.	-238.	-132.	172.	-494.	-102.	-.0065	.0299	.0115	.0275	.0046	.0588	3710.
.2540	-630.	-305.	-153.	221.	-424.	-179.	-.0049	.0264	.0046	.0198	.0010	.0606	3552.
.2550	-584.	-370.	-175.	271.	-339.	-262.	-.0017	.0222	-.0021	.0099	-.0039	.0606	3528.
.2560	-519.	-426.	-198.	319.	-239.	-344.	.0029	.0172	-.0089	-.0018	-.0100	.0590	3666.
.2570	-437.	-483.	-218.	364.	-127.	-428.	.0088	.0116	-.0156	-.0156	-.0170	.0568	4006.
.2580	-339.	-540.	-229.	403.	-9.	-510.	.0158	.0058	-.0221	-.0308	-.0242	.0541	4525.
.2590	-228.	-589.	-229.	424.	106.	-586.	.0233	-.0003	-.0284	-.0465	-.0314	.0509	5127.
.2600	-109.	-628.	-223.	458.	215.	-651.	.0311	-.0063	-.0342	-.0619	-.0386	.0479	5738.
.2610	9.	-661.	-214.	476.	315.	-705.	.0390	-.0124	-.0394	-.0764	-.0458	.0458	6314.
.2620	117.	-680.	-203.	485.	405.	-744.	.0468	-.0182	-.0439	-.0889	-.0529	.0442	6795.
.2630	211.	-681.	-191.	486.	478.	-765.	.0541	-.0235	-.0474	-.0986	-.0595	.0432	7129.
.2640	294.	-674.	-178.	477.	530.	-768.	.0605	-.0279	-.0498	-.1057	-.0655	.0434	7298.
.2650	363.	-660.	-166.	460.	561.	-755.	.0657	-.0314	-.0513	-.1101	-.0707	.0452	7288.
.2660	412.	-633.	-150.	432.	569.	-722.	.0697	-.0339	-.0520	-.1115	-.0745	.0484	7071.
.2670	439.	-587.	-124.	395.	552.	-668.	.0726	-.0355	-.0519	-.1097	-.0764	.0527	6629.
.2680	447.	-530.	-91.	349.	514.	-595.	.0741	-.0359	-.0511	-.1049	-.0765	.0580	5988.
.2690	437.	-472.	-61.	297.	454.	-511.	.0742	-.0352	-.0493	-.0977	-.0750	.0648	5192.
.2700	410.	-411.	-34.	242.	379.	-417.	.0730	-.0335	-.0466	-.0883	-.0721	.0725	4266.
.2710	362.	-337.	-12.	183.	290.	-312.	.0709	-.0310	-.0431	-.0766	-.0678	.0798	3226.
.2720	288.	-255.	2.	123.	195.	-201.	.0681	-.0276	-.0390	-.0629	-.0623	.0861	2124.
.2730	195.	-183.	8.	65.	93.	-94.	.0645	-.0236	-.0345	-.0481	-.0560	.0920	1026.
.2740	95.	-122.	7.	11.	-13.	6.	.0601	-.0193	-.0299	-.0332	-.0490	.0984	129.
.2750	-7.	-56.	7.	-40.	-121.	106.	.0549	-.0153	-.0256	-.0183	-.0412	.1044	1150.
.2760	-103.	20.	14.	-90.	-224.	205.	.0496	-.0116	-.0222	-.0037	-.0323	.1093	2206.
.2770	-202.	84.	33.	-137.	-323.	291.	.0441	-.0080	-.0196	.0094	-.0227	.1133	3174.
.2780	-291.	122.	53.	-177.	-415.	359.	.0387	-.0048	-.0176	.0203	-.0130	.1172	4013.
.2790	-365.	154.	68.	-212.	-496.	415.	.0334	-.0022	-.0160	.0293	-.0040	.1201	4740.
.2800	-430.	198.	78.	-241.	-564.	466.	.0286	-.0004	-.0147	.0374	.0043	.1207	5360.
.2810	-497.	234.	83.	-262.	-614.	501.	.0249	.0007	-.0134	.0443	.0113	.1191	5810.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.04.

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

.2700	410.	-411.	34.	242.	270.	-417.	34.	.0730	-.0335	-.0466	-.0883	-.0721	.0725	4266.
.2710	362.	-337.	-12.	183.	290.	-312.	183.	.0709	-.0310	-.0431	-.0766	-.0678	.0798	5226.
.2720	280.	-255.	2.	123.	195.	-201.	195.	.0681	-.0276	-.0390	-.0629	-.0623	.0861	2124.
.2730	195.	-183.	8.	65.	93.	-94.	93.	.0645	-.0236	-.0345	-.0481	-.0560	.0920	1026.
.2740	95.	-122.	7.	11.	-13.	6.	11.	.0601	-.0193	-.0299	-.0332	-.0490	.0984	129.
.2750	-7.	-56.	7.	-40.	-121.	100.	-40.	.0549	-.0153	-.0256	-.0183	-.0412	.1044	1150.
.2760	-107.	20.	14.	-70.	-224.	205.	-70.	.0496	-.0116	-.0222	-.0037	-.0323	.1093	2206.
.2770	-207.	84.	33.	-137.	-323.	291.	-137.	.0441	-.0080	-.0196	.0094	-.0227	.1153	3174.
.2780	-291.	122.	53.	-177.	-415.	359.	-177.	.0387	-.0048	-.0176	.0203	-.0130	.1172	4013.
.2790	-365.	154.	68.	-212.	-496.	415.	-212.	.0334	-.0022	-.0160	.0293	-.0040	.1201	4740.
.2800	-430.	198.	78.	-241.	-564.	466.	-241.	.0286	-.0004	-.0147	.0374	.0043	.1207	5360.
.2810	-497.	234.	83.	-262.	-614.	501.	-262.	.0249	.0007	-.0134	.0443	.0113	.1191	5810.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.04.

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

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION	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)
.2820	73	1	707					-560.	246.	75.	-271.	-646.	512.	.0219	.0012	-.0123	.0495	.0163	.1163	6041.
.2830								-608.	248.	48.	-272.	-660.	509.	.0195	.0010	-.0114	.0532	.0189	.1123	6106.
.2840								-634.	263.	19.	-270.	-663.	503.	.0172	.0001	-.0112	.0561	.0201	.1064	6091.
.2850								-641.	278.	9.	-266.	-657.	490.	.0155	-.0011	-.0121	.0572	.0206	.0991	5997.
.2860								-628.	272.	15.	-262.	-638.	464.	.0142	-.0024	-.0144	.0555	.0203	.0914	5787.
.2870								-587.	259.	35.	-261.	-609.	432.	.0131	-.0035	-.0178	.0511	.0192	.0833	5504.
.2880								-512.	258.	71.	-265.	-572.	407.	.0123	-.0045	-.0217	.0449	.0178	.0742	5224.
.2890								-414.	260.	117.	-271.	-527.	383.	.0120	-.0053	-.0255	.0372	.0160	.0642	4911.
.2900								-311.	248.	152.	-274.	-462.	351.	.0129	-.0057	-.0286	.0281	.0129	.0539	4465.
.2910								-209.	233.	165.	-271.	-375.	315.	.0151	-.0059	-.0304	.0185	.0080	.0428	3897.
.2920								-104.	233.	159.	-265.	-273.	285.	.0183	-.0059	-.0306	.0095	.0020	.0302	3308.
.2930								2.	235.	139.	-253.	-162.	254.	.0220	-.0057	-.0296	.0009	-.0047	.0171	2736.
.2940								108.	219.	102.	-236.	-38.	213.	.0262	-.0053	-.0280	-.0084	-.0121	.0048	2225.
.2950								214.	195.	64.	-215.	95.	169.	.0303	-.0049	-.0268	-.0187	-.0193	-.0065	2016.
.2960								326.	187.	49.	-198.	224.	134.	.0338	-.0044	-.0266	-.0293	-.0246	-.0176	2277.
.2970								445.	181.	59.	-184.	342.	103.	.0363	-.0038	-.0275	-.0406	-.0277	-.0274	2793.
.2980								567.	151.	77.	-167.	452.	63.	.0376	-.0031	-.0293	-.0530	-.0295	-.0344	3383.
.2990								681.	105.	95.	-147.	556.	19.	.0379	-.0026	-.0316	-.0654	-.0303	-.0386	4003.
.3000								775.	80.	114.	-124.	650.	-15.	.0375	-.0024	-.0337	-.0754	-.0297	-.0418	4608.
.3010								842.	72.	124.	-97.	735.	-40.	.0366	-.0025	-.0350	-.0822	-.0283	-.0442	5166.
.3020								872.	46.	108.	-61.	811.	-70.	.0351	-.0026	-.0348	-.0863	-.0269	-.0439	5683.
.3030								892.	3.	67.	-19.	875.	-104.	.0329	-.0026	-.0332	-.0879	-.0257	-.0406	6138.
.3040								883.	-21.	23.	22.	921.	-122.	.0298	-.0026	-.0305	-.0860	-.0233	-.0356	6468.
.3050								854.	-17.	-7.	57.	943.	-118.	.0260	-.0024	-.0271	-.0808	-.0192	-.0292	6629.
.3060								808.	-19.	-25.	86.	943.	-106.	.0214	-.0018	-.0233	-.0737	-.0136	-.0200	6629.
.3070								754.	-36.	-35.	109.	917.	-89.	.0155	-.0006	-.0192	-.0656	-.0072	-.0073	6456.
.3080								696.	-39.	-34.	123.	864.	-54.	.0086	.0009	-.0147	-.0553	.0001	.0072	6084.
.3090								626.	-15.	-22.	129.	787.	-0.	.0011	.0026	-.0098	-.0422	.0081	.0222	5547.
.3100								535.	11.	-12.	172.	694.	59.	-.0066	.0044	-.0044	-.0273	.0155	.0375	4935.
.3110								427.	25.	-15.	134.	592.	113.	-.0141	.0065	.0017	-.0115	.0214	.0530	4301.
.3120								313.	47.	-28.	134.	480.	170.	-.0215	.0088	.0083	.0053	.0261	.0671	3665.
.3130								200.	81.	-39.	130.	357.	229.	-.0286	.0110	.0151	.0222	.0300	.0788	3088.
.3140								91.	109.	-45.	123.	232.	280.	-.0352	.0131	.0214	.0373	.0329	.0886	2671.
.3150								-11.	123.	-45.	114.	113.	317.	-.0408	.0149	.0267	.0495	.0349	.0965	2472.
.3160								-95.	140.	-33.	102.	-7.	346.	-.0456	.0162	.0307	.0585	.0363	.1012	2509.
.3170								-158.	161.	-5.	87.	-113.	365.	-.0495	.0169	.0335	.0642	.0373	.1021	2724.
.3180								-202.	163.	27.	75.	-210.	360.	-.0523	.0170	.0352	.0660	.0372	.1000	2951.
.3190								-234.	143.	41.	76.	-285.	331.	-.0536	.0163	.0358	.0637	.0354	.0947	3076.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.05.

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

.3100	535.	11.	-12.	132.	694.	59.	-.066	.0044	-.0044	-.0273	.0155	.0375	4935.
.3110	427.	25.	-15.	174.	592.	113.	-.141	.0065	.0017	-.0115	.0214	.0530	4301.
.3120	317.	47.	-28.	174.	480.	170.	-.0215	.0088	.0083	.0053	.0261	.0671	3665.
.3130	200.	81.	-39.	170.	357.	229.	-.0286	.0110	.0151	.0222	.0300	.0788	3088.
.3140	91.	109.	-45.	103.	232.	200.	-.0352	.0131	.0214	.0373	.0329	.0886	2671.
.3150	-11.	123.	-45.	114.	113.	317.	-.0408	.0149	.0267	.0495	.0349	.0965	2472.
.3160	-95.	140.	-37.	102.	-2.	346.	-.0456	.0162	.0307	.0585	.0363	.1012	2509.
.3170	-158.	161.	-5.	87.	-113.	365.	-.0495	.0169	.0335	.0642	.0373	.1021	2724.
.3180	-202.	163.	23.	75.	-210.	360.	-.0523	.0170	.0352	.0660	.0372	.1000	2951.
.3190	-234.	143.	41.	70.	-285.	331.	-.0536	.0163	.0358	.0657	.0354	.0947	3076.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.05.

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	73	MEMBER	1	SEQUENCE	707	LOCATION	END	TYPE	RU						
TIME	FX	FY	FZ	MX	MY	MZ									STRESS
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)		(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.3200	-255.	127.	54.	70.	-337.	285.		-.0533	.0145	.0354	.0585	.0326	.0852	3108.	
.3210	-262.	116.	67.	74.	-369.	227.		-.0515	.0119	.0344	.0508	.0292	.0715	3058.	
.3220	-255.	87.	72.	84.	-380.	147.		-.0485	.0086	.0326	.0400	.0250	.0534	2900.	
.3230	-231.	31.	66.	101.	-370.	47.		-.0446	.0046	.0302	.0261	.0201	.0385	2693.	
.3240	-195.	-21.	65.	120.	-344.	-58.		-.0398	-.0001	.0272	.0105	.0158	.0203	2568.	
.3250	-150.	-54.	76.	138.	-306.	-156.		-.0343	-.0054	.0235	-.0053	.0126	.0010	2578.	
.3260	-98.	-91.	89.	155.	-259.	-254.		-.0285	-.0110	.0195	-.0214	.0102	-.0175	2746.	
.3270	-44.	-147.	91.	175.	-203.	-355.		-.0228	-.0165	.0157	-.0372	.0078	-.0337	3097.	
.3280	9.	-199.	87.	194.	-146.	-446.		-.0174	-.0219	.0123	-.0510	.0060	-.0481	3532.	
.3290	53.	-225.	85.	209.	-91.	-513.		-.0123	-.0271	.0094	-.0612	.0051	-.0610	3906.	
.3300	83.	-237.	78.	220.	-40.	-561.		-.0075	-.0318	.0075	-.0680	.0049	-.0713	4201.	
.3310	101.	-257.	63.	229.	6.	-595.		-.0036	-.0360	.0058	-.0717	.0050	-.0776	4440.	
.3320	112.	-271.	48.	232.	40.	-609.		-.0008	-.0394	.0051	-.0719	.0059	-.0799	4546.	
.3330	118.	-260.	42.	226.	50.	-593.		.0009	-.0423	.0052	-.0682	.0082	-.0792	4438.	
.3340	115.	-233.	42.	213.	63.	-553.		.0016	-.0445	.0057	-.0610	.0114	-.0752	4149.	
.3350	98.	-208.	42.	196.	60.	-499.		.0015	-.0461	.0068	-.0512	.0150	-.0678	3755.	
.3360	73.	-178.	40.	176.	48.	-431.		.0007	-.0471	.0084	-.0388	.0188	-.0580	3255.	
.3370	44.	-132.	35.	152.	26.	-346.		-.0009	-.0476	.0106	-.0258	.0225	-.0471	2638.	
.3380	10.	-82.	27.	127.	-1.	-255.		-.0030	-.0476	.0131	-.0072	.0260	-.0356	1984.	
.3390	-32.	-41.	14.	105.	-26.	-167.		-.0052	-.0473	.0155	.0097	.0286	-.0235	1384.	
.3400	-72.	-1.	-1.	83.	-49.	-81.		-.0075	-.0468	.0175	.0262	.0307	-.0117	878.	
.3410	-103.	47.	-6.	62.	-71.	6.		-.0098	-.0463	.0188	.0419	.0327	-.0013	656.	
.3420	-120.	90.	-3.	41.	-91.	84.		-.0120	-.0457	.0193	.0554	.0345	.0079	907.	
.3430	-124.	112.	4.	25.	-102.	144.		-.0139	-.0452	.0189	.0657	.0356	.0161	1244.	
.3440	-117.	124.	14.	13.	-102.	190.		-.0152	-.0448	.0177	.0730	.0361	.0224	1505.	
.3450	-100.	143.	27.	6.	-92.	226.		-.0157	-.0449	.0161	.0779	.0362	.0257	1700.	
.3460	-74.	157.	37.	4.	-70.	247.		-.0153	-.0451	.0142	.0805	.0355	.0262	1789.	
.3470	-41.	147.	33.	11.	-35.	245.		-.0142	-.0456	.0124	.0802	.0334	.0248	1725.	
.3480	-5.	124.	18.	26.	11.	225.		-.0124	-.0462	.0105	.0775	.0303	.0217	1577.	
.3490	37.	107.	5.	43.	63.	199.		-.0099	-.0472	.0085	.0735	.0269	.0163	1481.	
.3500	87.	96.	-1.	61.	117.	168.		-.0071	-.0483	.0062	.0681	.0235	.0094	1489.	
.3510	134.	72.	-5.	80.	171.	128.		-.0041	-.0493	.0037	.0610	.0201	.0022	1590.	
.3520	189.	35.	-4.	97.	220.	83.		-.0013	-.0500	.0009	.0527	.0169	-.0047	1770.	
.3530	245.	6.	6.	110.	259.	41.		.0013	-.0505	-.0018	.0444	.0144	-.0118	1983.	
.3540	295.	-9.	23.	118.	290.	8.		.0038	-.0507	-.0043	.0371	.0124	-.0192	2178.	
.3550	331.	-25.	35.	124.	312.	-21.		.0061	-.0505	-.0064	.0310	.0106	-.0259	2341.	
.3560	351.	-44.	38.	127.	325.	-49.		.0082	-.0499	-.0076	.0265	.0087	-.0319	2450.	
.3570	356.	-56.	34.	126.	324.	-67.		.0099	-.0490	-.0080	.0245	.0069	-.0372	2468.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.05.

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	-41.	147.	23.	11.	-35.	245.	-0.0142	-0.0456	.0124	.0805	.0334	.0262	1789.
.3480	-7.	124.	10.	26.	11.	225.	-0.0124	-0.0462	.0105	.0775	.0303	.0217	1577.
.3490	37.	107.	5.	43.	67.	199.	-0.0099	-0.0472	.0085	.0735	.0269	.0163	1481.
.3500	87.	96.	-1.	61.	117.	168.	-0.0071	-0.0483	.0062	.0681	.0235	.0094	1489.
.3510	124.	72.	-5.	80.	171.	128.	-0.0041	-0.0493	.0077	.0610	.0201	.0022	1590.
.3520	189.	35.	-4.	97.	220.	83.	-0.0013	-0.0500	.0069	.0527	.0169	-0.0047	1770.
.3530	245.	6.	6.	110.	259.	41.	.0013	-0.0505	-0.0018	.0444	.0144	-0.0118	1983.
.3540	295.	-9.	23.	118.	290.	8.	.0038	-0.0507	-0.0043	.0371	.0124	-0.0192	2178.
.3550	331.	-25.	35.	124.	312.	-21.	.0061	-0.0505	-0.0064	.0310	.0106	-0.0259	2341.
.3560	351.	-44.	38.	127.	325.	-49.	.0082	-0.0499	-0.0076	.0265	.0087	-0.0319	2450.
.3570	356.	-56.	34.	126.	324.	-67.	.0099	-0.0490	-0.0080	.0245	.0069	-0.0372	2468.

ADLPIPE PAGE 2020

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.30.05.

S/RV PIPING KEWAUNEE GKWOBF 2 RUP DISK  
2 SAFETY COLD FRW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	73	MEMBER	1	SEQUENCE	707	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)		
.3580	346.	-53.	26.	121.	311.	-73.	.0112	-0.0478	-0.0077	.0249	.0056	-0.0421	2377.		
.3590	320.	-44.	16.	110.	286.	-71.	.0121	-0.0464	-0.0070	.0272	.0048	-0.0458	2187.		
.3600	281.	-34.	10.	92.	248.	-62.	.0126	-0.0447	-0.0062	.0309	.0045	-0.0484	1893.		
.3610	236.	-15.	12.	67.	196.	-43.	.0124	-0.0428	-0.0054	.0356	.0053	-0.0501	1473.		
.3620	189.	12.	24.	33.	131.	-14.	.0117	-0.0407	-0.0047	.0411	.0070	-0.0513	943.		
.3630	137.	40.	42.	-7.	57.	19.	.0107	-0.0385	-0.0041	.0468	.0093	-0.0516	419.		
.3640	79.	68.	60.	-50.	-21.	55.	.0097	-0.0363	-0.0034	.0524	.0118	-0.0516	536.		
.3650	15.	103.	74.	-96.	-98.	94.	.0089	-0.0343	-0.0023	.0584	.0143	-0.0519	1154.		
.3660	-54.	145.	82.	-142.	-172.	133.	.0084	-0.0324	-0.0017	.0644	.0163	-0.0530	1813.		
.3670	-125.	181.	78.	-186.	-242.	167.	.0082	-0.0305	-0.0014	.0699	.0180	-0.0544	2423.		
.3680	-198.	208.	63.	-226.	-303.	193.	.0084	-0.0287	-0.0018	.0744	.0186	-0.0562	2954.		
.3690	-268.	237.	44.	-263.	-355.	216.	.0089	-0.0271	-0.0020	.0781	.0187	-0.0587	3423.		
.3700	-330.	270.	30.	-299.	-400.	236.	.0095	-0.0255	-0.0028	.0805	.0185	-0.0620	3845.		
.3710	-380.	294.	22.	-331.	-439.	249.	.0100	-0.0239	-0.0037	.0810	.0180	-0.0653	4197.		
.3720	-414.	302.	20.	-359.	-469.	250.	.0102	-0.0221	-0.0046	.0793	.0171	-0.0681	4465.		
.3730	-432.	301.	25.	-382.	-492.	245.	.0103	-0.0204	-0.0054	.0758	.0158	-0.0703	4659.		
.3740	-436.	303.	39.	-400.	-506.	237.	.0103	-0.0187	-0.0060	.0712	.0143	-0.0722	4783.		
.3750	-429.	301.	53.	-410.	-507.	224.	.0103	-0.0172	-0.0060	.0656	.0122	-0.0735	4803.		
.3760	-414.	284.	60.	-410.	-495.	201.	.0106	-0.0157	-0.0060	.0590	.0092	-0.0737	4690.		
.3770	-390.	254.	57.	-399.	-470.	169.	.0110	-0.0143	-0.0060	.0519	.0052	-0.0726	4448.		
.3780	-359.	222.	45.	-377.	-432.	133.	.0117	-0.0132	-0.0060	.0447	.0006	-0.0704	4095.		
.3790	-323.	190.	26.	-345.	-381.	95.	.0126	-0.0125	-0.0060	.0375	-0.0046	-0.0670	3635.		
.3800	-282.	150.	3.	-303.	-318.	51.	.0138	-0.0121	-0.0060	.0302	-0.0101	-0.0621	3081.		
.3810	-235.	100.	-20.	-253.	-250.	1.	.0149	-0.0122	-0.0060	.0224	-0.0156	-0.0555	2476.		
.3820	-180.	45.	-41.	-198.	-170.	-51.	.0157	-0.0125	-0.0060	.0143	-0.0208	-0.0476	1886.		
.3830	-119.	-11.	-57.	-139.	-105.	-105.	.0162	-0.0132	-0.0060	.0060	-0.0256	-0.0387	1412.		
.3840	-56.	-71.	-67.	-77.	-32.	-161.	.0164	-0.0142	-0.0060	-0.0026	-0.0298	-0.0288	1259.		
.3850	3.	-133.	-74.	-12.	40.	-218.	.0162	-0.0157	-0.0060	-0.0111	-0.0335	-0.0185	1547.		
.3860	57.	-193.	-82.	53.	108.	-276.	.0156	-0.0174	-0.0060	-0.0191	-0.0366	-0.0081	2092.		
.3870	107.	-253.	-93.	119.	169.	-333.	.0147	-0.0193	-0.0060	-0.0262	-0.0393	-0.0020	2729.		
.3880	139.	-315.	-100.	184.	224.	-391.	.0133	-0.0213	-0.0060	-0.0324	-0.0416	.0120	3387.		
.3890	160.	-368.	-130.	246.	272.	-444.	.0117	-0.0235	-0.0060	-0.0374	-0.0435	.0212	4006.		
.3900	167.	-406.	-152.	301.	311.	-487.	.0098	-0.0255	-0.0060	-0.0410	-0.0443	.0285	4531.		
.3910	162.	-436.	-169.	346.	335.	-523.	.0074	-0.0269	-0.0060	-0.0436	-0.0442	.0340	4948.		
.3920	148.	-468.	-183.	380.	344.	-555.	.0046	-0.0273	-0.0060	-0.0456	-0.0434	.0380	5260.		
.3930	125.	-494.	-196.	402.	339.	-577.	.0012	-0.0269	-0.0060	-0.0470	-0.0418	.0402	5435.		
.3940	93.	-498.	-200.	409.	319.	-583.	-0.0025	-0.0258	-0.0060	-0.0472	-0.0393	.0402	5430.		
.3950	49.	-483.	-195.	402.	285.	-573.	-0.0064	-0.0238	.0011	-0.0460	-0.0358	.0378	5261.		

ADLPIPE PAGE 2020

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.30.05.

S/RV PIPING KEWAUNEE GKWOBF 2 RUP DISK  
2 SAFETY COLD FRW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

.3860	57.	-193.	-82.	53.	108.	-276.	.0156	-.0174	-.0018	-.0191	-.0366	-.0081	1547.
.3870	103.	-253.	-93.	119.	169.	-333.	.0147	-.0193	-.0025	-.0262	-.0393	.0020	2729.
.3880	139.	-315.	-100.	144.	224.	-391.	.0133	-.0213	-.0025	-.0324	-.0416	.0120	3387.
.3890	160.	-368.	-130.	246.	277.	-444.	.0117	-.0235	-.0025	-.0374	-.0433	.0212	4006.
.3900	167.	-406.	-152.	301.	311.	-487.	.0098	-.0255	-.0022	-.0410	-.0443	.0285	4531.
.3910	162.	-436.	-169.	346.	335.	-523.	.0074	-.0269	-.0017	-.0436	-.0442	.0340	4948.
.3920	148.	-468.	-183.	380.	344.	-555.	.0046	-.0273	-.0011	-.0456	-.0434	.0380	5260.
.3930	125.	-494.	-196.	402.	339.	-577.	.0012	-.0269	-.0004	-.0470	-.0418	.0402	5455.
.3940	97.	-498.	-200.	409.	319.	-583.	-.0025	-.0258	.0003	-.0472	-.0393	.0402	5430.
.3950	49.	-493.	-195.	402.	281.	-573.	-.0064	-.0238	.0011	-.0460	-.0358	.0378	5261.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.30.05.

S/RV PIPING KEWAUNEE CRHOFF 2 RUP DISK  
2 SAFETY COLD FRW24F--2 PSVCONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITSINTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

SECTION	73	MEMBER	1	SEQUENCE	707	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)		
.3960	-5.	-464.	-190.	383.	239.	-556.	-.0106	-.0209	.0022	-.0440	-.0320	.0337	4984.		
.3970	-65.	-444.	-192.	355.	183.	-531.	-.0149	-.0170	.0036	-.0413	-.0283	.0282	4626.		
.3980	-129.	-409.	-192.	317.	110.	-494.	-.0193	-.0125	.0054	-.0376	-.0244	.0209	4170.		
.3990	-196.	-358.	-188.	269.	50.	-445.	-.0234	-.0075	.0073	-.0330	-.0202	.0118	3636.		
.4000	-264.	-300.	-182.	213.	-19.	-389.	-.0272	-.0021	.0091	-.0284	-.0161	.0015	3093.		

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)		
.2640	294.	-674.	-178.	477.	530.	-768.	.0605	-.0279	-.0498	-.1057	-.0653	.0434	7298.		

SECTION	73	MEMBER	2	SEQUENCE	826	LOCATION	END	TYPE	RU						
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS		
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		
0.0000	0.	0.	0.	0.	0.	0.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.		
.0010	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	-1.	-0.	0.	0.	-1.	-0.	-.0000	-.0000	-.0000	-.0000	-.0001	.0000	3.		
.0050	-3.	-1.	-1.	1.	-1.	-1.	-.0000	-.0000	-.0000	.0000	-.0002	-.0000	6.		
.0060	-6.	-2.	-3.	1.	-2.	-2.	-.0001	-.0000	-.0001	.0002	-.0003	-.0001	12.		
.0070	-11.	-3.	-5.	2.	-4.	-4.	-.0002	-.0000	-.0003	.0003	-.0010	-.0002	22.		
.0080	-16.	-5.	-8.	3.	-7.	-6.	-.0003	-.0001	-.0006	.0004	-.0016	-.0002	38.		
.0090	-25.	-7.	-10.	5.	-12.	-10.	-.0009	-.0002	-.0011	.0006	-.0024	-.0002	61.		
.0100	-37.	-11.	-14.	8.	-19.	-16.	-.0015	-.0002	-.0018	.0011	-.0034	-.0005	96.		
.0110	-55.	-17.	-21.	13.	-26.	-25.	-.0024	-.0003	-.0028	.0019	-.0045	-.0010	145.		
.0120	-75.	-26.	-28.	21.	-36.	-39.	-.0038	-.0004	-.0041	.0031	-.0057	-.0015	213.		
.0130	-95.	-37.	-35.	30.	-46.	-54.	-.0056	-.0008	-.0057	.0046	-.0067	-.0017	293.		
.0140	-112.	-46.	-38.	40.	-61.	-69.	-.0079	-.0014	-.0078	.0065	-.0074	-.0013	374.		
.0150	-124.	-50.	-36.	48.	-75.	-78.	-.0104	-.0022	-.0101	.0083	-.0076	-.0004	444.		
.0160	-120.	-52.	-26.	53.	-89.	-83.	-.0129	-.0029	-.0126	.0097	-.0073	.0011	497.		
.0170	-118.	-53.	-8.	53.	-101.	-83.	-.0151	-.0033	-.0148	.0101	-.0061	.0029	527.		
.0180	-92.	-54.	18.	49.	-107.	-77.	-.0165	-.0033	-.0161	.0095	-.0037	.0048	525.		
.0190	-51.	-53.	49.	42.	-100.	-67.	-.0167	-.0028	-.0160	.0081	.0002	.0062	477.		

ADLPIPE PAGE 2930

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.30.05.

S/RV PIPING KEWAUNEE CRHOFF 2 RUP DISK  
2 SAFETY COLD FRW24F--2 PSVCONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITSINTERNAL FORCES IN THE PIPING  
FORCES AND MOMENTS ACT ON THE PIPING

.0090	-27.	-7.	-10.	5.	-12.	-10.	-.0009	-.0002	-.0011	.0006	-.0024	-.0002	58.
.0100	-37.	-11.	-14.	8.	-19.	-16.	-.0015	-.0002	-.0018	.0011	-.0034	-.0005	96.
.0110	-55.	-17.	-21.	13.	-26.	-25.	-.0024	-.0003	-.0028	.0019	-.0045	-.0010	145.
.0120	-75.	-26.	-28.	21.	-36.	-39.	-.0038	-.0004	-.0041	.0031	-.0057	-.0015	213.
.0130	-95.	-37.	-35.	30.	-46.	-54.	-.0056	-.0008	-.0057	.0046	-.0067	-.0017	293.
.0140	-112.	-46.	-30.	40.	-61.	-69.	-.0079	-.0014	-.0078	.0065	-.0074	-.0013	374.
.0150	-124.	-50.	-36.	48.	-75.	-78.	-.0104	-.0022	-.0101	.0083	-.0076	-.0004	444.
.0160	-128.	-52.	-26.	53.	-89.	-83.	-.0129	-.0029	-.0126	.0097	-.0073	.0011	497.
.0170	-118.	-53.	-8.	53.	-101.	-83.	-.0151	-.0033	-.0148	.0101	-.0061	.0029	527.
.0180	-92.	-54.	18.	49.	-107.	-77.	-.0165	-.0033	-.0161	.0095	-.0037	.0048	525.
.0190	-51.	-53.	40.	42.	-100.	-67.	-.0167	-.0028	-.0160	.0081	.0002	.0062	477.

ADLPIPE PAGE 2930

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.05.

S/RV PIPING KEWAUNEE CKHOCE 2 RUP DISK  
2 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	73	MEMBER	2	SEQUENCE	826	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)
.0200	2.	-48.	77.	35.	-74.	-51.		-.0154	-.0020	-.0139	.0064	.0053	.0069	360.
.0210	56.	-37.	70.	30.	-27.	-33.		-.0124	-.0009	-.0095	.0051	.0113	.0060	185.
.0220	81.	-31.	60.	36.	48.	-27.		-.0078	.0006	-.0027	.0069	.0177	.0025	244.
.0230	88.	-70.	11.	50.	133.	-30.		-.0025	.0019	.0056	.0106	.0232	-.0019	542.
.0240	106.	-20.	-64.	61.	233.	-24.		.0027	.0023	.0137	.0135	.0264	-.0045	902.
.0250	150.	6.	-122.	59.	323.	3.		.0077	.0016	.0201	.0135	.0282	-.0048	1227.
.0260	191.	35.	-116.	50.	372.	31.		.0126	.0012	.0238	.0112	.0309	-.0062	1405.
.0270	192.	43.	-78.	42.	387.	32.		.0169	.0025	.0246	.0102	.0338	-.0118	1444.
.0280	231.	45.	-72.	18.	402.	37.		.0190	.0041	.0229	.0058	.0337	-.0157	1508.
.0290	364.	57.	-38.	-34.	409.	74.		.0196	.0041	.0194	-.0071	.0329	-.0151	1558.
.0300	444.	59.	128.	-81.	334.	95.		.0216	.0041	.0157	-.0185	.0377	-.0126	1333.
.0310	441.	93.	244.	-123.	284.	124.		.0250	.0047	.0136	-.0246	.0415	-.0174	1246.
.0320	447.	128.	215.	-154.	300.	155.		.0279	.0044	.0147	-.0300	.0391	-.0207	1386.
.0330	431.	97.	150.	-148.	297.	131.		.0299	.0030	.0195	-.0315	.0335	-.0208	1320.
.0340	717.	69.	37.	-116.	288.	89.		.0323	.0014	.0252	-.0240	.0243	-.0236	1206.
.0350	155.	140.	-161.	-99.	340.	115.		.0342	-.0005	.0282	-.0123	.0102	-.0295	1390.
.0360	27.	215.	-271.	-101.	325.	156.		.0334	-.0016	.0268	-.0042	-.0028	-.0332	1397.
.0370	-67.	170.	-203.	-99.	161.	120.		.0281	-.0002	.0205	.0002	-.0101	-.0327	835.
.0380	-118.	92.	-127.	-114.	-15.	72.		.0187	.0028	.0092	.0016	-.0163	-.0287	507.
.0390	-73.	110.	-54.	-175.	-148.	125.		.0071	.0046	-.0060	-.0030	-.0207	-.0191	975.
.0400	19.	174.	221.	-260.	-369.	231.		-.0030	.0047	-.0209	-.0127	-.0156	-.0044	1891.
.0410	16.	190.	553.	-315.	-624.	285.		-.0095	.0064	-.0304	-.0170	-.0056	.0066	2818.
.0420	-54.	176.	568.	-331.	-700.	301.		-.0137	.0095	-.0310	-.0143	-.0063	.0124	3102.
.0430	-107.	140.	755.	-301.	-643.	287.		-.0160	.0121	-.0217	-.0065	-.0143	.0172	2859.
.0440	-229.	74.	189.	-212.	-617.	221.		-.0145	.0126	-.0056	.0103	-.0201	.0197	2571.
.0450	-463.	91.	-63.	-102.	-503.	183.		-.0096	.0110	.0119	.0357	-.0284	.0153	2035.
.0460	-669.	193.	-418.	-21.	-289.	211.		-.0059	.0100	.0227	.0574	-.0401	.0088	1339.
.0470	-702.	101.	-501.	31.	-254.	185.		-.0076	.0092	.0276	.0623	-.0423	.0118	1178.
.0480	-595.	12.	-279.	62.	-414.	68.		-.0145	.0093	.0247	.0508	-.0337	.0246	1583.
.0490	-455.	-93.	-99.	58.	-490.	2.		-.0228	.0089	.0137	.0329	-.0246	.0359	1842.
.0500	-320.	-52.	56.	29.	-490.	33.		-.0297	.0071	-.0006	.0161	-.0138	.0411	1837.
.0510	-191.	-40.	356.	26.	-581.	23.		-.0346	.0044	-.0110	.0029	.0037	.0439	2173.
.0520	-89.	-145.	509.	78.	-606.	-91.		-.0374	.0019	-.0136	-.0064	.0152	.0458	2305.
.0530	-49.	-210.	280.	171.	-400.	-229.		-.0368	-.0007	-.0081	-.0094	.0120	.0428	1834.
.0540	-106.	-307.	-6.	283.	-159.	-337.		-.0313	-.0036	.0037	-.0029	.0067	.0314	1747.
.0550	-233.	-295.	-142.	397.	-12.	-424.		-.0223	-.0068	.0180	.0098	.0068	.0147	2169.
.0560	-326.	-292.	-357.	489.	192.	-497.		-.0146	-.0095	.0297	.0179	.0028	.0002	2698.
.0570	-709.	-334.	-605.	545.	417.	-570.		-.0115	-.0107	.0352	.0158	-.0031	-.0085	3330.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.05.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

## INTERNAL FORCES IN THE PIPING

.0480	-595.	12.	-279.	62.	-414.	68.	-.0145	.0093	.0276	.0508	-.0423	.0118	1178.
.0490	-455.	-93.	-99.	58.	-490.	2.	-.0228	.0089	.0137	.0329	-.0246	.0359	1842.
.0500	-320.	-52.	56.	29.	-490.	33.	-.0297	.0071	-.0006	.0161	-.0138	.0411	1837.
.0510	-191.	-40.	256.	76.	-581.	23.	-.0346	.0044	-.0110	.0029	.0037	.0439	2173.
.0520	-88.	-145.	509.	78.	-606.	-51.	-.0374	.0019	-.0136	-.0064	.0152	.0458	2305.
.0530	-40.	-260.	280.	171.	-400.	-229.	-.0368	-.0007	-.0081	-.0094	.0120	.0428	1834.
.0540	-106.	-302.	-6.	283.	-159.	-337.	-.0313	-.0036	.0037	-.0029	.0067	.0314	1747.
.0550	-233.	-292.	-142.	297.	-12.	-424.	-.0223	-.0068	.0180	.0098	.0068	.0147	2169.
.0560	-226.	-292.	-357.	489.	192.	-497.	-.0146	-.0095	.0297	.0179	.0028	.0002	2698.
.0570	-709.	-324.	-605.	545.	417.	-570.	-.0115	-.0107	.0352	.0158	-.0031	-.0085	3330.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.05.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION	END	TYPE	RU								
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)	
.0580	-190.	-406.	-542.	556.	439.	-639.	-.0128	-.0101	.0338	.0065	.0031	-.0129	3561.	
.0590	-11.	-421.	-235.	509.	327.	-642.	-.0160	-.0089	.0256	-.0079	.0192	-.0151	3293.	
.0600	186.	-361.	-3.	420.	296.	-566.	-.0189	-.0078	.0134	-.0263	.0327	-.0160	2854.	
.0610	359.	-314.	177.	333.	288.	-493.	-.0203	-.0055	.0037	-.0437	.0438	-.0175	2466.	
.0620	473.	-317.	378.	271.	214.	-466.	-.0193	-.0010	.0018	-.0533	.0553	-.0232	2167.	
.0630	515.	-312.	377.	233.	235.	-444.	-.0151	.0044	.0089	-.0539	.0579	-.0336	2069.	
.0640	460.	-278.	104.	228.	420.	-414.	-.0069	.0085	.0222	-.0458	.0484	-.0468	2361.	
.0650	302.	-225.	-187.	255.	600.	-390.	.0039	.0109	.0382	-.0285	.0364	-.0620	2835.	
.0660	120.	-131.	-399.	277.	703.	-341.	.0136	.0128	.0517	-.0066	.0260	-.0779	3094.	
.0670	19.	-38.	-600.	263.	785.	-273.	.0181	.0149	.0572	.0084	.0143	-.0889	3255.	
.0680	16.	-45.	-649.	222.	771.	-249.	.0167	.0177	.0315	.0105	.0070	-.0902	3137.	
.0690	89.	-97.	-404.	149.	584.	-239.	.0109	.0203	.0353	.0037	.0108	-.0840	2422.	
.0700	228.	-47.	-32.	25.	346.	-137.	.0026	.0212	.0123	-.0070	.0204	-.0739	1393.	
.0710	393.	55.	276.	-108.	162.	11.	-.0058	.0201	-.0111	-.0181	.0281	-.0604	727.	
.0720	484.	53.	504.	-179.	3.	64.	-.0113	.0182	-.0277	-.0233	.0330	-.0452	709.	
.0730	461.	-4.	575.	-182.	-90.	48.	-.0121	.0158	-.0335	-.0169	.0323	-.0331	779.	
.0740	356.	34.	397.	-157.	-35.	83.	-.0078	.0118	-.0287	.0009	.0222	-.0264	674.	
.0750	189.	120.	98.	-109.	100.	140.	.0006	.0065	-.0167	.0255	.0069	-.0222	760.	
.0760	-22.	137.	-168.	-33.	207.	140.	.0108	.0014	-.0026	.0512	-.0078	-.0172	942.	
.0770	-191.	128.	-399.	27.	293.	130.	.0185	-.0025	.0079	.0715	-.0211	-.0103	1202.	
.0780	-247.	155.	-525.	34.	322.	171.	.0211	-.0053	.0106	.0821	-.0293	-.0004	1367.	
.0790	-191.	160.	-396.	1.	205.	215.	.0189	-.0075	.0043	.0824	-.0265	.0141	1110.	
.0800	-105.	129.	-93.	-51.	2.	242.	.0135	-.0097	-.0092	.0751	-.0154	.0323	924.	
.0810	27.	145.	180.	-128.	-160.	309.	.0064	-.0121	-.0254	.0642	-.0040	.0504	1385.	
.0820	161.	199.	400.	-204.	-295.	398.	-.0004	-.0139	-.0380	.0552	.0064	.0639	1999.	
.0830	214.	199.	562.	-237.	-427.	419.	-.0041	-.0139	-.0422	.0529	.0148	.0702	2392.	
.0840	155.	159.	510.	-220.	-433.	385.	-.0032	-.0127	-.0371	.0580	.0146	.0687	2315.	
.0850	39.	174.	250.	-188.	-310.	376.	.0020	-.0114	-.0246	.0685	.0062	.0601	1949.	
.0860	-100.	239.	16.	-157.	-200.	395.	.0096	-.0098	-.0079	.0813	-.0008	.0467	1755.	
.0870	-210.	279.	-115.	-134.	-147.	398.	.0170	-.0071	-.0084	.0908	-.0029	.0322	1663.	
.0880	-241.	282.	-221.	-179.	-86.	393.	.0219	-.0035	.0202	.0900	-.0028	.0210	1589.	
.0890	-166.	285.	-210.	-188.	-77.	411.	.0234	.0004	.0257	.0776	.0029	.0141	1708.	
.0900	-31.	305.	23.	-270.	-186.	452.	.0228	.0042	.0262	.0588	.0179	.0089	2084.	
.0910	96.	326.	292.	-358.	-315.	497.	.0215	.0075	.0241	.0385	.0340	.0032	2571.	
.0920	174.	346.	395.	-419.	-352.	512.	.0203	.0103	.0226	.0208	.0417	-.0039	2799.	
.0930	176.	320.	377.	-420.	-348.	472.	.0199	.0125	.0246	.0114	.0421	-.0143	2716.	
.0940	88.	290.	280.	-331.	-331.	395.	.0204	.0140	.0298	.0134	.0367	-.0297	2417.	
.0950	-67.	293.	42.	-227.	-234.	300.	.0214	.0146	.0351	.0227	.0234	-.0487	1918.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.05.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING



.0860	-100.	239.	16.	-157.	-200.	395.	.0026	-.0098	-.0079	.0813	-.0008	.0667	1755.
.0870	-210.	279.	-115.	-134.	-147.	398.	.0170	-.0071	.0084	.0908	-.0029	.0322	1663.
.0880	-241.	282.	-221.	-139.	-86.	393.	.0219	-.0035	.0202	.0900	-.0028	.0210	1589.
.0890	-166.	285.	-210.	-108.	-77.	411.	.0234	.0004	.0257	.0776	.0029	.0141	1708.
.0900	-31.	305.	23.	-270.	-186.	452.	.0228	.0042	.0262	.0588	.0179	.0089	2084.
.0910	96.	336.	292.	-358.	-315.	497.	.0215	.0075	.0221	.0385	.0340	.0032	2571.
.0920	174.	346.	395.	-419.	-352.	512.	.0203	.0103	.0246	.0208	.0417	-.0039	2799.
.0930	176.	320.	377.	-470.	-348.	472.	.0199	.0125	.0246	.0114	.0421	-.0143	2716.
.0940	88.	290.	280.	-302.	-231.	395.	.0204	.0140	.0298	.0134	.0367	-.0297	2417.
.0950	-67.	293.	42.	-327.	-234.	320.	.0214	.0146	.0351	.0227	.0234	-.0487	1918.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.30.05.

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	73	MEMBER	2	SEQUENCE	826	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)	
.0960	-234.	293.	-235.	-258.	-108.	241.		.0213	.0148	.0365	.0316	.0067	-.0665	1380.	
.0970	-349.	254.	-338.	-208.	-89.	147.		.0182	.0158	.0314	.0341	-.0046	-.0798	1006.	
.0980	-367.	200.	-262.	-197.	-171.	68.		.0112	.0178	.0189	.0273	-.0092	-.0877	1006.	
.0990	-296.	155.	-121.	-224.	-268.	21.		.0012	.0206	-.0002	.0117	-.0111	-.0905	1307.	
.1000	-193.	99.	79.	-261.	-378.	-21.		-.0094	.0237	-.0223	-.0072	-.0106	-.0900	1718.	
.1010	-111.	48.	300.	-285.	-489.	-65.		-.0180	.0270	-.0425	-.0224	-.0092	-.0901	2127.	
.1020	-69.	32.	384.	-285.	-511.	-92.		-.0235	.0305	-.0570	-.0297	-.0131	-.0933	2211.	
.1030	-69.	14.	288.	-252.	-420.	-129.		-.0251	.0342	-.0641	-.0297	-.0240	-.0982	1891.	
.1040	-108.	-45.	133.	-182.	-289.	-201.		-.0226	.0378	-.0641	-.0245	-.0568	-.1021	1480.	
.1050	-152.	-90.	-23.	-104.	-136.	-258.		-.0169	.0407	-.0598	-.0170	-.0478	-.1041	1157.	
.1060	-150.	-75.	-171.	-50.	49.	-252.		-.0097	.0422	-.0541	-.0112	-.0554	-.1021	978.	
.1070	-79.	-67.	-228.	-14.	205.	-229.		-.0028	.0423	-.0489	-.0103	-.0563	-.0925	1149.	
.1080	61.	-115.	-157.	16.	295.	-228.		.0029	.0408	-.0448	-.0155	-.0498	-.0738	1395.	
.1090	240.	-154.	-53.	38.	376.	-210.		.0077	.0376	-.0416	-.0231	-.0401	-.0506	1613.	
.1100	351.	-132.	-20.	60.	491.	-164.		.0126	.0343	-.0384	-.0222	-.0316	-.0320	1943.	
.1110	419.	-139.	-26.	110.	600.	-151.		.0172	.0294	-.0340	-.0161	-.0262	-.0121	2346.	
.1120	463.	-200.	-78.	193.	702.	-183.		.0210	.0226	-.0288	-.0082	-.0259	.0120	2801.	
.1130	460.	-197.	-222.	271.	833.	-178.		.0243	.0158	-.0243	.0052	-.0308	.0311	3339.	
.1140	413.	-134.	-342.	322.	929.	-137.		.0266	.0115	-.0219	.0216	-.0349	.0426	3706.	
.1150	396.	-155.	-311.	358.	908.	-147.		.0270	.0092	-.0222	.0307	-.0333	.0554	3686.	
.1160	444.	-240.	-206.	369.	835.	-179.		.0247	.0079	-.0250	.0294	-.0283	.0723	3473.	
.1170	545.	-208.	-112.	319.	780.	-106.		.0212	.0077	-.0289	.0228	-.0209	.0859	3171.	
.1180	620.	-92.	88.	227.	653.	29.		.0189	.0098	-.0306	.0175	-.0069	.0917	2582.	
.1190	690.	-53.	314.	139.	491.	120.		.0186	.0128	-.0273	.0068	.0071	.0990	1957.	
.1200	713.	-79.	351.	79.	415.	161.		.0209	.0163	-.0174	-.0050	.0112	.1056	1689.	
.1210	590.	-24.	212.	38.	404.	226.		.0265	.0220	-.0008	-.0033	.0077	.0969	1735.	
.1220	375.	128.	-7.	3.	400.	329.		.0338	.0297	.0195	.0090	.0002	.0741	1958.	
.1230	123.	170.	-219.	-2.	386.	337.		.0402	.0384	.0384	.0206	-.0091	.0502	1914.	
.1240	-71.	120.	-448.	-6.	380.	289.		.0425	.0462	.0502	.0227	-.0207	.0350	1780.	
.1250	-166.	174.	-537.	-71.	305.	331.		.0396	.0530	.0518	.0174	-.0257	.0174	1702.	
.1260	-191.	300.	-291.	-194.	31.	435.		.0325	.0597	.0438	.0062	-.0159	.0024	1781.	
.1270	-123.	314.	84.	-331.	-205.	403.		.0227	.0649	.0286	-.0196	-.0022	-.0009	2463.	
.1280	-62.	195.	369.	-429.	-579.	431.		.0128	.0682	.0120	-.0502	.0065	.0032	3135.	
.1290	-75.	168.	512.	-495.	-770.	414.		.0055	.0695	-.0001	-.0681	.0098	.0005	3752.	
.1300	-181.	261.	541.	-520.	-902.	441.		.0022	.0687	-.0040	-.0680	.0083	-.0117	4220.	
.1310	-394.	235.	395.	-457.	-935.	347.		.0032	.0656	-.0005	-.0575	-.0024	-.0224	4094.	
.1320	-625.	90.	23.	-330.	-812.	163.		.0064	.0587	.0063	-.0473	-.0245	-.0236	3328.	
.1330	-837.	37.	-299.	-210.	-705.	44.		.0099	.0494	.0122	-.0338	-.0440	-.0239	2752.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.30.05.

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

.1250	-166.	174.	-537.	-71.	305.	321.	.0396	.0530	.0518	.0174	-.0257	.0174	1700.
.1260	-191.	300.	-291.	-104.	31.	475.	.0325	.0597	.0438	.0062	-.0159	.0024	1781.
.1270	-127.	314.	84.	-331.	-305.	483.	.0227	.0649	.0286	-.0196	-.0022	-.0009	2463.
.1280	-62.	195.	769.	-429.	-579.	421.	.0128	.0682	.0120	-.0502	.0065	.0032	3135.
.1290	-75.	168.	512.	-495.	-770.	414.	.0055	.0695	-.0001	-.0681	.0098	.0005	3752.
.1300	-181.	261.	541.	-520.	-902.	441.	.0022	.0687	-.0040	-.0680	.0083	-.0117	4220.
.1310	-394.	235.	395.	-457.	-935.	347.	.0032	.0656	-.0005	-.0575	-.0024	-.0224	4094.
.1320	-625.	20.	23.	-370.	-812.	163.	.0064	.0587	.0063	-.0473	-.0245	-.0236	3328.
.1330	-837.	37.	-299.	-210.	-705.	44.	.0009	.0494	.0122	-.0338	-.0440	-.0239	2752.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.05.

S/RV PIPING KEWAUNEE CKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	73	MEMBER	2	SEQUENCE	826	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)	
.1340	-972.	115.	-383.	-145.	-719.	33.		.0117	.0395	.0130	-.0216	-.0520	-.0240	2741.	
.1350	-991.	85.	-313.	-103.	-785.	-23.		.0105	.0295	.0058	-.0237	-.0533	-.0122	2958.	
.1360	-913.	-123.	-169.	-58.	-856.	-179.		.0062	.0194	-.0082	-.0392	-.0516	.0132	3271.	
.1370	-731.	-225.	38.	-49.	-928.	-240.		.0001	.0083	-.0251	-.0566	-.0457	.0405	3582.	
.1380	-549.	-155.	315.	-63.	-1025.	-187.		-.0045	-.0027	-.0397	-.0642	-.0356	.0596	3858.	
.1390	-440.	-150.	449.	-34.	-1027.	-195.		-.0047	-.0127	-.0486	-.0670	-.0319	.0763	3903.	
.1400	-420.	-298.	328.	67.	-872.	-327.		-.0002	-.0213	-.0502	-.0677	-.0402	.0918	3485.	
.1410	-474.	-387.	113.	183.	-674.	-437.		.0078	-.0273	-.0443	-.0587	-.0515	.0955	3075.	
.1420	-498.	-299.	-94.	252.	-471.	-417.		.0172	-.0311	-.0342	-.0456	-.0609	.0884	2531.	
.1430	-484.	-277.	-257.	309.	-267.	-430.		.0267	-.0329	-.0247	-.0402	-.0681	.0824	2213.	
.1440	-416.	-399.	-379.	363.	-54.	-525.		.0348	-.0337	-.0197	-.0483	-.0730	.0831	2392.	
.1450	-273.	-430.	-369.	364.	93.	-540.		.0399	-.0331	-.0196	-.0616	-.0698	.0805	2455.	
.1460	-77.	-307.	-173.	300.	117.	-439.		.0420	-.0304	-.0228	-.0742	-.0561	.0699	2034.	
.1470	162.	-254.	44.	227.	128.	-375.		.0423	-.0264	-.0278	-.0948	-.0418	.0618	1705.	
.1480	350.	-366.	177.	191.	184.	-430.		.0431	-.0211	-.0315	-.1194	-.0320	.0566	1887.	
.1490	474.	-383.	222.	152.	277.	-429.		.0451	-.0149	-.0306	-.1512	-.0254	.0433	1988.	
.1500	544.	-220.	214.	95.	367.	-311.		.0480	-.0079	-.0235	-.1403	-.0201	.0190	1829.	
.1510	517.	-151.	125.	84.	459.	-276.		.0516	.0002	-.0109	-.1376	-.0186	-.0056	2023.	
.1520	433.	-248.	-114.	126.	615.	-356.		.0546	.0079	.0031	-.1355	-.0243	-.0220	2694.	
.1530	329.	-263.	-328.	152.	735.	-372.		.0553	.0149	.0156	-.1278	-.0279	-.0372	3129.	
.1540	270.	-86.	-262.	118.	733.	-233.		.0519	.0213	.0236	-.1156	-.0227	-.0525	2905.	
.1550	250.	25.	-273.	69.	642.	-118.		.0439	.0284	.0257	-.1080	-.0129	-.0589	2448.	
.1560	222.	-74.	-174.	47.	520.	-138.		.0318	.0368	.0224	-.1059	-.0042	-.0534	2017.	
.1570	229.	-132.	-87.	9.	385.	-112.		.0159	.0447	.0161	-.1030	.0034	-.0427	1498.	
.1580	212.	-31.	88.	-47.	168.	25.		-.0010	.0514	.0103	-.0889	.0147	-.0344	658.	
.1590	106.	44.	230.	-63.	-49.	179.		-.0164	.0565	.0068	-.0662	.0238	-.0234	566.	
.1600	-46.	-7.	198.	-22.	-134.	141.		-.0302	.0592	.0066	-.0428	.0228	-.0033	729.	
.1610	-197.	-43.	14.	37.	-180.	161.		-.0428	.0600	.0106	-.0159	.0186	.0191	910.	
.1620	-357.	20.	-19.	86.	-302.	238.		-.0538	.0604	.0180	.0182	.0203	.0363	1470.	
.1630	-481.	77.	-81.	170.	-375.	316.		-.0630	.0595	.0258	.0468	.0212	.0536	1893.	
.1640	-577.	6.	-187.	192.	-381.	396.		-.0703	.0573	.0317	.0644	.0196	.0811	1960.	
.1650	-640.	-77.	-183.	250.	-437.	278.		-.0763	.0540	.0358	.0773	.0224	.1056	2138.	
.1660	-628.	-34.	-103.	275.	-511.	330.		-.0817	.0491	.0381	.0878	.0285	.1242	2496.	
.1670	-599.	-6.	-61.	305.	-540.	356.		-.0858	.0432	.0384	.0945	.0322	.1385	2671.	
.1680	-577.	-110.	-99.	371.	-492.	263.		-.0875	.0365	.0367	.0939	.0305	.1512	2501.	
.1690	-567.	-221.	-120.	445.	-439.	135.		-.0869	.0295	.0339	.0915	.0283	.1555	2386.	
.1700	-531.	-205.	-122.	486.	-380.	90.		-.0849	.0224	.0300	.0886	.0267	.1475	2324.	
.1710	-445.	-182.	-160.	510.	-277.	24.		-.0817	.0155	.0245	.0781	.0230	.1340	2169.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.05.

S/RV PIPING KEWAUNEE CKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

.1610	-197.	-43.	14.	37.	-180.	161.	-0.0428	.0600	.0106	-.0159	.0186	.0191	910.
.1620	-357.	20.	-19.	86.	-302.	238.	-.0538	.0604	.0180	.0182	.0203	.0363	1470.
.1630	-481.	77.	-81.	130.	-375.	316.	-.0630	.0595	.0258	.0468	.0212	.0556	1893.
.1640	-577.	6.	-187.	172.	-437.	386.	-.0703	.0573	.0317	.0644	.0196	.0811	1960.
.1650	-640.	-77.	-183.	210.	-437.	278.	-.0763	.0540	.0358	.0773	.0224	.1056	2138.
.1660	-620.	-24.	-102.	275.	-511.	333.	-.0817	.0491	.0381	.0878	.0285	.1242	2496.
.1670	-599.	-6.	-61.	305.	-540.	356.	-.0858	.0432	.0384	.0945	.0322	.1385	2671.
.1680	-577.	-110.	-99.	371.	-492.	263.	-.0875	.0365	.0367	.0939	.0305	.1512	2501.
.1690	-560.	-221.	-120.	445.	-439.	135.	-.0869	.0295	.0339	.0915	.0283	.1555	2386.
.1700	-531.	-295.	-122.	466.	-380.	80.	-.0849	.0224	.0300	.0886	.0267	.1475	2324.
.1710	-445.	-182.	-160.	510.	-277.	24.	-.0817	.0155	.0245	.0781	.0230	.1340	2169.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.05.

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

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION	END	TYPE	RU									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	-380.	-312.	-157.	555.	-190.	-157.	-.0765	.0097	.0176	.0603	.0203	.1181	2266.		
.1730	-284.	-428.	-136.	578.	-93.	-329.	-.0702	.0042	.0097	.0372	.0188	.0977	2506.		
.1740	-145.	-308.	-89.	549.	4.	-386.	-.0633	-.0010	.0019	.0145	.0201	.0688	2504.		
.1750	-8.	-334.	-11.	502.	82.	-432.	-.0553	-.0049	-.0046	-.0081	.0234	.0354	2490.		
.1760	125.	-384.	19.	462.	185.	-540.	-.0463	-.0074	-.0093	-.0350	.0239	.0045	2740.		
.1770	230.	-435.	14.	412.	294.	-638.	-.0362	-.0082	-.0114	-.0598	.0230	-.0280	3039.		
.1780	326.	-343.	9.	319.	383.	-617.	-.0258	-.0076	-.0106	-.0784	.0226	-.0648	2963.		
.1790	382.	-220.	37.	213.	424.	-560.	-.0151	-.0054	-.0073	-.0913	.0237	-.1018	2741.		
.1800	406.	-189.	30.	118.	463.	-547.	-.0053	-.0018	-.0023	-.1028	.0228	-.1316	2711.		
.1810	450.	-150.	-32.	8.	521.	-496.	.0023	.0021	.0030	-.1134	.0200	-.1536	2686.		
.1820	472.	-18.	-6.	-124.	494.	-364.	.0077	.0066	.0090	-.1148	.0223	-.1738	2337.		
.1830	476.	148.	73.	-264.	411.	-189.	.0107	.0114	.0147	-.1101	.0276	-.1887	1955.		
.1840	458.	234.	107.	-303.	337.	-53.	.0113	.0160	.0195	-.1042	.0306	-.1928	1915.		
.1850	415.	277.	114.	-481.	255.	64.	.0096	.0201	.0176	-.0943	.0319	-.1885	2046.		
.1860	356.	391.	141.	-574.	130.	232.	.0056	.0236	.0175	-.0766	.0339	-.1813	2370.		
.1870	257.	521.	171.	-645.	2.	404.	-.0001	.0265	.0306	-.0509	.0358	-.1718	2841.		
.1880	137.	574.	122.	-677.	-83.	519.	-.0072	.0283	.0321	-.0251	.0334	-.1548	3201.		
.1890	23.	566.	71.	-677.	-163.	586.	-.0156	.0288	.0317	-.0004	.0303	-.1316	3398.		
.1900	-72.	597.	97.	-670.	-281.	670.	-.0252	.0283	.0296	.0274	.0312	-.1074	3690.		
.1910	-110.	660.	140.	-662.	-382.	776.	-.0352	.0263	.0258	.0511	.0337	-.0812	4066.		
.1920	-151.	639.	185.	-625.	-452.	812.	-.0443	.0234	.0211	.0688	.0367	-.0517	4182.		
.1930	-171.	553.	232.	-559.	-498.	784.	-.0520	.0198	.0171	.0818	.0403	-.0217	4048.		
.1940	-172.	597.	257.	-483.	-507.	767.	-.0581	.0155	.0150	.0942	.0438	.0034	3874.		
.1950	-174.	487.	225.	-389.	-460.	743.	-.0621	.0106	.0155	.1067	.0453	.0225	3570.		
.1960	-199.	402.	126.	-258.	-356.	647.	-.0637	.0053	.0177	.1172	.0434	.0380	2919.		
.1970	-235.	278.	-11.	-105.	-214.	502.	-.0636	-.0001	.0203	.1248	.0390	.0493	2073.		
.1980	-250.	207.	-135.	32.	-69.	383.	-.0632	-.0050	.0217	.1300	.0348	.0537	1457.		
.1990	-224.	165.	-197.	144.	47.	284.	-.0633	-.0087	.0205	.1303	.0328	.0531	1199.		
.2000	-150.	71.	-191.	235.	133.	154.	-.0642	-.0110	.0159	.1216	.0327	.0519	1161.		
.2010	-31.	-40.	-132.	208.	199.	19.	-.0655	-.0119	.0085	.1049	.0342	.0499	1338.		
.2020	117.	-106.	-19.	321.	235.	-62.	-.0666	-.0114	.0004	.0860	.0382	.0431	1505.		
.2030	240.	-111.	107.	321.	253.	-103.	-.0665	-.0097	-.0058	.0686	.0430	.0311	1572.		
.2040	252.	-140.	160.	321.	294.	-158.	-.0644	-.0068	-.0082	.0528	.0445	.0165	1729.		
.2050	409.	-186.	133.	326.	375.	-223.	-.0600	-.0031	-.0061	.0402	.0413	-.0003	2033.		
.2060	410.	-176.	50.	318.	463.	-247.	-.0535	.0012	.0001	.0337	.0360	-.0216	2293.		
.2070	400.	-110.	-39.	293.	536.	-226.	-.0459	.0059	.0089	.0319	.0303	-.0459	2430.		
.2080	374.	-61.	-132.	256.	594.	-203.	-.0366	.0108	.0175	.0297	.0239	-.0680	2531.		
.2090	367.	-42.	-197.	203.	623.	-186.	-.0376	.0154	.0239	.0251	.0184	-.0858	2542.		

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.05.

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

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

.1980	-250.	207.	-135.	32.	-69.	303.	-0.632	-0.0050	.0217	.1300	.0348	.0537	1457.
.1990	-224.	165.	-197.	144.	47.	284.	-0.672	-0.0087	.0205	.1303	.0328	.0531	1199.
.2000	-150.	71.	-191.	275.	133.	154.	-0.642	-0.0110	.0159	.1216	.0327	.0519	1161.
.2010	-31.	-49.	-132.	250.	199.	19.	-0.655	-0.0119	.0085	.1049	.0342	.0499	1338.
.2020	117.	-106.	-10.	321.	237.	-62.	-0.666	-0.0114	.0004	.0860	.0382	.0431	1505.
.2030	247.	-111.	107.	321.	253.	-103.	-0.665	-0.0097	-0.058	.0686	.0430	.0311	1572.
.2040	352.	-140.	160.	321.	294.	-158.	-0.664	-0.0068	-0.058	.0528	.0445	.0165	1729.
.2050	409.	-186.	133.	326.	375.	-223.	-0.600	-0.0031	-0.061	.0402	.0413	-0.0003	2033.
.2060	419.	-176.	50.	318.	467.	-247.	-0.535	.0012	.0001	.0337	.0360	-0.0216	2293.
.2070	400.	-110.	-39.	293.	536.	-226.	-0.459	.0059	.0089	.0319	.0303	-0.0459	2430.
.2080	374.	-61.	-132.	276.	594.	-203.	-0.386	.0108	.0175	.0297	.0239	-0.0680	2531.
.2090	367.	-42.	-197.	203.	623.	-186.	-0.326	.0154	.0239	.0251	.0184	-0.0858	2542.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.30.05.

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	73	MEMBER	2	SEQUENCE	826	LOCATION	END	TYPE	RU						
TIME	FX	FY	FZ	MX	MY	MZ		DX	DY	DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)		(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.2100	370.	4.	-179.	123.	590.	-136.		-0.0285	.0196	.0269	.0198	.0168	-0.1010	2306.	
.2110	401.	94.	-80.	17.	502.	-43.		-0.0262	.0230	.0265	.0144	.0194	-0.1141	1882.	
.2120	440.	170.	5.	-94.	397.	46.		-0.0252	.0253	.0235	.0079	.0232	-0.1231	1532.	
.2130	466.	204.	152.	-194.	295.	106.		-0.0245	.0267	.0199	.0015	.0264	-0.1284	1376.	
.2140	465.	242.	225.	-279.	203.	163.		-0.0235	.0271	.0176	-0.0009	.0284	-0.1329	1426.	
.2150	423.	309.	240.	-247.	136.	230.		-0.0213	.0263	.0176	.0022	.0282	-0.1380	1634.	
.2160	335.	361.	185.	-386.	109.	275.		-0.0176	.0244	.0196	.0091	.0250	-0.1420	1814.	
.2170	217.	376.	84.	-396.	110.	286.		-0.0131	.0215	.0226	.0176	.0199	-0.1435	1870.	
.2180	107.	390.	-13.	-398.	114.	294.		-0.0088	.0180	.0250	.0263	.0151	-0.1428	1895.	
.2190	31.	420.	-70.	-404.	105.	317.		-0.0056	.0141	.0255	.0332	.0124	-0.1395	1958.	
.2200	-5.	431.	-71.	-413.	78.	334.		-0.0037	.0100	.0227	.0358	.0121	-0.1319	2004.	
.2210	-10.	406.	-23.	-421.	36.	332.		-0.0026	.0061	.0171	.0337	.0137	-0.1201	2007.	
.2220	0.	383.	58.	-430.	-14.	334.		-0.0020	.0024	.0101	.0293	.0164	-0.1065	2054.	
.2230	37.	374.	141.	-435.	-62.	344.		-0.0012	-0.0010	.0035	.0252	.0187	-0.0931	2083.	
.2240	51.	349.	180.	-420.	-82.	335.		.0006	-0.0039	-0.0015	.0225	.0184	-0.0801	2030.	
.2250	39.	300.	149.	-380.	-60.	299.		.0037	-0.0066	-0.0035	.0217	.0141	-0.0681	1818.	
.2260	2.	260.	67.	-325.	-6.	259.		.0081	-0.0089	-0.0035	.0235	.0069	-0.0586	1552.	
.2270	-43.	243.	-28.	-267.	54.	229.		.0130	-0.0107	-0.0025	.0266	-0.0016	-0.0517	1328.	
.2280	-74.	215.	-109.	-211.	107.	191.		.0175	-0.0118	-0.0015	.0276	-0.0103	-0.0452	1131.	
.2290	-70.	160.	-153.	-163.	131.	139.		.0210	-0.0122	-0.0026	.0240	-0.0183	-0.0376	939.	
.2300	-53.	107.	-137.	-132.	125.	94.		.0231	-0.0121	-0.0062	.0166	-0.0241	-0.0298	764.	
.2310	-7.	79.	-62.	-119.	84.	71.		.0239	-0.0117	-0.0118	.0072	-0.0276	-0.0232	605.	
.2320	57.	55.	30.	-113.	30.	51.		.0239	-0.0110	-0.0180	-0.0034	-0.0302	-0.0172	477.	
.2330	110.	14.	102.	-104.	-18.	17.		.0236	-0.0100	-0.0233	-0.0138	-0.0335	-0.0117	400.	
.2340	139.	-24.	142.	-90.	-59.	-20.		.0238	-0.0089	-0.0262	-0.0220	-0.0375	-0.0081	407.	
.2350	140.	-36.	152.	-75.	-90.	-40.		.0248	-0.0077	-0.0259	-0.0265	-0.0417	-0.0071	461.	
.2360	117.	-34.	127.	-58.	-108.	-51.		.0266	-0.0063	-0.0276	-0.0285	-0.0461	-0.0075	496.	
.2370	75.	-42.	79.	-40.	-117.	-65.		.0288	-0.0045	-0.0168	-0.0292	-0.0500	-0.0078	521.	
.2380	20.	-50.	31.	-26.	-131.	-73.		.0308	-0.0022	-0.0095	-0.0288	-0.0523	-0.0076	568.	
.2390	-12.	-41.	3.	-24.	-159.	-61.		.0319	.0006	-0.0018	-0.0275	-0.0519	-0.0069	644.	
.2400	-45.	-23.	-0.	-72.	-204.	-34.		.0319	.0036	.0053	-0.0257	-0.0489	-0.0047	781.	
.2410	-70.	-13.	14.	-44.	-261.	-5.		.0308	.0070	.0114	-0.0236	-0.0440	-0.0006	989.	
.2420	-117.	-5.	38.	-57.	-328.	26.		.0286	.0107	.0166	-0.0203	-0.0379	.0046	1247.	
.2430	-165.	9.	58.	-70.	-399.	62.		.0254	.0147	.0210	-0.0151	-0.0314	.0097	1528.	
.2440	-220.	18.	62.	-76.	-464.	91.		.0217	.0189	.0249	-0.0079	-0.0254	.0147	1787.	
.2450	-306.	12.	42.	-70.	-515.	104.		.0175	.0229	.0284	.0008	-0.0204	.0200	1979.	
.2460	-391.	2.	6.	-55.	-552.	109.		.0133	.0264	.0310	.0102	-0.0162	.0253	2110.	
.2470	-474.	-3.	-29.	-36.	-581.	112.		.0091	.0292	.0326	.0197	-0.0122	.0306	2214.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.30.05.

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

.2370	75.	-42.	79.	-40.	-117.	-65.	.288	-.0045	-.0168	-.0292	-.0500	-.0078	521.
.2380	20.	-50.	31.	-26.	-131.	-73.	.308	-.0022	-.0095	-.0288	-.0523	-.0076	568.
.2390	-12.	-41.	3.	-24.	-159.	-61.	.0319	.0006	-.0018	-.0275	-.0519	-.0069	644.
.2400	-47.	-23.	-0.	-20.	-204.	-34.	.0319	.0036	.0053	-.0257	-.0489	-.0047	781.
.2410	-79.	-13.	14.	-44.	-261.	-5.	.0308	.0070	.0114	-.0236	-.0440	-.0006	989.
.2420	-117.	-5.	30.	-27.	-328.	26.	.0286	.0107	.0166	-.0203	-.0379	.0046	1247.
.2430	-165.	9.	50.	-70.	-399.	62.	.0254	.0147	.0210	-.0151	-.0314	.0097	1528.
.2440	-220.	18.	62.	-76.	-464.	91.	.0217	.0189	.0249	-.0079	-.0254	.0147	1787.
.2450	-286.	12.	42.	-70.	-515.	104.	.0175	.0229	.0284	.0008	-.0204	.0200	1979.
.2460	-391.	2.	6.	-55.	-552.	109.	.0133	.0264	.0310	.0102	-.0162	.0253	2110.
.2470	-474.	-3.	-29.	-26.	-581.	112.	.0091	.0292	.0326	.0197	-.0122	.0306	2214.

ADLPIPE PAGE 2936 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 8/3/12/02. 18.30.05.

S/RV PIPING KEWAUNEE CROWDF 2 RUP DISK  
2 SAFETY COLD FRW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION	END	TYPE	RU	TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS
73	2	826					(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
.2480	-550.	-15.	-50.	-10.	-605.	103.	.0049	.0312	.0328	.0278	-.0085	.0359	2291.							
.2490	-617.	-49.	-84.	22.	-617.	73.	.0010	.0325	.0314	.0335	-.0053	.0414	2320.							
.2500	-654.	-97.	-103.	59.	-616.	26.	-.0025	.0328	.0283	.0363	-.0027	.0470	2312.							
.2510	-673.	-141.	-110.	98.	-602.	-26.	-.0052	.0319	.0237	.0366	-.0008	.0517	2280.							
.2520	-673.	-184.	-116.	141.	-569.	-85.	-.0066	.0300	.0179	.0346	-.0001	.0552	2210.							
.2530	-659.	-238.	-132.	190.	-510.	-163.	-.0066	.0272	.0114	.0301	-.0012	.0574	2121.							
.2540	-630.	-305.	-153.	244.	-432.	-257.	-.0049	.0235	.0045	.0230	-.0039	.0582	2086.							
.2550	-584.	-370.	-175.	299.	-338.	-356.	-.0017	.0191	-.0025	.0138	-.0078	.0572	2146.							
.2560	-519.	-426.	-198.	351.	-228.	-452.	.0031	.0141	-.0095	.0027	-.0127	.0547	2302.							
.2570	-437.	-483.	-218.	400.	-104.	-551.	.0091	.0085	-.0165	-.0105	-.0185	.0514	2570.							
.2580	-339.	-540.	-229.	443.	27.	-648.	.0161	.0025	-.0235	-.0252	-.0241	.0477	2951.							
.2590	-228.	-589.	-229.	479.	147.	-735.	.0238	-.0036	-.0301	-.0405	-.0300	.0436	3321.							
.2600	-109.	-628.	-223.	506.	263.	-811.	.0317	-.0097	-.0363	-.0556	-.0359	.0398	3699.							
.2610	0.	-661.	-214.	525.	370.	-873.	.0397	-.0159	-.0418	-.0698	-.0419	.0370	4047.							
.2620	117.	-680.	-203.	527.	465.	-917.	.0476	-.0218	-.0466	-.0822	-.0479	.0350	4329.							
.2630	211.	-681.	-191.	537.	542.	-938.	.0550	-.0272	-.0504	-.0920	-.0537	.0337	4514.							
.2640	294.	-674.	-178.	528.	598.	-940.	.0615	-.0317	-.0532	-.0992	-.0590	.0338	4601.							
.2650	367.	-660.	-166.	509.	630.	-923.	.0668	-.0354	-.0550	-.1038	-.0639	.0358	4586.							
.2660	412.	-633.	-150.	480.	638.	-883.	.0709	-.0381	-.0558	-.1056	-.0676	.0394	4444.							
.2670	439.	-587.	-124.	439.	617.	-817.	.0738	-.0398	-.0559	-.1043	-.0697	.0443	4159.							
.2680	447.	-530.	-91.	389.	570.	-730.	.0753	-.0405	-.0550	-.1001	-.0703	.0506	3751.							
.2690	437.	-472.	-61.	323.	502.	-631.	.0754	-.0401	-.0532	-.0936	-.0695	.0584	3259.							
.2700	410.	-411.	-34.	272.	418.	-521.	.0742	-.0387	-.0504	-.0850	-.0675	.0672	2695.							
.2710	362.	-337.	-12.	208.	321.	-397.	.0720	-.0364	-.0467	-.0741	-.0643	.0758	2058.							
.2720	280.	-255.	2.	142.	216.	-265.	.0690	-.0332	-.0423	-.0612	-.0600	.0835	1383.							
.2730	195.	-183.	8.	79.	106.	-141.	.0654	-.0292	-.0374	-.0472	-.0549	.0907	719.							
.2740	95.	-122.	7.	21.	-8.	-25.	.0608	-.0251	-.0325	-.0330	-.0492	.0983	125.							
.2750	-3.	-56.	7.	-26.	-123.	91.	.0556	-.0212	-.0279	-.0188	-.0426	.1056	586.							
.2760	-103.	20.	14.	-92.	-236.	210.	.0501	-.0175	-.0239	-.0049	-.0350	.1116	1227.							
.2770	-202.	84.	33.	-143.	-347.	313.	.0445	-.0140	-.0209	.0077	-.0265	.1167	1823.							
.2780	-291.	122.	57.	-186.	-450.	390.	.0389	-.0108	-.0184	.0180	-.0180	.1214	2330.							
.2790	-365.	154.	68.	-223.	-541.	455.	.0335	-.0082	-.0164	.0266	-.0099	.1250	2767.							
.2800	-430.	198.	78.	-256.	-616.	516.	.0286	-.0064	-.0146	.0342	-.0025	.1262	3149.							
.2810	-497.	234.	87.	-279.	-673.	561.	.0247	-.0051	-.0130	.0408	.0039	.1251	3432.							
.2820	-560.	246.	75.	-290.	-707.	575.	.0217	-.0043	-.0116	.0459	.0085	.1224	3570.							
.2830	-600.	248.	48.	-291.	-718.	573.	.0192	-.0043	-.0106	.0496	.0111	.1184	3597.							
.2840	-634.	263.	19.	-290.	-716.	570.	.0169	-.0048	-.0103	.0525	.0122	.1124	3583.							
.2850	-641.	278.	9.	-287.	-707.	561.	.0152	-.0056	-.0112	.0536	.0128	.1050	3535.							

ADLPIPE PAGE 2937 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 8/3/12/02. 18.30.05.

S/RV PIPING KEWAUNEE CROWDF 2 RUP DISK  
2 SAFETY COLD FRW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

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

.2760	-105.	20.	14.	-92.	-236.	210.	.0501	-.0175	-.0239	-.0049	-.0350	.1116	1227.
.2770	-202.	84.	33.	-143.	-347.	313.	.0445	-.0140	-.0209	.0077	-.0265	.1167	1823.
.2780	-291.	122.	57.	-176.	-450.	390.	.0389	-.0108	-.0184	.0180	-.0180	.1214	2330.
.2790	-365.	154.	60.	-223.	-541.	455.	.0335	-.0082	-.0164	.0266	-.0099	.1250	2767.
.2800	-430.	190.	78.	-256.	-616.	516.	.0286	-.0064	-.0146	.0342	-.0025	.1262	3149.
.2810	-497.	234.	83.	-279.	-672.	561.	.0247	-.0051	-.0130	.0408	.0039	.1251	3432.
.2820	-560.	246.	75.	-290.	-707.	575.	.0217	-.0043	-.0116	.0459	.0085	.1224	3570.
.2830	-608.	248.	40.	-291.	-718.	573.	.0192	-.0043	-.0106	.0496	.0111	.1184	3597.
.2840	-634.	262.	19.	-290.	-716.	570.	.0169	-.0048	-.0103	.0525	.0122	.1124	3583.
.2850	-641.	278.	9.	-297.	-707.	561.	.0152	-.0056	-.0112	.0536	.0128	.1050	3535.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.30.05.

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	73	MEMBER	2	SEQUENCE	826	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)		
.2860	-628.	272.	15.	-283.	-689.	533.	.0139	-.0065	-.0135	.0520	.0127	.0970	3420.		
.2870	-587.	259.	35.	-280.	-662.	498.	.0129	-.0073	-.0169	.0476	.0119	.0885	3265.		
.2880	-512.	258.	71.	-284.	-620.	473.	.0120	-.0079	-.0209	.0413	.0109	.0791	3122.		
.2890	-414.	260.	117.	-290.	-588.	449.	.0118	-.0082	-.0248	.0334	.0097	.0689	2967.		
.2900	-311.	248.	153.	-292.	-525.	414.	.0127	-.0082	-.0280	.0243	.0072	.0581	2722.		
.2910	-209.	233.	165.	-289.	-432.	374.	.0150	-.0079	-.0300	.0147	.0034	.0466	2592.		
.2920	-104.	233.	159.	-282.	-322.	344.	.0182	-.0074	-.0306	.0058	-.0014	.0337	2049.		
.2930	0.	235.	139.	-271.	-197.	313.	.0221	-.0067	-.0299	-.0026	-.0068	.0202	1712.		
.2940	102.	219.	102.	-252.	-56.	268.	.0264	-.0058	-.0287	-.0118	-.0127	.0074	1390.		
.2950	214.	195.	64.	-230.	95.	219.	.0306	-.0049	-.0278	-.0218	-.0182	-.0044	1235.		
.2960	326.	187.	49.	-212.	236.	181.	.0342	-.0040	-.0278	-.0322	-.0220	-.0159	1363.		
.2970	445.	181.	59.	-197.	360.	149.	.0367	-.0030	-.0288	-.0432	-.0237	-.0261	1631.		
.2980	567.	151.	77.	-179.	475.	101.	.0380	-.0021	-.0307	-.0555	-.0242	-.0336	1932.		
.2990	681.	105.	95.	-155.	583.	46.	.0384	-.0015	-.0331	-.0676	-.0238	-.0384	2258.		
.3000	775.	80.	114.	-130.	680.	6.	.0380	-.0014	-.0351	-.0773	-.0221	-.0420	2583.		
.3010	842.	72.	124.	-103.	767.	-21.	.0370	-.0015	-.0363	-.0836	-.0197	-.0446	2889.		
.3020	879.	46.	108.	-65.	850.	-59.	.0355	-.0016	-.0360	-.0873	-.0174	-.0447	3189.		
.3030	892.	3.	67.	-19.	926.	-104.	.0332	-.0018	-.0344	-.0883	-.0154	-.0418	3478.		
.3040	887.	-21.	23.	24.	982.	-127.	.0302	-.0020	-.0315	-.0858	-.0124	-.0371	3696.		
.3050	854.	-17.	-7.	58.	1009.	-122.	.0263	-.0021	-.0278	-.0800	-.0080	-.0306	3802.		
.3060	808.	-19.	-25.	87.	1010.	-110.	.0215	-.0018	-.0238	-.0726	-.0024	-.0211	3806.		
.3070	754.	-36.	-35.	112.	983.	-98.	.0156	-.0012	-.0193	-.0641	.0037	-.0082	3710.		
.3080	696.	-39.	-34.	126.	925.	-64.	.0086	-.0003	-.0145	-.0535	.0104	.0067	3493.		
.3090	626.	-15.	-22.	130.	839.	-4.	.0009	.0007	-.0092	-.0404	.0174	.0223	3171.		
.3100	535.	11.	-12.	131.	737.	61.	-.0068	.0020	-.0034	-.0254	.0237	.0384	2805.		
.3110	427.	25.	-15.	133.	628.	120.	-.0144	.0035	.0030	-.0094	.0284	.0545	2439.		
.3120	313.	47.	-28.	131.	511.	182.	-.0219	.0052	.0098	.0074	.0318	.0693	2081.		
.3130	200.	81.	-39.	124.	382.	250.	-.0291	.0071	.0168	.0243	.0342	.0818	1765.		
.3140	91.	109.	-45.	115.	250.	307.	-.0357	.0089	.0232	.0393	.0357	.0922	1540.		
.3150	-11.	123.	-45.	105.	123.	348.	-.0414	.0105	.0285	.0514	.0362	.1005	1433.		
.3160	-95.	140.	-33.	91.	-1.	381.	-.0462	.0117	.0326	.0602	.0362	.1056	1464.		
.3170	-158.	161.	-5.	75.	-123.	405.	-.0501	.0124	.0355	.0658	.0360	.1067	1606.		
.3180	-202.	163.	23.	63.	-231.	402.	-.0529	.0127	.0371	.0674	.0347	.1045	1747.		
.3190	-234.	143.	41.	59.	-317.	367.	-.0542	.0121	.0376	.0650	.0320	.0988	1814.		
.3200	-255.	127.	54.	60.	-369.	317.	-.0538	.0108	.0371	.0597	.0285	.0888	1832.		
.3210	-262.	116.	67.	65.	-406.	257.	-.0520	.0089	.0358	.0520	.0247	.0744	1809.		
.3220	-255.	87.	72.	78.	-418.	169.	-.0489	.0063	.0339	.0413	.0204	.0574	1709.		
.3230	-231.	31.	66.	99.	-405.	55.	-.0449	.0030	.0312	.0276	.0157	.0391	1569.		

ADLPIPE PAGE 2038

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.30.05.

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	73	MEMBER	2	SEQUENCE	826	LOCATION	END	TYPE	RU						
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.3140	91.	109.	-45.	124.	382.	250.	-.0291	.0071	.0168	.0243	.0342	.0818	1765.
.3150	-11.	123.	-45.	115.	250.	307.	-.0357	.0089	.0232	.0393	.0357	.0922	1540.
.3160	-95.	140.	-33.	91.	-1.	348.	-.0414	.0105	.0285	.0514	.0362	.1005	1433.
.3170	-150.	161.	-5.	75.	-123.	405.	-.0462	.0117	.0326	.0602	.0362	.1056	1464.
.3180	-202.	163.	23.	63.	-231.	402.	-.0501	.0124	.0355	.0658	.0360	.1067	1606.
.3190	-234.	143.	41.	59.	-312.	367.	-.0529	.0127	.0371	.0674	.0347	.1045	1747.
.3200	-255.	127.	54.	60.	-369.	317.	-.0542	.0121	.0376	.0650	.0320	.0988	1814.
.3210	-262.	116.	67.	65.	-406.	257.	-.0538	.0108	.0371	.0597	.0285	.0888	1832.
.3220	-255.	87.	72.	78.	-418.	169.	-.0489	.0089	.0358	.0520	.0247	.0744	1809.
.3230	-231.	21.	66.	99.	-405.	55.	-.0449	.0030	.0339	.0413	.0204	.0574	1709.
									.0312	.0276	.0157	.0391	1569.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.30.05.

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	MEMBER	SEQUENCE	LOCATION	END	TYPE	RU	STRESS
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	(PSI)
.3240	-195.	-21.	65.	122.	-375.	-63.	1491.
.3250	-150.	-54.	76.	142.	-337.	-170.	1505.
.3260	-98.	-91.	89.	162.	-289.	-277.	1612.
.3270	-44.	-147.	91.	186.	-230.	-393.	1834.
.3280	0.	-199.	87.	209.	-167.	-496.	2105.
.3290	53.	-225.	85.	226.	-109.	-570.	2324.
.3300	83.	-237.	78.	238.	-53.	-621.	2490.
.3310	101.	-257.	63.	248.	-2.	-661.	2635.
.3320	112.	-271.	48.	252.	36.	-678.	2705.
.3330	118.	-260.	42.	246.	56.	-659.	2635.
.3340	115.	-233.	42.	230.	61.	-612.	2453.
.3350	98.	-208.	42.	212.	57.	-552.	2216.
.3360	73.	-178.	40.	189.	44.	-476.	1919.
.3370	44.	-132.	35.	161.	21.	-380.	1543.
.3380	10.	-82.	27.	133.	-7.	-276.	1144.
.3390	-32.	-41.	14.	108.	-32.	-178.	784.
.3400	-72.	-1.	-1.	84.	-54.	-81.	480.
.3410	-103.	47.	-6.	58.	-77.	18.	366.
.3420	-120.	90.	-3.	35.	-99.	107.	559.
.3430	-124.	112.	4.	17.	-113.	173.	773.
.3440	-117.	124.	14.	4.	-115.	222.	932.
.3450	-100.	143.	27.	-5.	-106.	263.	1058.
.3460	-74.	157.	37.	-8.	-85.	287.	1118.
.3470	-41.	147.	33.	0.	-46.	282.	1069.
.3480	-5.	124.	18.	16.	7.	256.	959.
.3490	37.	107.	5.	35.	65.	226.	886.
.3500	83.	96.	-1.	54.	124.	192.	878.
.3510	134.	72.	-5.	75.	183.	147.	918.
.3520	189.	35.	-4.	95.	235.	92.	1007.
.3530	245.	6.	6.	110.	276.	43.	1121.
.3540	295.	-9.	23.	119.	306.	6.	1226.
.3550	331.	-25.	35.	125.	328.	-28.	1315.
.3560	351.	-44.	38.	130.	341.	-60.	1382.
.3570	356.	-56.	34.	131.	343.	-81.	1402.
.3580	346.	-53.	26.	125.	330.	-87.	1357.
.3590	320.	-44.	16.	113.	306.	-82.	1255.
.3600	281.	-34.	10.	95.	267.	-71.	1090.
.3610	236.	-15.	12.	68.	211.	-47.	846.

ADLPIPE PAGE 2939

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.30.05.

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

.3500	83.	26.	-1.	74.	124.	192.	-.074	-.0478	.0075	.0691	.0249	.0115	878.
.3510	134.	72.	-5.	75.	183.	147.	-.044	-.0485	.0046	.0623	.0222	.0059	918.
.3520	189.	35.	-4.	95.	235.	92.	-.016	-.0489	.0019	.0542	.0195	-.0036	1007.
.3530	245.	6.	6.	110.	276.	43.	.0011	-.0492	-.0010	.0461	.0174	-.0112	1121.
.3540	295.	-9.	23.	119.	306.	6.	.0036	-.0491	-.0036	.0389	.0158	-.0190	1226.
.3550	331.	-25.	35.	129.	328.	-28.	.0060	-.0486	-.0057	.0328	.0142	-.0261	1315.
.3560	351.	-44.	38.	130.	341.	-60.	.0081	-.0478	-.0071	.0284	.0125	-.0324	1382.
.3570	356.	-56.	34.	131.	343.	-81.	.0098	-.0466	-.0076	.0263	.0108	-.0380	1402.
.3580	346.	-53.	26.	125.	330.	-87.	.0111	-.0451	-.0073	.0266	.0093	-.0429	1357.
.3590	320.	-44.	16.	113.	306.	-82.	.0120	-.0435	-.0067	.0288	.0082	-.0466	1255.
.3600	281.	-34.	10.	95.	267.	-71.	.0125	-.0416	-.0059	.0322	.0075	-.0491	1090.
.3610	236.	-15.	12.	68.	211.	-47.	.0123	-.0395	-.0051	.0365	.0076	-.0506	846.

ADLPIPE PAGE 2939

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.30.05.

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	73	MEMBER	2	SEQUENCE	826	LOCATION	END	TYPE	RU						
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)		
.3620	189.	12.	24.	32.	139.	-11.	.0116	-.0373	-.0043	.0415	.0085	-.0514	533.		
.3630	137.	40.	42.	-10.	56.	30.	.0105	-.0350	-.0036	.0467	.0099	-.0514	240.		
.3640	79.	68.	60.	-55.	-30.	72.	.0095	-.0328	-.0027	.0517	.0115	-.0509	356.		
.3650	15.	103.	74.	-104.	-119.	120.	.0086	-.0306	-.0016	.0570	.0130	-.0508	732.		
.3660	-54.	145.	82.	-153.	-198.	170.	.0081	-.0285	.0001	.0623	.0143	-.0513	1150.		
.3670	-125.	181.	78.	-200.	-271.	213.	.0079	-.0265	.0023	.0672	.0150	-.0524	1489.		
.3680	-190.	208.	63.	-242.	-333.	246.	.0081	-.0246	.0047	.0712	.0149	-.0538	1791.		
.3690	-268.	237.	44.	-281.	-386.	276.	.0086	-.0228	.0069	.0743	.0144	-.0561	2060.		
.3700	-330.	270.	30.	-319.	-433.	305.	.0092	-.0210	.0086	.0762	.0137	-.0591	2307.		
.3710	-380.	294.	22.	-353.	-473.	323.	.0097	-.0192	.0095	.0763	.0128	-.0623	2512.		
.3720	-414.	302.	20.	-382.	-506.	327.	.0100	-.0173	.0094	.0742	.0115	-.0650	2660.		
.3730	-432.	301.	25.	-405.	-531.	321.	.0101	-.0155	.0084	.0703	.0099	-.0673	2766.		
.3740	-436.	303.	39.	-423.	-548.	314.	.0101	-.0138	.0066	.0654	.0082	-.0694	2859.		
.3750	-429.	301.	53.	-433.	-553.	301.	.0102	-.0123	.0045	.0596	.0061	-.0708	2853.		
.3760	-414.	284.	60.	-432.	-542.	273.	.0105	-.0109	.0025	.0531	.0032	-.0713	2780.		
.3770	-390.	254.	57.	-418.	-514.	234.	.0110	-.0097	.0009	.0461	-.0004	-.0706	2622.		
.3780	-359.	222.	45.	-393.	-470.	190.	.0117	-.0088	-.0001	.0392	-.0046	-.0689	2396.		
.3790	-323.	190.	26.	-359.	-412.	143.	.0127	-.0083	-.0006	.0325	-.0091	-.0659	2108.		
.3800	-282.	150.	3.	-314.	-341.	89.	.0140	-.0084	-.0009	.0257	-.0138	-.0615	1762.		
.3810	-235.	100.	-20.	-261.	-262.	27.	.0152	-.0089	-.0010	.0187	-.0185	-.0555	1385.		
.3820	-180.	45.	-41.	-201.	-181.	-40.	.0161	-.0097	-.0011	.0114	-.0229	-.0483	1022.		
.3830	-119.	-11.	-57.	-138.	-99.	-107.	.0166	-.0110	-.0015	.0038	-.0268	-.0400	750.		
.3840	-56.	-71.	-67.	-71.	-19.	-179.	.0168	-.0127	-.0021	-.0039	-.0301	-.0309	722.		
.3850	3.	-123.	-74.	-2.	59.	-252.	.0167	-.0148	-.0029	-.0114	-.0329	-.0212	967.		
.3860	57.	-193.	-82.	68.	133.	-325.	.0162	-.0172	-.0038	-.0185	-.0355	-.0116	1354.		
.3870	103.	-253.	-93.	138.	201.	-397.	.0153	-.0197	-.0044	-.0247	-.0372	-.0021	1740.		
.3880	130.	-315.	-109.	208.	262.	-471.	.0140	-.0224	-.0047	-.0300	-.0388	.0071	2156.		
.3890	160.	-368.	-130.	274.	317.	-537.	.0124	-.0252	-.0047	-.0341	-.0399	.0156	2543.		
.3900	167.	-406.	-152.	331.	362.	-590.	.0105	-.0276	-.0045	-.0369	-.0404	.0225	2864.		
.3910	162.	-436.	-169.	378.	390.	-634.	.0081	-.0293	-.0040	-.0388	-.0401	.0276	3118.		
.3920	148.	-468.	-183.	415.	402.	-674.	.0053	-.0300	-.0034	-.0404	-.0391	.0312	3315.		
.3930	125.	-494.	-196.	439.	398.	-703.	.0019	-.0297	-.0026	-.0415	-.0376	.0331	3452.		
.3940	93.	-498.	-200.	446.	377.	-709.	-.0019	-.0285	-.0017	-.0415	-.0353	.0330	3431.		
.3950	49.	-483.	-195.	438.	338.	-696.	-.0059	-.0264	-.0007	-.0405	-.0322	.0307	3320.		
.3960	-5.	-464.	-190.	418.	287.	-674.	-.0101	-.0232	.0005	-.0387	-.0290	.0269	3148.		
.3970	-65.	-444.	-192.	389.	227.	-644.	-.0145	-.0191	.0022	-.0364	-.0259	.0216	2932.		
.3980	-129.	-409.	-192.	348.	159.	-598.	-.0189	-.0141	.0041	-.0332	-.0228	.0148	2651.		
.3990	-196.	-358.	-188.	296.	83.	-536.	-.0231	-.0086	.0062	-.0293	-.0195	.0063	2307.		

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.30.05.

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















62	2	90	END	-457.	-1509.	1010.	-1263.	39.	487.	-.0296	.0058	-.0201	.1131	-.0106	-.0027
63	1	90	BEG	-492.	1530.	-994.	1263.	-39.	-487.	.0296	-.0058	.0201	-.1131	.0106	.0027
63	1	831	END	492.	-1530.	994.	-1263.	50.	626.	-.0298	.0015	-.0217	.0607	-.0097	.0207
63	2	91	END	492.	-1530.	994.	-1263.	55.	576.	-.0281	.0009	-.0232	.0049	-.0089	.0445
64	1	91	BEG	-574.	1534.	-982.	1295.	-55.	-576.	.0281	-.0009	.0232	-.0049	.0089	-.0445
64	1	92	END	-950.	1238.	-79.	448.	152.	1592.	.0023	-.0006	-.0003	-.0134	.0004	-.0671
64	2	93	END	-950.	1238.	-79.	448.	119.	1968.	.0000	-.0000	.0000	-.0004	-.0002	-.0015
64	3	94	END	-950.	1238.	-79.	448.	116.	1985.	.0000	0.0000	-.0000	.0000	.0000	-.0000
65	1	830	BEG	-2226.	1901.	-2195.	-1544.	-1043.	931.	-.0737	-.0625	-.0347	.1001	.1268	.1035
65	1	95	END	1904.	-659.	2086.	1927.	-118.	-1146.	.0373	.0042	.0048	.0882	.0915	-.0997
65	2	96	DIS	0.	0.	0.	0.	0.	0.	.0782	-.0857	.0342	.1872	-.0917	-.1605
65	2	96	END	-1636.	1365.	-1798.	-1218.	1849.	1808.	.0204	.0490	-.0162	-.0748	-.0905	.1175
66	1	96	BEG	-3418.	1857.	-1463.	-1214.	-0.	2837.	-.0771	.0122	.0203	-.1424	-.0605	.1595

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.30.31.

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

CONDITION 24  
LOADS  
SHOCK  
PRESSURE

TIME HISTORY ANALYSIS, MAXIMUM INTERNAL MOMENT SUMMARY, NUMBER OF TIME STEPS CONSIDERED = 401

SEC	MEM	SEQ	POS	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)
66	1	97	DIS	0.	0.	0.	0.	0.	0.	.0984	-.0858	.0495	.2267	-.0917	-.2075
66	1	97	END	3418.	-1857.	1463.	483.	0.	-1128.	.0972	-.0123	-.0040	.1626	.0605	-.2066
66	2	832	DIS	0.	0.	0.	0.	0.	0.	.1125	-.0859	.0656	.2341	-.0917	-.2161
66	2	832	END	-490.	-284.	116.	0.	0.	0.	-.0074	-.0020	-.0002	.0078	.0085	.0328
67	1	96	BEG	196.	1139.	336.	-720.	817.	-1767.	.0203	-.0289	.0115	-.0681	-.0428	-.0453
67	1	98	DIS	0.	0.	0.	0.	0.	0.	.0788	-.0759	.0362	-.1776	-.0602	-.1591
67	1	98	END	1323.	-95.	155.	327.	1483.	-784.	.0147	.0432	-.0193	-.0547	-.0494	.0974
67	2	99	END	1323.	-95.	155.	298.	751.	-982.	.0154	.0349	-.0201	-.0221	.0217	.0352
67	3	100	END	-551.	1440.	340.	996.	-130.	1592.	-.0736	-.0080	.0005	-.0656	-.0133	-.0740
67	4	101	DIS	0.	0.	0.	0.	0.	0.	-.0752	-.0875	.0507	.1178	-.0896	-.1280
67	4	101	END	-551.	1440.	340.	1362.	-148.	2262.	-.0750	-.0005	-.0003	-.0365	-.0166	-.0276
68	1	101	BEG	-895.	-577.	-212.	-554.	-0.	2334.	-.0158	-.0463	.0041	-.0180	-.0332	.0907
68	1	102	DIS	0.	0.	0.	0.	0.	0.	-.0779	-.0874	.0360	-.1194	-.0896	-.1974
68	1	102	END	895.	577.	212.	342.	0.	-1439.	.0452	.0464	.0021	.0392	.0332	-.1805
68	2	833	DIS	0.	0.	0.	0.	0.	0.	.1239	-.0875	.0691	-.1320	-.0896	-.2470
68	2	833	END	199.	666.	128.	0.	0.	-0.	.0133	.0255	.0047	-.0051	-.0115	-.0910
69	1	101	BEG	-309.	661.	200.	424.	467.	-1259.	-.0121	-.0522	.0002	-.0244	-.0040	.1143
69	1	103	DIS	0.	0.	0.	0.	0.	0.	-.0761	-.0953	.0585	.1194	.0864	-.1009
69	1	103	END	309.	-661.	-200.	-594.	-452.	949.	.0111	.0605	-.0006	.0056	-.0079	-.0841
69	2	704	END	380.	-644.	-176.	-737.	-492.	652.	.0115	.0638	-.0010	-.0416	-.0214	-.0335
69	3	104	END	380.	-644.	-176.	-737.	-492.	652.	.0115	.0638	-.0010	-.0416	-.0214	-.0335
70	1	104	BEG	-384.	655.	180.	737.	492.	-652.	-.0115	-.0638	.0010	.0416	.0214	.0335
70	1	834	END	384.	-655.	-180.	-756.	-453.	465.	.0114	.0640	-.0044	-.0698	-.0885	.0341
70	2	105	END	384.	-655.	-180.	-638.	-343.	319.	.0161	.0565	-.0098	-.1425	-.1445	.1040
71	1	105	BEG	-392.	682.	183.	638.	343.	-319.	-.0161	-.0565	.0098	.1425	.1445	-.1040
71	1	106	END	-892.	-4.	-85.	-98.	-701.	-95.	.0137	.0349	.0146	-.0027	.1241	-.0164
72	1	106	BEG	941.	-74.	269.	98.	701.	95.	-.0137	-.0349	-.0146	.0027	-.1241	.0164
72	1	835	END	-941.	74.	-269.	-106.	-782.	-88.	.0112	.0352	.0166	-.0055	.0721	-.0176
72	2	107	END	-941.	74.	-269.	-112.	-811.	-79.	.0105	.0356	.0178	-.0072	.0162	-.0203
73	1	107	BEG	972.	-115.	383.	112.	811.	79.	-.0105	-.0356	-.0178	.0072	-.0162	.0203
73	1	707	END	294.	-674.	-178.	477.	530.	-768.	.0605	-.0279	-.0498	-.1057	-.0655	.0434
73	2	826	END	294.	-674.	-178.	528.	598.	-940.	.0615	-.0317	-.0532	-.0922	-.0590	.0338

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.30.35.

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

CONDITION 24  
LOADS  
SHOCK  
PRESSURE

SPRING/HANGER SUMMARY  
MAXIMUM COMPONENT OF FORCE OR MOMENT  
FORCES AND MOMENTS ACT ON THE RESTRAINT

SEC MEM SEQ TYPE FX FY FZ MX MY MZ DX DY DZ RX RY RZ

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

CONDITION 24  
LOADS  
SHOCK  
PRESSURE

SPRING/HANGER SUMMARY  
MAXIMUM COMPONENT OF FORCE OR MOMENT  
FORCES AND MOMENTS ACT ON THE RESTRAINT

SEC	MEM	SEQ	TYPE	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)
5	1	22	SP	9736.	0.	6727.	0.	0.	0.	.1542	-.1474	-.2297	.3542	-.2749	-.3778
14	2	237	SP	-19895.	-5659.	10802.	0.	0.	0.	-.1216	-.1447	.1824	.2984	-.1993	-.1689
21	2	130	SP	-6195.	0.	-11408.	0.	0.	0.	-.1505	.1239	.0748	.2180	.1923	-.1403
32	1	57	SP	-5168.	0.	-9517.	0.	0.	0.	-.0648	.0655	-.0737	-.1641	.1453	.0924
37	2	560	SP	0.	13093.	0.	0.	0.	0.	.0549	.0569	.0715	.0794	-.1107	.0683
38	1	60	SP	-2861.	0.	-2656.	0.	0.	0.	-.0041	.0623	-.0038	-.0824	-.1191	-.0702
40	1	61	SP	4954.	0.	-2032.	0.	0.	0.	-.0707	-.0627	-.1699	.0934	-.1628	-.0587
42	1	63	SP	-1238.	6320.	-3018.	0.	0.	0.	.0562	-.0684	-.1741	-.0790	-.1708	-.0886

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

CONDITION 24  
LOADS  
SHOCK  
PRESSURE

RESTRAINED NETWORK POINT SUMMARY  
MAXIMUM COMPONENTS OF FORCE AND MOMENT  
FORCES AND MOMENTS ACT ON THE RESTRAINT

NET PT	SEQ	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)
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S/RV PIPING KEWAUNEE CKW00F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE

RESTRAINED NETWORK POINT SUMMARY  
MAXIMUM COMPONENTS OF FORCE AND MOMENT  
FORCES AND MOMENTS ACT ON THE RESTRAINT

NET PT	SEQ	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)
1	10	-6811.	-8469.	9630.	24692.	9274.	19714.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
27	47	-6527.	8768.	4915.	18743.	-4359.	-15960.	.0000	.0000	.0000	-0.0000	-0.0000	-0.0000
50	68	8623.	-1739.	-2385.	-4785.	11631.	-12722.	.0000	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000
65	94	950.	1534.	-1004.	-1273.	254.	-1985.	-0.0000	.0000	-0.0000	-0.0000	-0.0000	.0000

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

CONDITION 24  
LOADS  
SHOCK  
PRESSURE

\*\*\*\*\*CONTENTS OF LOAD SET FILE(TAPE 14)  
CONDITION 24 WILL BE DELETED

CONDITION 24 LABEL 3 SEISMIC 83/12/02. 18.30.40.

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

CONDITION 24  
LOADS  
SHOCK  
PRESSURE

\*\*\*\*\*CONTENTS OF LOAD SET FILE(TAPE 14)  
CONDITION 24 WILL BE DELETED

CONDITION 24 LABEL	3	SEISMIC	83/12/02. 18.30.40.
			S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK 2 SAFETY COLD FKW24F--2 PSV
CONDITION 10 LABEL	2	DEADWEIGHT	83/11/08. 23.28.00.
			S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK DEAD WEIGHT KEWAUNEE DKW10F
CONDITION 11 LABEL	1	THERMAL	83/11/08. 23.28.33.
			S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK THERMAL ALL VALVES CLOSED TKW11F
CONDITION 12 LABEL	1	THERMAL	83/11/08. 23.29.06.
			S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK TH SAFETIES CLOSED RELIEFS OPEN TKW12F
CONDITION 13 LABEL	1	THERMAL	83/11/08. 23.29.39.
			S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK THERMAL ALL VALVES OPEN TKW13F
CONDITION 19 LABEL	3	SEISMIC	83/11/08. 23.32.00.
			S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK SEISMIC OBE SKW19F
CONDITION 20 LABEL	3	SEISMIC	83/11/08. 23.47.38.
			S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK SEISMIC DEE SKW20F
CONDITION 21 LABEL	4	EXTERNAL	83/11/08. 23.48.09.
			S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK OBE ANCHOR MOTIONS AKW21F
CONDITION 22 LABEL	4	EXTERNAL	83/11/08. 23.48.37.
			S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK OBE ANCHOR MOTIONS AKW22F
CONDITION 31 LABEL	3	SEISMIC	83/11/08. 23.49.15.
			S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK NEW FILE SRSS DEE AND 2 SRV NFE02F
CONDITION 26 LABEL	3	SEISMIC	83/11/09. 23.00.48.
			S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK 2 PORV FKW26F--2 PRV
CONDITION 30 LABEL	3	SEISMIC	83/11/09. 23.01.07.
			S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK NEW FILE SRSS OBE AND 2 PORV NFE01F

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

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
STRESS UNITS(LB/SG IN)

CONDITION 31 LABEL 3 SEISMIC 83/11/08. 23.49.15.  
 S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
 NEW FILE SRSS DEE AND 2 SRV NFEQ2F

CONDITION 26 LABEL 3 SEISMIC 83/11/09. 23.00.48.  
 S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
 2 PORV FKW26F--2 FRV

CONDITION 30 LABEL 3 SEISMIC 83/11/09. 23.01.07.  
 S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
 NEW FILE SRSS DEE AND 2 PORV NFEQ1F

ADLPIPE PAGE 2950 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 83/12/02. 18.30.52.  
 S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
 2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
 LOADS  
 SHOCK  
 PRESSURE  
 STRESS UNITS(LB/SQ IN)

ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEQ	POS	TYPE	EQ.	PRESSURE	MOMENT (A)	MOMENT (B)	MOMENT (C)	TOTAL	TOTAL/ ALLOWABLE	INTENSIFICATION TERM (.75*1)	FACTORS TERM (I)
1	1	10	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	20183.2	0.0	25915.5	1.350	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		12	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	20140.9	0.0	25873.2	1.348	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
1	2	12	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	20140.9	0.0	25873.2	1.348	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.099
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
		14	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	15680.8	0.0	21413.1	1.115	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.099
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
1	3	14	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	15680.8	0.0	21413.1	1.115	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		16	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	10553.3	0.0	16285.6	.848	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
1	4	16	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.080	
					12	5732.3	0.0	11401.4	0.0	17133.7	.892	1.080	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.440
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.080	1.440
		001	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.080	
					12	5732.3	0.0	12502.6	0.0	18234.8	.950	1.080	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.440
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.080	1.440
2	1	001	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.080	
					12	5732.3	0.0	12502.6	0.0	18234.8	.950	1.080	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.440
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.080	1.440
		17	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.080	
					12	5732.3	0.0	12539.6	0.0	18271.9	.952	1.080	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.440
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.080	1.440

ADLPIPE PAGE 2951 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 83/12/02. 18.30.52.  
 S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
 2 SAFETY COLD FKW24F--2 PSV

CONDITION 24  
 LOADS  
 SHOCK  
 PRESSURE  
 STRESS UNITS(LB/SQ IN)

ANSI B31.1 - 1977 STRESS REPORT

001 END EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.080	1.440
	12	5732.3	0.0	12502.6	0.0	18234.8	.950	1.080	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.440
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.080	1.440
2 1 001 DEG EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.080	
	12	5732.3	0.0	12502.6	0.0	18234.8	.950	1.080	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.440
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.080	1.440
17 END EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.080	
	12	5732.7	0.0	12539.6	0.0	18271.9	.952	1.080	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.440
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.080	1.440

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.52.

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

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
STRESS UNITS(LB/SQ IN)

ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEQ	POS	TYPE	EG.	PRESSURE	MOMENT (A)	MOMENT (B)	MOMENT (C)	TOTAL	TOTAL/ALLOWABLE	INTENSIFICATION FACTORS TERM (.75*I)	TERM (I)
2	2	17	DEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	11606.8	0.0	17339.1	.903	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.099
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
					11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	9904.9	0.0	15637.2	.814	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.099
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
3	1	802	DEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	9904.9	0.0	15637.2	.814	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.099
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
					11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	7046.4	0.0	12778.7	.666	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.099
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
3	2	18	DEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	7046.4	0.0	12778.7	.666	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
					11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	5495.4	0.0	11227.7	.585	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
3	3	20	DEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	5495.4	0.0	11227.7	.585	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.099
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
					11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	6898.7	0.0	12631.0	.658	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.099
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
4	1	803	DEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	6898.7	0.0	12631.0	.658	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.099
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
					11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	9374.7	0.0	15107.0	.787	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.099
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.52.

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

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
STRESS UNITS(LB/SQ IN)

ANSI B31.1 - 1977 STRESS REPORT

TOTAL/ INTENSIFICATION FACTORS

003 END EL	11	0.0	0.0	0.0	0.0	0.000	1.000	1.099
	12	5732.3	0.0	6898.7	0.0	12631.0	1.000	
	13	0.0	0.0	0.0	0.0	0.000	1.000	1.099
	14	0.0	0.0	0.0	0.0	0.000	1.000	1.099
4 1 003 DEG EL	11	0.0	0.0	0.0	0.0	0.000	1.000	
	12	5732.3	0.0	6898.7	0.0	12631.0	1.000	
	13	0.0	0.0	0.0	0.0	0.000	1.000	1.099
	14	0.0	0.0	0.0	0.0	0.000	1.000	1.099
21 END EL	11	0.0	0.0	0.0	0.0	0.000	1.000	
	12	5732.3	0.0	9374.7	0.0	15107.0	1.000	
	13	0.0	0.0	0.0	0.0	0.000	1.000	1.099
	14	0.0	0.0	0.0	0.0	0.000	1.000	1.099

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.52.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/SG IN)

ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEQ	POS	TYPE	LC	PRESSURE	MOMENT (A)	MOMENT (B)	MOMENT (C)	TOTAL	TOTAL/ ALLOWABLE	INTENSIFICATION TERM (.75*I)	TERM (I)
4	2	21	DEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	9374.7	0.0	15107.0	.787	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
		004	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	11432.3	0.0	17164.6	.894	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
5	1	004	DEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	11432.3	0.0	17164.6	.894	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
		22	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	11719.9	0.0	17452.2	.909	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
5	2	22	DEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	11719.9	0.0	17452.2	.909	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		23	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	11658.3	0.0	17390.6	.906	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
5	3	23	DEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2866.1	0.0	8105.5	0.0	10971.6	.571	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		24	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2866.1	0.0	6980.5	0.0	9846.6	.513	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
6	1	24	DEG	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2866.1	0.0	6980.5	0.0	9846.6	.513	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		25	END	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2866.1	0.0	7622.9	.6	10489.1	.546	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/SG IN)

ANSI B31.1 - 1977 STRESS REPORT

TOTAL/ INTENSIFICATION FACTORS

	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
24 END RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	2866.1	0.0	6980.5	0.0	9846.6	.513	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
6 1 24 DEG VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	2866.1	0.0	6980.5	0.0	9846.6	.513	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
25 END VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	2866.1	0.0	7622.9	0.0	10489.1	.546	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE  
S/RV PIPING KEWAUNEE CRK002F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

ADLPIPE STRESS ANALYSIS

83/12/02. 18.30.53.

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
STRESS UNITS(LB/50 IN)

ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEC	POS	TYPE	EQ.	PRESSURE	MOMENT	(A)	MOMENT	(B)	MOMENT	(C)	TOTAL	TOTAL/ALLOWABLE	INTENSIFICATION TERM (.75*I)	FACTORS TERM (I)
7	1	25	DEG	VA	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2866.1	0.0	2693.0	0.0	5559.2	0.0	0.0	5559.2	.290	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		26	END	VA	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2866.1	0.0	546.3	0.0	3412.5	0.0	0.0	3412.5	.178	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
7	2	26	DEG	VA	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2866.1	0.0	546.3	0.0	3412.5	0.0	0.0	3412.5	.178	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		005	END	VA	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2866.1	0.0	.0	0.0	2866.1	0.0	0.0	2866.1	.149	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
8	1	25	DEG	VA	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2866.1	0.0	8630.3	0.0	11496.5	0.0	0.0	11496.5	.599	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		27	END	VA	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2866.1	0.0	4752.7	0.0	7618.8	0.0	0.0	7618.8	.397	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
8	2	27	DEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2866.1	0.0	4752.7	0.0	7618.8	0.0	0.0	7618.8	.397	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		228	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2866.1	0.0	3469.6	0.0	6335.8	0.0	0.0	6335.8	.370	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
9	1	228	DEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	4140.6	0.0	10457.7	0.0	14598.3	0.0	0.0	14598.3	.733	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		28	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	4140.6	0.0	10440.7	0.0	14581.4	0.0	0.0	14581.4	.732	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE  
S/RV PIPING KEWAUNEE CRK002F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

ADLPIPE STRESS ANALYSIS

83/12/02. 18.30.53.

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
STRESS UNITS(LB/50 IN)

ANSI B31.1 - 1977 STRESS REPORT

TOTAL/ INTENSIFICATION FACTORS

228 END RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
	12	2866.1	0.0	3469.6	0.0	6335.8	.330	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
9 1 228 DEG RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	4140.6	0.0	10457.7	0.0	14598.3	.733	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
28 END RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	4140.6	0.0	10440.7	0.0	14581.4	.732	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/SG IN)

## ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEG	POS	TYPE	EG.	PRESSURE	MOMENT (A)	MOMENT (B)	MOMENT (C)	TOTAL	TOTAL/ ALLOWABLE	INTENSIFICATION TERM (.75*I)	TERM (I)
9	2	20	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.699	
					12	4140.6	0.0	17740.8	0.0	21881.4	1.098	1.699	
					13	0.0	0.0	0.0	0.0	0.0	0.000		2.266
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.699	2.266
		006	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.699	
					12	4140.6	0.0	14174.7	0.0	18315.3	.919	1.699	
					13	0.0	0.0	0.0	0.0	0.0	0.000		2.266
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.699	2.266
10	1	806	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.699	
					12	4140.6	0.0	14174.7	0.0	18315.3	.919	1.699	
					13	0.0	0.0	0.0	0.0	0.0	0.000		2.266
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.699	2.266
		29	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.699	
					12	4140.6	0.0	15626.5	0.0	19767.1	.992	1.699	
					13	0.0	0.0	0.0	0.0	0.0	0.000		2.266
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.699	2.266
10	2	29	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	4140.6	0.0	9196.4	0.0	13337.1	.670	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		229	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	4140.6	0.0	9928.0	0.0	14068.6	.706	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
10	3	229	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	4140.6	0.0	9928.0	0.0	14068.6	.706	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		230	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	4140.6	0.0	11339.7	0.0	15480.4	.777	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
10	4	230	BEG	TE	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	4140.6	0.0	11339.7	0.0	15480.4	.777	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		241	END	TE	11	0.0	0.0	0.0	0.0	0.0	0.000	1.268	
					12	4140.6	0.0	20678.3	0.0	24819.0	1.246	1.268	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.691
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.268	1.691

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/SG IN)

## ANSI B31.1 - 1977 STRESS REPORT

TOTAL/ INTENSIFICATION FACTORS

12	4140.6	0.0	11359.7	0.0	15480.4	.777	1.000	
13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
10 4 230 DEG TE	11	0.0	0.0	0.0	0.0	0.000	1.000	
	12	4140.6	0.0	11359.7	0.0	15480.4	.777	1.000
	13	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.000	1.000	1.000
041 END TE	11	0.0	0.0	0.0	0.0	0.000	1.268	
	12	4140.6	0.0	20678.3	0.0	24819.0	1.246	1.268
	13	0.0	0.0	0.0	0.0	0.000		1.691
	14	0.0	0.0	0.0	0.0	0.000	1.268	1.691

ADLPIPE PAGE 2955

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/SQ IN)

ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEG	POS	TYPE	EQ.	PRESSURE	MOMENT (A)	MOMENT (B)	MOMENT (C)	TOTAL	TOTAL/ALLOWABLE	INTENSIFICATION TERM (.75*I)	INTENSIFICATION TERM (I)
11	1	041	BEG	TE	11	0.0	0.0	0.0	0.0	0.0	0.000	1.268	
					12	4140.6	0.0	7127.7	0.0	11268.4	.566	1.268	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.691
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.268	1.691
		231	END	TE	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	4140.6	0.0	2756.3	0.0	6896.9	.346	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
11	2	231	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	4140.6	0.0	2756.3	0.0	6896.9	.346	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		042	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	4140.6	0.0	.0	0.0	4140.6	.208	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
12	1	041	BEG	TE	11	0.0	0.0	0.0	0.0	0.0	0.000	1.268	
					12	4140.6	0.0	20906.8	0.0	25047.4	1.257	1.268	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.691
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.268	1.691
		232	END	TE	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	4140.6	0.0	13589.3	0.0	17729.9	.890	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
12	2	232	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	4140.6	0.0	13589.3	0.0	17729.9	.890	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		233	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	4140.6	0.0	13583.4	0.0	17724.0	.890	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
12	3	233	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.699	
					12	4140.6	0.0	23080.8	0.0	27221.4	1.367	1.699	
					13	0.0	0.0	0.0	0.0	0.0	0.000		2.266
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.699	2.266
		043	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.699	
					12	4140.6	0.0	22641.3	0.0	26781.9	1.344	1.699	
					13	0.0	0.0	0.0	0.0	0.0	0.000		2.266
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.699	2.266

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/SQ IN)

ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEG	POS	TYPE	EQ.	PRESSURE	MOMENT (A)	MOMENT (B)	MOMENT (C)	TOTAL	TOTAL/ALLOWABLE	INTENSIFICATION TERM (.75*I)	INTENSIFICATION TERM (I)
13	1	043	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.699	



233 END RU	14	0.0	0.0	0.0	0.0	0.000	1.000	1.000
	11	0.0	0.0	0.0	0.0	0.000	1.000	1.000
	12	4140.6	0.0	13583.4	0.0	17724.0	.890	1.000
	13	0.0	0.0	0.0	0.0	0.000	1.000	1.000
	14	0.0	0.0	0.0	0.0	0.000	1.000	1.000
12 3 233 DEG EL	11	0.0	0.0	0.0	0.0	0.000	1.699	
	12	4140.6	0.0	23080.8	0.0	27221.4	1.367	1.699
	13	0.0	0.0	0.0	0.0	0.000	1.699	2.266
	14	0.0	0.0	0.0	0.0	0.000	1.699	2.266
043 END EL	11	0.0	0.0	0.0	0.0	0.000	1.699	
	12	4140.6	0.0	22641.3	0.0	26781.9	1.344	1.699
	13	0.0	0.0	0.0	0.0	0.000	1.699	2.266
	14	0.0	0.0	0.0	0.0	0.000	1.699	2.266

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.30.53.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/SQ IN)

## ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEQ	POS	TYPE	EQ.	PRESSURE	MOMENT (A)	MOMENT (B)	MOMENT (C)	TOTAL	TOTAL/ ALLOWABLE	INTENSIFICATION TERM (.75*1)	TERM (1)
13	1	043	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.699	
					12	4140.6	0.0	22641.3	0.0	26781.9	1.344	1.699	
					13	0.0	0.0	0.0	0.0	0.0	0.000		2.266
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.699	2.266
		234	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.699	
					12	4140.6	0.0	24646.8	0.0	28787.4	1.445	1.699	
					13	0.0	0.0	0.0	0.0	0.0	0.000		2.266
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.699	2.266
13	2	234	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	4140.6	0.0	14505.1	0.0	18645.7	.936	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		400	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	4140.6	0.0	14512.7	0.0	18653.4	.936	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
13	3	400	BEG	RE	11	0.0	0.0	0.0	0.0	0.0	0.000	1.500	
					12	6442.6	0.0	21769.1	0.0	28211.7	1.416	1.500	
					13	0.0	0.0	0.0	0.0	0.0	0.000		2.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.500	2.000
		401	END	RE	11	0.0	0.0	0.0	0.0	0.0	0.000	1.500	
					12	6442.6	0.0	27247.1	0.0	33689.7	1.691	1.500	
					13	0.0	0.0	0.0	0.0	0.0	0.000		2.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.500	2.000
13	4	401	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	5160.6	0.0	11603.2	.534	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		235	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	7021.5	0.0	13464.1	.620	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
14	1	235	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	8327.3	0.0	14769.9	.680	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		236	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	8236.5	0.0	14679.1	.676	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.30.53.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/SQ IN)

## ANSI B31.1 - 1977 STRESS REPORT

235 END RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
	12	6442.6	0.0	7021.5	0.0	13464.1	.620	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
14 1 235 BEG RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	6442.6	0.0	8327.3	0.0	14769.9	.680	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
236 END RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	6442.6	0.0	8236.5	0.0	14679.1	.676	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

ADLPIPE PAGE 2957

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

S/RV PIPING KEWAUNEE CKW00F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSVCONDITION 24  
LOADS  
SHOCK  
PRESSURE  
STRESS UNITS(LB/SQ IN)

## ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEG	POS	TYPE	EQ.	PRESSURE	MOMENT (A)	MOMENT (B)	MOMENT (C)	TOTAL	TOTAL/ ALLOWABLE	INTENSIFICATION FACTORS TERM (.75*1)	TERM (1)
14	2	236	BEG	RIGID									
		237	END	RIGID									
15	1	235	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	4583.5	0.0	11026.2	.508	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		403	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	4434.4	0.0	10877.1	.501	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
15	2	403	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	4434.4	0.0	10877.1	.501	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		33	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	5930.2	0.0	12372.9	.570	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
15	3	33	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	5930.2	0.0	12372.9	.570	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		807	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	6619.3	0.0	13061.9	.601	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
16	1	807	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	4140.6	0.0	22827.7	0.0	26968.3	1.354	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		900	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	4140.6	0.0	14345.6	0.0	18486.2	.928	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

ADLPIPE PAGE 2958

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

S/RV PIPING KEWAUNEE CKW00F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSVCONDITION 24  
LOADS  
SHOCK  
PRESSURE  
STRESS UNITS(LB/SQ IN)

## ANSI B31.1 - 1977 STRESS REPORT

TOTAL/ INTENSIFICATION FACTORS

11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
12	4140.6	0.0	22827.7	0.0	26968.3	1.354	1.000	
13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
900 END RU	11	0.0	0.0	0.0	0.0	0.000	1.000	
	12	4140.6	0.0	14345.6	0.0	18486.2	1.000	
	13	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.000	1.000	1.000

ADLPIPE PAGE 2958 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 8/12/02. 18.30.53.

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

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
STRESS UNITS(LB/SG IN)

ANSI D31.1 - 1977 STRESS REPORT

SEC	MEM	SEG	POS	TYPE	EQ.	PRESSURE	MOMENT	(A)	MOMENT	(B)	MOMENT	(C)	TOTAL	TOTAL/ ALLOWABLE	INTENSIFICATION TERM (.75*1)	INTENSIFICATION TERM (1)
16	2	900	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.699	
					12	4140.6	0.0	24375.8	0.0	0.0	0.0	28516.4	1.432	1.699		
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000			2.266
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.699		2.266
		852	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.699		
					12	4140.6	0.0	17257.4	0.0	0.0	0.0	21398.0	1.074	1.699		
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000			2.266
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.699		2.266
17	1	852	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.699		
					12	4140.6	0.0	17257.4	0.0	0.0	0.0	21398.0	1.074	1.699		
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000			2.266
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.699		2.266
		901	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.699		
					12	4140.6	0.0	9967.5	0.0	0.0	0.0	14108.1	.708	1.699		
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000			2.266
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.699		2.266
17	2	901	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000		
					12	4140.6	0.0	5866.0	0.0	0.0	0.0	10006.7	.502	1.000		
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000			1.000
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000		1.000
		853	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000		
					12	4140.6	0.0	.0	0.0	0.0	0.0	4140.6	.208	1.000		
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000			1.000
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000		1.000
18	1	807	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000		
					12	4140.6	0.0	26241.2	0.0	0.0	0.0	30381.9	1.525	1.000		
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000			1.000
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000		1.000
		34	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000		
					12	4140.6	0.0	17189.0	0.0	0.0	0.0	21329.6	1.071	1.000		
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000			1.000
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000		1.000
18	2	34	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000		
					12	2866.1	0.0	5702.9	0.0	0.0	0.0	8569.0	.446	1.000		
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000			1.000
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000		1.000
		35	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000		
					12	2866.1	0.0	4291.4	0.0	0.0	0.0	7157.6	.373	1.000		
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000			1.000
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000		1.000

ADLPIPE PAGE 2959 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 8/12/02. 18.30.53.

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

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
STRESS UNITS(LB/SG IN)

ANSI D31.1 - 1977 STRESS REPORT

TOTAL/ INTENSIFICATION FACTORS

34 END RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
	12	4140.6	0.0	17189.0	0.0	21329.6	1.071	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
18 2 34 BEG RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	2866.1	0.0	5702.2	0.0	8569.0	.446	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
35 END RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	2866.1	0.0	4291.4	0.0	7157.6	.373	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

ADLPIPE PAGE 2959

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/SG IN)

ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEQ	POS	TYPE	EQ.	PRESSURE	MOMENT (A)	MOMENT (B)	MOMENT (C)	TOTAL	TOTAL/ALLOWABLE	INTENSIFICATION TERM (.75*I)	FACTORS TERM (I)
19	1	35	BEG	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2866.1	0.0	4291.4	0.0	7157.6	.373	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		36	END	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2866.1	0.0	5765.7	0.0	8631.9	.450	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
20	1	36	BEG	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2866.1	0.0	2492.8	0.0	5358.9	.279	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		37	END	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2866.1	0.0	466.5	0.0	3332.7	.174	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
20	2	37	BEG	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2866.1	0.0	466.5	0.0	3332.7	.174	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		008	END	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2866.1	0.0	.0	0.0	2866.1	.149	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
21	1	36	BEG	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2866.1	0.0	4716.4	0.0	7582.6	.395	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		38	END	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2866.1	0.0	5111.2	0.0	7977.3	.415	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
21	2	38	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2866.1	0.0	5111.2	0.0	7977.3	.415	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		138	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2866.1	0.0	6924.2	0.0	9790.3	.510	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/SG IN)

ANSI B31.1 - 1977 STRESS REPORT

TOTAL/ INTENSIFICATION FACTORS

		14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
	38 END VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		12	2866.1	0.0	5111.2	0.0	7977.3	.415	1.000	
		13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
		14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
21	2	38 BEG RU	11	0.0	0.0	0.0	0.0	0.000	1.000	
		12	2866.1	0.0	5111.2	0.0	7977.3	.415	1.000	
		13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
		14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
	138 END RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		12	2866.1	0.0	6924.2	0.0	9790.3	.510	1.000	
		13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
		14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

ADLPIPE PAGE 2960

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

S/RV PIPING KEWAUNEE GKWOODF 2 RUP DISK  
2 SAFETY COLD FRW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/SG IN)

## ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEQ	POS	TYPE	EQ.	PRESSURE	MOMENT (A)	MOMENT (B)	MOMENT (C)	TOTAL	TOTAL/ ALLOWABLE	INTENSIFICATION TERM (.75*I)	TERM (I)
22	1	138	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	9959.2	0.0	15691.5	.817	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		39	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	9959.8	0.0	15692.1	.817	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
22	2	39	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	9959.8	0.0	15692.1	.817	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.099
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
		809	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	9312.7	0.0	15045.0	.784	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.099
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
23	1	809	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	9312.7	0.0	15045.0	.784	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.099
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
		40	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	7916.1	0.0	13648.3	.711	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.099
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
23	2	40	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	7916.1	0.0	13648.3	.711	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.099
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
		810	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	6500.4	0.0	12232.7	.637	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.099
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
24	1	810	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	6500.4	0.0	12232.7	.637	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.099
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
		41	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	5065.5	0.0	10797.7	.562	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.099
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

S/RV PIPING KEWAUNEE GKWOODF 2 RUP DISK  
2 SAFETY COLD FRW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/SG IN)

## ANSI B31.1 - 1977 STRESS REPORT

		14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
	010 END EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
		12	5732.3	0.0	6500.4	0.0	12232.7	.637	1.000	
		13	0.0	0.0	0.0	0.0	0.0	0.000		1.099
		14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
24	1 010 BEG EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
		12	5732.3	0.0	6500.4	0.0	12232.7	.637	1.000	
		13	0.0	0.0	0.0	0.0	0.0	0.000		1.099
		14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
	41 END EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
		12	5732.3	0.0	5065.5	0.0	10797.7	.562	1.000	
		13	0.0	0.0	0.0	0.0	0.0	0.000		1.099
		14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.30.53.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/SQ IN)

ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEG	POS	TYPE	EQ.	PRESSURE	MOMENT (A)	MOMENT (B)	MOMENT (C)	TOTAL	TOTAL/ ALLOWABLE	INTENSIFICATION TERM (.75*I)	INTENSIFICATION TERM (I)
24	2	41	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	5065.5	0.0	10797.7	.562	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		42	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	4402.1	0.0	10134.4	.528	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
24	3	42	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	4402.1	0.0	10134.4	.528	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.099
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
		011	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	5466.7	0.0	11199.0	.583	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.099
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
25	1	011	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	5466.7	0.0	11199.0	.583	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.099
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
		43	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	6285.7	0.0	12018.0	.626	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.099
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
25	2	43	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.080	
					12	5732.3	0.0	6790.8	0.0	12523.1	.652	1.080	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.440
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.080	1.440
		012	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.080	
					12	5732.3	0.0	6825.4	0.0	12557.6	.654	1.080	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.440
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.080	1.440
26	1	012	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.080	
					12	5732.3	0.0	6825.4	0.0	12557.6	.654	1.080	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.440
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.080	1.440
		44	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.080	
					12	5732.3	0.0	5803.8	0.0	11536.1	.601	1.080	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.440
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.080	1.440

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.30.53.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/SQ IN)

ANSI B31.1 - 1977 STRESS REPORT

TOTAL/ INTENSIFICATION FACTORS

012 END EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.080	1.440
	12	5732.3	0.0	6825.4	0.0	12557.6	.654	1.080	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.440
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.080	1.440
26 1 012 END EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.080	
	12	5732.3	0.0	6825.4	0.0	12557.6	.654	1.080	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.440
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.080	1.440
44 END EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.080	
	12	5732.3	0.0	5803.0	0.0	11536.1	.601	1.080	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.440
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.080	1.440

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/SQ IN)

ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEQ	POS	TYPE	EQ.	PRESSURE	MOMENT (A)	MOMENT (B)	MOMENT (C)	TOTAL	TOTAL/ ALLOWABLE	INTENSIFICATION TERM (.75*1)	FACTORS TERM (I)
26	2	44	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	5372.1	0.0	11104.4	.578	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		45	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	12383.5	0.0	18115.8	.944	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
26	3	45	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	12383.5	0.0	18115.8	.944	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.099
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
		46	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	15347.4	0.0	21079.6	1.098	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.099
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.099
26	4	46	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	15347.4	0.0	21079.6	1.098	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		47	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5732.3	0.0	15379.5	0.0	21111.8	1.100	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
27	1	507	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	6338.1	0.0	12780.7	.588	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		50	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	5007.7	0.0	11450.4	.527	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
27	2	50	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	5007.7	0.0	11450.4	.527	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		52	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	5006.7	0.0	11449.4	.527	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/SQ IN)

ANSI B31.1 - 1977 STRESS REPORT

TOTAL/ INTENSIFICATION FACTORS

SEC MEM SEQ POS TYPE EQ. PRESSURE MOMENT (A) MOMENT (B) MOMENT (C)

50 END RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
	12	6442.6	0.0	5007.7	0.0	11450.4	.527	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
27 2 50 DEG RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	6442.6	0.0	5007.7	0.0	11450.4	.527	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
52 END RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	6442.6	0.0	5007.7	0.0	11449.4	.527	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

S/RV PIPING KEWAUNEE GKWOEF 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSVCONDITION 24  
LOADS  
SHOCK  
PRESSURE  
STRESS UNITS(LB/SQ IN)

## ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEG	POS	TYPE	EQ.	PRESSURE	MOMENT (A)	MOMENT (B)	MOMENT (C)	TOTAL	TOTAL/ALLOWABLE	INTENSIFICATION TERM (.75*1)	FACTORS TERM (1)
28	1	52	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.954	
					12	6442.6	0.0	9782.3	0.0	16224.9	.747	1.954	
					13	0.0	0.0	0.0	0.0	0.0	0.000		2.605
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.954	2.605
		813	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.954	
					12	6442.6	0.0	8736.0	0.0	15178.7	.699	1.954	
					13	0.0	0.0	0.0	0.0	0.0	0.000		2.605
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.954	2.605
28	2	813	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.954	
					12	6442.6	0.0	8736.0	0.0	15178.7	.699	1.954	
					13	0.0	0.0	0.0	0.0	0.0	0.000		2.605
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.954	2.605
		53	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.954	
					12	6442.6	0.0	7884.2	0.0	14326.8	.660	1.954	
					13	0.0	0.0	0.0	0.0	0.0	0.000		2.605
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.954	2.605
29	1	53	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	4035.2	0.0	10477.9	.482	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		253	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	4035.2	0.0	10477.9	.482	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
29	2	253	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	3221.3	0.0	2237.1	0.0	5458.4	.251	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		844	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	3221.3	0.0	2185.2	0.0	5406.5	.249	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
30	1	844	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	3221.3	0.0	2185.2	0.0	5406.5	.249	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		254	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	3221.3	0.0	1907.6	0.0	5128.9	.236	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

S/RV PIPING KEWAUNEE GKWOEF 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSVCONDITION 24  
LOADS  
SHOCK  
PRESSURE  
STRESS UNITS(LB/SQ IN)

## ANSI B31.1 - 1977 STRESS REPORT

TOTAL/ INTENSIFICATION FACTORS



	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
844 END RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	3221.7	0.0	2185.2	0.0	5406.5	.249	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
30 1 844 DEG RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	3221.3	0.0	2185.2	0.0	5406.5	.249	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
254 END RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	3221.3	0.0	1907.6	0.0	5128.9	.236	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

ADLPIPE PAGE 2964

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/50 IN)

## ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEQ	POS	TYPE	EQ.	PRESSURE	MOMENT	(A) MOMENT	(B) MOMENT	(C) MOMENT	TOTAL	TOTAL/ ALLOWABLE	INTENSIFICATION TERM (.75*I)	TERM (I)
30	2	254	DEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	3440.8	0.0	9883.5	.505	1.000		
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		55	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	2391.1	0.0	8833.7	.452	1.000		
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
31	1	55	DEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.954	
					12	6442.6	0.0	4671.7	0.0	11114.4	.568	1.954		
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.000		2.605
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.954	2.605
		814	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.954	
					12	6442.6	0.0	3867.2	0.0	10309.8	.527	1.954		
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.000		2.605
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.954	2.605
31	2	814	DEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.954	
					12	6442.6	0.0	3867.2	0.0	10309.8	.527	1.954		
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.000		2.605
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.954	2.605
		56	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.954	
					12	6442.6	0.0	5307.3	0.0	11749.9	.601	1.954		
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.000		2.605
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.954	2.605
32	1	56	DEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	2716.4	0.0	9159.0	.468	1.000		
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		57	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	4092.2	0.0	10534.8	.539	1.000		
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
32	2	57	DEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	4092.2	0.0	10534.8	.539	1.000		
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		815	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	4125.1	0.0	10567.8	.540	1.000		
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/50 IN)

## ANSI B31.1 - 1977 STRESS REPORT

57 END RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	6442.6	0.0	4092.2	0.0	10534.8	.539	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
32 2 57 DEG RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	6442.6	0.0	4092.2	0.0	10534.8	.539	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
815 END RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	6442.6	0.0	4125.1	0.0	10567.8	.540	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/SG IN)

## ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEG	POS	TYPE	EQ.	PRESSURE	MOMENT (A)	MOMENT (B)	MOMENT (C)	TOTAL	TOTAL/ ALLOWABLE	INTENSIFICATION TERM (.75*1)	TERM (1)
33	1	815	DEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	3402.1	0.0	9844.7	.503	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		816	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	5588.1	0.0	12030.8	.615	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
34	1	816	DEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	5588.1	0.0	12030.8	.615	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		817	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	3983.0	0.0	10425.6	.533	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
35	1	817	DEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	3983.0	0.0	10425.6	.533	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		850	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	3190.3	0.0	9632.9	.492	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
36	1	850	DEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	3190.3	0.0	9632.9	.492	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		59	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	2623.2	0.0	9065.9	.463	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
37	1	59	DEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	5253.6	0.0	11696.2	.598	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		559	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	2626.8	0.0	9069.4	.464	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/SG IN)

## ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEG	POS	TYPE	EQ.	PRESSURE	MOMENT (A)	MOMENT (B)	MOMENT (C)	TOTAL	TOTAL/ ALLOWABLE	INTENSIFICATION TERM (.75*1)	TERM (1)
-----	-----	-----	-----	------	-----	----------	------------	------------	------------	-------	---------------------	---------------------------------	----------

59 END RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
	12	6442.6	0.0	2623.2	0.0	9065.9	.463	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
37 1 59 DEG RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	6442.6	0.0	5253.6	0.0	11696.2	.598	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
559 END RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	6442.6	0.0	2626.8	0.0	9069.4	.464	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

S/RV PIPING KEWAUNEE GKNOOF 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSVCONDITION 24  
LOADS  
SHOCK  
PRESSURE  
STRESS UNITS(LB/SQ IN)

## ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEQ	POS	TYPE	EQ.	PRESSURE	MOMENT (A)	MOMENT (B)	MOMENT (C)	TOTAL	TOTAL/ ALLOWABLE	INTENSIFICATION TERM (.75*I)	FACTORS TERM (I)
37	2	559	BEG	RIGID									
		560	END	RIGID									
38	1	59	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	3509.4	0.0	9952.1	.509	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		60	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	3293.8	0.0	9736.4	.498	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
38	2	60	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	3293.8	0.0	9736.4	.498	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		818	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	3131.2	0.0	9573.8	.489	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
39	1	818	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	3131.2	0.0	9573.8	.489	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		851	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	3148.7	0.0	9591.3	.490	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
40	1	851	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	3148.7	0.0	9591.3	.490	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		61	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	1857.2	0.0	8299.8	.424	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

S/RV PIPING KEWAUNEE GKNOOF 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSVCONDITION 24  
LOADS  
SHOCK  
PRESSURE  
STRESS UNITS(LB/SQ IN)

## ANSI B31.1 - 1977 STRESS REPORT

TOTAL/ INTENSIFICATION FACTORS

	12	6442.6	0.0	3148.7	0.0	9591.3	.490	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
61 END RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	6442.6	0.0	1857.2	0.0	8299.8	.424	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

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

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
STRESS UNITS(LB/SQ IN)

ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEQ	POS	TYPE	EQ.	PRESSURE	MOMENT (A)	MOMENT (B)	MOMENT (C)	TOTAL	TOTAL/ ALLOWABLE	INTENSIFICATION TERM (.75*1)	INTENSIFICATION TERM (I)
40	2	61	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	1857.2	0.0	8299.8	.424	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		161	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	1823.7	0.0	8266.3	.423	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
41	1	161	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.954	
					12	6442.6	0.0	3563.2	0.0	10005.8	.512	1.954	
					13	0.0	0.0	0.0	0.0	0.0	0.000		2.605
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.954	2.605
		819	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.954	
					12	6442.6	0.0	2030.1	0.0	8472.8	.433	1.954	
					13	0.0	0.0	0.0	0.0	0.0	0.000		2.605
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.954	2.605
41	2	819	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.954	
					12	6442.6	0.0	2030.1	0.0	8472.8	.433	1.954	
					13	0.0	0.0	0.0	0.0	0.0	0.000		2.605
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.954	2.605
		62	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.954	
					12	6442.6	0.0	3584.0	0.0	10026.6	.513	1.954	
					13	0.0	0.0	0.0	0.0	0.0	0.000		2.605
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.954	2.605
42	1	62	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	1834.4	0.0	8277.0	.423	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		63	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	2859.4	0.0	9302.0	.476	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
42	2	63	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	2859.4	0.0	9302.0	.476	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		64	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	6442.6	0.0	2796.5	0.0	9239.1	.472	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

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

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
STRESS UNITS(LB/SQ IN)

ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEQ	POS	TYPE	EQ.	PRESSURE	MOMENT (A)	MOMENT (B)	MOMENT (C)	TOTAL	TOTAL/ ALLOWABLE	INTENSIFICATION TERM (.75*1)	INTENSIFICATION TERM (I)
-----	-----	-----	-----	------	-----	----------	------------	------------	------------	-------	---------------------	---------------------------------	-----------------------------

63 END RU	11	0.0	0.0	0.0	0.0	0.000	1.000	1.000
	12	6442.6	0.0	2859.4	0.0	9302.0	.476	1.000
	13	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.000	1.000	1.000
42 2 63 DEG RU	11	0.0	0.0	0.0	0.0	0.000	1.000	
	12	6442.6	0.0	2859.4	0.0	9302.0	.476	1.000
	13	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.000	1.000	1.000
64 END RU	11	0.0	0.0	0.0	0.0	0.000	1.000	
	12	6442.6	0.0	2796.5	0.0	9239.1	.472	1.000
	13	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.30.53.

S/RV PIPING KEWAUNEE GKH00F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/SG IN)

## ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEG	POS	TYPE	EQ.	PRESSURE	MOMENT	MOMENT			TOTAL	TOTAL / ALLOWABLE		INTENSIFICATION FACTORS	
								(A)	(B)	(C)		TERM (.75*1)	TERM (I)		
43	1	64	DEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000			
					12	6442.6	0.0	2796.5	0.0	9239.1	.472	1.000			
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000		
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000		
		820	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000			
					12	6442.6	0.0	5791.1	0.0	12233.8	.625	1.000			
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000		
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000		
44	1	820	DEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000			
					12	6442.6	0.0	5791.1	0.0	12233.8	.625	1.000			
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000		
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000		
		821	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000			
					12	6442.6	0.0	4306.0	0.0	10748.6	.550	1.000			
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000		
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000		
45	1	821	DEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000			
					12	6442.6	0.0	4306.0	0.0	10748.6	.550	1.000			
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000		
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000		
		65	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000			
					12	6442.6	0.0	3097.5	0.0	9540.2	.488	1.000			
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000		
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000		
45	2	65	DEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000			
					12	6442.6	0.0	3097.5	0.0	9540.2	.488	1.000			
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000		
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000		
		265	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000			
					12	6442.6	0.0	4019.9	0.0	10462.6	.535	1.000			
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000		
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000		
46	1	265	DEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.954			
					12	6442.6	0.0	7854.2	0.0	14296.9	.731	1.954			
					13	0.0	0.0	0.0	0.0	0.0	0.000		2.605		
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.954	2.605		
		822	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.954			
					12	6442.6	0.0	7808.2	0.0	14250.9	.729	1.954			
					13	0.0	0.0	0.0	0.0	0.0	0.000		2.605		
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.954	2.605		

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.30.53.

S/RV PIPING KEWAUNEE GKH00F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/SG IN)

## ANSI B31.1 - 1977 STRESS REPORT

TOTAL / INTENSIFICATION FACTORS

265 END RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
	12	6442.6	0.0	4019.9	0.0	10462.6	.535	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
46 1 265 BEG EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.954	
	12	6442.6	0.0	7854.2	0.0	14296.9	.731	1.954	
	13	0.0	0.0	0.0	0.0	0.0	0.000		2.605
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.954	2.605
822 END EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.954	
	12	6442.6	0.0	7808.2	0.0	14250.9	.729	1.954	
	13	0.0	0.0	0.0	0.0	0.0	0.000		2.605
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.954	2.605

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

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

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
STRESS UNITS(LB/SG IN)

ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEQ	POS	TYPE	EQ.	PRESSURE	MOMENT	(A)	MOMENT (B)	MOMENT (C)	TOTAL	TOTAL/ ALLOWABLE	INTENSIFICATION TERM (.75*I)	FACTORS TERM (I)
46	2	822	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.954	
					12	6442.6	0.0	7808.2	0.0	14250.9	.729	1.954		
					13	0.0	0.0	0.0	0.0	0.0	0.000			2.605
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.954		2.605
		266	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.954		
					12	6442.6	0.0	7683.5	0.0	14126.2	.722	1.954		
					13	0.0	0.0	0.0	0.0	0.0	0.000			2.605
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.954		2.605
47	1	266	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000		
					12	6442.6	0.0	3932.6	0.0	10375.2	.530	1.000		
					13	0.0	0.0	0.0	0.0	0.0	0.000			1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000		1.000
		66	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000		
					12	6442.6	0.0	2583.1	0.0	9025.7	.461	1.000		
					13	0.0	0.0	0.0	0.0	0.0	0.000			1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000		1.000
48	1	66	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.954		
					12	6442.6	0.0	5046.9	0.0	11489.6	.587	1.954		
					13	0.0	0.0	0.0	0.0	0.0	0.000			2.605
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.954		2.605
		823	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.954		
					12	6442.6	0.0	6150.7	0.0	12593.4	.644	1.954		
					13	0.0	0.0	0.0	0.0	0.0	0.000			2.605
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.954		2.605
48	2	823	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.954		
					12	6442.6	0.0	6150.7	0.0	12593.4	.644	1.954		
					13	0.0	0.0	0.0	0.0	0.0	0.000			2.605
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.954		2.605
		67	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.954		
					12	6442.6	0.0	7393.0	0.0	13835.7	.707	1.954		
					13	0.0	0.0	0.0	0.0	0.0	0.000			2.605
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.954		2.605
49	1	67	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000		
					12	6442.6	0.0	3783.9	0.0	10226.5	.523	1.000		
					13	0.0	0.0	0.0	0.0	0.0	0.000			1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000		1.000
		68	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000		
					12	6442.6	0.0	5999.6	0.0	12442.2	.636	1.000		
					13	0.0	0.0	0.0	0.0	0.0	0.000			1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000		1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

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

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
STRESS UNITS(LB/SG IN)

ANSI B31.1 - 1977 STRESS REPORT

TOTAL/ INTENSIFICATION FACTORS

67 END EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.954	2.605
	12	6442.6	0.0	7393.0	0.0	13835.7	.707	1.954	
	13	0.0	0.0	0.0	0.0	0.0	0.000		2.605
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.954	2.605
49 1 67 DEG RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	6442.6	0.0	3783.7	0.0	10226.5	.523	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
68 END RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	6442.6	0.0	5999.6	0.0	12442.2	.636	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

S/RV PIPING KEWAUNEE CRKDDF 2 RUP DISK  
2 SAFETY COLD FRW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
STRESS UNITS(LB/SQ IN)

ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEG	POS	TYPE	EG.	PRESSURE	MOMENT	(A)	MOMENT (B)	MOMENT (C)	TOTAL	TOTAL/ ALLOWABLE	INTENSIFICATION TERM (.75*1)	FACTORS TERM (I)
50	1	815	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5154.1	0.0	1548.8	0.0	6702.9	.374	1.000		
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000	
					14	0.0	0.0	0.0	0.0	0.0	0.000		1.000	1.000
			70	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5154.1	0.0	1056.9	0.0	6211.0	.346	1.000		
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000	
					14	0.0	0.0	0.0	0.0	0.0	0.000		1.000	1.000
50	2	70	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000		1.000	
					12	5154.1	0.0	1056.9	0.0	6211.0	.346	1.000		
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000	
					14	0.0	0.0	0.0	0.0	0.0	0.000		1.000	1.000
			700	END	RU	11	0.0	0.0	0.0	0.0	0.000		1.000	
					12	5154.1	0.0	1056.8	0.0	6210.9	.346	1.000		
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000	
					14	0.0	0.0	0.0	0.0	0.0	0.000		1.000	1.000
50	3	700	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000		1.000	
					12	3322.8	0.0	9831.0	0.0	13153.8	.733	1.000		
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000	
					14	0.0	0.0	0.0	0.0	0.0	0.000		1.000	1.000
			71	END	RU	11	0.0	0.0	0.0	0.0	0.000		1.000	
					12	3322.8	0.0	6549.7	0.0	9872.5	.550	1.000		
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000	
					14	0.0	0.0	0.0	0.0	0.0	0.000		1.000	1.000
51	1	71	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000		1.464	
					12	3322.8	0.0	9590.5	0.0	12913.2	.720	1.464		
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.952	
					14	0.0	0.0	0.0	0.0	0.0	0.000		1.464	1.952
			824	END	EL	11	0.0	0.0	0.0	0.0	0.000		1.464	
					12	3322.8	0.0	7716.9	0.0	11039.7	.615	1.464		
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.952	
					14	0.0	0.0	0.0	0.0	0.0	0.000		1.464	1.952
51	2	824	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000		1.464	
					12	3322.8	0.0	7716.9	0.0	11039.7	.615	1.464		
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.952	
					14	0.0	0.0	0.0	0.0	0.0	0.000		1.464	1.952
			72	END	EL	11	0.0	0.0	0.0	0.0	0.000		1.464	
					12	3322.8	0.0	6099.6	0.0	9422.3	.523	1.464		
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.952	
					14	0.0	0.0	0.0	0.0	0.0	0.000		1.464	1.952

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

S/RV PIPING KEWAUNEE CRKDDF 2 RUP DISK  
2 SAFETY COLD FRW24F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
STRESS UNITS(LB/SQ IN)

ANSI B31.1 - 1977 STRESS REPORT

TOTAL/ INTENSIFICATION FACTORS

824 END EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.464	1.952
	12	3322.8	0.0	7716.9	0.0	11039.7	.615	1.464	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.952
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.464	1.952
51 2 824 DEG EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.464	
	12	3322.8	0.0	7716.9	0.0	11039.7	.615	1.464	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.952
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.464	1.952
72 END EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.464	
	12	3322.8	0.0	6099.6	0.0	9422.3	.525	1.464	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.952
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.464	1.952

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.30.53.

S/RV PIPING KEWAUNEE CROWDF 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSVCONDITION 24  
LOADS  
SHOCK  
PRESSURE  
STRESS UNITS(LB/SQ IN)

## ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEQ	POS	TYPE	EQ.	PRESSURE	MOMENT	(A) MOMENT	(B) MOMENT	(C) MOMENT	TOTAL	TOTAL/ ALLOWABLE	INTENSIFICATION TERM (.75*1)	TERM (I)
52	1	72	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	3322.8	0.0	4165.6	0.0	0.0	7488.4	.417	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		173	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	3322.8	0.0	3716.7	0.0	0.0	7039.5	.392	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
53	1	173	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.464	
					12	3322.8	0.0	5442.3	0.0	0.0	8765.1	.489	1.464	
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.952
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.464	1.952
		825	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.464	
					12	3322.8	0.0	7725.7	0.0	0.0	11048.5	.616	1.464	
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.952
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.464	1.952
53	2	825	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.464	
					12	3322.8	0.0	7725.7	0.0	0.0	11048.5	.616	1.464	
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.952
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.464	1.952
		174	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.464	
					12	3322.8	0.0	7586.0	0.0	0.0	10908.8	.608	1.464	
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.952
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.464	1.952
54	1	174	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	3322.8	0.0	5180.8	0.0	0.0	8503.6	.474	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		73	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	3322.8	0.0	5180.8	0.0	0.0	8503.6	.474	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
54	2	73	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	3322.8	0.0	5180.8	0.0	0.0	8503.6	.474	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		826	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	3322.8	0.0	4843.7	0.0	0.0	8166.5	.455	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.30.53.

S/RV PIPING KEWAUNEE CROWDF 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSVCONDITION 24  
LOADS  
SHOCK  
PRESSURE  
STRESS UNITS(LB/SQ IN)

## ANSI B31.1 - 1977 STRESS REPORT

TOTAL/ INTENSIFICATION FACTORS



73 END RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
	12	3322.8	0.0	5180.8	0.0	8503.6	.474	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
54 2 73 DEG RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	3322.8	0.0	5180.8	0.0	8503.6	.474	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
826 END RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	3322.8	0.0	4843.7	0.0	8166.5	.455	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

S/RV PIPING KEWAUNEE GKW00F 2 RUP DISK  
2 SAFETY COLD FKW24T--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/SQ IN)

## ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEQ	POS	TYPE	EQ.	PRESSURE	MOMENT (A)	MOMENT (B)	MOMENT (C)	TOTAL	TOTAL/ALLOWABLE	INTENSIFICATION TERM (.75*I)	FACTORS TERM (I)
55	1	826	DEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	3322.8	0.0	5081.8	0.0	8404.5	.468	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		74	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	3322.8	0.0	8038.3	0.0	11361.1	.633	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
55	2	74	DEG	RE	11	0.0	0.0	0.0	0.0	0.0	0.000	1.500	
					12	3322.8	0.0	12057.5	0.0	15380.3	.857	1.500	
					13	0.0	0.0	0.0	0.0	0.0	0.000		2.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.500	2.000
		75	END	RE	11	0.0	0.0	0.0	0.0	0.0	0.000	1.500	
					12	3322.8	0.0	14449.3	0.0	17772.1	.991	1.500	
					13	0.0	0.0	0.0	0.0	0.0	0.000		2.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.500	2.000
55	3	75	DEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	1401.6	0.0	10768.9	0.0	12170.5	.678	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		750	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	1401.6	0.0	13763.1	0.0	15164.7	.845	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
55	4	750	DEG	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	13763.1	0.0	18788.9	1.095	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		76	END	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	17394.2	0.0	22420.0	1.307	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
56	1	76	DEG	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	10094.5	0.0	15120.3	.881	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		77	END	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	6224.4	0.0	11250.1	.656	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

S/RV PIPING KEWAUNEE GKW00F 2 RUP DISK  
2 SAFETY COLD FKW24T--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/SQ IN)

## ANSI B31.1 - 1977 STRESS REPORT

TOTAL/ INTENSIFICATION FACTORS

76 END VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	5025.7	0.0	17394.2	0.0	22420.0	1.307	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
56 1 76 DEG VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	5025.7	0.0	10094.5	0.0	15120.3	.881	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
77 END VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	5025.7	0.0	6224.4	0.0	11250.1	.656	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/SQ IN)

## ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEQ	POS	TYPE	EQ.	PRESSURE	MOMENT (A)	MOMENT (B)	MOMENT (C)	TOTAL	TOTAL/ ALLOWABLE	INTENSIFICATION TERM (.75*1)	FACTORS TERM (1)
56	2	77	DEG	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	6224.4	0.0	11250.1	.656	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		827	END	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	0.0	0.0	5025.7	.293	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
57	1	76	DEG	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	10259.7	0.0	15285.4	.891	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		78	END	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	7557.1	0.0	12582.9	.733	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
57	2	78	DEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	7557.1	0.0	12582.9	.733	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		80	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	7050.4	0.0	12076.1	.704	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
57	3	80	DEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	7050.4	0.0	12076.1	.704	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		81	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	8139.8	0.0	13165.5	.767	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
57	4	81	DEG	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	8139.8	0.0	13165.5	.767	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		82	END	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	9509.4	0.0	14535.2	.847	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/SQ IN)

## ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEQ	POS	TYPE	EQ.	PRESSURE	MOMENT (A)	MOMENT (B)	MOMENT (C)	TOTAL	TOTAL/ ALLOWABLE	INTENSIFICATION TERM (.75*1)	FACTORS TERM (1)
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		14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
81 END RU		11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		12	5025.7	0.0	8139.8	0.0	13165.5	.767	1.000	1.000
		13	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
57 4 81 DEG VA		11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		12	5025.7	0.0	8139.8	0.0	13165.5	.767	1.000	1.000
		13	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
82 END VA		11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		12	5025.7	0.0	9509.4	0.0	14535.2	.847	1.000	1.000
		13	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/SQ IN)

## ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEQ	POS	TYPE	EQ.	PRESSURE	MOMENT (A)	MOMENT (B)	MOMENT (C)	TOTAL	TOTAL/ ALLOWABLE	INTENSIFICATION TERM (.75*I)	FACTORS TERM (I)
58	1	82	DEG	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
					12	5025.7	0.0	13162.4	0.0	18188.1	1.060	1.000	1.000
					13	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		83	END	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
					12	5025.7	0.0	5233.2	0.0	10259.0	.598	1.000	1.000
					13	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
58	2	83	DEG	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
					12	5025.7	0.0	5233.2	0.0	10259.0	.598	1.000	1.000
					13	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		828	END	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
					12	5025.7	0.0	.0	0.0	5025.7	.293	1.000	1.000
					13	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
59	1	82	DEG	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
					12	5025.7	0.0	9571.4	0.0	14597.1	.851	1.000	1.000
					13	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		84	END	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
					12	5025.7	0.0	7464.9	0.0	12490.6	.728	1.000	1.000
					13	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
59	2	84	DEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
					12	5025.7	0.0	7464.9	0.0	12490.6	.728	1.000	1.000
					13	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		85	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
					12	5025.7	0.0	7465.1	0.0	12490.8	.728	1.000	1.000
					13	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
60	1	85	DEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.012
					12	5025.7	0.0	7465.1	0.0	12490.8	.728	1.000	1.012
					13	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.012
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.012
		829	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.012
					12	5025.7	0.0	7770.0	0.0	12795.7	.746	1.000	1.012
					13	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.012
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.012

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/SQ IN)

## ANSI B31.1 - 1977 STRESS REPORT

85 END RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	5025.7	0.0	7465.1	0.0	12490.8	.728	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
60 1 85 DEG EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	5025.7	0.0	7465.1	0.0	12490.8	.728	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.012
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.012
829 END EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	5025.7	0.0	7770.0	0.0	12795.7	.746	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.012
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.012

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.53.

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

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
STRESS UNITS(LB/SQ IN)

ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEQ	POS	TYPE	EQ.	PRESSURE	MOMENT (A)	MOMENT (B)	MOMENT (C)	TOTAL	TOTAL/ ALLOWABLE	INTENSIFICATION TERM (.75*I)	TERM (I)
60	2	829	DEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	7770.0	0.0	12795.7	.746	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.012
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.012
		86	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	7697.5	0.0	12723.3	.741	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.012
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.012
61	1	86	DEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	7697.5	0.0	12723.3	.741	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		87	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	10800.4	0.0	15826.1	.922	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
61	2	87	DEG	TE	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	10800.4	0.0	15826.1	.922	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		830	END	TE	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	10592.9	0.0	15618.7	.910	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
62	1	830	DEG	TE	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	11101.3	0.0	16127.0	.940	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		89	END	TE	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	10924.9	0.0	15950.6	.930	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
62	2	89	DEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	10924.9	0.0	15950.6	.930	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		90	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	5650.2	0.0	10675.9	.622	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.30.53.

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

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
STRESS UNITS(LB/SQ IN)

ANSI B31.1 - 1977 STRESS REPORT

	12	5025.7	0.0	10924.9	0.0	15950.6	.930	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
62	2	89	DEG RU	11	0.0	0.0	0.0	0.000	1.000
				12	5025.7	0.0	10924.9	0.0	15950.6
				13	0.0	0.0	0.0	0.000	0.000
				14	0.0	0.0	0.0	0.000	0.000
				11	0.0	0.0	0.0	0.000	1.000
				12	5025.7	0.0	10924.9	0.0	15950.6
				13	0.0	0.0	0.0	0.000	0.000
				14	0.0	0.0	0.0	0.000	0.000
				11	0.0	0.0	0.0	0.000	1.000
				12	5025.7	0.0	10924.9	0.0	15950.6
				13	0.0	0.0	0.0	0.000	0.000
				14	0.0	0.0	0.0	0.000	0.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/SQ IN)

## ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEQ	POS	TYPE	EQ.	PRESSURE	MOMENT	(A)	MOMENT	(B)	MOMENT	(C)	TOTAL	TOTAL/ ALLOWABLE	INTENSIFICATION TERM (.75*I)	TERM (I)
63	1	90	DEG EL	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
				12	5025.7	0.0	5650.2	0.0	0.0	0.0	0.0	0.0	10675.9	.622	1.000	
				13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.012
				14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.012
				11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
				12	5025.7	0.0	6826.4	0.0	0.0	0.0	0.0	0.0	11852.2	.691	1.000	
				13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.012
				14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.012
63	2	831	DEG EL	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
				12	5025.7	0.0	6826.4	0.0	0.0	0.0	0.0	0.0	11852.2	.691	1.000	
				13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.012
				14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.012
				11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
				12	5025.7	0.0	6300.7	0.0	0.0	0.0	0.0	0.0	11326.4	.660	1.000	
				13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.012
				14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.012
64	1	91	DEG RU	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
				12	5025.7	0.0	6300.7	0.0	0.0	0.0	0.0	0.0	11326.4	.660	1.000	
				13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.000
				14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
				11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
				12	5025.7	0.0	6930.3	0.0	0.0	0.0	0.0	0.0	11956.0	.697	1.000	
				13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.000
				14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
64	2	92	DEG EL	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
				12	5025.7	0.0	6930.3	0.0	0.0	0.0	0.0	0.0	11956.0	.697	1.000	
				13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.012
				14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.012
				11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
				12	5025.7	0.0	8375.3	0.0	0.0	0.0	0.0	0.0	13401.1	.781	1.000	
				13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.012
				14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.012
64	3	93	DEG RU	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
				12	5025.7	0.0	8375.3	0.0	0.0	0.0	0.0	0.0	13401.1	.781	1.000	
				13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.000
				14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
				11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
				12	5025.7	0.0	8440.1	0.0	0.0	0.0	0.0	0.0	13465.8	.785	1.000	
				13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000		1.000
				14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/SQ IN)

93 END EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.012
	12	5025.7	0.0	8375.3	0.0	13401.1	.781	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.012
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.012
64 3 93 DEG RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	5025.7	0.0	8375.3	0.0	13401.1	.781	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
94 END RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	5025.7	0.0	8440.1	0.0	13465.8	.785	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

S/RV PIPING KEWAUNEE CKW02F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS(LB/SQ IN)

## ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEG	POS	TYPE	EQ.	PRESSURE	MOMENT (A)	MOMENT (B)	MOMENT (C)	TOTAL	TOTAL/ ALLOWABLE	INTENSIFICATION TERM (.75*I)	FACTORS TERM (I)
65	1	030	BEG	TE	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	8923.7	0.0	13949.5	.813	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		95	END	TE	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	9368.4	0.0	14394.1	.839	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
65	2	95	BEG	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	9368.4	0.0	14394.1	.839	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		96	END	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	11930.8	0.0	16956.5	.988	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
66	1	96	BEG	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	12878.1	0.0	17903.9	1.043	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		97	END	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	5120.2	0.0	10146.0	.591	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
66	2	97	BEG	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	5120.2	0.0	10146.0	.591	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		032	END	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	.0	0.0	5025.7	.293	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
67	1	96	BEG	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	8660.6	0.0	13686.3	.798	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		98	END	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	7130.5	0.0	12156.2	.708	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.53.

S/RV PIPING KEWAUNEE CKW02F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 4

LOADS

SHOCK

832 END VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
	12	5025.7	0.0	0.0	0.0	5025.7	.293	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
67 1 96 DEG VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	5025.7	0.0	8660.6	0.0	13686.3	.798	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
98 END VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	5025.7	0.0	7130.5	0.0	12156.2	.708	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02. 18.30.53.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

STRESS UNITS (LB/SG IN)

## ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEQ	POS	TYPE	EQ.	PRESSURE	MOMENT (A)	MOMENT (B)	MOMENT (C)	TOTAL	TOTAL/ ALLOWABLE	INTENSIFICATION TERM (.75*I)	TERM (I)
67	2	98	DEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	7130.5	0.0	12156.2	.708	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		98	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	5305.0	0.0	10330.8	.602	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
67	3	99	DEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	5305.0	0.0	10330.8	.602	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		100	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	7857.9	0.0	12883.6	.751	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
67	4	100	DEG	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	7857.9	0.0	12883.6	.751	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		101	END	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	11033.8	0.0	16059.5	.936	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
68	1	101	DEG	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	10009.1	0.0	15034.9	.876	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		102	END	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	6171.7	0.0	11197.5	.653	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
68	2	102	DEG	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	6171.7	0.0	11197.5	.653	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		033	END	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	0.0	0.0	5025.7	.293	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02. 18.30.54.

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

CONDITION 24

	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
102 END VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	5025.7	0.0	6171.7	0.0	11197.5	.653	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
68 2 102 BEG VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	5025.7	0.0	6171.7	0.0	11197.5	.653	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
033 END VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
	12	5025.7	0.0	0.0	0.0	5025.7	.293	1.000	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.54.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSVCONDITION 24  
LOADS  
SHOCK  
PRESSURE  
STRESS UNITS(LB/SQ IN)

## ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEQ	POS	TYPE	EQ.	PRESSURE	MOMENT (A)	MOMENT (B)	MOMENT (C)	TOTAL	TOTAL/ ALLOWABLE	INTENSIFICATION FACTORS TERM (.75*1)	TERM (1)
69	1	101	BEG	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	5876.1	0.0	10901.9	.635	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		103	END	VA	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	5025.7	0.0	5039.2	0.0	10064.9	.587	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
69	2	103	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2835.6	0.0	8404.2	0.0	11239.8	.627	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		704	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2835.6	0.0	7656.7	0.0	10492.4	.585	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
69	3	704	BEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2835.6	0.0	7656.7	0.0	10492.4	.585	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		104	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2835.6	0.0	7656.7	0.0	10492.3	.585	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
70	1	104	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.333	
					12	2835.6	0.0	10203.1	0.0	13038.8	.727	1.333	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.777
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.333	1.777
		834	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.333	
					12	2835.6	0.0	9243.1	0.0	12078.7	.673	1.333	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.777
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.333	1.777
70	2	834	BEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.333	
					12	2835.6	0.0	9243.1	0.0	12078.7	.673	1.333	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.777
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.333	1.777
		105	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.333	
					12	2835.6	0.0	7341.8	0.0	10177.4	.567	1.333	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.777
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.333	1.777

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.30.54.



834 END FI	11	0.0	0.0	0.0	0.0	0.0	0.000	1.333	1.777
	12	2835.6	0.0	9243.1	0.0	12078.7	.673	1.333	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.777
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.333	1.777
70 2 834 DEG EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.333	
	12	2835.6	0.0	9243.1	0.0	12078.7	.673	1.333	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.777
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.333	1.777
105 END EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.333	
	12	2835.6	0.0	7341.8	0.0	10177.4	.567	1.333	
	13	0.0	0.0	0.0	0.0	0.0	0.000		1.777
	14	0.0	0.0	0.0	0.0	0.0	0.000	1.333	1.777

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.30.54.

S/RV PIPING KEWAUNEE GKWOBF 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSVCONDITION 24  
LOADS  
SHOCK  
PRESSURE  
STRESS UNITS(LB/SQ IN)

## ANSI B31.1 - 1977 STRESS REPORT

SEC	MEM	SEQ	POS	TYPE	EQ.	PRESSURE	MOMENT (A)	MOMENT (B)	MOMENT (C)	TOTAL	TOTAL/ALLOWABLE	INTENSIFICATION TERM (.75*I)	TERM (I)
71	1	105	DEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2835.6	0.0	5509.5	0.0	8345.1	.465	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		106	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2835.6	0.0	4969.1	0.0	7804.8	.435	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
72	1	106	DEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.333	
					12	2835.6	0.0	6621.7	0.0	9457.4	.527	1.333	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.777
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.333	1.777
		835	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.333	
					12	2835.6	0.0	7360.7	0.0	10196.3	.568	1.333	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.777
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.333	1.777
72	2	835	DEG	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.333	
					12	2835.6	0.0	7360.7	0.0	10196.3	.568	1.333	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.777
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.333	1.777
		107	END	EL	11	0.0	0.0	0.0	0.0	0.0	0.000	1.333	
					12	2835.6	0.0	7625.8	0.0	10461.4	.583	1.333	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.777
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.333	1.777
73	1	107	DEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2835.6	0.0	5722.6	0.0	8558.2	.477	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		707	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	2835.6	0.0	7297.3	0.0	10132.9	.565	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
73	2	707	DEG	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	3322.8	0.0	3913.9	0.0	7236.7	.403	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000
		826	END	RU	11	0.0	0.0	0.0	0.0	0.0	0.000	1.000	
					12	3322.8	0.0	4600.4	0.0	7923.1	.442	1.000	
					13	0.0	0.0	0.0	0.0	0.0	0.000		1.000
					14	0.0	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.30.54.

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

B31.1-1977 SUMMARY OF 10 HIGHEST STRESSES

\*\*\*\*\*EQUATION 13 \*\*\*\*\*

E.M.M. 2 1-3-84  
K. B.W. 1-4-84

707 END RU	11	0.0	0.0	0.0	0.0	0.000	1.000	
	12	2035.6	0.0	7297.3	0.0	10132.9	.565	1.000
	13	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.000	1.000	1.000
73 2 707 BEG RU	11	0.0	0.0	0.0	0.0	0.000	1.000	
	12	3322.8	0.0	3913.9	0.0	7236.7	.403	1.000
	13	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.000	1.000	1.000
826 END RU	11	0.0	0.0	0.0	0.0	0.000	1.000	
	12	3322.8	0.0	4600.4	0.0	7923.1	.442	1.000
	13	0.0	0.0	0.0	0.0	0.000		1.000
	14	0.0	0.0	0.0	0.0	0.000	1.000	1.000

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.30.54.

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

CONDITION 24  
LOADS  
SHOCK  
PRESSURE

D31.1-1977 SUMMARY OF 10 HIGHEST STRESSES

*****EQUATION 12 *****						STRESS (PSI)	TOTAL/ ALLOWABLE
SEC	MEM	SEQ	POS	TYPE			
1.	13	3	401	END	RE	33690.	1.6913
2.	18	1	807	BEG	RU	30382.	1.5252
3.	13	1	234	END	EL	28787.	1.4452
4.	16	2	900	BEG	EL	28516.	1.4315
5.	13	3	400	BEG	RE	28212.	1.4163
6.	12	3	233	BEG	EL	27221.	1.3665
7.	16	1	807	BEG	RU	26968.	1.3538
8.	12	3	843	END	EL	26782.	1.3445
9.	13	1	843	BEG	EL	26782.	1.3445
10.	1	1	10	BEG	RU	25915.	1.3498

BY: MMS 1-3-84  
CK: RHW 1-4-84

STRESS AT 401 ABOVE WAS  
MODIFIED TO INCLUDE THE  
STRESS BASED ON ACTUAL  
PIPE CROSS SECTION PROPERTIES  
BY: MMS 1-3-84  
CK: RHW 1-4-84

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.30.54.

S/RV PIPING KEWAUNEE GKWOBF 2 RUP DISK

\*\*\*\*\*  
VERSION - ADLPIPE, VERSION 2017A WITH DIS INTERFACE  
REFER TO ADLPIPE MANUAL DATED, AUGUST 1980, REVISED MAY 1981, GREEN COVER  
\*\*\*\*\*

**B & V**

**MICROFILM CENTER**

**SUBJECT:** WISCONSIN PUBLIC SERVICE CORPORATION  
KEWAUNEE NUCLEAR POWER STATION  
COMPUTER CALCULATION  
9653.51.2004

**END**

**FILMED:** FEB 15 1984