

50-305

RESPONSE TO NUREG-0737 ITEM II.D.1

Docket # *50-305*

Control # *8403280048*

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

TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)
0.0000	0.	0.	0.	0.	0.	0.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.
.0010	0.	0.	-0.	-0.	0.	-0.	-0.0000	.0000	.0000	-0.0000	.0000	.0000	0.
.0020	0.	0.	-0.	-0.	0.	-0.	-0.0000	.0000	.0000	-0.0000	.0000	.0000	0.
.0030	0.	0.	-0.	-0.	-0.	-0.	-0.0000	.0000	.0000	-0.0000	.0000	.0000	0.
.0040	0.	0.	-0.	-0.	-0.	-0.	-0.0000	-0.0000	-0.0000	.0000	-0.0000	.0000	0.
.0050	1.	0.	-0.	-0.	0.	-0.	-0.0000	-0.0000	-0.0000	.0000	-0.0000	-0.0000	1.
.0060	2.	0.	-1.	-0.	1.	-0.	-0.0000	.0000	-0.0000	.0000	-0.0001	-0.0000	3.
.0070	4.	1.	-1.	-2.	2.	-1.	-0.0000	.0000	-0.0000	.0000	-0.0001	-0.0001	9.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.46.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK

2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	67	MEMBER	1	SEQUENCE	06	LOCATION	BEG	TYPE	VA					
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)	
.0080	7.	3.	-1.	-4.	6.	-3.	-0.0001	.0000	-0.0000	.0001	-0.0003	-0.0003	22.	
.0090	11.	5.	-2.	-8.	11.	-6.	-0.0001	.0000	-0.0000	.0001	-0.0006	-0.0005	44.	
.0100	17.	8.	-2.	-13.	18.	-9.	-0.0002	-0.0000	-0.0000	.0002	-0.0010	-0.0009	73.	
.0110	25.	12.	-1.	-20.	30.	-13.	-0.0003	-0.0000	-0.0000	.0003	-0.0015	-0.0013	116.	
.0120	35.	17.	-0.	-31.	47.	-19.	-0.0005	-0.0000	-0.0000	.0004	-0.0022	-0.0020	180.	
.0130	47.	26.	2.	-47.	71.	-31.	-0.0009	-0.0001	-0.0000	.0004	-0.0030	-0.0031	275.	
.0140	58.	39.	7.	-69.	100.	-50.	-0.0013	-0.0001	.0000	.0004	-0.0041	-0.0046	400.	
.0150	69.	53.	13.	-93.	134.	-71.	-0.0019	-0.0002	.0001	.0004	-0.0052	-0.0065	541.	
.0160	77.	63.	20.	-115.	167.	-86.	-0.0025	-0.0004	.0001	.0007	-0.0064	-0.0082	670.	
.0170	81.	66.	28.	-128.	197.	-88.	-0.0032	-0.0006	.0001	.0012	-0.0075	-0.0094	762.	
.0180	80.	63.	34.	-129.	216.	-77.	-0.0037	-0.0009	.0000	.0020	-0.0081	-0.0098	801.	
.0190	69.	52.	39.	-118.	217.	-56.	-0.0043	-0.0013	.0000	.0026	-0.0079	-0.0094	771.	
.0200	48.	35.	41.	-91.	196.	-25.	-0.0047	-0.0018	.0000	.0030	-0.0067	-0.0080	663.	
.0210	17.	8.	39.	-46.	150.	16.	-0.0050	-0.0023	.0001	.0029	-0.0041	-0.0055	478.	
.0220	-28.	-33.	35.	18.	78.	71.	-0.0051	-0.0028	.0003	.0024	-0.0003	-0.0020	325.	
.0230	-74.	-78.	28.	91.	-7.	129.	-0.0050	-0.0033	.0003	.0016	.0044	.0022	482.	
.0240	-107.	-117.	16.	159.	-93.	177.	-0.0050	-0.0036	.0007	.0004	.0091	.0062	777.	
.0250	-136.	-136.	3.	205.	-170.	197.	-0.0050	-0.0038	.0009	-0.0010	.0129	.0092	1008.	
.0260	-181.	-143.	-2.	233.	-238.	197.	-0.0051	-0.0039	.0009	-0.0017	.0152	.0112	1177.	
.0270	-234.	-168.	1.	268.	-294.	229.	-0.0048	-0.0037	.0006	-0.0006	.0154	.0142	1395.	
.0280	-244.	-216.	-3.	315.	-318.	318.	-0.0038	-0.0034	-0.0002	.0024	.0139	.0195	1669.	
.0290	-224.	-234.	-10.	332.	-312.	379.	-0.0026	-0.0029	-0.0010	.0051	.0113	.0245	1803.	
.0300	-278.	-198.	9.	290.	-322.	325.	-0.0020	-0.0020	-0.0014	.0059	.0085	.0247	1649.	
.0310	-347.	-155.	25.	245.	-360.	237.	-0.0014	-0.0010	-0.0018	.0058	.0064	.0235	1508.	
.0320	-341.	-148.	12.	247.	-396.	227.	.0004	.0062	-0.0023	.0061	.0060	.0269	1579.	
.0330	-303.	-153.	-8.	268.	-424.	250.	.0032	.0014	-0.0029	.0058	.0076	.0334	1705.	
.0340	-274.	-115.	-27.	247.	-462.	177.	.0055	.0028	-0.0030	.0031	.0101	.0353	1681.	
.0350	-227.	-18.	-56.	163.	-494.	-16.	.0066	.0044	-0.0026	-0.0015	.0118	.0306	1583.	
.0360	-170.	95.	-72.	47.	-474.	-222.	.0075	.0059	-0.0025	-0.0051	.0113	.0241	1599.	
.0370	-113.	166.	-60.	-54.	-375.	-325.	.0094	.0072	-0.0031	-0.0047	.0076	.0205	1518.	
.0380	-5.	192.	-46.	-131.	-208.	-325.	.0118	.0082	-0.0043	-0.0004	.0008	.0190	1240.	
.0390	125.	235.	-33.	-238.	-1.	-355.	.0133	.0090	-0.0055	.0043	-0.0075	.0141	1300.	
.0400	165.	341.	16.	-409.	198.	-515.	.0135	.0095	-0.0061	.0060	-0.0149	.0023	2088.	
.0410	134.	441.	76.	-560.	339.	-694.	.0132	.0095	-0.0064	.0062	-0.0191	-0.0110	2902.	
.0420	201.	440.	76.	-576.	415.	-696.	.0141	.0088	-0.0067	.0075	-0.0186	-0.0162	3026.	
.0430	342.	361.	30.	-483.	443.	-558.	.0161	.0076	-0.0068	.0075	-0.0124	-0.0138	2619.	
.0440	402.	317.	-0.	-409.	408.	-516.	.0171	.0060	-0.0059	.0021	-0.0017	-0.0152	2356.	
.0450	409.	342.	-36.	-395.	308.	-645.	.0157	.0040	-0.0039	-0.0079	.0100	-0.0259	2483.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.46.

S/RV PIPING KEWAUNEE GKW08F 2 RUP DISK

2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

.0350	-227.	-18.	-56.	163.	-494.	-16.	.0066	.0044	-.0026	-.0015	.0118	.0306	1583.
.0360	-170.	95.	-72.	47.	-474.	-222.	.0075	.0059	-.0025	-.0051	.0113	.0241	1599.
.0370	-113.	166.	-60.	-54.	-375.	-325.	.0094	.0072	-.0031	-.0047	.0076	.0205	1518.
.0380	-5.	192.	-46.	-131.	-208.	-325.	.0118	.0082	-.0043	-.0004	.0008	.0190	1240.
.0390	125.	235.	-33.	-238.	-1.	-355.	.0133	.0090	-.0055	.0043	-.0075	.0141	1300.
.0400	165.	341.	16.	-409.	198.	-515.	.0135	.0095	-.0061	.0060	-.0149	.0023	2088.
.0410	134.	441.	76.	-560.	339.	-694.	.0132	.0095	-.0064	.0062	-.0191	-.0110	2902.
.0420	201.	440.	76.	-576.	415.	-696.	.0141	.0088	-.0067	.0075	-.0186	-.0162	3026.
.0430	342.	361.	30.	-483.	443.	-558.	.0161	.0076	-.0068	.0075	-.0124	-.0138	2619.
.0440	402.	317.	-0.	-409.	408.	-516.	.0171	.0060	-.0059	.0021	-.0017	-.0152	2356.
.0450	409.	342.	-36.	-395.	308.	-645.	.0157	.0040	-.0039	-.0079	.0100	-.0259	2483.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.46.

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	67	MEMBER	1	SEQUENCE	96	LOCATION	BEG	TYPE	VA					
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)	
.0460	454.	352.	-91.	-376.	217.	-748.	.0133	.0018	-.0019	-.0165	.0192	-.0379	2630.	
.0470	493.	275.	-108.	-304.	224.	-647.	.0120	-.0008	-.0011	-.0194	.0235	-.0423	2280.	
.0480	506.	146.	-83.	-214.	323.	-404.	.0114	-.0035	-.0013	-.0169	.0223	-.0417	1703.	
.0490	532.	52.	-65.	-168.	441.	-212.	.0091	-.0061	-.0015	-.0129	.0167	-.0455	1574.	
.0500	507.	17.	-39.	-190.	535.	-159.	.0047	-.0086	-.0011	-.0113	.0098	-.0565	1793.	
.0510	384.	-13.	22.	-217.	598.	-136.	.0001	-.0108	-.0003	-.0124	.0048	-.0670	1979.	
.0520	307.	-96.	50.	-158.	607.	6.	-.0032	-.0128	.0004	-.0134	.0034	-.0685	1909.	
.0530	342.	-221.	1.	-9.	531.	242.	-.0056	-.0146	.0013	-.0145	.0059	-.0620	1775.	
.0540	316.	-327.	-48.	140.	369.	406.	-.0084	-.0159	.0029	-.0197	.0118	-.0557	1722.	
.0550	167.	-377.	-56.	232.	159.	434.	-.0120	-.0165	.0052	-.0289	.0190	-.0529	1573.	
.0560	65.	-397.	-84.	300.	-37.	446.	-.0155	-.0165	.0074	-.0369	.0241	-.0486	1640.	
.0570	63.	-429.	-129.	375.	-160.	548.	-.0182	-.0159	.0088	-.0400	.0250	-.0386	2078.	
.0580	-1.	-468.	-112.	417.	-190.	684.	-.0201	-.0146	.0094	-.0394	.0213	-.0266	2504.	
.0590	-145.	-464.	-42.	386.	-164.	738.	-.0225	-.0126	.0099	-.0372	.0140	-.0184	2581.	
.0600	-255.	-397.	12.	302.	-131.	695.	-.0255	-.0101	.0103	-.0335	.0051	-.0136	2340.	
.0610	-342.	-324.	52.	233.	-114.	655.	-.0278	-.0072	.0105	-.0285	-.0023	-.0065	2143.	
.0620	-455.	-307.	103.	232.	-126.	698.	-.0281	-.0041	.0105	-.0232	-.0054	.0070	2270.	
.0630	-521.	-311.	120.	284.	-196.	765.	-.0271	-.0010	.0109	-.0195	-.0033	.0243	2554.	
.0640	-520.	-253.	84.	318.	-336.	717.	-.0262	.0022	.0120	-.0193	.0030	.0386	2595.	
.0650	-552.	-135.	50.	303.	-510.	530.	-.0258	.0053	.0138	-.0226	.0116	.0473	2418.	
.0660	-612.	-38.	41.	284.	-648.	352.	-.0247	.0082	.0154	-.0251	.0192	.0544	2403.	
.0670	-597.	4.	30.	289.	-691.	292.	-.0226	.0107	.0160	-.0220	.0222	.0635	2447.	
.0680	-530.	47.	32.	266.	-621.	280.	-.0199	.0128	.0154	-.0129	.0191	.0711	2225.	
.0690	-511.	131.	85.	161.	-454.	200.	-.0180	.0144	.0142	-.0011	.0105	.0713	1585.	
.0700	-526.	235.	167.	-0.	-229.	51.	-.0168	.0154	.0128	.0113	-.0011	.0639	713.	
.0710	-511.	325.	236.	-151.	-0.	-91.	-.0156	.0157	.0112	.0237	-.0122	.0539	537.	
.0720	-477.	374.	279.	-237.	177.	-170.	-.0134	.0151	.0094	.0353	-.0195	.0466	1038.	
.0730	-421.	364.	289.	-236.	263.	-175.	-.0101	.0137	.0077	.0440	-.0208	.0429	1199.	
.0740	-343.	317.	255.	-173.	248.	-167.	-.0065	.0115	.0066	.0474	-.0160	.0399	1051.	
.0750	-268.	290.	195.	-112.	153.	-230.	-.0033	.0087	.0062	.0449	-.0068	.0338	908.	
.0760	-210.	292.	130.	-72.	26.	-349.	-.0005	.0054	.0060	.0394	.0034	.0252	1086.	
.0770	-124.	261.	63.	-18.	-69.	-391.	.0025	.0018	.0050	.0355	.0112	.0183	1209.	
.0780	-17.	168.	12.	55.	-78.	-307.	.0060	-.0021	.0028	.0353	.0142	.0140	978.	
.0790	58.	75.	4.	84.	-0.	-206.	.0091	-.0060	-.0002	.0376	.0119	.0081	676.	
.0800	98.	40.	25.	29.	131.	-188.	.0110	-.0096	-.0036	.0400	.0055	-.0027	702.	
.0810	157.	38.	40.	-67.	278.	-219.	.0120	-.0130	-.0071	.0413	-.0025	-.0159	1096.	
.0820	217.	19.	49.	-144.	403.	-224.	.0132	-.0160	-.0105	.0406	-.0090	-.0264	1471.	
.0830	258.	-24.	48.	-177.	458.	-194.	.0151	-.0187	-.0138	.0371	-.0116	-.0319	1607.	

ADLPIPE PAGE 2638

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.46.

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

.0730	-421.	364.	289.	-236.	263.	-175.	-.0101	.0137	.0077	.0440	-.0208	.0429	1199.
.0740	-343.	317.	255.	-173.	248.	-167.	-.0065	.0115	.0066	.0474	-.0160	.0399	1051.
.0750	-268.	290.	195.	-112.	153.	-230.	-.0033	.0087	.0062	.0449	-.0068	.0338	908.
.0760	-210.	292.	130.	-73.	26.	-349.	-.0005	.0054	.0060	.0394	.0034	.0252	1086.
.0770	-124.	261.	63.	-18.	-69.	-391.	.0025	.0018	.0050	.0355	.0112	.0183	1209.
.0780	-13.	168.	12.	55.	-77.	-307.	.0060	-.0021	.0028	.0353	.0142	.0140	978.
.0790	58.	75.	4.	84.	-0.	-206.	.0091	-.0060	-.0002	.0376	.0119	.0081	676.
.0800	98.	40.	25.	29.	131.	-188.	.0110	-.0096	-.0036	.0400	.0055	-.0027	702.
.0810	157.	38.	40.	-67.	278.	-219.	.0120	-.0130	-.0071	.0413	-.0025	-.0159	1096.
.0820	217.	19.	49.	-144.	403.	-224.	.0132	-.0160	-.0105	.0406	-.0090	-.0264	1471.
.0830	258.	-24.	48.	-177.	458.	-194.	.0151	-.0187	-.0138	.0371	-.0116	-.0319	1607.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.46.

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

CONDITION 24

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ENGLISH UNITS

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

SECTION	67	MEMBER	1	SEQUENCE	96	LOCATION	BEG	TYPE	VA						
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS		
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		
.0840	320.	-66.	1.	-168.	410.	-160.	.0171	-.0209	-.0165	.0303	-.0099	-.0331	1432.		
.0850	418.	-101.	-84.	-123.	271.	-148.	.0191	-.0226	-.0185	.0200	-.0045	-.0320	1022.		
.0860	453.	-129.	-158.	-97.	87.	-164.	.0208	-.0236	-.0200	.0071	.0028	-.0297	636.		
.0870	444.	-149.	-211.	-70.	-94.	-184.	.0224	-.0239	-.0214	-.0051	.0095	-.0260	664.		
.0880	466.	-160.	-265.	-51.	-234.	-174.	.0238	-.0235	-.0230	-.0157	.0129	-.0203	901.		
.0890	484.	-165.	-296.	-51.	-309.	-141.	.0250	-.0224	-.0249	-.0182	.0129	-.0138	1046.		
.0900	426.	-159.	-275.	-85.	-329.	-129.	.0257	-.0205	-.0267	-.0202	.0104	-.0087	1105.		
.0910	346.	-129.	-239.	-139.	-327.	-152.	.0257	-.0180	-.0281	-.0205	.0071	-.0051	1175.		
.0920	319.	-87.	-228.	-183.	-330.	-181.	.0255	-.0150	-.0290	-.0196	.0047	-.0008	1273.		
.0930	314.	-49.	-230.	-202.	-346.	-197.	.0254	-.0115	-.0291	-.0188	.0049	.0055	1359.		
.0940	297.	-16.	-229.	-206.	-377.	-226.	.0253	-.0077	-.0282	-.0193	.0075	.0120	1476.		
.0950	304.	39.	-241.	-218.	-414.	-299.	.0244	-.0037	-.0264	-.0202	.0109	.0162	1689.		
.0960	330.	121.	-258.	-253.	-427.	-407.	.0228	.0005	-.0241	-.0194	.0128	.0175	1952.		
.0970	326.	197.	-239.	-299.	-374.	-488.	.0208	.0046	-.0217	-.0145	.0115	.0177	2080.		
.0980	304.	239.	-186.	-337.	-238.	-492.	.0188	.0085	-.0197	-.0042	.0057	.0182	1954.		
.0990	299.	267.	-123.	-373.	-42.	-451.	.0164	.0122	-.0180	.0107	-.0035	.0177	1785.		
.1000	280.	312.	-50.	-425.	168.	-437.	.0132	.0154	-.0159	.0271	-.0136	.0139	1924.		
.1010	221.	365.	29.	-477.	350.	-454.	.0093	.0183	-.0133	.0424	-.0225	.0077	2270.		
.1020	169.	386.	87.	-479.	471.	-440.	.0053	.0205	-.0102	.0557	-.0282	.0025	2442.		
.1030	147.	363.	107.	-410.	514.	-361.	.0018	.0220	-.0066	.0667	-.0301	.0009	2283.		
.1040	113.	315.	107.	-295.	481.	-249.	-.0014	.0229	-.0025	.0746	-.0287	.0020	1876.		
.1050	45.	253.	103.	-159.	390.	-132.	-.0047	.0232	.0020	.0791	-.0254	.0037	1344.		
.1060	-42.	176.	97.	-16.	273.	-5.	-.0082	.0230	.0065	.0811	-.0218	.0054	833.		
.1070	-151.	87.	102.	124.	162.	142.	-.0115	.0225	.0109	.0818	-.0191	.0078	757.		
.1080	-275.	-3.	120.	250.	73.	307.	-.0145	.0216	.0147	.0815	-.0176	.0111	1224.		
.1090	-395.	-92.	140.	362.	-7.	471.	-.0173	.0206	.0181	.0796	-.0168	.0145	1806.		
.1100	-520.	-194.	159.	463.	-90.	621.	-.0201	.0195	.0212	.0753	-.0162	.0165	2374.		
.1110	-623.	-273.	167.	537.	-181.	731.	-.0224	.0184	.0241	.0676	-.0151	.0179	2813.		
.1120	-675.	-313.	154.	574.	-271.	793.	-.0241	.0174	.0266	.0568	-.0140	.0192	3091.		
.1130	-694.	-348.	125.	591.	-363.	832.	-.0252	.0164	.0288	.0437	-.0139	.0196	3295.		
.1140	-721.	-390.	104.	586.	-446.	859.	-.0257	.0156	.0303	.0297	-.0158	.0190	3441.		
.1150	-746.	-410.	97.	545.	-491.	872.	-.0252	.0148	.0309	.0165	-.0201	.0185	3465.		
.1160	-725.	-403.	85.	475.	-492.	877.	-.0236	.0143	.0305	.0051	-.0266	.0185	3384.		
.1170	-680.	-395.	73.	392.	-468.	867.	-.0213	.0138	.0294	-.0052	-.0335	.0168	3226.		
.1180	-698.	-382.	90.	292.	-449.	800.	-.0186	.0134	.0278	-.0155	-.0388	.0117	2930.		
.1190	-697.	-330.	94.	187.	-452.	680.	-.0150	.0132	.0258	-.0254	-.0407	.0061	2550.		
.1200	-599.	-269.	44.	124.	-495.	570.	-.0101	.0129	.0234	-.0342	-.0379	.0030	2329.		
.1210	-487.	-263.	-24.	129.	-587.	505.	-.0039	.0125	.0209	-.0427	-.0303	.0017	2387.		

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.46.

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

.1100	-623.	-273.	167.	577.	-181.	731.	-.0224	.0184	.0241	.0676	-.0151	.0179	2813.
.1110	-675.	-313.	154.	574.	-271.	793.	-.0241	.0174	.0266	.0568	-.0140	.0192	3091.
.1130	-694.	-348.	125.	591.	-363.	832.	-.0252	.0164	.0288	.0437	-.0139	.0196	3295.
.1140	-721.	-390.	104.	576.	-444.	859.	-.0257	.0156	.0303	.0297	-.0158	.0190	3441.
.1150	-746.	-410.	97.	545.	-491.	872.	-.0252	.0148	.0309	.0165	-.0201	.0185	3465.
.1160	-725.	-403.	85.	475.	-492.	877.	-.0236	.0143	.0305	.0051	-.0266	.0185	3384.
.1170	-680.	-399.	73.	392.	-468.	867.	-.0213	.0138	.0294	-.0052	-.0335	.0168	3226.
.1180	-695.	-382.	90.	292.	-449.	800.	-.0186	.0134	.0278	-.0155	-.0388	.0117	2930.
.1190	-697.	-330.	94.	187.	-452.	680.	-.0150	.0132	.0258	-.0254	-.0407	.0061	2550.
.1200	-599.	-269.	44.	124.	-495.	570.	-.0101	.0129	.0234	-.0342	-.0379	.0030	2329.
.1210	-487.	-263.	-24.	120.	-587.	505.	-.0039	.0125	.0209	-.0427	-.0303	.0017	2387.

ADLPIPE PAGE 2639

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.46.

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	MEMBER	SEQUENCE	LOCATION	BEG	TYPE	VA	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)
.1220	-387.	-288.	-89.	164.	-692.	445.	.0030	.0123	.0184	-.0518	-.0194	-.0001	2552.
.1230	-257.	-260.	-156.	159.	-766.	317.	.0099	.0121	.0160	-.0601	-.0083	-.0046	2568.
.1240	-42.	-171.	-238.	98.	-759.	138.	.0166	.0121	.0134	-.0652	-.0002	-.0122	2365.
.1250	159.	-97.	-279.	9.	-638.	-21.	.0230	.0122	.0104	-.0658	.0035	-.0228	1942.
.1260	250.	-64.	-237.	-98.	-411.	-141.	.0292	.0125	.0067	-.0611	.0027	-.0363	1356.
.1270	361.	-16.	-184.	-217.	-118.	-239.	.0351	.0128	.0025	-.0506	-.0013	-.0502	1046.
.1280	532.	49.	-161.	-319.	175.	-320.	.0408	.0132	-.0019	-.0362	-.0055	-.0633	1475.
.1290	680.	70.	-144.	-368.	419.	-371.	.0462	.0138	-.0057	-.0225	-.0065	-.0754	2038.
.1300	757.	58.	-119.	-376.	583.	-434.	.0511	.0144	-.0084	-.0132	-.0026	-.0874	2489.
.1310	839.	92.	-128.	-385.	648.	-572.	.0550	.0152	-.0098	-.0080	.0049	-.0996	2879.
.1320	1001.	172.	-199.	-387.	646.	-737.	.0581	.0161	-.0105	-.0048	.0132	-.1094	3204.
.1330	1098.	196.	-247.	-353.	626.	-826.	.0607	.0172	-.0105	-.0018	.0200	-.1159	3331.
.1340	1068.	144.	-230.	-296.	633.	-818.	.0628	.0185	-.0107	.0026	.0226	-.1197	3272.
.1350	1027.	117.	-198.	-273.	682.	-791.	.0637	.0201	-.0111	.0100	.0196	-.1221	3284.
.1360	1019.	157.	-173.	-304.	768.	-792.	.0631	.0220	-.0115	.0199	.0118	-.1241	3481.
.1370	971.	190.	-124.	-348.	875.	-781.	.0612	.0242	-.0117	.0293	.0025	-.1252	3721.
.1380	809.	176.	-32.	-371.	952.	-750.	.0584	.0266	-.0114	.0360	-.0055	-.1252	3855.
.1390	654.	176.	25.	-369.	941.	-722.	.0547	.0292	-.0105	.0402	-.0106	-.1217	3779.
.1400	580.	190.	11.	-315.	826.	-659.	.0510	.0317	-.0091	.0427	-.0125	-.1112	3354.
.1410	472.	134.	-10.	-184.	634.	-498.	.0478	.0342	-.0073	.0422	-.0107	-.0936	2515.
.1420	303.	23.	-10.	-19.	411.	-284.	.0446	.0367	-.0048	.0380	-.0075	-.0722	1522.
.1430	132.	-13.	-15.	82.	178.	-166.	.0403	.0391	-.0019	.0314	-.0056	-.0529	781.
.1440	5.	49.	-38.	108.	-38.	-146.	.0349	.0416	.0012	.0252	-.0067	-.0363	564.
.1450	-153.	69.	-28.	140.	-198.	-64.	.0297	.0438	.0036	.0219	-.0108	-.0189	763.
.1460	-390.	-13.	41.	219.	-295.	143.	.0253	.0458	.0052	.0220	-.0169	.0005	1201.
.1470	-581.	-72.	101.	286.	-362.	344.	.0211	.0474	.0063	.0246	-.0239	.0193	1752.
.1480	-698.	-29.	121.	293.	-444.	413.	.0164	.0487	.0076	.0266	-.0299	.0332	2049.
.1490	-812.	34.	134.	283.	-549.	405.	.0116	.0495	.0095	.0253	-.0329	.0431	2246.
.1500	-953.	44.	162.	307.	-667.	413.	.0078	.0497	.0117	.0207	-.0319	.0520	2562.
.1510	-1048.	52.	169.	350.	-797.	425.	.0051	.0493	.0141	.0147	-.0281	.0612	2945.
.1520	-1016.	101.	123.	386.	-916.	413.	.0031	.0482	.0164	.0093	-.0230	.0696	3274.
.1530	-982.	136.	94.	408.	-981.	390.	.0014	.0463	.0186	.0038	-.0176	.0739	3442.
.1540	-1003.	142.	123.	400.	-949.	349.	-.0001	.0439	.0205	-.0015	-.0130	.0718	3309.
.1550	-988.	191.	169.	330.	-820.	250.	-.0019	.0408	.0218	-.0044	-.0103	.0633	2793.
.1560	-871.	293.	194.	216.	-609.	117.	-.0037	.0370	.0224	-.0032	-.0094	.0506	1999.
.1570	-696.	358.	219.	119.	-327.	43.	-.0050	.0324	.0223	.0004	-.0088	.0364	1067.
.1580	-581.	392.	283.	48.	-13.	14.	-.0059	.0272	.0218	.0032	-.0066	.0197	158.
.1590	-468.	359.	339.	-32.	276.	-66.	-.0071	.0212	.0215	.0035	-.0025	-.0009	868.

ADLPIPE PAGE 2640

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.47.

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

.1480	-671.	-29.	21.	293.	-444.	413.	.0164	.0487	.0076	.0266	-.0299	.0332	2049.
.1490	-812.	34.	134.	283.	-549.	405.	.0116	.0495	.0095	.0253	-.0329	.0431	2246.
.1500	-953.	44.	162.	307.	-667.	413.	.0078	.0497	.0117	.0207	-.0319	.0320	2562.
.1510	-1048.	52.	169.	350.	-797.	425.	.0051	.0493	.0141	.0147	-.0281	.0612	2945.
.1520	-1019.	101.	123.	386.	-916.	413.	.0031	.0482	.0164	.0093	-.0230	.0696	3274.
.1530	-982.	136.	94.	408.	-981.	390.	.0014	.0463	.0186	.0038	-.0176	.0739	3442.
.1540	-1003.	142.	123.	400.	-949.	349.	-.0001	.0439	.0205	-.0015	-.0130	.0718	3309.
.1550	-988.	191.	169.	330.	-820.	250.	-.0019	.0408	.0218	-.0044	-.0103	.0633	2793.
.1560	-871.	293.	194.	216.	-609.	117.	-.0037	.0370	.0224	-.0032	-.0094	.0506	1999.
.1570	-696.	358.	219.	119.	-327.	43.	-.0050	.0324	.0223	.0004	-.0088	.0364	1067.
.1580	-581.	352.	283.	48.	-13.	14.	-.0059	.0272	.0218	.0032	-.0066	.0197	158.
.1590	-468.	359.	339.	-72.	276.	-66.	-.0071	.0212	.0215	.0035	-.0025	-.0009	868.

ADLPIPE PAGE 2640

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.47.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION	DEG	TYPE	VA								
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.1600	-249.	412.	328.	-119.	517.	-192.	-.0087	.0147	.0215	.0016	.0035	-.0230	1715.	
.1610	-17.	428.	298.	-167.	722.	-270.	-.0099	.0076	.0214	-.0028	.0111	-.0434	2400.	
.1620	124.	362.	305.	-146.	895.	-775.	-.0107	.0000	.0212	-.0096	.0203	-.0623	2892.	
.1630	265.	290.	292.	-151.	1026.	-267.	-.0120	-.0077	.0207	-.0168	.0291	-.0809	3256.	
.1640	444.	255.	241.	-143.	1110.	-280.	-.0141	-.0155	.0197	-.0229	.0363	-.0997	3510.	
.1650	561.	183.	206.	-109.	1168.	-239.	-.0165	-.0231	.0180	-.0276	.0421	-.1165	3643.	
.1660	611.	26.	195.	-20.	1214.	-86.	-.0187	-.0304	.0155	-.0311	.0465	-.1288	3703.	
.1670	651.	-142.	173.	83.	1222.	95.	-.0213	-.0370	.0126	-.0341	.0491	-.1381	3738.	
.1680	717.	-248.	115.	154.	1176.	221.	-.0248	-.0427	.0097	-.0378	.0497	-.1459	3669.	
.1690	731.	-343.	61.	211.	1081.	328.	-.0286	-.0473	.0068	-.0431	.0484	-.1507	3497.	
.1700	681.	-486.	26.	296.	958.	499.	-.0321	-.0506	.0038	-.0492	.0454	-.1495	3406.	
.1710	635.	-635.	-21.	393.	808.	712.	-.0351	-.0525	.0005	-.0543	.0403	-.1416	3489.	
.1720	572.	-732.	-73.	463.	626.	888.	-.0381	-.0529	-.0029	-.0579	.0331	-.1295	3593.	
.1730	484.	-798.	-119.	513.	429.	1072.	-.0409	-.0516	-.0064	-.0603	.0248	-.1139	3740.	
.1740	342.	-866.	-137.	556.	231.	1160.	-.0433	-.0487	-.0099	-.0619	.0164	-.0954	3975.	
.1750	167.	-895.	-140.	575.	26.	1231.	-.0454	-.0441	-.0133	-.0623	.0085	-.0746	4134.	
.1760	37.	-847.	-161.	557.	-189.	1124.	-.0469	-.0380	-.0165	-.0609	.0013	-.0514	4130.	
.1770	-93.	-764.	-184.	528.	-412.	1175.	-.0477	-.0306	-.0195	-.0580	-.0048	-.0255	4113.	
.1780	-244.	-690.	-186.	505.	-626.	1118.	-.0473	-.0222	-.0220	-.0547	-.0092	.0026	4189.	
.1790	-411.	-590.	-169.	462.	-824.	1010.	-.0460	-.0130	-.0239	-.0510	-.0123	.0310	4207.	
.1800	-524.	-417.	-163.	374.	-996.	815.	-.0442	-.0032	-.0252	-.0464	-.0144	.0581	4076.	
.1810	-571.	-201.	-165.	257.	-1113.	567.	-.0419	.0066	-.0259	-.0404	-.0153	.0832	3879.	
.1820	-649.	5.	-125.	128.	-1163.	293.	-.0390	.0163	-.0261	-.0335	-.0145	.1044	3670.	
.1830	-723.	215.	-61.	-15.	-1145.	-9.	-.0360	.0253	-.0260	-.0247	-.0121	.1208	3485.	
.1840	-720.	454.	-10.	-170.	-1067.	-342.	-.0329	.0333	-.0256	-.0134	-.0084	.1321	3448.	
.1850	-662.	685.	35.	-319.	-930.	-669.	-.0298	.0399	-.0249	-.0002	-.0030	.1386	3617.	
.1860	-600.	865.	98.	-441.	-737.	-953.	-.0266	.0448	-.0239	.0131	.0039	.1402	3902.	
.1870	-532.	1009.	169.	-549.	-508.	-1218.	-.0239	.0477	-.0224	.0254	.0117	.1356	4346.	
.1880	-397.	1151.	211.	-654.	-256.	-1475.	-.0219	.0485	-.0204	.0366	.0195	.1250	4971.	
.1890	-222.	1259.	239.	-740.	13.	-1687.	-.0206	.0470	-.0181	.0465	.0266	.1098	5605.	
.1900	-84.	1281.	283.	-777.	295.	-1799.	-.0197	.0431	-.0157	.0550	.0329	.0911	6028.	
.1910	51.	1227.	321.	-764.	572.	-1810.	-.0195	.0370	-.0135	.0622	.0383	.0697	6226.	
.1920	196.	1139.	336.	-720.	817.	-1767.	-.0203	.0289	-.0115	.0681	.0428	.0453	6313.	
.1930	334.	1012.	331.	-639.	1012.	-1665.	-.0221	.0190	-.0096	.0716	.0469	.0192	6237.	
.1940	443.	814.	317.	-503.	1149.	-1474.	-.0245	.0076	-.0079	.0716	.0514	-.0064	5887.	
.1950	533.	562.	283.	-324.	1215.	-1216.	-.0276	-.0047	-.0063	.0672	.0561	-.0308	5320.	
.1960	622.	306.	219.	-136.	1202.	-939.	-.0314	-.0177	-.0047	.0582	.0599	-.0536	4658.	
.1970	704.	47.	132.	53.	1124.	-642.	-.0359	-.0306	-.0032	.0447	.0620	-.0736	3939.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.47.

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

.1870	-532.	1009.	169.	-549.	-508.	-1218.	-.0239	.0477	-.0224	.0254	.0117	.1356	4346.
.1880	-397.	1151.	211.	-654.	-256.	-1475.	-.0219	.0485	-.0204	.0366	.0195	.1250	4971.
.1890	-222.	1259.	239.	-740.	13.	-1687.	-.0206	.0470	-.0181	.0465	.0266	.1098	5605.
.1900	-84.	1281.	283.	-777.	295.	-1799.	-.0197	.0431	-.0157	.0550	.0329	.0911	6028.
.1910	51.	1227.	321.	-764.	573.	-1810.	-.0195	.0370	-.0135	.0622	.0383	.0697	6226.
.1920	196.	1139.	336.	-720.	817.	-1767.	-.0203	.0289	-.0115	.0681	.0428	.0453	6313.
.1930	334.	1012.	331.	-639.	1012.	-1665.	-.0221	.0190	-.0096	.0716	.0469	.0192	6237.
.1940	443.	814.	317.	-503.	1149.	-1474.	-.0245	.0076	-.0079	.0716	.0514	-.0064	5887.
.1950	533.	562.	283.	-324.	1215.	-1216.	-.0276	-.0047	-.0063	.0672	.0561	-.0308	5320.
.1960	622.	306.	219.	-136.	1202.	-939.	-.0314	-.0177	-.0047	.0582	.0599	-.0536	4658.
.1970	704.	47.	132.	53.	1124.	-642.	-.0359	-.0306	-.0032	.0447	.0620	-.0736	3939.

ADLPIPE PAGE 2641

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.47.

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

CONDITION 24
LOADS
SHOCK
PRESSURE
ENGLISH UNITS

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

SECTION	67	MEMBER	1	SEQUENCE	96	LOCATION	BEG	TYPE	VA					
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)	
.1980	752.	-242.	45.	246.	1007.	-291.	-.0405	-.0432	-.0019	.0277	.0612	-.0891	3276.	
.1990	766.	-542.	-34.	426.	875.	96.	-.0452	-.0548	-.0010	.0084	.0567	-.0996	2974.	
.2000	771.	-800.	-112.	559.	734.	464.	-.0500	-.0650	-.0006	-.0120	.0483	-.1058	3143.	
.2010	764.	-1004.	-187.	629.	588.	788.	-.0550	-.0734	-.0006	-.0330	.0368	-.1082	3567.	
.2020	716.	-1182.	-245.	687.	431.	1084.	-.0596	-.0798	-.0009	-.0541	.0238	-.1059	4119.	
.2030	630.	-1336.	-288.	719.	255.	1355.	-.0636	-.0839	-.0014	-.0750	.0109	-.0980	4730.	
.2040	551.	-1440.	-340.	723.	44.	1576.	-.0666	-.0857	-.0020	-.0953	-.0005	-.0841	5288.	
.2050	486.	-1480.	-404.	723.	-202.	1723.	-.0686	-.0852	-.0022	-.1152	-.0100	-.0653	5717.	
.2060	400.	-1472.	-459.	689.	-468.	1790.	-.0696	-.0823	-.0020	-.1347	-.0173	-.0430	6007.	
.2070	290.	-1415.	-496.	626.	-731.	1779.	-.0695	-.0773	-.0012	-.1527	-.0232	-.0184	6151.	
.2080	194.	-1298.	-523.	528.	-961.	1693.	-.0684	-.0703	-.0002	-.1667	-.0286	.0076	6136.	
.2090	117.	-1131.	-535.	402.	-1132.	1552.	-.0663	-.0618	.0010	-.1746	-.0343	.0340	5969.	
.2100	27.	-941.	-510.	257.	-1222.	1373.	-.0632	-.0520	.0021	-.1757	-.0402	.0589	5646.	
.2110	-77.	-731.	-448.	97.	-1229.	1150.	-.0594	-.0414	.0033	-.1698	-.0457	.0806	5128.	
.2120	-165.	-487.	-368.	-77.	-1165.	869.	-.0551	-.0303	.0047	-.1570	-.0499	.0979	4427.	
.2130	-224.	-220.	-281.	-247.	-1047.	549.	-.0503	-.0192	.0063	-.1382	-.0516	.1110	3673.	
.2140	-269.	32.	-187.	-383.	-893.	229.	-.0449	-.0086	.0082	-.1148	-.0500	.1207	3038.	
.2150	-304.	249.	-90.	-470.	-722.	-69.	-.0389	.0011	.0106	-.0882	-.0445	.1273	2628.	
.2160	-314.	444.	-4.	-517.	-544.	-354.	-.0327	.0097	.0133	-.0594	-.0358	.1302	2524.	
.2170	-290.	619.	72.	-531.	-360.	-622.	-.0263	.0169	.0164	-.0290	-.0248	.1291	2719.	
.2180	-273.	755.	147.	-511.	-155.	-847.	-.0201	.0225	.0194	.0024	-.0127	.1243	3047.	
.2190	-243.	842.	226.	-463.	76.	-1015.	-.0140	.0265	.0222	.0347	-.0006	.1159	3403.	
.2200	-206.	899.	305.	-401.	328.	-1140.	-.0086	.0287	.0245	.0673	.0103	.1037	3809.	
.2210	-161.	928.	376.	-330.	583.	-1224.	-.0039	.0293	.0262	.0992	.0198	.0881	4244.	
.2220	-110.	912.	439.	-238.	823.	-1243.	.0002	.0284	.0272	.1289	.0278	.0709	4593.	
.2230	-79.	844.	487.	-120.	1025.	-1189.	.0039	.0260	.0276	.1544	.0348	.0540	4789.	
.2240	-34.	744.	509.	11.	1163.	-1087.	.0071	.0225	.0276	.1736	.0409	.0382	4843.	
.2250	22.	634.	496.	137.	1221.	-968.	.0096	.0180	.0273	.1848	.0459	.0234	4758.	
.2260	73.	512.	456.	253.	1200.	-831.	.0115	.0129	.0268	.1872	.0494	.0105	4507.	
.2270	107.	369.	399.	358.	1113.	-664.	.0130	.0074	.0258	.1817	.0505	.0004	4091.	
.2280	136.	217.	327.	444.	980.	-464.	.0141	.0018	.0242	.1697	.0484	-.0062	3563.	
.2290	164.	71.	243.	496.	817.	-248.	.0148	-.0037	.0218	.1525	.0424	-.0099	3004.	
.2300	176.	-64.	150.	509.	637.	-34.	.0151	-.0087	.0187	.1307	.0328	-.0114	2481.	
.2310	163.	-185.	81.	479.	447.	166.	.0151	-.0132	.0152	.1050	.0202	-.0113	2055.	
.2320	143.	-283.	2.	410.	245.	341.	.0148	-.0170	.0113	.0757	.0058	-.0094	1786.	
.2330	129.	-353.	-83.	313.	29.	488.	.0145	-.0199	.0073	.0436	-.0094	-.0052	1765.	
.2340	113.	-404.	-171.	201.	-205.	609.	.0145	-.0220	.0035	.0093	-.0239	.0011	2048.	
.2350	80.	-441.	-256.	82.	-452.	702.	.0150	-.0233	.0001	-.0263	-.0370	.0091	2552.	

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18.29.47.

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

CONDITION 24
LOADS
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ENGLISH UNITS

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

.2260	73.	512.	456.	253.	1200.	-831.	.0096	.0180	.0273	.1848	.0494	.0234	4758.
.2270	107.	369.	399.	358.	1113.	-664.	.0130	.0074	.0258	.1817	.0505	.0004	4091.
.2280	136.	217.	327.	444.	980.	-464.	.0141	.0018	.0242	.1697	.0484	-.0062	3563.
.2290	164.	71.	243.	406.	817.	-248.	.0148	-.0037	.0218	.1525	.0424	-.0099	3004.
.2300	176.	-64.	158.	509.	637.	-34.	.0151	-.0087	.0187	.1307	.0328	-.0114	2481.
.2310	163.	-185.	81.	479.	447.	166.	.0151	-.0132	.0152	.1050	.0202	-.0113	2055.
.2320	143.	-283.	2.	410.	245.	341.	.0148	-.0170	.0113	.0757	.0058	-.0094	1786.
.2330	129.	-353.	-83.	313.	29.	488.	.0145	-.0199	.0073	.0436	-.0094	-.0052	1765.
.2340	113.	-404.	-171.	201.	-205.	609.	.0145	-.0220	.0035	.0093	-.0239	.0011	2048.
.2350	88.	-441.	-256.	82.	-452.	702.	.0150	-.0233	.0001	-.0263	-.0370	.0091	2552.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

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18.29.47.

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

CONDITION 24

LOADS

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ENGLISH UNITS

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

SECTION	67	MEMBER	1	SEQUENCE	96	LOCATION	BEG	TYPE	VA						
TIME	FX	FY	FZ	FX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS		
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		
.2360	61.	-455.	-339.	-42.	-701.	757.	.0158	-.0239	-.0028	-.0616	-.0478	.0177	3141.		
.2370	47.	-441.	-416.	-169.	-934.	770.	.0171	-.0237	-.0052	-.0946	-.0563	.0261	3718.		
.2380	35.	-409.	-480.	-291.	-1129.	751.	.0188	-.0220	-.0072	-.1233	-.0621	.0333	4219.		
.2390	26.	-364.	-521.	-405.	-1266.	705.	.0209	-.0215	-.0088	-.1460	-.0653	.0382	4577.		
.2400	24.	-304.	-539.	-512.	-1334.	626.	.0233	-.0197	-.0101	-.1616	-.0659	.0399	4746.		
.2410	34.	-225.	-536.	-609.	-1331.	513.	.0258	-.0176	-.0108	-.1695	-.0638	.0377	4720.		
.2420	56.	-138.	-513.	-690.	-1258.	381.	.0285	-.0154	-.0111	-.1697	-.0592	.0319	4515.		
.2430	92.	-56.	-472.	-743.	-1119.	247.	.0315	-.0130	-.0109	-.1626	-.0520	.0231	4155.		
.2440	144.	24.	-417.	-769.	-926.	110.	.0346	-.0108	-.0100	-.1492	-.0428	.0114	3677.		
.2450	210.	106.	-354.	-775.	-689.	-38.	.0376	-.0086	-.0085	-.1303	-.0305	-.0032	3158.		
.2460	281.	187.	-282.	-760.	-420.	-190.	.0403	-.0066	-.0065	-.1067	-.0170	-.0204	2704.		
.2470	348.	253.	-201.	-719.	-125.	-327.	.0426	-.0047	-.0041	-.0790	-.0024	-.0393	2433.		
.2480	408.	300.	-113.	-649.	183.	-436.	.0446	-.0030	-.0016	-.0477	.0127	-.0587	2441.		
.2490	462.	329.	-25.	-554.	491.	-511.	.0461	-.0014	.0008	-.0139	.0275	-.0777	2737.		
.2500	503.	343.	62.	-444.	785.	-556.	.0469	.0002	.0032	.0206	.0412	-.0958	3223.		
.2510	519.	343.	146.	-327.	1047.	-577.	.0469	.0017	.0054	.0539	.0533	-.1123	3770.		
.2520	508.	331.	222.	-207.	1260.	-573.	.0462	.0033	.0075	.0843	.0630	-.1262	4257.		
.2530	474.	307.	283.	-86.	1408.	-535.	.0448	.0050	.0093	.1105	.0699	-.1359	4590.		
.2540	416.	264.	327.	38.	1484.	-453.	.0429	.0069	.0108	.1318	.0736	-.1403	4720.		
.2550	328.	205.	356.	160.	1483.	-329.	.0407	.0091	.0119	.1471	.0740	-.1389	4645.		
.2560	211.	140.	370.	266.	1405.	-185.	.0379	.0116	.0125	.1560	.0710	-.1326	4386.		
.2570	69.	84.	368.	346.	1254.	-42.	.0346	.0145	.0127	.1583	.0648	-.1218	3959.		
.2580	-94.	36.	352.	398.	1039.	100.	.0310	.0178	.0123	.1544	.0556	-.1070	3399.		
.2590	-272.	-12.	326.	429.	772.	252.	.0273	.0214	.0112	.1451	.0438	-.0878	2794.		
.2600	-458.	-58.	289.	440.	464.	410.	.0237	.0252	.0096	.1309	.0298	-.0648	2312.		
.2610	-643.	-92.	242.	423.	127.	556.	.0204	.0293	.0076	.1121	.0141	-.0393	2159.		
.2620	-822.	-108.	189.	375.	-228.	671.	.0175	.0333	.0053	.0893	-.0027	-.0128	2438.		
.2630	-989.	-107.	132.	298.	-582.	756.	.0150	.0373	.0028	.0635	-.0198	.0138	3041.		
.2640	-1130.	-94.	73.	203.	-919.	816.	.0132	.0410	.0002	.0364	-.0366	.0398	3788.		
.2650	-1238.	-71.	14.	95.	-1221.	851.	.0123	.0443	-.0025	.0095	-.0523	.0640	4537.		
.2660	-1314.	-37.	-41.	-20.	-1477.	855.	.0122	.0470	-.0054	-.0155	-.0660	.0849	5191.		
.2670	-1357.	5.	-88.	-137.	-1675.	823.	.0129	.0489	-.0082	-.0375	-.0772	.1011	5692.		
.2680	-1362.	50.	-125.	-247.	-1806.	762.	.0145	.0500	-.0110	-.0551	-.0852	.1120	6011.		
.2690	-1323.	95.	-155.	-343.	-1865.	680.	.0170	.0500	-.0137	-.0677	-.0897	.1175	6127.		
.2700	-1239.	139.	-175.	-420.	-1849.	578.	.0204	.0490	-.0162	-.0748	-.0905	.1173	6031.		
.2710	-1120.	179.	-186.	-478.	-1765.	453.	.0245	.0469	-.0184	-.0766	-.0877	.1109	5731.		
.2720	-969.	214.	-188.	-515.	-1618.	309.	.0293	.0437	-.0202	-.0733	-.0815	.0986	5250.		
.2730	-787.	238.	-183.	-524.	-1413.	161.	.0346	.0396	-.0216	-.0647	-.0723	.0813	4610.		

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.47.

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

.2630	-987.	-107.	132.	258.	-582.	756.	.150	.0273	.0028	.0635	-.0198	.0138	2438.
.2640	-1130.	-94.	73.	203.	-919.	816.	.132	.0410	.0002	.0364	-.0366	.0398	3788.
.2650	-1235.	-71.	14.	95.	-1221.	851.	.0123	.0443	-.0025	.0095	-.0523	.0640	4537.
.2660	-1714.	-37.	-41.	-20.	-1477.	855.	.0122	.0470	-.0054	-.0155	-.0660	.0849	5191.
.2670	-1357.	5.	-88.	-137.	-1675.	823.	.0129	.0489	-.0082	-.0375	-.0772	.1011	5692.
.2680	-1367.	50.	-125.	-247.	-1806.	762.	.0145	.0500	-.0110	-.0551	-.0852	.1120	6011.
.2690	-1327.	95.	-155.	-343.	-1865.	680.	.0170	.0500	-.0127	-.0677	-.0897	.1175	6127.
.2700	-1139.	139.	-175.	-420.	-1849.	578.	.0204	.0490	-.0162	-.0748	-.0905	.1173	6031.
.2710	-1120.	179.	-186.	-478.	-1765.	453.	.0245	.0469	-.0184	-.0766	-.0877	.1109	5731.
.2720	-969.	214.	-180.	-515.	-1618.	309.	.0293	.0437	-.0202	-.0733	-.0815	.0986	5250.
.2730	-787.	238.	-183.	-524.	-1413.	161.	.0346	.0396	-.0216	-.0647	-.0723	.0813	4610.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

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18.29.47.

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

CONDITION 24

LOADS

SHOCK

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ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION	BEG	TYPE	VA	VB	VC	VD	VE	VF	VG	STRESS
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	(PSI)
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	
.2740	-574.	248.	-172.	-504.	-1152.	22.	.0404	.0346	-.0227	-.0510	-.0605	.0602	3826.
.2750	-344.	245.	-152.	-459.	-846.	-111.	.0464	.0289	-.0234	-.0331	-.0467	.0355	2947.
.2760	-114.	235.	-122.	-400.	-508.	-251.	.0522	.0228	-.0239	-.0119	-.0316	.0074	2110.
.2770	112.	204.	-87.	-321.	-154.	-394.	.0576	.0165	-.0242	.0119	-.0157	-.0228	1633.
.2780	336.	204.	-50.	-247.	203.	-518.	.0628	.0103	-.0243	.0372	.0002	-.0526	1852.
.2790	551.	170.	-14.	-148.	550.	-609.	.0675	.0044	-.0243	.0626	.0154	-.0803	2536.
.2800	739.	120.	22.	-45.	865.	-682.	.0716	-.0010	-.0241	.0863	.0295	-.1053	3355.
.2810	893.	97.	54.	43.	1132.	-760.	.0747	-.0056	-.0236	.1066	.0416	-.1272	4151.
.2820	1019.	61.	77.	112.	1342.	-837.	.0768	-.0091	-.0229	.1227	.0512	-.1445	4824.
.2830	1110.	66.	91.	170.	1494.	-888.	.0780	-.0114	-.0221	.1342	.0578	-.1558	5313.
.2840	1178.	48.	101.	214.	1589.	-909.	.0782	-.0125	-.0212	.1409	.0610	-.1605	5606.
.2850	1192.	44.	108.	230.	1622.	-924.	.0771	-.0122	-.0203	.1424	.0605	-.1595	5720.
.2860	1165.	64.	110.	211.	1592.	-944.	.0747	-.0106	-.0195	.1391	.0562	-.1534	5667.
.2870	1104.	93.	106.	169.	1507.	-948.	.0710	-.0077	-.0187	.1315	.0482	-.1414	5439.
.2880	1005.	117.	101.	118.	1370.	-915.	.0665	-.0037	-.0180	.1197	.0373	-.1232	5025.
.2890	871.	140.	93.	59.	1182.	-859.	.0611	.0012	-.0171	.1041	.0242	-.0999	4448.
.2900	711.	176.	76.	-13.	939.	-804.	.0547	.0068	-.0161	.0849	.0094	-.0732	3759.
.2910	532.	217.	50.	-87.	648.	-743.	.0475	.0128	-.0148	.0629	-.0059	-.0437	3010.
.2920	335.	241.	21.	-144.	325.	-653.	.0399	.0190	-.0132	.0394	-.0211	-.0119	2261.
.2930	130.	246.	-9.	-177.	-11.	-530.	.0321	.0251	-.0114	.0157	-.0355	.0211	1699.
.2940	-69.	244.	-42.	-194.	-345.	-396.	.0240	.0308	-.0093	-.0067	-.0489	.0531	1705.
.2950	-260.	241.	-73.	-200.	-660.	-268.	.0156	.0360	-.0070	-.0268	-.0609	.0821	2250.
.2960	-450.	223.	-91.	-189.	-934.	-135.	.0072	.0403	-.0045	-.0435	-.0714	.1069	2928.
.2970	-626.	186.	-97.	-154.	-1153.	11.	-.0009	.0438	-.0018	-.0558	-.0800	.1274	3539.
.2980	-771.	126.	-96.	-97.	-1311.	166.	-.0086	.0461	.0009	-.0632	-.0866	.1430	4032.
.2990	-883.	80.	-89.	-22.	-1409.	313.	-.0158	.0474	.0039	-.0660	-.0906	.1530	4391.
.3000	-974.	14.	-72.	69.	-1449.	442.	-.0224	.0475	.0071	-.0649	-.0917	.1566	4614.
.3010	-1040.	-59.	-46.	174.	-1437.	549.	-.0283	.0465	.0106	-.0603	-.0895	.1541	4708.
.3020	-1064.	-132.	-20.	294.	-1374.	637.	-.0333	.0444	.0142	-.0522	-.0841	.1464	4693.
.3030	-1044.	-207.	5.	426.	-1263.	710.	-.0372	.0415	.0177	-.0409	-.0757	.1343	4593.
.3040	-996.	-283.	35.	562.	-1106.	760.	-.0401	.0378	.0212	-.0275	-.0647	.1178	4427.
.3050	-931.	-352.	74.	688.	-910.	775.	-.0422	.0336	.0244	-.0126	-.0518	.0972	4197.
.3060	-840.	-402.	113.	794.	-682.	751.	-.0435	.0291	.0273	.0029	-.0377	.0733	3917.
.3070	-717.	-436.	150.	879.	-426.	701.	-.0440	.0244	.0297	.0183	-.0231	.0481	3657.
.3080	-575.	-464.	187.	945.	-152.	640.	-.0435	.0197	.0316	.0325	-.0086	.0228	3502.
.3090	-427.	-491.	224.	982.	123.	554.	-.0423	.0152	.0330	.0439	.0055	-.0023	3452.
.3100	-272.	-471.	252.	981.	382.	430.	-.0407	.0110	.0339	.0516	.0186	-.0267	3460.
.3110	-106.	-438.	267.	946.	612.	281.	-.0387	.0073	.0342	.0552	.0303	-.0491	3533.

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ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.47.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

.3000	-974.	14.	-70.	69.	-1449.	442.	-.0224	.0475	.0071	-.0649	-.0917	.1566	4614.
.3010	-1040.	-59.	-46.	174.	-1437.	549.	-.0283	.0465	.0106	-.0603	-.0895	.1541	4708.
.3020	-1064.	-132.	-20.	294.	-1374.	637.	-.0333	.0444	.0142	-.0522	-.0841	.1464	4693.
.3030	-1044.	-207.	5.	426.	-1263.	710.	-.0372	.0415	.0177	-.0409	-.0757	.1343	4593.
.3040	-996.	-283.	35.	562.	-1106.	760.	-.0401	.0378	.0212	-.0275	-.0647	.1178	4427.
.3050	-931.	-352.	74.	688.	-910.	775.	-.0422	.0336	.0244	-.0126	-.0518	.0972	4197.
.3060	-840.	-402.	113.	794.	-682.	751.	-.0435	.0291	.0273	.0029	-.0377	.0733	3917.
.3070	-717.	-436.	150.	879.	-426.	701.	-.0440	.0244	.0297	.0183	-.0231	.0481	3657.
.3080	-575.	-464.	187.	945.	-152.	640.	-.0435	.0197	.0316	.0325	-.0086	.0228	3502.
.3090	-427.	-481.	224.	982.	123.	554.	-.0423	.0152	.0330	.0439	.0055	-.0023	3452.
.3100	-277.	-471.	252.	981.	382.	430.	-.0407	.0110	.0339	.0516	.0186	-.0267	3460.
.3110	-106.	-438.	267.	946.	612.	281.	-.0387	.0073	.0342	.0552	.0303	-.0491	3533.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.47.

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	VA								
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)	
.3120	60.	-403.	270.	891.	810.	139.	-.0363	.0040	.0338	.0547	.0403	-.0679	3688.	
.3130	210.	-370.	265.	819.	970.	11.	-.0335	.0013	.0327	.0500	.0483	-.0828	3861.	
.3140	762.	-327.	249.	720.	1084.	-121.	-.0308	-.0009	.0308	.0409	.0538	-.0944	3975.	
.3150	492.	-269.	220.	595.	1147.	-260.	-.0283	-.0026	.0284	.0279	.0565	-.1030	4010.	
.3160	598.	-214.	182.	457.	1163.	-379.	-.0260	-.0039	.0253	.0115	.0563	-.1078	3971.	
.3170	678.	-179.	139.	322.	1132.	-457.	-.0238	-.0048	.0215	-.0075	.0535	-.1084	3841.	
.3180	737.	-156.	85.	192.	1054.	-498.	-.0219	-.0055	.0173	-.0286	.0481	-.1051	3595.	
.3190	778.	-137.	21.	65.	929.	-519.	-.0203	-.0059	.0129	-.0513	.0407	-.0991	3243.	
.3200	790.	-127.	-48.	-54.	761.	-522.	-.0192	-.0062	.0083	-.0748	.0317	-.0910	2812.	
.3210	773.	-136.	-117.	-153.	563.	-492.	-.0184	-.0065	.0037	-.0981	.0219	-.0810	2321.	
.3220	740.	-162.	-188.	-226.	344.	-428.	-.0178	-.0067	-.0009	-.1197	.0116	-.0692	1806.	
.3230	700.	-198.	-259.	-274.	118.	-337.	-.0173	-.0070	-.0054	-.1386	.0014	-.0562	1368.	
.3240	642.	-242.	-323.	-300.	-104.	-232.	-.0172	-.0074	-.0096	-.1543	-.0081	-.0433	1197.	
.3250	562.	-293.	-371.	-306.	-312.	-125.	-.0172	-.0078	-.0134	-.1662	-.0166	-.0314	1384.	
.3260	476.	-342.	-409.	-295.	-496.	-20.	-.0173	-.0082	-.0167	-.1738	-.0237	-.0203	1755.	
.3270	399.	-386.	-437.	-264.	-647.	86.	-.0172	-.0087	-.0195	-.1765	-.0290	-.0100	2140.	
.3280	326.	-426.	-452.	-216.	-758.	186.	-.0170	-.0091	-.0216	-.1745	-.0321	-.0006	2463.	
.3290	250.	-457.	-448.	-158.	-828.	266.	-.0166	-.0094	-.0230	-.1680	-.0330	.0071	2688.	
.3300	179.	-467.	-429.	-100.	-855.	309.	-.0161	-.0096	-.0236	-.1573	-.0316	.0127	2782.	
.3310	124.	-453.	-390.	-44.	-837.	318.	-.0153	-.0097	-.0236	-.1425	-.0281	.0167	2727.	
.3320	82.	-422.	-354.	13.	-772.	305.	-.0142	-.0096	-.0230	-.1238	-.0226	.0196	2524.	
.3330	47.	-378.	-292.	66.	-662.	269.	-.0129	-.0093	-.0219	-.1020	-.0154	.0214	2184.	
.3340	17.	-310.	-219.	106.	-518.	195.	-.0114	-.0089	-.0203	-.0782	-.0069	.0216	1714.	
.3350	-4.	-213.	-139.	128.	-349.	79.	-.0100	-.0084	-.0182	-.0532	.0024	.0205	1155.	
.3360	-16.	-102.	-54.	138.	-162.	-55.	-.0084	-.0078	-.0158	-.0277	.0122	.0190	670.	
.3370	-23.	9.	34.	145.	33.	-186.	-.0068	-.0073	-.0133	-.0027	.0221	.0182	720.	
.3380	-28.	122.	120.	144.	227.	-319.	-.0051	-.0069	-.0106	.0209	.0315	.0178	1268.	
.3390	-31.	244.	200.	128.	406.	-460.	-.0038	-.0066	-.0079	.0423	.0399	.0175	1906.	
.3400	-36.	365.	272.	102.	564.	-597.	-.0028	-.0067	-.0053	.0607	.0469	.0177	2517.	
.3410	-49.	468.	338.	74.	698.	-705.	-.0022	-.0071	-.0030	.0760	.0522	.0190	3027.	
.3420	-69.	549.	394.	49.	802.	-774.	-.0018	-.0080	-.0010	.0880	.0555	.0218	3395.	
.3430	-92.	613.	435.	25.	869.	-809.	-.0019	-.0095	.0005	.0963	.0567	.0259	3613.	
.3440	-123.	657.	462.	2.	893.	-814.	-.0024	-.0115	.0016	.1005	.0559	.0308	3675.	
.3450	-169.	674.	475.	-17.	871.	-781.	-.0035	-.0141	.0023	.1004	.0531	.0367	3560.	
.3460	-222.	662.	473.	-25.	804.	-705.	-.0048	-.0173	.0025	.0962	.0486	.0437	3255.	
.3470	-274.	626.	452.	-24.	694.	-589.	-.0065	-.0210	.0023	.0884	.0426	.0520	2770.	
.3480	-327.	567.	415.	-14.	546.	-440.	-.0083	-.0253	.0016	.0773	.0353	.0610	2133.	
.3490	-383.	487.	368.	1.	368.	-267.	-.0104	-.0299	.0005	.0633	.0270	.0701	1383.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.47.

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

.3390	-31.	244.	200.	128.	406.	-460.	-.0038	-.0066	-.0079	.0423	.0399	.0175	1268.
.3400	-36.	365.	272.	102.	564.	-597.	-.0028	-.0067	-.0053	.0607	.0469	.0177	2517.
.3410	-49.	468.	238.	74.	698.	-705.	-.0022	-.0071	-.0030	.0760	.0522	.0190	3027.
.3420	-69.	549.	394.	49.	802.	-774.	-.0018	-.0080	-.0010	.0880	.0555	.0218	3395.
.3430	-92.	613.	435.	25.	869.	-809.	-.0019	-.0095	.0005	.0963	.0567	.0259	3613.
.3440	-123.	657.	462.	2.	893.	-814.	-.0024	-.0115	.0016	.1005	.0559	.0308	3675.
.3450	-169.	674.	475.	-17.	871.	-781.	-.0035	-.0141	.0023	.1004	.0531	.0367	3560.
.3460	-222.	662.	473.	-25.	804.	-705.	-.0048	-.0173	.0025	.0962	.0486	.0437	3255.
.3470	-274.	626.	452.	-24.	694.	-589.	-.0065	-.0210	.0023	.0884	.0426	.0520	2770.
.3480	-325.	567.	415.	-14.	546.	-440.	-.0083	-.0253	.0016	.0773	.0353	.0610	2133.
.3490	-383.	487.	368.	1.	368.	-267.	-.0104	-.0299	.0005	.0633	.0270	.0701	1383.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.47.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	67	MEMBER	1	SEQUENCE	96	LOCATION	BEG	TYPE	VA						
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS		
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		
.3500	-444.	392.	314.	19.	170.	-78.	-.0125	-.0349	-.0009	.0473	.0179	.0788	572.		
.3510	-497.	288.	252.	39.	-36.	122.	-.0146	-.0400	-.0027	.0304	.0084	.0871	405.		
.3520	-539.	179.	185.	60.	-241.	328.	-.0164	-.0451	-.0048	.0134	-.0012	.0949	1252.		
.3530	-574.	65.	119.	82.	-434.	533.	-.0179	-.0501	-.0071	-.0031	-.0104	.1018	2106.		
.3540	-602.	-44.	57.	100.	-611.	719.	-.0189	-.0548	-.0095	-.0186	-.0188	.1073	2888.		
.3550	-615.	-138.	-3.	110.	-767.	876.	-.0195	-.0591	-.0118	-.0325	-.0259	.1111	3557.		
.3560	-610.	-217.	-60.	116.	-896.	1002.	-.0195	-.0629	-.0141	-.0442	-.0315	.1136	4103.		
.3570	-589.	-284.	-110.	119.	-990.	1100.	-.0186	-.0660	-.0163	-.0532	-.0353	.1148	4516.		
.3580	-557.	-374.	-149.	116.	-1046.	1162.	-.0170	-.0683	-.0182	-.0592	-.0372	.1145	4769.		
.3590	-504.	-356.	-178.	101.	-1061.	1173.	-.0148	-.0697	-.0199	-.0619	-.0372	.1122	4822.		
.3600	-442.	-349.	-196.	71.	-1035.	1133.	-.0120	-.0703	-.0213	-.0610	-.0357	.1078	4673.		
.3610	-371.	-322.	-201.	74.	-965.	1055.	-.0085	-.0699	-.0224	-.0565	-.0326	.1021	4351.		
.3620	-293.	-278.	-192.	-8.	-855.	947.	-.0044	-.0687	-.0233	-.0483	-.0282	.0953	3881.		
.3630	-208.	-215.	-172.	-57.	-712.	805.	.0002	-.0666	-.0239	-.0370	-.0227	.0876	3275.		
.3640	-121.	-129.	-145.	-114.	-548.	626.	.0051	-.0636	-.0241	-.0234	-.0161	.0787	2554.		
.3650	-37.	-29.	-111.	-175.	-370.	420.	.0101	-.0600	-.0239	-.0080	-.0087	.0693	1785.		
.3660	42.	76.	-72.	-235.	-188.	203.	.0153	-.0557	-.0235	.0085	-.0007	.0600	1103.		
.3670	120.	185.	-33.	-290.	-8.	-17.	.0205	-.0509	-.0227	.0254	.0077	.0513	883.		
.3680	194.	296.	5.	-343.	162.	-237.	.0254	-.0458	-.0217	.0421	.0160	.0431	1361.		
.3690	256.	405.	41.	-396.	319.	-454.	.0299	-.0404	-.0205	.0579	.0238	.0354	2072.		
.3700	305.	507.	76.	-448.	458.	-658.	.0338	-.0349	-.0192	.0722	.0307	.0283	2794.		
.3710	343.	599.	108.	-497.	580.	-838.	.0370	-.0295	-.0178	.0846	.0362	.0221	3449.		
.3720	374.	677.	133.	-543.	680.	-986.	.0395	-.0242	-.0165	.0948	.0400	.0172	4001.		
.3730	394.	737.	152.	-585.	756.	-1098.	.0411	-.0192	-.0151	.1021	.0422	.0134	4429.		
.3740	398.	777.	165.	-623.	801.	-1176.	.0418	-.0146	-.0137	.1059	.0426	.0106	4726.		
.3750	388.	798.	169.	-656.	812.	-1219.	.0415	-.0106	-.0123	.1060	.0415	.0088	4882.		
.3760	371.	796.	161.	-680.	787.	-1220.	.0402	-.0071	-.0109	.1024	.0391	.0081	4876.		
.3770	346.	769.	141.	-689.	724.	-1175.	.0382	-.0044	-.0095	.0950	.0355	.0088	4691.		
.3780	312.	714.	112.	-683.	627.	-1085.	.0353	-.0023	-.0081	.0841	.0311	.0105	4342.		
.3790	269.	638.	73.	-666.	498.	-964.	.0316	-.0010	-.0067	.0699	.0260	.0126	3872.		
.3800	219.	545.	27.	-641.	343.	-816.	.0272	-.0005	-.0053	.0530	.0203	.0147	3325.		
.3810	166.	435.	-26.	-605.	171.	-640.	.0223	-.0006	-.0039	.0342	.0141	.0169	2750.		
.3820	112.	305.	-81.	-557.	-7.	-433.	.0171	-.0013	-.0025	.0142	.0076	.0191	2146.		
.3830	58.	163.	-137.	-500.	-184.	-209.	.0116	-.0026	-.0010	-.0064	.0008	.0209	1742.		
.3840	5.	19.	-192.	-443.	-356.	16.	.0059	-.0043	.0004	-.0271	-.0060	.0216	1728.		
.3850	-44.	-123.	-245.	-386.	-515.	233.	.0002	-.0064	.0020	-.0472	-.0125	.0211	2081.		
.3860	-87.	-264.	-293.	-375.	-656.	444.	-.0052	-.0087	.0037	-.0660	-.0184	.0196	2603.		
.3870	-120.	-401.	-336.	-260.	-772.	646.	-.0102	-.0111	.0054	-.0828	-.0233	.0174	3164.		

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.47.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

.3770	346.	769.	141.	-689.	724.	-1175.	.402	-.0071	-.0109	.1024	.0391	.0081	4876.
.3780	312.	714.	112.	-683.	627.	-1085.	.353	-.0023	-.0081	.0841	.0311	.0105	4342.
.3790	269.	638.	73.	-666.	498.	-964.	.0516	-.0010	-.0067	.0699	.0260	.0126	3872.
.3800	219.	545.	27.	-641.	343.	-816.	.0272	-.0005	-.0053	.0530	.0203	.0147	3325.
.3810	166.	435.	-26.	-605.	171.	-640.	.0223	-.0006	-.0039	.0342	.0141	.0169	2750.
.3820	112.	305.	-81.	-557.	-7.	-433.	.0171	-.0013	-.0025	.0142	.0076	.0191	2146.
.3830	58.	163.	-137.	-500.	-184.	-209.	.0116	-.0026	-.0010	-.0064	.0008	.0209	1742.
.3840	5.	19.	-192.	-443.	-356.	16.	.0059	-.0043	.0004	-.0271	-.0060	.0216	1728.
.3850	-44.	-123.	-245.	-386.	-515.	233.	.0002	-.0064	.0020	-.0472	-.0125	.0211	2081.
.3860	-87.	-264.	-293.	-325.	-656.	444.	-.0052	-.0087	.0037	-.0660	-.0184	.0196	2603.
.3870	-120.	-401.	-336.	-260.	-772.	646.	-.0102	-.0111	.0054	-.0828	-.0233	.0174	3164.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.47.

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

CONDITION 24
LOADS
SHOCK
PRESSURE
ENGLISH UNITS

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

SECTION	67	MEMBER	1	SEQUENCE	96	LOCATION	BEG	TYPE	VA					
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.3880	-142.	-527.	-372.	-197.	-862.	827.	-.0147	-.0134	.0071	-.0973	-.0271	.0141	3682.	
.3890	-154.	-633.	-400.	-139.	-922.	972.	-.0186	-.0156	.0090	-.1091	-.0296	.0094	4097.	
.3900	-158.	-718.	-419.	-90.	-949.	1078.	-.0219	-.0175	.0110	-.1180	-.0307	.0034	4378.	
.3910	-152.	-782.	-426.	-47.	-941.	1149.	-.0244	-.0190	.0130	-.1234	-.0305	-.0033	4520.	
.3920	-130.	-823.	-424.	-12.	-895.	1188.	-.0260	-.0200	.0150	-.1252	-.0291	-.0102	4524.	
.3930	-93.	-838.	-412.	13.	-813.	1190.	-.0268	-.0205	.0169	-.1235	-.0267	-.0174	4384.	
.3940	-50.	-826.	-389.	24.	-700.	1148.	-.0268	-.0204	.0188	-.1188	-.0232	-.0250	4090.	
.3950	-4.	-786.	-355.	19.	-559.	1061.	-.0262	-.0198	.0207	-.1114	-.0188	-.0330	3649.	
.3960	52.	-720.	-315.	2.	-397.	940.	-.0249	-.0186	.0225	-.1015	-.0137	-.0405	3103.	
.3970	120.	-635.	-270.	-22.	-218.	797.	-.0230	-.0169	.0241	-.0893	-.0080	-.0469	2514.	
.3980	190.	-537.	-221.	-52.	-29.	637.	-.0206	-.0148	.0256	-.0757	-.0020	-.0522	1946.	
.3990	255.	-423.	-167.	-92.	162.	455.	-.0179	-.0123	.0268	-.0612	.0043	-.0568	1495.	
.4000	316.	-294.	-113.	-141.	346.	256.	-.0151	-.0096	.0279	-.0466	.0103	-.0604	1376.	

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)
.1920	-196.	-1139.	-336.	720.	-817.	1767.	-.0203	.0289	-.0115	.0681	.0428	.0453	6313.

SECTION	67	MEMBER	1	SEQUENCE	98	LOCATION	DIS	TYPE	VA					
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
0.0000	0.	0.	0.	0.	0.	0.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.	
.0010	0.	0.	0.	0.	0.	0.	-.0000	-.0000	.0000	.0000	-.0000	.0000	0.	
.0020	0.	0.	0.	0.	0.	0.	-.0000	-.0000	.0000	.0000	.0000	.0000	0.	
.0030	0.	0.	0.	0.	0.	0.	-.0000	-.0000	.0000	.0000	.0000	.0000	0.	
.0040	0.	0.	0.	0.	0.	0.	-.0000	-.0000	-.0000	.0000	-.0000	.0000	0.	
.0050	0.	0.	0.	0.	0.	0.	-.0000	-.0000	-.0000	.0000	-.0000	-.0000	0.	
.0060	0.	0.	0.	0.	0.	0.	-.0000	.0000	-.0000	.0000	-.0001	-.0000	0.	
.0070	0.	0.	0.	0.	0.	0.	-.0000	.0000	-.0000	.0001	-.0002	-.0001	0.	
.0080	0.	0.	0.	0.	0.	0.	-.0001	.0000	-.0000	.0002	-.0004	-.0002	0.	
.0090	0.	0.	0.	0.	0.	0.	-.0002	.0000	-.0001	.0003	-.0008	-.0004	0.	
.0100	0.	0.	0.	0.	0.	0.	-.0003	.0000	-.0001	.0005	-.0013	-.0007	0.	
.0110	0.	0.	0.	0.	0.	0.	-.0005	.0001	-.0002	.0008	-.0021	-.0011	0.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.47.

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

CONDITION 24
LOADS
SHOCK
PRESSURE
ENGLISH UNITS

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

.0010	0.	0.	0.	0.	0.	0.	0.	-.0000	-.0000	.0000	.0000	-.0000	.0000	0.
.0020	0.	0.	0.	0.	0.	0.	0.	-.0000	-.0000	.0000	.0000	.0000	.0000	0.
.0030	0.	0.	0.	0.	0.	0.	0.	-.0000	-.0000	.0000	.0000	.0000	.0000	0.
.0040	0.	0.	0.	0.	0.	0.	0.	-.0000	-.0000	-.0000	.0000	-.0000	.0000	0.
.0050	0.	0.	0.	0.	0.	0.	0.	-.0000	-.0000	-.0000	.0000	-.0000	-.0000	0.
.0060	0.	0.	0.	0.	0.	0.	0.	-.0000	.0000	-.0000	.0000	-.0001	-.0000	0.
.0070	0.	0.	0.	0.	0.	0.	0.	-.0000	.0000	-.0000	.0001	-.0002	-.0001	0.
.0080	0.	0.	0.	0.	0.	0.	0.	-.0001	.0000	-.0000	.0002	-.0004	-.0002	0.
.0090	0.	0.	0.	0.	0.	0.	0.	-.0002	.0000	-.0001	.0003	-.0008	-.0004	0.
.0100	0.	0.	0.	0.	0.	0.	0.	-.0003	.0000	-.0001	.0005	-.0013	-.0007	0.
.0110	0.	0.	0.	0.	0.	0.	0.	-.0005	.0001	-.0002	.0008	-.0021	-.0011	0.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.47.

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

CONDITION 24

LOADS

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ENGLISH UNITS

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

SECTION	67	MEMBER	1	SEQUENCE	98	LOCATION	DIS	TYPE	VA							
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS			
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)			
.0120	0.	0.	0.	0.	0.	0.	-.0007	.0001	-.0003	.0012	-.0032	-.0016	0.			
.0130	0.	0.	0.	0.	0.	0.	-.0011	.0001	-.0004	.0016	-.0046	-.0025	0.			
.0140	0.	0.	0.	0.	0.	0.	-.0016	.0002	-.0004	.0021	-.0062	-.0037	0.			
.0150	0.	0.	0.	0.	0.	0.	-.0023	.0002	-.0005	.0027	-.0081	-.0051	0.			
.0160	0.	0.	0.	0.	0.	0.	-.0030	.0002	-.0007	.0035	-.0100	-.0066	0.			
.0170	0.	0.	0.	0.	0.	0.	-.0037	.0000	-.0008	.0044	-.0117	-.0078	0.			
.0180	0.	0.	0.	0.	0.	0.	-.0044	-.0003	-.0010	.0052	-.0128	-.0084	0.			
.0190	0.	0.	0.	0.	0.	0.	-.0049	-.0007	-.0010	.0056	-.0127	-.0085	0.			
.0200	0.	0.	0.	0.	0.	0.	-.0052	-.0013	-.0008	.0053	-.0110	-.0078	0.			
.0210	0.	0.	0.	0.	0.	0.	-.0053	-.0020	-.0004	.0042	-.0074	-.0061	0.			
.0220	0.	0.	0.	0.	0.	0.	-.0052	-.0027	-.0001	.0022	-.0020	-.0036	0.			
.0230	0.	0.	0.	0.	0.	0.	-.0048	-.0034	.0009	-.0005	.0045	-.0005	0.			
.0240	0.	0.	0.	0.	0.	0.	-.0044	-.0039	.0016	-.0034	.0110	.0027	0.			
.0250	0.	0.	0.	0.	0.	0.	-.0042	-.0043	.0023	-.0059	.0165	.0054	0.			
.0260	0.	0.	0.	0.	0.	0.	-.0041	-.0045	.0026	-.0074	.0202	.0075	0.			
.0270	0.	0.	0.	0.	0.	0.	-.0037	-.0046	.0023	-.0071	.0217	.0098	0.			
.0280	0.	0.	0.	0.	0.	0.	-.0028	-.0048	.0014	-.0051	.0207	.0133	0.			
.0290	0.	0.	0.	0.	0.	0.	-.0017	-.0048	.0004	-.0026	.0180	.0169	0.			
.0300	0.	0.	0.	0.	0.	0.	-.0012	-.0041	-.0004	-.0009	.0154	.0181	0.			
.0310	0.	0.	0.	0.	0.	0.	-.0007	-.0030	-.0008	-.0001	.0140	.0187	0.			
.0320	0.	0.	0.	0.	0.	0.	.0011	-.0022	-.0014	.0002	.0144	.0224	0.			
.0330	0.	0.	0.	0.	0.	0.	.0041	-.0015	-.0017	-.0006	.0167	.0283	0.			
.0340	0.	0.	0.	0.	0.	0.	.0066	-.0002	-.0015	-.0030	.0201	.0319	0.			
.0350	0.	0.	0.	0.	0.	0.	.0077	.0017	-.0010	-.0060	.0226	.0313	0.			
.0360	0.	0.	0.	0.	0.	0.	.0086	.0037	-.0009	-.0071	.0216	.0291	0.			
.0370	0.	0.	0.	0.	0.	0.	.0103	.0051	-.0019	-.0043	.0158	.0275	0.			
.0380	0.	0.	0.	0.	0.	0.	.0122	.0061	-.0041	.0021	.0055	.0258	0.			
.0390	0.	0.	0.	0.	0.	0.	.0131	.0070	-.0063	.0096	-.0073	.0212	0.			
.0400	0.	0.	0.	0.	0.	0.	.0127	.0082	-.0078	.0154	-.0190	.0126	0.			
.0410	0.	0.	0.	0.	0.	0.	.0120	.0091	-.0086	.0190	-.0263	.0029	0.			
.0420	0.	0.	0.	0.	0.	0.	.0129	.0088	-.0090	.0207	-.0274	-.0022	0.			
.0430	0.	0.	0.	0.	0.	0.	.0152	.0076	-.0085	.0187	-.0217	-.0027	0.			
.0440	0.	0.	0.	0.	0.	0.	.0167	.0064	-.0065	.0114	-.0102	-.0046	0.			
.0450	0.	0.	0.	0.	0.	0.	.0158	.0059	-.0033	.0006	.0037	-.0121	0.			
.0460	0.	0.	0.	0.	0.	0.	.0138	.0051	-.0003	-.0088	.0148	-.0215	0.			
.0470	0.	0.	0.	0.	0.	0.	.0127	.0032	.0010	-.0133	.0189	-.0279	0.			
.0480	0.	0.	0.	0.	0.	0.	.0119	.0006	.0005	-.0124	.0156	-.0325	0.			
.0490	0.	0.	0.	0.	0.	0.	.0092	-.0016	-.0003	-.0090	.0074	-.0405	0.			

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.47.

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

.0390	0.	0.	0.	0.	0.	0.	0.	.0131	.0070	-.0063	.0096	-.0073	.0212	0.
.0400	0.	0.	0.	0.	0.	0.	0.	.0127	.0082	-.0078	.0154	-.0190	.0126	0.
.0410	0.	0.	0.	0.	0.	0.	0.	.0120	.0091	-.0086	.0190	-.0263	.0029	0.
.0420	0.	0.	0.	0.	0.	0.	0.	.0129	.0088	-.0090	.0207	-.0274	-.0022	0.
.0430	0.	0.	0.	0.	0.	0.	0.	.0152	.0076	-.0085	.0187	-.0217	-.0027	0.
.0440	0.	0.	0.	0.	0.	0.	0.	.0167	.0064	-.0065	.0114	-.0102	-.0046	0.
.0450	0.	0.	0.	0.	0.	0.	0.	.0158	.0059	-.0033	.0006	.0037	-.0121	0.
.0460	0.	0.	0.	0.	0.	0.	0.	.0138	.0051	-.0003	-.0088	.0148	-.0215	0.
.0470	0.	0.	0.	0.	0.	0.	0.	.0127	.0032	.0010	-.0133	.0189	-.0279	0.
.0480	0.	0.	0.	0.	0.	0.	0.	.0119	.0006	.0005	-.0124	.0156	-.0325	0.
.0490	0.	0.	0.	0.	0.	0.	0.	.0092	-.0016	-.0003	-.0090	.0074	-.0405	0.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.47.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	67	MEMBER	1	SEQUENCE	98	LOCATION	DIS	TYPE	VA						
TIME	FX	FY	FZ	MX	MY	MZ		DX	DY	DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)		(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.0500	0.	0.	0.	0.	0.	0.	0.	.0044	-.0031	-.0007	-.0066	-.0016	-.0526	0.	
.0510	0.	0.	0.	0.	0.	0.	0.	-.0006	-.0043	-.0004	-.0068	-.0082	-.0637	0.	
.0520	0.	0.	0.	0.	0.	0.	0.	-.0041	-.0060	.0002	-.0088	-.0099	-.0683	0.	
.0530	0.	0.	0.	0.	0.	0.	0.	-.0063	-.0080	.0014	-.0133	-.0057	-.0667	0.	
.0540	0.	0.	0.	0.	0.	0.	0.	-.0086	-.0093	.0038	-.0218	.0037	-.0636	0.	
.0550	0.	0.	0.	0.	0.	0.	0.	-.0117	-.0096	.0070	-.0334	.0154	-.0611	0.	
.0560	0.	0.	0.	0.	0.	0.	0.	-.0148	-.0095	.0100	-.0432	.0247	-.0569	0.	
.0570	0.	0.	0.	0.	0.	0.	0.	-.0173	-.0095	.0117	-.0480	.0283	-.0492	0.	
.0580	0.	0.	0.	0.	0.	0.	0.	-.0193	-.0092	.0120	-.0481	.0252	-.0404	0.	
.0590	0.	0.	0.	0.	0.	0.	0.	-.0220	-.0080	.0117	-.0448	.0173	-.0337	0.	
.0600	0.	0.	0.	0.	0.	0.	0.	-.0254	-.0062	.0112	-.0391	.0076	-.0284	0.	
.0610	0.	0.	0.	0.	0.	0.	0.	-.0279	-.0043	.0107	-.0324	-.0002	-.0209	0.	
.0620	0.	0.	0.	0.	0.	0.	0.	-.0283	-.0027	.0104	-.0271	-.0030	-.0087	0.	
.0630	0.	0.	0.	0.	0.	0.	0.	-.0270	-.0013	.0110	-.0246	.0006	.0069	0.	
.0640	0.	0.	0.	0.	0.	0.	0.	-.0256	.0006	.0129	-.0236	.0100	.0223	0.	
.0650	0.	0.	0.	0.	0.	0.	0.	-.0245	.0028	.0157	-.0292	.0224	.0350	0.	
.0660	0.	0.	0.	0.	0.	0.	0.	-.0229	.0050	.0182	-.0318	.0330	.0460	0.	
.0670	0.	0.	0.	0.	0.	0.	0.	-.0205	.0065	.0190	-.0292	.0371	.0563	0.	
.0680	0.	0.	0.	0.	0.	0.	0.	-.0180	.0074	.0180	-.0196	.0325	.0640	0.	
.0690	0.	0.	0.	0.	0.	0.	0.	-.0165	.0082	.0157	-.0054	.0202	.0656	0.	
.0700	0.	0.	0.	0.	0.	0.	0.	-.0161	.0091	.0128	.0108	.0038	.0610	0.	
.0710	0.	0.	0.	0.	0.	0.	0.	-.0157	.0094	.0098	.0268	-.0123	.0538	0.	
.0720	0.	0.	0.	0.	0.	0.	0.	-.0140	.0088	.0070	.0404	-.0235	.0481	0.	
.0730	0.	0.	0.	0.	0.	0.	0.	-.0108	.0073	.0051	.0490	-.0267	.0446	0.	
.0740	0.	0.	0.	0.	0.	0.	0.	-.0070	.0052	.0044	.0508	-.0215	.0418	0.	
.0750	0.	0.	0.	0.	0.	0.	0.	-.0033	.0031	.0050	.0465	-.0102	.0377	0.	
.0760	0.	0.	0.	0.	0.	0.	0.	-.0001	.0007	.0058	.0396	.0028	.0322	0.	
.0770	0.	0.	0.	0.	0.	0.	0.	.0033	-.0021	.0057	.0341	.0127	.0267	0.	
.0780	0.	0.	0.	0.	0.	0.	0.	.0069	-.0055	.0039	.0324	.0160	.0211	0.	
.0790	0.	0.	0.	0.	0.	0.	0.	.0098	-.0088	.0005	.0343	.0120	.0133	0.	
.0800	0.	0.	0.	0.	0.	0.	0.	.0112	-.0116	-.0036	.0383	.0027	.0020	0.	
.0810	0.	0.	0.	0.	0.	0.	0.	.0116	-.0139	-.0080	.0423	-.0085	-.0106	0.	
.0820	0.	0.	0.	0.	0.	0.	0.	.0123	-.0159	-.0122	.0438	-.0177	-.0210	0.	
.0830	0.	0.	0.	0.	0.	0.	0.	.0139	-.0179	-.0157	.0414	-.0216	-.0271	0.	
.0840	0.	0.	0.	0.	0.	0.	0.	.0161	-.0196	-.0181	.0346	-.0187	-.0289	0.	
.0850	0.	0.	0.	0.	0.	0.	0.	.0184	-.0209	-.0194	.0236	-.0102	-.0278	0.	
.0860	0.	0.	0.	0.	0.	0.	0.	.0206	-.0215	-.0199	.0099	.0012	-.0249	0.	
.0870	0.	0.	0.	0.	0.	0.	0.	.0227	-.0215	-.0203	-.0030	.0117	-.0206	0.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.47.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

.0770	0.	0.	0.	0.	0.	0.	0.	.0033	-.0021	.0057	.0341	.0127	.0267	0.
.0780	0.	0.	0.	0.	0.	0.	0.	.0069	-.0055	.0039	.0324	.0160	.0211	0.
.0790	0.	0.	0.	0.	0.	0.	0.	.0098	-.0088	.0005	.0343	.0120	.0133	0.
.0800	0.	0.	0.	0.	0.	0.	0.	.0112	-.0116	-.0036	.0383	.0027	.0020	0.
.0810	0.	0.	0.	0.	0.	0.	0.	.0116	-.0139	-.0080	.0423	-.0085	-.0106	0.
.0820	0.	0.	0.	0.	0.	0.	0.	.0123	-.0159	-.0122	.0438	-.0177	-.0210	0.
.0830	0.	0.	0.	0.	0.	0.	0.	.0139	-.0179	-.0157	.0414	-.0216	-.0271	0.
.0840	0.	0.	0.	0.	0.	0.	0.	.0161	-.0196	-.0181	.0346	-.0187	-.0289	0.
.0850	0.	0.	0.	0.	0.	0.	0.	.0184	-.0209	-.0194	.0236	-.0102	-.0278	0.
.0860	0.	0.	0.	0.	0.	0.	0.	.0206	-.0215	-.0199	.0099	.0012	-.0249	0.
.0870	0.	0.	0.	0.	0.	0.	0.	.0227	-.0215	-.0203	-.0030	.0117	-.0206	0.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.29.47.

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

CONDITION 24
LOADS
SHOCK
PRESSURE
ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION	DIS	TYPE	VA	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)
.0880	0.	0.	0.	0.	0.	0.	.0244	-.0212	-.0214	-.0120	.0184	-.0151	0.
.0890	0.	0.	0.	0.	0.	0.	.0257	-.0204	-.0232	-.0163	.0201	-.0093	0.
.0900	0.	0.	0.	0.	0.	0.	.0263	-.0189	-.0252	-.0173	.0180	-.0047	0.
.0910	0.	0.	0.	0.	0.	0.	.0262	-.0168	-.0269	-.0162	.0146	-.0009	0.
.0920	0.	0.	0.	0.	0.	0.	.0259	-.0143	-.0280	-.0142	.0124	.0038	0.
.0930	0.	0.	0.	0.	0.	0.	.0259	-.0114	-.0281	-.0131	.0129	.0103	0.
.0940	0.	0.	0.	0.	0.	0.	.0260	-.0082	-.0270	-.0136	.0162	.0172	0.
.0950	0.	0.	0.	0.	0.	0.	.0254	-.0046	-.0248	-.0144	.0204	.0229	0.
.0960	0.	0.	0.	0.	0.	0.	.0238	-.0008	-.0223	-.0131	.0226	.0265	0.
.0970	0.	0.	0.	0.	0.	0.	.0218	.0030	-.0202	-.0075	.0199	.0283	0.
.0980	0.	0.	0.	0.	0.	0.	.0195	.0063	-.0190	.0037	.0113	.0286	0.
.0990	0.	0.	0.	0.	0.	0.	.0165	.0093	-.0184	.0196	-.0020	.0268	0.
.1000	0.	0.	0.	0.	0.	0.	.0126	.0121	-.0177	.0373	-.0170	.0223	0.
.1010	0.	0.	0.	0.	0.	0.	.0081	.0147	-.0162	.0537	-.0299	.0161	0.
.1020	0.	0.	0.	0.	0.	0.	.0037	.0167	-.0139	.0670	-.0384	.0105	0.
.1030	0.	0.	0.	0.	0.	0.	.0000	.0180	-.0106	.0762	-.0413	.0072	0.
.1040	0.	0.	0.	0.	0.	0.	-.0031	.0185	-.0064	.0812	-.0392	.0060	0.
.1050	0.	0.	0.	0.	0.	0.	-.0062	.0187	-.0016	.0824	-.0340	.0054	0.
.1060	0.	0.	0.	0.	0.	0.	-.0094	.0185	.0034	.0808	-.0280	.0046	0.
.1070	0.	0.	0.	0.	0.	0.	-.0125	.0179	.0081	.0782	-.0229	.0041	0.
.1080	0.	0.	0.	0.	0.	0.	-.0154	.0170	.0122	.0750	-.0196	.0040	0.
.1090	0.	0.	0.	0.	0.	0.	-.0181	.0160	.0158	.0706	-.0172	.0039	0.
.1100	0.	0.	0.	0.	0.	0.	-.0207	.0152	.0192	.0641	-.0148	.0028	0.
.1110	0.	0.	0.	0.	0.	0.	-.0229	.0145	.0223	.0549	-.0118	.0019	0.
.1120	0.	0.	0.	0.	0.	0.	-.0245	.0140	.0252	.0433	-.0087	.0019	0.
.1130	0.	0.	0.	0.	0.	0.	-.0256	.0137	.0275	.0300	-.0066	.0016	0.
.1140	0.	0.	0.	0.	0.	0.	-.0261	.0136	.0291	.0165	-.0067	.0004	0.
.1150	0.	0.	0.	0.	0.	0.	-.0258	.0136	.0295	.0045	-.0101	-.0004	0.
.1160	0.	0.	0.	0.	0.	0.	-.0245	.0135	.0286	-.0048	-.0165	-.0009	0.
.1170	0.	0.	0.	0.	0.	0.	-.0226	.0137	.0269	-.0127	-.0239	-.0025	0.
.1180	0.	0.	0.	0.	0.	0.	-.0202	.0142	.0249	-.0204	-.0295	-.0063	0.
.1190	0.	0.	0.	0.	0.	0.	-.0167	.0147	.0228	-.0278	-.0313	-.0094	0.
.1200	0.	0.	0.	0.	0.	0.	-.0117	.0150	.0208	-.0351	-.0274	-.0102	0.
.1210	0.	0.	0.	0.	0.	0.	-.0051	.0151	.0191	-.0439	-.0177	-.0098	0.
.1220	0.	0.	0.	0.	0.	0.	.0024	.0154	.0179	-.0540	-.0044	-.0098	0.
.1230	0.	0.	0.	0.	0.	0.	.0099	.0159	.0167	-.0625	.0084	-.0112	0.
.1240	0.	0.	0.	0.	0.	0.	.0169	.0166	.0149	-.0666	.0165	-.0147	0.
.1250	0.	0.	0.	0.	0.	0.	.0233	.0175	.0120	-.0653	.0177	-.0218	0.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.29.47.

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

CONDITION 24
LOADS
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ENGLISH UNITS

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

.1140	0.	0.	0.	0.	0.	0.	0.	-.0261	.0136	.0291	.0165	-.0067	.0004	0.
.1150	0.	0.	0.	0.	0.	0.	0.	-.0258	.0136	.0295	.0045	-.0101	-.0004	0.
.1160	0.	0.	0.	0.	0.	0.	0.	-.0245	.0135	.0286	-.0048	-.0165	-.0009	0.
.1170	0.	0.	0.	0.	0.	0.	0.	-.0226	.0137	.0269	-.0127	-.0239	-.0025	0.
.1180	0.	0.	0.	0.	0.	0.	0.	-.0202	.0142	.0249	-.0204	-.0295	-.0063	0.
.1190	0.	0.	0.	0.	0.	0.	0.	-.0167	.0147	.0228	-.0278	-.0313	-.0094	0.
.1200	0.	0.	0.	0.	0.	0.	0.	-.0117	.0150	.0208	-.0351	-.0274	-.0102	0.
.1210	0.	0.	0.	0.	0.	0.	0.	-.0051	.0151	.0191	-.0439	-.0177	-.0098	0.
.1220	0.	0.	0.	0.	0.	0.	0.	.0024	.0154	.0179	-.0540	-.0044	-.0098	0.
.1230	0.	0.	0.	0.	0.	0.	0.	.0099	.0159	.0167	-.0625	.0084	-.0112	0.
.1240	0.	0.	0.	0.	0.	0.	0.	.0169	.0166	.0149	-.0666	.0165	-.0147	0.
.1250	0.	0.	0.	0.	0.	0.	0.	.0233	.0175	.0120	-.0653	.0177	-.0218	0.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.47.

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

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

SECTION	MEMBER	SEQUENCE	LOCATION	DIS	TYPE	VA	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)
.1260	0.	0.	0.	0.	0.	0.	.0292	.0186	.0080	-.0581	.0120	-.0327	0.
.1270	0.	0.	0.	0.	0.	0.	.0347	.0195	.0030	-.0447	.0016	-.0446	0.
.1280	0.	0.	0.	0.	0.	0.	.0398	.0203	-.0022	-.0280	-.0089	-.0560	0.
.1290	0.	0.	0.	0.	0.	0.	.0450	.0212	-.0065	-.0132	-.0152	-.0670	0.
.1300	0.	0.	0.	0.	0.	0.	.0498	.0224	-.0091	-.0039	-.0149	-.0772	0.
.1310	0.	0.	0.	0.	0.	0.	.0540	.0238	-.0100	.0009	-.0088	-.0860	0.
.1320	0.	0.	0.	0.	0.	0.	.0574	.0253	-.0098	.0036	-.0004	-.0920	0.
.1330	0.	0.	0.	0.	0.	0.	.0603	.0268	-.0095	.0053	.0068	-.0962	0.
.1340	0.	0.	0.	0.	0.	0.	.0625	.0283	-.0095	.0081	.0092	-.0997	0.
.1350	0.	0.	0.	0.	0.	0.	.0632	.0298	-.0101	.0150	.0051	-.1026	0.
.1360	0.	0.	0.	0.	0.	0.	.0620	.0314	-.0115	.0256	-.0046	-.1049	0.
.1370	0.	0.	0.	0.	0.	0.	.0597	.0332	-.0128	.0362	-.0163	-.1066	0.
.1380	0.	0.	0.	0.	0.	0.	.0564	.0353	-.0135	.0436	-.0261	-.1075	0.
.1390	0.	0.	0.	0.	0.	0.	.0525	.0373	-.0129	.0478	-.0310	-.1047	0.
.1400	0.	0.	0.	0.	0.	0.	.0489	.0389	-.0116	.0489	-.0303	-.0958	0.
.1410	0.	0.	0.	0.	0.	0.	.0460	.0400	-.0094	.0454	-.0246	-.0817	0.
.1420	0.	0.	0.	0.	0.	0.	.0433	.0411	-.0063	.0375	-.0166	-.0649	0.
.1430	0.	0.	0.	0.	0.	0.	.0394	.0423	-.0028	.0284	-.0096	-.0483	0.
.1440	0.	0.	0.	0.	0.	0.	.0343	.0435	.0004	.0216	-.0061	-.0325	0.
.1450	0.	0.	0.	0.	0.	0.	.0291	.0445	.0026	.0176	-.0068	-.0174	0.
.1460	0.	0.	0.	0.	0.	0.	.0246	.0449	.0038	.0162	-.0108	-.0027	0.
.1470	0.	0.	0.	0.	0.	0.	.0203	.0450	.0043	.0176	-.0164	.0113	0.
.1480	0.	0.	0.	0.	0.	0.	.0154	.0449	.0051	.0195	-.0207	.0233	0.
.1490	0.	0.	0.	0.	0.	0.	.0107	.0449	.0068	.0184	-.0215	.0328	0.
.1500	0.	0.	0.	0.	0.	0.	.0071	.0446	.0095	.0151	-.0180	.0415	0.
.1510	0.	0.	0.	0.	0.	0.	.0047	.0436	.0122	.0060	-.0112	.0504	0.
.1520	0.	0.	0.	0.	0.	0.	.0031	.0420	.0152	-.0006	-.0035	.0589	0.
.1530	0.	0.	0.	0.	0.	0.	.0018	.0401	.0180	-.0068	.0035	.0637	0.
.1540	0.	0.	0.	0.	0.	0.	.0005	.0380	.0204	-.0121	.0073	.0626	0.
.1550	0.	0.	0.	0.	0.	0.	-.0013	.0357	.0219	-.0134	.0072	.0562	0.
.1560	0.	0.	0.	0.	0.	0.	-.0033	.0328	.0225	-.0098	.0036	.0460	0.
.1570	0.	0.	0.	0.	0.	0.	-.0049	.0292	.0218	-.0059	-.0019	.0333	0.
.1580	0.	0.	0.	0.	0.	0.	-.0060	.0252	.0212	.0007	-.0065	.0174	0.
.1590	0.	0.	0.	0.	0.	0.	-.0074	.0211	.0210	.0029	-.0087	-.0014	0.
.1600	0.	0.	0.	0.	0.	0.	-.0090	.0164	.0212	.0029	-.0080	-.0206	0.
.1610	0.	0.	0.	0.	0.	0.	-.0101	.0113	.0216	-.0005	-.0045	-.0390	0.
.1620	0.	0.	0.	0.	0.	0.	-.0108	.0058	.0222	-.0073	.0009	-.0574	0.
.1630	0.	0.	0.	0.	0.	0.	-.0119	.0002	.0224	-.0148	.0069	-.0757	0.

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ADLPIPE STRESS ANALYSIS

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18.29.47.

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

CONDITION 24
LOADS
SHOCK
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ENGLISH UNITS

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

.1530	0.	0.	0.	0.	0.	0.	0.	0.0031	.0420	.0180	-.0068	-.0035	.0589	0.
.1540	0.	0.	0.	0.	0.	0.	0.	-.0005	.0380	.0204	-.0121	.0073	.0626	0.
.1550	0.	0.	0.	0.	0.	0.	0.	-.0013	.0357	.0219	-.0134	.0072	.0562	0.
.1560	0.	0.	0.	0.	0.	0.	0.	-.0033	.0328	.0223	-.0098	.0036	.0460	0.
.1570	0.	0.	0.	0.	0.	0.	0.	-.0049	.0292	.0218	-.0039	-.0019	.0333	0.
.1580	0.	0.	0.	0.	0.	0.	0.	-.0060	.0252	.0212	.0007	-.0063	.0174	0.
.1590	0.	0.	0.	0.	0.	0.	0.	-.0074	.0211	.0210	.0029	-.0087	-.0014	0.
.1600	0.	0.	0.	0.	0.	0.	0.	-.0090	.0164	.0212	.0029	-.0080	-.0206	0.
.1610	0.	0.	0.	0.	0.	0.	0.	-.0101	.0113	.0216	-.0005	-.0043	-.0390	0.
.1620	0.	0.	0.	0.	0.	0.	0.	-.0108	.0058	.0222	-.0073	.0009	-.0574	0.
.1630	0.	0.	0.	0.	0.	0.	0.	-.0119	.0002	.0224	-.0148	.0069	-.0757	0.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

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18.29.47.

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

CONDITION 24

LOADS

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ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION	DIS	TYPE	VA	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	0.	0.	0.	0.	0.	0.	-.0139	-.0056	.0220	-.0211	.0124	-.0938	0.
.1650	0.	0.	0.	0.	0.	0.	-.0162	-.0114	.0208	-.0264	.0169	-.1110	0.
.1660	0.	0.	0.	0.	0.	0.	-.0184	-.0171	.0188	-.0317	.0203	-.1261	0.
.1670	0.	0.	0.	0.	0.	0.	-.0210	-.0225	.0161	-.0367	.0227	-.1388	0.
.1680	0.	0.	0.	0.	0.	0.	-.0244	-.0271	.0134	-.0417	.0242	-.1489	0.
.1690	0.	0.	0.	0.	0.	0.	-.0284	-.0309	.0105	-.0480	.0250	-.1559	0.
.1700	0.	0.	0.	0.	0.	0.	-.0319	-.0338	.0074	-.0555	.0247	-.1581	0.
.1710	0.	0.	0.	0.	0.	0.	-.0350	-.0359	.0039	-.0623	.0227	-.1546	0.
.1720	0.	0.	0.	0.	0.	0.	-.0382	-.0370	.0001	-.0671	.0194	-.1464	0.
.1730	0.	0.	0.	0.	0.	0.	-.0411	-.0368	-.0039	-.0702	.0153	-.1340	0.
.1740	0.	0.	0.	0.	0.	0.	-.0437	-.0353	-.0080	-.0724	.0112	-.1184	0.
.1750	0.	0.	0.	0.	0.	0.	-.0458	-.0325	-.0119	-.0729	.0077	-.0994	0.
.1760	0.	0.	0.	0.	0.	0.	-.0474	-.0287	-.0156	-.0709	.0051	-.0764	0.
.1770	0.	0.	0.	0.	0.	0.	-.0480	-.0239	-.0188	-.0675	.0039	-.0500	0.
.1780	0.	0.	0.	0.	0.	0.	-.0475	-.0182	-.0216	-.0637	.0041	-.0210	0.
.1790	0.	0.	0.	0.	0.	0.	-.0460	-.0119	-.0236	-.0593	.0053	.0094	0.
.1800	0.	0.	0.	0.	0.	0.	-.0439	-.0052	-.0249	-.0530	.0070	.0401	0.
.1810	0.	0.	0.	0.	0.	0.	-.0412	.0018	-.0257	-.0450	.0088	.0699	0.
.1820	0.	0.	0.	0.	0.	0.	-.0381	.0088	-.0259	-.0356	.0107	.0966	0.
.1830	0.	0.	0.	0.	0.	0.	-.0347	.0154	-.0256	-.0242	.0128	.1191	0.
.1840	0.	0.	0.	0.	0.	0.	-.0314	.0214	-.0251	-.0101	.0150	.1372	0.
.1850	0.	0.	0.	0.	0.	0.	-.0280	.0263	-.0243	.0057	.0174	.1504	0.
.1860	0.	0.	0.	0.	0.	0.	-.0245	.0300	-.0229	.0211	.0202	.1580	0.
.1870	0.	0.	0.	0.	0.	0.	-.0216	.0324	-.0211	.0352	.0231	.1591	0.
.1880	0.	0.	0.	0.	0.	0.	-.0194	.0332	-.0187	.0481	.0255	.1543	0.
.1890	0.	0.	0.	0.	0.	0.	-.0180	.0324	-.0162	.0594	.0268	.1437	0.
.1900	0.	0.	0.	0.	0.	0.	-.0171	.0297	-.0137	.0684	.0270	.1278	0.
.1910	0.	0.	0.	0.	0.	0.	-.0170	.0252	-.0113	.0752	.0263	.1072	0.
.1920	0.	0.	0.	0.	0.	0.	-.0180	.0191	-.0092	.0800	.0254	.0824	0.
.1930	0.	0.	0.	0.	0.	0.	-.0200	.0115	-.0072	.0817	.0253	.0548	0.
.1940	0.	0.	0.	0.	0.	0.	-.0225	.0028	-.0052	.0788	.0268	.0259	0.
.1950	0.	0.	0.	0.	0.	0.	-.0257	-.0068	-.0032	.0707	.0299	-.0031	0.
.1960	0.	0.	0.	0.	0.	0.	-.0296	-.0167	-.0011	.0577	.0340	-.0311	0.
.1970	0.	0.	0.	0.	0.	0.	-.0341	-.0268	.0009	.0405	.0376	-.0567	0.
.1980	0.	0.	0.	0.	0.	0.	-.0389	-.0366	.0024	.0198	.0393	-.0790	0.
.1990	0.	0.	0.	0.	0.	0.	-.0439	-.0457	.0032	-.0027	.0376	-.0972	0.
.2000	0.	0.	0.	0.	0.	0.	-.0491	-.0539	.0032	-.0251	.0322	-.1111	0.
.2010	0.	0.	0.	0.	0.	0.	-.0547	-.0607	.0026	-.0467	.0238	-.1205	0.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.47.

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

CONDITION 24

LOADS

SHOCK

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ENGLISH UNITS

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

.1910	0.	0.	0.	0.	0.	0.	0.	-.170	.0252	-.0113	.0752	.0263	.1072	0.
.1920	0.	0.	0.	0.	0.	0.	0.	-.0180	.0191	-.0092	.0800	.0254	.0824	0.
.1930	0.	0.	0.	0.	0.	0.	0.	-.0200	.0115	-.0072	.0817	.0253	.0548	0.
.1940	0.	0.	0.	0.	0.	0.	0.	-.0225	.0028	-.0052	.0788	.0268	.0259	0.
.1950	0.	0.	0.	0.	0.	0.	0.	-.0257	-.0068	-.0032	.0707	.0299	-.0031	0.
.1960	0.	0.	0.	0.	0.	0.	0.	-.0296	-.0167	-.0011	.0577	.0340	-.0311	0.
.1970	0.	0.	0.	0.	0.	0.	0.	-.0341	-.0268	.0009	.0405	.0376	-.0567	0.
.1980	0.	0.	0.	0.	0.	0.	0.	-.0389	-.0366	.0024	.0198	.0393	-.0790	0.
.1990	0.	0.	0.	0.	0.	0.	0.	-.0439	-.0457	.0032	-.0027	.0376	-.0972	0.
.2000	0.	0.	0.	0.	0.	0.	0.	-.0491	-.0539	.0032	-.0251	.0322	-.1111	0.
.2010	0.	0.	0.	0.	0.	0.	0.	-.0547	-.0607	.0026	-.0467	.0238	-.1205	0.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.29.47.

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

CONDITION 24

LOADS

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ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION	DIS	TYPE	VA	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)
.2020	0.	0.	0.	0.	0.	0.	-.0599	-.0658	.0014	-.0677	.0142	-.1247	0.
.2030	0.	0.	0.	0.	0.	0.	-.0643	-.0694	.0001	-.0882	.0052	-.1229	0.
.2040	0.	0.	0.	0.	0.	0.	-.0676	-.0712	-.0010	-.1078	-.0017	-.1141	0.
.2050	0.	0.	0.	0.	0.	0.	-.0698	-.0712	-.0017	-.1267	-.0058	-.0989	0.
.2060	0.	0.	0.	0.	0.	0.	-.0708	-.0694	-.0016	-.1449	-.0073	-.0786	0.
.2070	0.	0.	0.	0.	0.	0.	-.0707	-.0657	-.0010	-.1610	-.0073	-.0544	0.
.2080	0.	0.	0.	0.	0.	0.	-.0694	-.0606	-.0001	-.1726	-.0077	-.0273	0.
.2090	0.	0.	0.	0.	0.	0.	-.0672	-.0543	.0008	-.1776	-.0096	.0014	0.
.2100	0.	0.	0.	0.	0.	0.	-.0640	-.0470	.0015	-.1755	-.0134	.0294	0.
.2110	0.	0.	0.	0.	0.	0.	-.0603	-.0390	.0021	-.1662	-.0187	.0551	0.
.2120	0.	0.	0.	0.	0.	0.	-.0560	-.0305	.0029	-.1499	-.0242	.0777	0.
.2130	0.	0.	0.	0.	0.	0.	-.0513	-.0221	.0040	-.1280	-.0285	.0970	0.
.2140	0.	0.	0.	0.	0.	0.	-.0458	-.0139	.0057	-.1024	-.0301	.1132	0.
.2150	0.	0.	0.	0.	0.	0.	-.0395	-.0065	.0081	-.0749	-.0284	.1260	0.
.2160	0.	0.	0.	0.	0.	0.	-.0328	.0001	.0111	-.0463	-.0233	.1350	0.
.2170	0.	0.	0.	0.	0.	0.	-.0260	.0056	.0147	-.0170	-.0166	.1398	0.
.2180	0.	0.	0.	0.	0.	0.	-.0193	.0098	.0183	.0127	-.0089	.1402	0.
.2190	0.	0.	0.	0.	0.	0.	-.0129	.0128	.0217	.0426	-.0020	.1358	0.
.2200	0.	0.	0.	0.	0.	0.	-.0071	.0144	.0244	.0727	.0034	.1267	0.
.2210	0.	0.	0.	0.	0.	0.	-.0023	.0148	.0264	.1021	.0072	.1134	0.
.2220	0.	0.	0.	0.	0.	0.	.0020	.0140	.0276	.1289	.0099	.0972	0.
.2230	0.	0.	0.	0.	0.	0.	.0057	.0121	.0282	.1512	.0124	.0798	0.
.2240	0.	0.	0.	0.	0.	0.	.0089	.0092	.0284	.1670	.0154	.0623	0.
.2250	0.	0.	0.	0.	0.	0.	.0115	.0057	.0284	.1751	.0191	.0455	0.
.2260	0.	0.	0.	0.	0.	0.	.0135	.0019	.0282	.1750	.0230	.0301	0.
.2270	0.	0.	0.	0.	0.	0.	.0149	-.0022	.0275	.1674	.0259	.0168	0.
.2280	0.	0.	0.	0.	0.	0.	.0159	-.0063	.0259	.1540	.0267	.0061	0.
.2290	0.	0.	0.	0.	0.	0.	.0164	-.0103	.0234	.1364	.0243	-.0022	0.
.2300	0.	0.	0.	0.	0.	0.	.0163	-.0139	.0198	.1155	.0186	-.0085	0.
.2310	0.	0.	0.	0.	0.	0.	.0157	-.0169	.0156	.0917	.0102	-.0129	0.
.2320	0.	0.	0.	0.	0.	0.	.0148	-.0193	.0109	.0654	.0002	-.0152	0.
.2330	0.	0.	0.	0.	0.	0.	.0139	-.0209	.0060	.0369	-.0101	-.0148	0.
.2340	0.	0.	0.	0.	0.	0.	.0134	-.0218	.0015	.0066	-.0195	-.0116	0.
.2350	0.	0.	0.	0.	0.	0.	.0134	-.0221	-.0025	-.0250	-.0271	-.0063	0.
.2360	0.	0.	0.	0.	0.	0.	.0139	-.0216	-.0058	-.0563	-.0324	.0006	0.
.2370	0.	0.	0.	0.	0.	0.	.0150	-.0206	-.0084	-.0854	-.0357	.0081	0.
.2380	0.	0.	0.	0.	0.	0.	.0166	-.0191	-.0105	-.1105	-.0372	.0151	0.
.2390	0.	0.	0.	0.	0.	0.	.0187	-.0172	-.0121	-.1300	-.0373	.0207	0.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.29.47.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

.2280	0.	0.	0.	0.	0.	0.	0.	.0159	-.0063	.0259	.1540	.0267	.0061	0.
.2290	0.	0.	0.	0.	0.	0.	0.	.0164	-.0103	.0234	.1364	.0243	-.0022	0.
.2300	0.	0.	0.	0.	0.	0.	0.	.0163	-.0139	.0198	.1155	.0186	-.0085	0.
.2310	0.	0.	0.	0.	0.	0.	0.	.0157	-.0169	.0156	.0917	.0102	-.0129	0.
.2320	0.	0.	0.	0.	0.	0.	0.	.0148	-.0193	.0109	.0654	.0002	-.0152	0.
.2330	0.	0.	0.	0.	0.	0.	0.	.0139	-.0209	.0060	.0369	-.0101	-.0148	0.
.2340	0.	0.	0.	0.	0.	0.	0.	.0134	-.0218	.0015	.0066	-.0193	-.0116	0.
.2350	0.	0.	0.	0.	0.	0.	0.	.0134	-.0221	-.0025	-.0250	-.0271	-.0063	0.
.2360	0.	0.	0.	0.	0.	0.	0.	.0139	-.0216	-.0058	-.0563	-.0324	.0006	0.
.2370	0.	0.	0.	0.	0.	0.	0.	.0150	-.0206	-.0084	-.0854	-.0357	.0081	0.
.2380	0.	0.	0.	0.	0.	0.	0.	.0166	-.0191	-.0105	-.1105	-.0372	.0151	0.
.2390	0.	0.	0.	0.	0.	0.	0.	.0187	-.0172	-.0121	-.1300	-.0373	.0207	0.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.47.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION	DIS	TYPE	VA	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)
.2400	0.	0.	0.	0.	0.	0.	.0211	-.0149	-.0131	-.1429	-.0363	.0237	0.
.2410	0.	0.	0.	0.	0.	0.	.0237	-.0124	-.0137	-.1485	-.0343	.0236	0.
.2420	0.	0.	0.	0.	0.	0.	.0266	-.0098	-.0136	-.1470	-.0312	.0205	0.
.2430	0.	0.	0.	0.	0.	0.	.0298	-.0072	-.0129	-.1391	-.0270	.0146	0.
.2440	0.	0.	0.	0.	0.	0.	.0331	-.0047	-.0115	-.1257	-.0216	.0060	0.
.2450	0.	0.	0.	0.	0.	0.	.0364	-.0023	-.0094	-.1074	-.0149	-.0052	0.
.2460	0.	0.	0.	0.	0.	0.	.0395	-.0000	-.0066	-.0851	-.0073	-.0188	0.
.2470	0.	0.	0.	0.	0.	0.	.0422	.0021	-.0035	-.0595	.0009	-.0342	0.
.2480	0.	0.	0.	0.	0.	0.	.0446	.0039	-.0002	-.0309	.0092	-.0508	0.
.2490	0.	0.	0.	0.	0.	0.	.0464	.0056	.0029	-.0005	.0171	-.0677	0.
.2500	0.	0.	0.	0.	0.	0.	.0476	.0071	.0058	.0305	.0243	-.0843	0.
.2510	0.	0.	0.	0.	0.	0.	.0479	.0085	.0086	.0601	.0306	-.0998	0.
.2520	0.	0.	0.	0.	0.	0.	.0474	.0099	.0110	.0868	.0355	-.1133	0.
.2530	0.	0.	0.	0.	0.	0.	.0462	.0113	.0131	.1096	.0391	-.1235	0.
.2540	0.	0.	0.	0.	0.	0.	.0444	.0128	.0147	.1275	.0410	-.1293	0.
.2550	0.	0.	0.	0.	0.	0.	.0421	.0143	.0156	.1398	.0412	-.1305	0.
.2560	0.	0.	0.	0.	0.	0.	.0393	.0160	.0160	.1462	.0398	-.1272	0.
.2570	0.	0.	0.	0.	0.	0.	.0359	.0180	.0157	.1469	.0368	-.1198	0.
.2580	0.	0.	0.	0.	0.	0.	.0321	.0203	.0148	.1422	.0322	-.1082	0.
.2590	0.	0.	0.	0.	0.	0.	.0281	.0227	.0130	.1327	.0262	-.0927	0.
.2600	0.	0.	0.	0.	0.	0.	.0243	.0254	.0106	.1190	.0188	-.0737	0.
.2610	0.	0.	0.	0.	0.	0.	.0206	.0281	.0077	.1014	.0103	-.0520	0.
.2620	0.	0.	0.	0.	0.	0.	.0173	.0310	.0045	.0806	.0014	-.0287	0.
.2630	0.	0.	0.	0.	0.	0.	.0144	.0339	.0010	.0576	-.0080	-.0047	0.
.2640	0.	0.	0.	0.	0.	0.	.0122	.0366	-.0025	.0336	-.0174	.0193	0.
.2650	0.	0.	0.	0.	0.	0.	.0110	.0390	-.0061	.0102	-.0264	.0420	0.
.2660	0.	0.	0.	0.	0.	0.	.0105	.0409	-.0097	-.0114	-.0343	.0622	0.
.2670	0.	0.	0.	0.	0.	0.	.0110	.0424	-.0131	-.0301	-.0412	.0785	0.
.2680	0.	0.	0.	0.	0.	0.	.0124	.0431	-.0164	-.0447	-.0463	.0904	0.
.2690	0.	0.	0.	0.	0.	0.	.0147	.0432	-.0193	-.0547	-.0494	.0974	0.
.2700	0.	0.	0.	0.	0.	0.	.0181	.0424	-.0219	-.0600	-.0503	.0994	0.
.2710	0.	0.	0.	0.	0.	0.	.0223	.0408	-.0239	-.0607	-.0494	.0959	0.
.2720	0.	0.	0.	0.	0.	0.	.0271	.0384	-.0252	-.0569	-.0463	.0870	0.
.2730	0.	0.	0.	0.	0.	0.	.0326	.0352	-.0261	-.0486	-.0413	.0736	0.
.2740	0.	0.	0.	0.	0.	0.	.0386	.0313	-.0265	-.0362	-.0353	.0562	0.
.2750	0.	0.	0.	0.	0.	0.	.0449	.0269	-.0265	-.0202	-.0281	.0352	0.
.2760	0.	0.	0.	0.	0.	0.	.0510	.0222	-.0262	-.0012	-.0203	.0111	0.
.2770	0.	0.	0.	0.	0.	0.	.0568	.0174	-.0256	.0199	-.0121	-.0149	0.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.47.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

.2670	0.	0.	0.	0.	0.	0.	0.	.110	.0424	-.0097	-.0114	-.0345	.0622	0.
.2680	0.	0.	0.	0.	0.	0.	0.	.0124	.0431	-.0164	-.0447	-.0463	.0904	0.
.2690	0.	0.	0.	0.	0.	0.	0.	.0147	.0432	-.0193	-.0547	-.0494	.0974	0.
.2700	0.	0.	0.	0.	0.	0.	0.	.0181	.0424	-.0219	-.0600	-.0505	.0994	0.
.2710	0.	0.	0.	0.	0.	0.	0.	.0223	.0409	-.0239	-.0607	-.0494	.0959	0.
.2720	0.	0.	0.	0.	0.	0.	0.	.0271	.0384	-.0252	-.0569	-.0463	.0870	0.
.2730	0.	0.	0.	0.	0.	0.	0.	.0326	.0352	-.0261	-.0486	-.0415	.0736	0.
.2740	0.	0.	0.	0.	0.	0.	0.	.0386	.0313	-.0265	-.0362	-.0353	.0562	0.
.2750	0.	0.	0.	0.	0.	0.	0.	.0449	.0260	-.0265	-.0202	-.0281	.0352	0.
.2760	0.	0.	0.	0.	0.	0.	0.	.0510	.0222	-.0262	-.0012	-.0203	.0111	0.
.2770	0.	0.	0.	0.	0.	0.	0.	.0568	.0174	-.0256	.0199	-.0121	-.0149	0.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.47.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION	DIS	TYPE	VA	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)
.2780	0.	0.	0.	0.	0.	0.	.0622	.0126	-.0249	.0422	-.0040	-.0410	0.
.2790	0.	0.	0.	0.	0.	0.	.0672	.0078	-.0241	.0644	.0037	-.0657	0.
.2800	0.	0.	0.	0.	0.	0.	.0716	.0036	-.0232	.0847	.0108	-.0881	0.
.2810	0.	0.	0.	0.	0.	0.	.0750	-.0000	-.0221	.1021	.0171	-.1074	0.
.2820	0.	0.	0.	0.	0.	0.	.0773	-.0028	-.0208	.1159	.0222	-.1224	0.
.2830	0.	0.	0.	0.	0.	0.	.0786	-.0047	-.0197	.1255	.0254	-.1320	0.
.2840	0.	0.	0.	0.	0.	0.	.0788	-.0057	-.0187	.1308	.0266	-.1359	0.
.2850	0.	0.	0.	0.	0.	0.	.0777	-.0056	-.0179	.1319	.0254	-.1345	0.
.2860	0.	0.	0.	0.	0.	0.	.0751	-.0044	-.0174	.1290	.0217	-.1280	0.
.2870	0.	0.	0.	0.	0.	0.	.0713	-.0022	-.0171	.1225	.0156	-.1163	0.
.2880	0.	0.	0.	0.	0.	0.	.0664	.0007	-.0171	.1124	.0077	-.0993	0.
.2890	0.	0.	0.	0.	0.	0.	.0607	.0042	-.0172	.0987	-.0014	-.0779	0.
.2900	0.	0.	0.	0.	0.	0.	.0540	.0084	-.0171	.0818	-.0108	-.0531	0.
.2910	0.	0.	0.	0.	0.	0.	.0465	.0128	-.0166	.0622	-.0198	-.0258	0.
.2920	0.	0.	0.	0.	0.	0.	.0386	.0173	-.0159	.0407	-.0279	.0032	0.
.2930	0.	0.	0.	0.	0.	0.	.0306	.0217	-.0148	.0187	-.0350	.0328	0.
.2940	0.	0.	0.	0.	0.	0.	.0223	.0257	-.0134	-.0026	-.0411	.0612	0.
.2950	0.	0.	0.	0.	0.	0.	.0138	.0294	-.0116	-.0220	-.0463	.0867	0.
.2960	0.	0.	0.	0.	0.	0.	.0053	.0325	-.0096	-.0384	-.0508	.1081	0.
.2970	0.	0.	0.	0.	0.	0.	-.0030	.0348	-.0074	-.0511	-.0547	.1250	0.
.2980	0.	0.	0.	0.	0.	0.	-.0108	.0363	-.0050	-.0595	-.0579	.1370	0.
.2990	0.	0.	0.	0.	0.	0.	-.0180	.0370	-.0023	-.0638	-.0599	.1437	0.
.3000	0.	0.	0.	0.	0.	0.	-.0246	.0369	.0009	-.0648	-.0602	.1446	0.
.3010	0.	0.	0.	0.	0.	0.	-.0305	.0360	.0045	-.0627	-.0584	.1400	0.
.3020	0.	0.	0.	0.	0.	0.	-.0353	.0345	.0085	-.0577	-.0545	.1308	0.
.3030	0.	0.	0.	0.	0.	0.	-.0390	.0322	.0126	-.0500	-.0486	.1177	0.
.3040	0.	0.	0.	0.	0.	0.	-.0416	.0296	.0167	-.0402	-.0411	.1008	0.
.3050	0.	0.	0.	0.	0.	0.	-.0434	.0266	.0208	-.0289	-.0325	.0806	0.
.3060	0.	0.	0.	0.	0.	0.	-.0444	.0235	.0246	-.0166	-.0234	.0580	0.
.3070	0.	0.	0.	0.	0.	0.	-.0444	.0203	.0280	-.0039	-.0145	.0346	0.
.3080	0.	0.	0.	0.	0.	0.	-.0436	.0172	.0308	.0080	-.0060	.0114	0.
.3090	0.	0.	0.	0.	0.	0.	-.0422	.0144	.0330	.0180	.0021	-.0111	0.
.3100	0.	0.	0.	0.	0.	0.	-.0403	.0120	.0348	.0252	.0096	-.0323	0.
.3110	0.	0.	0.	0.	0.	0.	-.0381	.0099	.0359	.0291	.0163	-.0510	0.
.3120	0.	0.	0.	0.	0.	0.	-.0354	.0082	.0362	.0296	.0221	-.0664	0.
.3130	0.	0.	0.	0.	0.	0.	-.0325	.0069	.0357	.0264	.0267	-.0783	0.
.3140	0.	0.	0.	0.	0.	0.	-.0297	.0060	.0343	.0197	.0298	-.0869	0.
.3150	0.	0.	0.	0.	0.	0.	-.0272	.0055	.0321	.0098	.0312	-.0926	0.

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ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.47.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

.3040	0.	0.	0.	0.	0.	0.	0.	0.	-.0416	.0296	.0167	-.0402	-.0411	.1008	0.
.3050	0.	0.	0.	0.	0.	0.	0.	0.	-.0434	.0266	.0208	-.0289	-.0325	.0806	0.
.3060	0.	0.	0.	0.	0.	0.	0.	0.	-.0444	.0235	.0246	-.0166	-.0234	.0580	0.
.3070	0.	0.	0.	0.	0.	0.	0.	0.	-.0444	.0203	.0280	-.0039	-.0145	.0346	0.
.3080	0.	0.	0.	0.	0.	0.	0.	0.	-.0436	.0172	.0308	.0080	-.0060	.0114	0.
.3090	0.	0.	0.	0.	0.	0.	0.	0.	-.0422	.0144	.0330	.0180	.0021	-.0111	0.
.3100	0.	0.	0.	0.	0.	0.	0.	0.	-.0403	.0120	.0348	.0252	.0096	-.0323	0.
.3110	0.	0.	0.	0.	0.	0.	0.	0.	-.0381	.0099	.0359	.0291	.0163	-.0510	0.
.3120	0.	0.	0.	0.	0.	0.	0.	0.	-.0354	.0082	.0362	.0296	.0221	-.0664	0.
.3130	0.	0.	0.	0.	0.	0.	0.	0.	-.0325	.0069	.0357	.0264	.0267	-.0783	0.
.3140	0.	0.	0.	0.	0.	0.	0.	0.	-.0297	.0060	.0343	.0197	.0298	-.0869	0.
.3150	0.	0.	0.	0.	0.	0.	0.	0.	-.0272	.0055	.0321	.0098	.0312	-.0926	0.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

85/12/02. 18.29.47.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION	DIS	TYPE	VA									
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)		
.3160	0.	0.	0.	0.	0.	0.	-.0249	.0052	.0291	-.0031	.0309	-.0950	0.		
.3170	0.	0.	0.	0.	0.	0.	-.0229	.0052	.0253	-.0185	.0288	-.0942	0.		
.3180	0.	0.	0.	0.	0.	0.	-.0211	.0051	.0209	-.0359	.0252	-.0904	0.		
.3190	0.	0.	0.	0.	0.	0.	-.0197	.0052	.0161	-.0549	.0206	-.0843	0.		
.3200	0.	0.	0.	0.	0.	0.	-.0189	.0052	.0111	-.0748	.0155	-.0766	0.		
.3210	0.	0.	0.	0.	0.	0.	-.0184	.0052	.0060	-.0950	.0100	-.0677	0.		
.3220	0.	0.	0.	0.	0.	0.	-.0180	.0049	.0009	-.1140	.0045	-.0576	0.		
.3230	0.	0.	0.	0.	0.	0.	-.0179	.0045	-.0041	-.1309	-.0007	-.0470	0.		
.3240	0.	0.	0.	0.	0.	0.	-.0179	.0038	-.0088	-.1453	-.0054	-.0367	0.		
.3250	0.	0.	0.	0.	0.	0.	-.0181	.0030	-.0130	-.1564	-.0094	-.0274	0.		
.3260	0.	0.	0.	0.	0.	0.	-.0184	.0021	-.0167	-.1638	-.0125	-.0188	0.		
.3270	0.	0.	0.	0.	0.	0.	-.0184	.0010	-.0197	-.1669	-.0145	-.0109	0.		
.3280	0.	0.	0.	0.	0.	0.	-.0182	-.0003	-.0220	-.1657	-.0153	-.0038	0.		
.3290	0.	0.	0.	0.	0.	0.	-.0177	-.0015	-.0235	-.1606	-.0147	.0022	0.		
.3300	0.	0.	0.	0.	0.	0.	-.0171	-.0027	-.0241	-.1514	-.0128	.0069	0.		
.3310	0.	0.	0.	0.	0.	0.	-.0161	-.0038	-.0239	-.1383	-.0097	.0106	0.		
.3320	0.	0.	0.	0.	0.	0.	-.0148	-.0049	-.0230	-.1214	-.0057	.0139	0.		
.3330	0.	0.	0.	0.	0.	0.	-.0131	-.0059	-.0216	-.1016	-.0010	.0165	0.		
.3340	0.	0.	0.	0.	0.	0.	-.0113	-.0067	-.0196	-.0795	.0043	.0184	0.		
.3350	0.	0.	0.	0.	0.	0.	-.0095	-.0075	-.0171	-.0558	.0100	.0198	0.		
.3360	0.	0.	0.	0.	0.	0.	-.0075	-.0082	-.0143	-.0315	.0157	.0213	0.		
.3370	0.	0.	0.	0.	0.	0.	-.0055	-.0089	-.0113	-.0076	.0213	.0233	0.		
.3380	0.	0.	0.	0.	0.	0.	-.0035	-.0098	-.0082	.0152	.0264	.0257	0.		
.3390	0.	0.	0.	0.	0.	0.	-.0018	-.0107	-.0051	.0361	.0310	.0284	0.		
.3400	0.	0.	0.	0.	0.	0.	-.0006	-.0119	-.0022	.0545	.0345	.0314	0.		
.3410	0.	0.	0.	0.	0.	0.	.0003	-.0133	.0003	.0699	.0369	.0349	0.		
.3420	0.	0.	0.	0.	0.	0.	.0008	-.0152	.0023	.0820	.0380	.0390	0.		
.3430	0.	0.	0.	0.	0.	0.	.0008	-.0175	.0038	.0907	.0378	.0435	0.		
.3440	0.	0.	0.	0.	0.	0.	.0002	-.0202	.0048	.0954	.0364	.0483	0.		
.3450	0.	0.	0.	0.	0.	0.	-.0009	-.0233	.0052	.0959	.0341	.0531	0.		
.3460	0.	0.	0.	0.	0.	0.	-.0024	-.0268	.0051	.0923	.0310	.0582	0.		
.3470	0.	0.	0.	0.	0.	0.	-.0042	-.0308	.0045	.0849	.0274	.0637	0.		
.3480	0.	0.	0.	0.	0.	0.	-.0063	-.0352	.0035	.0742	.0234	.0692	0.		
.3490	0.	0.	0.	0.	0.	0.	-.0085	-.0398	.0020	.0607	.0190	.0742	0.		
.3500	0.	0.	0.	0.	0.	0.	-.0109	-.0445	.0001	.0452	.0142	.0786	0.		
.3510	0.	0.	0.	0.	0.	0.	-.0133	-.0493	-.0022	.0287	.0092	.0823	0.		
.3520	0.	0.	0.	0.	0.	0.	-.0154	-.0541	-.0047	.0121	.0041	.0855	0.		
.3530	0.	0.	0.	0.	0.	0.	-.0172	-.0587	-.0075	-.0039	-.0009	.0878	0.		

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ADLPIPE STRESS ANALYSIS

85/12/02. 18.29.47.

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

.3440	0.	0.	0.	0.	0.	0.	0.	.0008	-.0175	.0058	.0907	.0378	.0435	0.
.3450	0.	0.	0.	0.	0.	0.	0.	-.0009	-.0233	.0052	.0959	.0341	.0531	0.
.3460	0.	0.	0.	0.	0.	0.	0.	-.0024	-.0268	.0051	.0923	.0310	.0582	0.
.3470	0.	0.	0.	0.	0.	0.	0.	-.0042	-.0308	.0045	.0849	.0274	.0637	0.
.3480	0.	0.	0.	0.	0.	0.	0.	-.0063	-.0352	.0035	.0742	.0234	.0692	0.
.3490	0.	0.	0.	0.	0.	0.	0.	-.0085	-.0398	.0020	.0607	.0190	.0742	0.
.3500	0.	0.	0.	0.	0.	0.	0.	-.0109	-.0445	.0001	.0452	.0142	.0786	0.
.3510	0.	0.	0.	0.	0.	0.	0.	-.0133	-.0493	-.0022	.0287	.0092	.0823	0.
.3520	0.	0.	0.	0.	0.	0.	0.	-.0154	-.0541	-.0047	.0121	.0041	.0855	0.
.3530	0.	0.	0.	0.	0.	0.	0.	-.0172	-.0587	-.0075	-.0039	-.0009	.0878	0.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.47.

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

CONDITION 24

LOADS

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PRESSURE

ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION	DIS	TYPE	VA	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)
.3540	0.	0.	0.	0.	0.	0.	-.0185	-.0629	-.0103	-.0190	-.0054	.0891	0.
.3550	0.	0.	0.	0.	0.	0.	-.0194	-.0667	-.0131	-.0323	-.0092	.0894	0.
.3560	0.	0.	0.	0.	0.	0.	-.0195	-.0699	-.0156	-.0435	-.0120	.0890	0.
.3570	0.	0.	0.	0.	0.	0.	-.0188	-.0726	-.0179	-.0520	-.0136	.0881	0.
.3580	0.	0.	0.	0.	0.	0.	-.0173	-.0745	-.0199	-.0575	-.0143	.0865	0.
.3590	0.	0.	0.	0.	0.	0.	-.0151	-.0756	-.0216	-.0596	-.0140	.0859	0.
.3600	0.	0.	0.	0.	0.	0.	-.0122	-.0759	-.0229	-.0581	-.0130	.0805	0.
.3610	0.	0.	0.	0.	0.	0.	-.0087	-.0753	-.0238	-.0528	-.0114	.0766	0.
.3620	0.	0.	0.	0.	0.	0.	-.0044	-.0740	-.0245	-.0439	-.0094	.0723	0.
.3630	0.	0.	0.	0.	0.	0.	.0003	-.0719	-.0248	-.0319	-.0069	.0677	0.
.3640	0.	0.	0.	0.	0.	0.	.0053	-.0691	-.0247	-.0174	-.0039	.0629	0.
.3650	0.	0.	0.	0.	0.	0.	.0105	-.0656	-.0243	-.0013	-.0004	.0582	0.
.3660	0.	0.	0.	0.	0.	0.	.0159	-.0616	-.0234	.0159	.0037	.0537	0.
.3670	0.	0.	0.	0.	0.	0.	.0213	-.0571	-.0223	.0333	.0082	.0500	0.
.3680	0.	0.	0.	0.	0.	0.	.0265	-.0523	-.0209	.0505	.0128	.0467	0.
.3690	0.	0.	0.	0.	0.	0.	.0313	-.0473	-.0193	.0668	.0172	.0439	0.
.3700	0.	0.	0.	0.	0.	0.	.0354	-.0421	-.0176	.0816	.0211	.0413	0.
.3710	0.	0.	0.	0.	0.	0.	.0388	-.0369	-.0160	.0945	.0239	.0391	0.
.3720	0.	0.	0.	0.	0.	0.	.0414	-.0318	-.0145	.1053	.0256	.0375	0.
.3730	0.	0.	0.	0.	0.	0.	.0430	-.0270	-.0131	.1153	.0261	.0362	0.
.3740	0.	0.	0.	0.	0.	0.	.0437	-.0225	-.0118	.1179	.0255	.0351	0.
.3750	0.	0.	0.	0.	0.	0.	.0433	-.0183	-.0105	.1188	.0241	.0341	0.
.3760	0.	0.	0.	0.	0.	0.	.0419	-.0147	-.0092	.1158	.0222	.0334	0.
.3770	0.	0.	0.	0.	0.	0.	.0397	-.0116	-.0081	.1090	.0200	.0330	0.
.3780	0.	0.	0.	0.	0.	0.	.0367	-.0091	-.0069	.0984	.0177	.0327	0.
.3790	0.	0.	0.	0.	0.	0.	.0329	-.0071	-.0056	.0844	.0154	.0321	0.
.3800	0.	0.	0.	0.	0.	0.	.0283	-.0057	-.0044	.0676	.0130	.0309	0.
.3810	0.	0.	0.	0.	0.	0.	.0231	-.0049	-.0031	.0487	.0105	.0292	0.
.3820	0.	0.	0.	0.	0.	0.	.0177	-.0046	-.0020	.0284	.0078	.0269	0.
.3830	0.	0.	0.	0.	0.	0.	.0119	-.0047	-.0008	.0073	.0048	.0238	0.
.3840	0.	0.	0.	0.	0.	0.	.0060	-.0052	.0005	-.0138	.0017	.0197	0.
.3850	0.	0.	0.	0.	0.	0.	.0001	-.0060	.0018	-.0344	-.0013	.0145	0.
.3860	0.	0.	0.	0.	0.	0.	-.0056	-.0069	.0033	-.0539	-.0042	.0085	0.
.3870	0.	0.	0.	0.	0.	0.	-.0108	-.0080	.0048	-.0715	-.0066	.0020	0.
.3880	0.	0.	0.	0.	0.	0.	-.0155	-.0091	.0065	-.0869	-.0085	-.0051	0.
.3890	0.	0.	0.	0.	0.	0.	-.0196	-.0101	.0084	-.0996	-.0097	-.0128	0.
.3900	0.	0.	0.	0.	0.	0.	-.0230	-.0108	.0103	-.1093	-.0103	-.0208	0.
.3910	0.	0.	0.	0.	0.	0.	-.0255	-.0113	.0124	-.1156	-.0103	-.0289	0.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.47.

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

CONDITION 24

LOADS

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ENGLISH UNITS

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

.3820	0.	0.	0.	0.	0.	0.	0.	.0177	-.0046	-.0020	.0284	.0078	.0269	0.
.3830	0.	0.	0.	0.	0.	0.	0.	.0119	-.0047	-.0008	.0073	.0048	.0238	0.
.3840	0.	0.	0.	0.	0.	0.	0.	.0060	-.0052	.0005	-.0158	.0017	.0197	0.
.3850	0.	0.	0.	0.	0.	0.	0.	.0001	-.0060	.0018	-.0344	-.0013	.0145	0.
.3860	0.	0.	0.	0.	0.	0.	0.	-.0056	-.0069	.0033	-.0539	-.0042	.0085	0.
.3870	0.	0.	0.	0.	0.	0.	0.	-.0108	-.0080	.0048	-.0715	-.0066	.0020	0.
.3880	0.	0.	0.	0.	0.	0.	0.	-.0155	-.0091	.0065	-.0869	-.0085	-.0051	0.
.3890	0.	0.	0.	0.	0.	0.	0.	-.0196	-.0101	.0084	-.0996	-.0097	-.0128	0.
.3900	0.	0.	0.	0.	0.	0.	0.	-.0230	-.0108	.0103	-.1093	-.0103	-.0208	0.
.3910	0.	0.	0.	0.	0.	0.	0.	-.0255	-.0113	.0124	-.1156	-.0103	-.0289	0.

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ADLPIPE STRESS ANALYSIS

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

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

SECTION	MEMBER	SEQUENCE	LOCATION	DIS	TYPE	VA	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)
.3920	0.	0.	0.	0.	0.	0.	-.0272	-.0116	.0145	-.1183	-.0100	-.0365	0.
.3930	0.	0.	0.	0.	0.	0.	-.0280	-.0115	.0166	-.1173	-.0093	-.0435	0.
.3940	0.	0.	0.	0.	0.	0.	-.0280	-.0110	.0186	-.1132	-.0083	-.0500	0.
.3950	0.	0.	0.	0.	0.	0.	-.0273	-.0101	.0207	-.1061	-.0070	-.0559	0.
.3960	0.	0.	0.	0.	0.	0.	-.0259	-.0088	.0227	-.0963	-.0055	-.0606	0.
.3970	0.	0.	0.	0.	0.	0.	-.0238	-.0073	.0245	-.0842	-.0037	-.0639	0.
.3980	0.	0.	0.	0.	0.	0.	-.0212	-.0056	.0261	-.0706	-.0017	-.0656	0.
.3990	0.	0.	0.	0.	0.	0.	-.0184	-.0037	.0276	-.0560	.0005	-.0662	0.
.4000	0.	0.	0.	0.	0.	0.	-.0154	-.0016	.0289	-.0410	.0025	-.0655	0.

MAXIMUM VALUE OF DISCONTINUITY FORCE OCCURS AT

TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	FX (DEG)	RY (DEG)	RZ (DEG)	FORCE (LB)
0.0000	0.	0.	0.	0.	0.	0.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.

SECTION	MEMBER	SEQUENCE	LOCATION	END	TYPE	VA	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)
0.0000	0.	0.	0.	0.	0.	0.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.
.0010	-0.	-0.	0.	0.	-0.	0.	-.0000	-.0000	.0000	.0000	-.0000	.0000	0.
.0020	-0.	-0.	0.	0.	-0.	0.	-.0000	-.0000	.0000	.0000	.0000	.0000	0.
.0030	-0.	-0.	0.	0.	0.	0.	-.0000	-.0000	.0000	.0000	.0000	.0000	0.
.0040	-0.	-0.	0.	0.	0.	0.	-.0000	-.0000	-.0000	.0000	-.0000	.0000	0.
.0050	-1.	-0.	0.	0.	-0.	0.	-.0000	-.0000	-.0000	.0000	-.0000	-.0000	0.
.0060	-2.	-0.	1.	0.	-1.	0.	-.0000	.0000	-.0000	.0000	-.0001	-.0000	2.
.0070	-4.	-1.	1.	1.	-2.	1.	-.0000	.0000	-.0000	.0001	-.0002	-.0001	7.
.0080	-7.	-3.	1.	3.	-4.	2.	-.0001	.0000	-.0000	.0002	-.0004	-.0002	18.
.0090	-11.	-5.	2.	7.	-9.	4.	-.0002	.0000	-.0001	.0003	-.0008	-.0004	35.
.0100	-17.	-8.	2.	11.	-15.	6.	-.0003	.0000	-.0001	.0005	-.0013	-.0007	60.
.0110	-25.	-12.	1.	17.	-24.	9.	-.0005	.0001	-.0002	.0008	-.0021	-.0011	95.
.0120	-35.	-17.	0.	27.	-39.	13.	-.0007	.0001	-.0003	.0012	-.0032	-.0016	149.
.0130	-47.	-26.	-2.	41.	-58.	22.	-.0011	.0001	-.0004	.0016	-.0046	-.0025	227.
.0140	-58.	-39.	-7.	59.	-83.	36.	-.0016	.0002	-.0004	.0021	-.0062	-.0037	330.
.0150	-69.	-53.	-13.	80.	-111.	51.	-.0023	.0002	-.0005	.0027	-.0081	-.0051	446.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

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18.29.47.

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

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

.0070	-4.	-1.	1.	1.	-2.	1.	-0.0000	.0000	-0.0000	.0000	-0.0001	-0.0000	2.
.0080	-7.	-3.	1.	3.	-4.	2.	-0.0001	.0000	-0.0000	.0002	-0.0004	-0.0001	7.
.0090	-11.	-5.	2.	7.	-9.	4.	-0.0002	.0000	-0.0001	.0003	-0.0008	-0.0004	18.
.0100	-17.	-8.	2.	11.	-15.	6.	-0.0003	.0000	-0.0001	.0005	-0.0013	-0.0007	60.
.0110	-25.	-12.	1.	17.	-24.	9.	-0.0005	.0001	-0.0002	.0008	-0.0021	-0.0011	95.
.0120	-35.	-17.	0.	27.	-39.	13.	-0.0007	.0001	-0.0003	.0012	-0.0032	-0.0016	149.
.0130	-47.	-26.	-2.	41.	-58.	22.	-0.0011	.0001	-0.0004	.0016	-0.0046	-0.0025	227.
.0140	-58.	-39.	-7.	59.	-83.	36.	-0.0016	.0002	-0.0004	.0021	-0.0062	-0.0037	350.
.0150	-69.	-53.	-13.	80.	-111.	51.	-0.0023	.0002	-0.0005	.0027	-0.0081	-0.0051	446.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

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

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

SECTION	MEMBER	SEQUENCE	LOCATION	END	TYPE	VA								
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	-77.	-63.	-20.	99.	-140.	62.	-0.0030	.0002	-0.0007	.0035	-0.0100	-0.0066	555.	
.0170	-81.	-66.	-28.	111.	-165.	63.	-0.0037	.0000	-0.0008	.0044	-0.0117	-0.0078	634.	
.0180	-80.	-63.	-34.	113.	-182.	54.	-0.0044	-0.0003	-0.0010	.0052	-0.0128	-0.0084	671.	
.0190	-69.	-52.	-39.	104.	-184.	36.	-0.0049	-0.0007	-0.0010	.0056	-0.0127	-0.0085	651.	
.0200	-48.	-35.	-41.	81.	-167.	12.	-0.0052	-0.0013	-0.0008	.0053	-0.0110	-0.0078	566.	
.0210	-17.	-8.	-39.	42.	-128.	-19.	-0.0053	-0.0020	-0.0004	.0042	-0.0074	-0.0061	415.	
.0220	28.	33.	-35.	-12.	-69.	-58.	-0.0052	-0.0027	.0001	.0022	-0.0020	-0.0036	276.	
.0230	74.	78.	-28.	-74.	2.	-99.	-0.0048	-0.0034	.0009	-0.0005	.0045	-0.0005	375.	
.0240	107.	117.	-16.	-132.	74.	-131.	-0.0044	-0.0039	.0016	-0.0034	.0110	.0027	609.	
.0250	136.	136.	-3.	-173.	139.	-144.	-0.0042	-0.0043	.0023	-0.0059	.0165	.0054	804.	
.0260	181.	143.	2.	-199.	194.	-143.	-0.0041	-0.0045	.0026	-0.0074	.0202	.0075	951.	
.0270	234.	168.	-1.	-228.	239.	-167.	-0.0037	-0.0046	.0023	-0.0071	.0217	.0098	1124.	
.0280	244.	216.	3.	-263.	258.	-235.	-0.0028	-0.0048	.0014	-0.0051	.0207	.0153	1330.	
.0290	224.	234.	10.	-276.	255.	-287.	-0.0017	-0.0048	.0004	-0.0026	.0180	.0169	1437.	
.0300	278.	198.	-9.	-244.	260.	-251.	-0.0012	-0.0041	-0.0004	-0.0009	.0154	.0181	1327.	
.0310	347.	155.	-25.	-209.	288.	-185.	-0.0007	-0.0030	-0.0008	-0.0001	.0140	.0187	1222.	
.0320	341.	148.	-12.	-212.	320.	-178.	.0011	-0.0022	-0.0014	.0002	.0144	.0224	1288.	
.0330	303.	153.	8.	-232.	348.	-197.	.0041	-0.0015	-0.0017	-0.0006	.0167	.0283	1407.	
.0340	274.	115.	27.	-219.	385.	-140.	.0066	-0.0002	-0.0015	-0.0030	.0201	.0319	1411.	
.0350	227.	18.	56.	-158.	416.	13.	.0077	.0017	-0.0010	-0.0060	.0226	.0313	1351.	
.0360	170.	-95.	72.	-66.	402.	173.	.0086	.0037	-0.0009	-0.0071	.0216	.0291	1346.	
.0370	113.	-166.	60.	17.	322.	247.	.0103	.0051	-0.0019	-0.0043	.0158	.0275	1235.	
.0380	5.	-192.	46.	88.	186.	241.	.0122	.0061	-0.0041	.0021	.0055	.0258	964.	
.0390	-125.	-235.	33.	184.	16.	258.	.0131	.0070	-0.0063	.0096	-0.0073	.0212	964.	
.0400	-165.	-341.	-16.	327.	-152.	373.	.0127	.0082	-0.0078	.0154	-0.0190	.0126	1579.	
.0410	-134.	-441.	-76.	452.	-273.	508.	.0120	.0091	-0.0086	.0190	-0.0263	.0029	2228.	
.0420	-201.	-440.	-76.	468.	-334.	513.	.0129	.0088	-0.0090	.0207	-0.0274	-0.0022	2345.	
.0430	-342.	-361.	-30.	396.	-349.	416.	.0152	.0076	-0.0085	.0187	-0.0217	-0.0027	2044.	
.0440	-402.	-317.	0.	334.	-312.	397.	.0167	.0064	-0.0065	.0114	-0.0102	-0.0046	1841.	
.0450	-409.	-342.	36.	316.	-226.	514.	.0158	.0059	-0.0033	.0006	.0037	-0.0121	1960.	
.0460	-454.	-352.	91.	298.	-149.	615.	.0138	.0051	-0.0003	-0.0088	.0148	-0.0215	2126.	
.0470	-493.	-275.	108.	244.	-154.	550.	.0127	.0032	.0010	-0.0133	.0189	-0.0279	1890.	
.0480	-506.	-146.	83.	183.	-239.	364.	.0119	.0006	.0005	-0.0124	.0156	-0.0325	1436.	
.0490	-532.	-52.	65.	159.	-343.	215.	.0092	-0.0016	-0.0003	-0.0090	.0074	-0.0405	1322.	
.0500	-507.	-17.	39.	187.	-431.	175.	.0044	-0.0031	-0.0007	-0.0066	-0.0016	-0.0526	1527.	
.0510	-384.	13.	-22.	219.	-497.	159.	-0.0006	-0.0043	-0.0004	-0.0068	-0.0082	-0.0637	1722.	
.0520	-307.	96.	-50.	179.	-512.	51.	-0.0041	-0.0060	.0002	-0.0088	-0.0099	-0.0683	1658.	
.0530	-342.	221.	-1.	61.	-449.	-129.	-0.0063	-0.0080	.0014	-0.0133	-0.0057	-0.0667	1434.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.48.

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 67 MEMBER 1 SEQUENCE 98 LOCATION END TYPE VA

.0430	-342.	-361.	30.	396.	-349.	416.	.0152	.0076	-.0085	.0187	-.0217	-.0027	2044.
.0440	-402.	-317.	0.	374.	-312.	397.	.0167	.0064	-.0065	.0114	-.0102	-.0046	1841.
.0450	-409.	-342.	36.	316.	-226.	514.	.0158	.0059	-.0033	.0006	.0037	-.0121	1960.
.0460	-454.	-352.	91.	296.	-149.	615.	.0138	.0051	-.0003	-.0088	.0148	-.0215	2126.
.0470	-497.	-275.	109.	244.	-154.	550.	.0127	.0032	.0010	-.0133	.0189	-.0279	1890.
.0480	-506.	-146.	83.	193.	-239.	364.	.0119	.0006	.0005	-.0124	.0156	-.0325	1436.
.0490	-532.	-52.	65.	159.	-343.	215.	.0092	-.0016	-.0003	-.0090	.0074	-.0405	1322.
.0500	-507.	-17.	39.	187.	-431.	175.	.0044	-.0031	-.0007	-.0066	-.0016	-.0526	1527.
.0510	-384.	13.	-22.	219.	-497.	159.	-.0006	-.0043	-.0004	-.0068	-.0082	-.0637	1722.
.0520	-307.	96.	-50.	179.	-512.	51.	-.0041	-.0060	.0002	-.0088	-.0099	-.0683	1658.
.0530	-342.	221.	-1.	61.	-449.	-129.	-.0063	-.0080	.0014	-.0133	-.0057	-.0667	1434.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

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18.29.48.

S/RV PIPING KEWAUNEE GKW00F 2 RUP DISK
2 SAFETY COLD FRW24F--2 PSV

CONDITION 24

LOADS

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ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION	END	TYPE	VA								
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	-316.	327.	48.	-60.	-315.	-248.	-.0086	-.0093	.0038	-.0218	.0037	-.0636	1234.	
.0550	-163.	377.	56.	-140.	-145.	-262.	-.0117	-.0096	.0070	-.0334	.0154	-.0611	1004.	
.0560	-65.	397.	84.	-202.	16.	-270.	-.0148	-.0095	.0100	-.0432	.0247	-.0569	1026.	
.0570	-63.	429.	129.	-267.	118.	-358.	-.0173	-.0095	.0117	-.0480	.0283	-.0492	1404.	
.0580	1.	468.	112.	-300.	141.	-479.	-.0193	-.0092	.0120	-.0481	.0252	-.0404	1773.	
.0590	145.	464.	42.	-273.	111.	-541.	-.0220	-.0080	.0117	-.0448	.0173	-.0337	1875.	
.0600	255.	397.	-12.	-208.	76.	-533.	-.0254	-.0062	.0112	-.0391	.0076	-.0284	1757.	
.0610	342.	324.	-52.	-159.	56.	-529.	-.0279	-.0043	.0107	-.0324	-.0002	-.0209	1688.	
.0620	455.	307.	-103.	-164.	64.	-585.	-.0283	-.0027	.0104	-.0271	-.0030	-.0087	1858.	
.0630	521.	311.	-120.	-216.	125.	-654.	-.0270	-.0013	.0110	-.0246	.0006	.0069	2128.	
.0640	520.	253.	-84.	-262.	249.	-630.	-.0256	.0006	.0129	-.0256	.0100	.0223	2209.	
.0650	552.	135.	-50.	-273.	400.	-496.	-.0245	.0028	.0157	-.0292	.0224	.0350	2110.	
.0660	612.	78.	-41.	-277.	520.	-364.	-.0229	.0050	.0182	-.0318	.0330	.0460	2107.	
.0670	597.	-4.	-30.	-292.	563.	-322.	-.0205	.0065	.0190	-.0292	.0371	.0563	2163.	
.0680	530.	-47.	-32.	-279.	509.	-325.	-.0180	.0074	.0180	-.0196	.0325	.0640	2025.	
.0690	711.	-131.	-85.	-196.	369.	-281.	-.0165	.0082	.0157	-.0054	.0202	.0656	1532.	
.0700	526.	-235.	-167.	-63.	177.	-178.	-.0161	.0091	.0128	.0108	.0038	.0610	788.	
.0710	511.	-325.	-236.	63.	-18.	-75.	-.0157	.0094	.0098	.0268	-.0123	.0538	302.	
.0720	473.	-374.	-279.	135.	-167.	-16.	-.0140	.0088	.0070	.0404	-.0235	.0481	656.	
.0730	421.	-364.	-289.	136.	-236.	-4.	-.0108	.0073	.0051	.0490	-.0267	.0446	829.	
.0740	343.	-317.	-255.	86.	-218.	12.	-.0070	.0052	.0044	.0508	-.0215	.0418	714.	
.0750	268.	-290.	-195.	34.	-132.	91.	-.0033	.0031	.0050	.0465	-.0102	.0377	498.	
.0760	210.	-292.	-130.	-3.	-18.	211.	-.0001	.0007	.0058	.0396	.0028	.0322	644.	
.0770	124.	-261.	-63.	-47.	67.	271.	.0033	-.0021	.0057	.0341	.0127	.0267	861.	
.0780	13.	-168.	-12.	-95.	80.	233.	.0069	-.0055	.0039	.0324	.0160	.0211	804.	
.0790	-58.	-75.	-4.	-101.	16.	176.	.0098	-.0088	.0005	.0343	.0120	.0153	620.	
.0800	-98.	-40.	-25.	-10.	-96.	175.	.0112	-.0116	-.0036	.0383	.0027	.0020	620.	
.0810	-157.	-38.	-40.	56.	-223.	210.	.0116	-.0139	-.0080	.0423	-.0085	-.0106	947.	
.0820	-217.	-19.	-49.	137.	-330.	226.	.0123	-.0159	-.0122	.0438	-.0177	-.0210	1288.	
.0830	-250.	24.	-48.	151.	-376.	216.	.0139	-.0179	-.0157	.0414	-.0216	-.0271	1430.	
.0840	-328.	66.	-1.	184.	-332.	204.	.0161	-.0196	-.0181	.0346	-.0187	-.0289	1309.	
.0850	-418.	101.	84.	161.	-209.	211.	.0184	-.0209	-.0194	.0236	-.0102	-.0278	1026.	
.0860	-453.	129.	159.	135.	-49.	241.	.0206	-.0215	-.0199	.0099	.0012	-.0249	853.	
.0870	-444.	149.	211.	115.	107.	270.	.0227	-.0215	-.0203	-.0030	.0117	-.0206	950.	
.0880	-466.	160.	265.	102.	229.	265.	.0244	-.0212	-.0214	-.0120	.0184	-.0151	1111.	
.0890	-484.	165.	296.	104.	295.	236.	.0257	-.0204	-.0232	-.0163	.0201	-.0093	1192.	
.0900	-426.	159.	275.	135.	310.	218.	.0263	-.0189	-.0252	-.0173	.0180	-.0047	1224.	
.0910	-346.	129.	239.	181.	305.	225.	.0262	-.0168	-.0269	-.0162	.0146	-.0009	1277.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.48.

S/RV PIPING KEWAUNEE GKW00F 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

.0810	-157.	-38.	-40.	56.	-223.	210.	.0112	-.0139	-.0080	.0423	-.0085	-.0106	947.
.0820	-217.	-19.	-49.	137.	-330.	226.	.0123	-.0159	-.0122	.0438	-.0177	-.0210	1288.
.0830	-250.	24.	-48.	151.	-376.	216.	.0139	-.0179	-.0157	.0414	-.0216	-.0271	1430.
.0840	-328.	66.	-1.	184.	-337.	204.	.0161	-.0196	-.0181	.0346	-.0187	-.0289	1309.
.0850	-418.	101.	84.	161.	-205.	211.	.0184	-.0209	-.0194	.0236	-.0102	-.0278	1026.
.0860	-457.	129.	159.	175.	-49.	241.	.0206	-.0215	-.0199	.0099	.0012	-.0249	853.
.0870	-444.	149.	211.	115.	107.	270.	.0227	-.0215	-.0203	-.0030	.0117	-.0206	950.
.0880	-466.	160.	265.	102.	229.	265.	.0244	-.0212	-.0214	-.0120	.0184	-.0151	1111.
.0890	-484.	165.	296.	104.	295.	236.	.0257	-.0204	-.0232	-.0163	.0201	-.0093	1192.
.0900	-426.	159.	275.	125.	310.	218.	.0263	-.0189	-.0252	-.0173	.0180	-.0047	1224.
.0910	-346.	129.	239.	181.	305.	225.	.0262	-.0168	-.0269	-.0162	.0146	-.0009	1277.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02.

18.29.48.

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	VA	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)
.0920	-310.	87.	228.	215.	306.	234.	.0259	-.0143	-.0280	-.0142	.0124	.0038	1340.
.0930	-314.	49.	230.	224.	320.	234.	.0259	-.0114	-.0281	-.0131	.0129	.0103	1386.
.0940	-297.	16.	228.	220.	348.	246.	.0260	-.0082	-.0270	-.0136	.0162	.0172	1459.
.0950	-304.	-39.	241.	220.	381.	296.	.0254	-.0046	-.0248	-.0144	.0204	.0229	1612.
.0960	-330.	-121.	258.	236.	392.	369.	.0238	-.0008	-.0223	-.0131	.0226	.0265	1790.
.0970	-326.	-127.	239.	263.	346.	417.	.0218	.0030	-.0202	-.0075	.0199	.0283	1834.
.0980	-304.	-239.	186.	289.	229.	402.	.0195	.0063	-.0190	.0037	.0113	.0286	1659.
.0990	-299.	-267.	123.	315.	60.	349.	.0165	.0093	-.0184	.0196	-.0020	.0268	1441.
.1000	-280.	-312.	50.	353.	-124.	313.	.0126	.0121	-.0177	.0373	-.0170	.0223	1485.
.1010	-221.	-365.	-29.	389.	-285.	305.	.0081	.0147	-.0162	.0537	-.0299	.0161	1735.
.1020	-169.	-386.	-87.	383.	-392.	279.	.0037	.0167	-.0139	.0670	-.0384	.0105	1873.
.1030	-147.	-363.	-107.	319.	-432.	209.	.0000	.0180	-.0106	.0762	-.0413	.0072	1755.
.1040	-113.	-315.	-107.	215.	-408.	116.	-.0031	.0185	-.0064	.0812	-.0392	.0060	1446.
.1050	-45.	-253.	-103.	94.	-335.	23.	-.0062	.0187	-.0016	.0824	-.0340	.0054	1060.
.1060	42.	-176.	-97.	-30.	-241.	-74.	-.0094	.0185	.0034	.0808	-.0280	.0046	773.
.1070	151.	-87.	-102.	-149.	-154.	-187.	-.0125	.0179	.0081	.0782	-.0229	.0041	866.
.1080	275.	3.	-120.	-255.	-86.	-318.	-.0154	.0170	.0122	.0750	-.0196	.0040	1267.
.1090	395.	92.	-140.	-346.	-29.	-449.	-.0181	.0160	.0158	.0706	-.0172	.0039	1727.
.1100	520.	194.	-159.	-425.	36.	-561.	-.0207	.0152	.0192	.0641	-.0148	.0028	2143.
.1110	623.	273.	-167.	-480.	107.	-641.	-.0229	.0145	.0223	.0549	-.0118	.0019	2456.
.1120	675.	313.	-154.	-507.	178.	-688.	-.0245	.0140	.0252	.0433	-.0087	.0019	2655.
.1130	694.	348.	-125.	-514.	253.	-712.	-.0256	.0137	.0275	.0300	-.0066	.0016	2780.
.1140	721.	390.	-104.	-498.	320.	-721.	-.0261	.0136	.0291	.0165	-.0067	.0004	2839.
.1150	746.	410.	-97.	-452.	356.	-727.	-.0258	.0136	.0295	.0045	-.0101	-.0004	2821.
.1160	725.	403.	-85.	-383.	357.	-735.	-.0245	.0135	.0286	-.0048	-.0165	-.0009	2745.
.1170	680.	395.	-73.	-302.	358.	-726.	-.0226	.0137	.0269	-.0127	-.0239	-.0025	2604.
.1180	690.	382.	-90.	-206.	323.	-666.	-.0202	.0142	.0249	-.0204	-.0295	-.0063	2336.
.1190	697.	330.	-94.	-113.	328.	-569.	-.0167	.0147	.0228	-.0278	-.0313	-.0094	2026.
.1200	599.	269.	-44.	-62.	373.	-481.	-.0117	.0150	.0208	-.0351	-.0274	-.0102	1859.
.1210	487.	263.	24.	-66.	461.	-412.	-.0051	.0151	.0191	-.0439	-.0177	-.0098	1891.
.1220	387.	288.	89.	-92.	561.	-337.	.0024	.0154	.0179	-.0540	-.0044	-.0098	2011.
.1230	257.	260.	156.	-90.	637.	-216.	.0099	.0159	.0167	-.0625	.0084	-.0112	2063.
.1240	42.	171.	238.	-47.	644.	-66.	.0169	.0166	.0149	-.0666	.0165	-.0147	1975.
.1250	-159.	97.	279.	27.	553.	71.	.0233	.0175	.0120	-.0653	.0177	-.0218	1699.
.1260	-250.	64.	237.	124.	367.	181.	.0292	.0186	.0080	-.0581	.0120	-.0327	1302.
.1270	-361.	16.	184.	229.	123.	263.	.0347	.0195	.0030	-.0447	.0016	-.0446	1126.
.1280	-532.	-49.	161.	315.	-119.	324.	.0398	.0203	-.0022	-.0280	-.0089	-.0560	1421.
.1290	-680.	-70.	144.	358.	-321.	372.	.0450	.0212	-.0065	-.0132	-.0152	-.0670	1849.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02.

18.29.48.

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

CONDITION 24

LOADS

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ENGLISH UNITS

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

.1190	697.	330.	-94.	-113.	328.	-569.	-0167	.0147	.0228	-.0278	-.0313	-.0094	2336.
.1200	599.	269.	-44.	-62.	373.	-481.	-.0117	.0150	.0208	-.0351	-.0274	-.0102	1859.
.1210	487.	263.	24.	-66.	461.	-412.	-.0051	.0151	.0191	-.0439	-.0177	-.0098	1891.
.1220	387.	288.	89.	-92.	561.	-337.	.0024	.0154	.0179	-.0540	-.0044	-.0098	2011.
.1230	257.	260.	156.	-90.	637.	-216.	.0099	.0159	.0167	-.0625	.0084	-.0112	2063.
.1240	40.	171.	230.	-47.	644.	-66.	.0169	.0166	.0149	-.0666	.0163	-.0147	1975.
.1250	-159.	97.	279.	27.	553.	71.	.0233	.0175	.0120	-.0653	.0177	-.0218	1699.
.1260	-250.	64.	237.	124.	367.	181.	.0292	.0186	.0080	-.0581	.0120	-.0327	1302.
.1270	-361.	16.	184.	229.	123.	263.	.0347	.0195	.0030	-.0447	.0016	-.0446	1126.
.1280	-532.	-49.	161.	315.	-119.	324.	.0398	.0203	-.0022	-.0280	-.0089	-.0560	1421.
.1290	-680.	-70.	144.	358.	-321.	372.	.0450	.0212	-.0063	-.0132	-.0152	-.0670	1849.

ADLPIPE PAGE 2661

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.48.

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	VA								
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)	
.1300	-757.	-58.	119.	368.	-455.	444.	.0498	.0224	-.0091	-.0039	-.0149	-.0772	2234.	
.1310	-839.	-92.	128.	369.	-505.	571.	.0540	.0238	-.0100	.0009	-.0088	-.0860	2576.	
.1320	-1001.	-172.	199.	355.	-495.	708.	.0574	.0253	-.0098	.0036	-.0004	-.0920	2842.	
.1330	-1098.	-196.	247.	318.	-473.	792.	.0603	.0268	-.0093	.0053	.0068	-.0962	2968.	
.1340	-1068.	-144.	230.	273.	-480.	805.	.0625	.0283	-.0093	.0081	.0092	-.0997	2968.	
.1350	-1027.	-117.	198.	254.	-525.	787.	.0632	.0298	-.0101	.0150	.0051	-.1026	2980.	
.1360	-1019.	-157.	173.	275.	-601.	771.	.0620	.0314	-.0115	.0256	-.0046	-.1049	3089.	
.1370	-971.	-190.	124.	308.	-699.	743.	.0597	.0332	-.0128	.0362	-.0163	-.1066	3241.	
.1380	-809.	-176.	32.	331.	-774.	710.	.0564	.0353	-.0133	.0436	-.0261	-.1075	3350.	
.1390	-654.	-176.	-25.	326.	-775.	675.	.0525	.0373	-.0129	.0478	-.0310	-.1047	3280.	
.1400	-580.	-190.	-11.	269.	-683.	603.	.0489	.0389	-.0116	.0489	-.0303	-.0958	2890.	
.1410	-472.	-134.	10.	153.	-526.	461.	.0460	.0400	-.0094	.0454	-.0246	-.0817	2179.	
.1420	-303.	-23.	10.	14.	-344.	288.	.0433	.0411	-.0063	.0375	-.0166	-.0649	1366.	
.1430	-132.	13.	15.	-79.	-153.	178.	.0394	.0423	-.0028	.0284	-.0096	-.0483	753.	
.1440	-5.	-49.	30.	-117.	22.	125.	.0343	.0435	.0004	.0216	-.0061	-.0325	527.	
.1450	153.	-69.	28.	-155.	149.	27.	.0291	.0445	.0026	.0176	-.0068	-.0174	660.	
.1460	390.	13.	-41.	-218.	221.	-156.	.0246	.0449	.0038	.0162	-.0108	-.0027	1056.	
.1470	581.	72.	-101.	-274.	260.	-340.	.0203	.0450	.0043	.0176	-.0164	.0113	1558.	
.1480	698.	29.	-121.	-291.	331.	-433.	.0154	.0449	.0051	.0195	-.0207	.0233	1880.	
.1490	812.	-34.	-134.	-297.	415.	-457.	.0107	.0449	.0068	.0184	-.0215	.0328	2085.	
.1500	953.	-44.	-162.	-325.	511.	-476.	.0071	.0446	.0093	.0131	-.0180	.0415	2344.	
.1510	1048.	-52.	-169.	-370.	621.	-496.	.0047	.0436	.0122	.0060	-.0112	.0504	2668.	
.1520	1019.	-101.	-123.	-415.	728.	-505.	.0031	.0420	.0152	-.0006	-.0035	.0589	2976.	
.1530	982.	-136.	-94.	-445.	788.	-495.	.0018	.0401	.0180	-.0068	.0033	.0637	3138.	
.1540	1003.	-142.	-123.	-440.	765.	-458.	.0005	.0380	.0204	-.0121	.0073	.0626	3024.	
.1550	988.	-191.	-169.	-383.	659.	-379.	-.0013	.0357	.0219	-.0134	.0072	.0562	2590.	
.1560	871.	-293.	-194.	-295.	487.	-286.	-.0033	.0328	.0223	-.0098	.0036	.0460	1939.	
.1570	696.	-358.	-219.	-214.	257.	-232.	-.0049	.0292	.0218	-.0039	-.0019	.0333	1240.	
.1580	581.	-352.	-283.	-145.	-1.	-195.	-.0060	.0252	.0212	.0007	-.0065	.0174	739.	
.1590	468.	-359.	-330.	-69.	-239.	-113.	-.0074	.0211	.0210	.0029	-.0087	-.0014	830.	
.1600	249.	-412.	-328.	6.	-433.	-0.	-.0090	.0164	.0211	.0029	-.0080	-.0206	1316.	
.1610	13.	-428.	-298.	52.	-595.	82.	-.0101	.0113	.0216	-.0005	-.0045	-.0390	1833.	
.1620	-124.	-362.	-305.	66.	-732.	122.	-.0108	.0058	.0222	-.0073	.0009	-.0574	2267.	
.1630	-265.	-290.	-292.	68.	-835.	152.	-.0119	.0002	.0224	-.0148	.0069	-.0757	2589.	
.1640	-444.	-255.	-241.	71.	-899.	189.	-.0139	-.0056	.0220	-.0211	.0124	-.0938	2804.	
.1650	-561.	-183.	-206.	56.	-945.	195.	-.0162	-.0114	.0208	-.0264	.0169	-.1110	2935.	
.1660	-611.	-26.	-193.	4.	-984.	103.	-.0184	-.0171	.0188	-.0317	.0203	-.1261	3008.	
.1670	-651.	142.	-173.	-57.	-992.	-3.	-.0210	-.0225	.0161	-.0367	.0227	-.1388	3023.	

ADLPIPE PAGE 2662

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.48.

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

.1570	696.	-358.	-219.	-214.	257.	-232.	-.0049	.0292	.0218	-.0039	-.0019	.0333	1240.
.1580	581.	-352.	-283.	-145.	-1.	-195.	-.0060	.0252	.0212	.0007	-.0065	.0174	739.
.1590	468.	-359.	-339.	-69.	-239.	-113.	-.0074	.0211	.0210	.0029	-.0087	-.0014	830.
.1600	249.	-412.	-329.	6.	-433.	-0.	-.0090	.0164	.0212	.0029	-.0080	-.0206	1316.
.1610	13.	-428.	-298.	52.	-595.	82.	-.0101	.0113	.0216	-.0005	-.0045	-.0390	1833.
.1620	-124.	-362.	-305.	66.	-732.	122.	-.0108	.0058	.0222	-.0073	.0009	-.0574	2267.
.1630	-265.	-290.	-292.	68.	-835.	152.	-.0119	.0002	.0224	-.0148	.0069	-.0757	2589.
.1640	-444.	-255.	-241.	71.	-899.	189.	-.0139	-.0056	.0220	-.0211	.0124	-.0938	2804.
.1650	-561.	-183.	-206.	56.	-945.	185.	-.0162	-.0114	.0208	-.0264	.0169	-.1110	2935.
.1660	-611.	-26.	-195.	4.	-984.	103.	-.0184	-.0171	.0188	-.0317	.0203	-.1261	3008.
.1670	-651.	142.	-173.	-57.	-992.	-3.	-.0210	-.0225	.0161	-.0367	.0227	-.1388	3023.

ADLPIPE PAGE 2662

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.48.

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

SECTION	67	MEMBER	1	SEQUENCE	98	LOCATION	END	TYPE	VA						
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	PZ	STRESS		
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		
.1680	-717.	248.	-115.	-100.	-955.	-79.	-.0244	-.0271	.0134	-.0417	.0242	-.1489	2931.		
.1690	-731.	343.	-61.	-123.	-881.	-144.	-.0284	-.0309	.0105	-.0480	.0250	-.1559	2745.		
.1700	-681.	486.	-26.	-101.	-785.	-255.	-.0319	-.0338	.0074	-.0555	.0247	-.1581	2569.		
.1710	-635.	635.	21.	-241.	-667.	-405.	-.0350	-.0359	.0039	-.0623	.0227	-.1546	2484.		
.1720	-572.	732.	73.	-286.	-522.	-541.	-.0382	-.0370	.0001	-.0671	.0194	-.1464	2447.		
.1730	-484.	798.	119.	-318.	-366.	-660.	-.0411	-.0368	-.0039	-.0702	.0153	-.1340	2491.		
.1740	-342.	866.	137.	-344.	-210.	-765.	-.0437	-.0353	-.0080	-.0724	.0112	-.1184	2631.		
.1750	-167.	895.	140.	-355.	-48.	-832.	-.0458	-.0325	-.0119	-.0729	.0077	-.0994	2755.		
.1760	-32.	847.	161.	-348.	127.	-852.	-.0474	-.0287	-.0156	-.0709	.0051	-.0764	2825.		
.1770	93.	764.	184.	-338.	310.	-845.	-.0480	-.0239	-.0188	-.0675	.0039	-.0500	2923.		
.1780	244.	690.	186.	-333.	487.	-827.	-.0475	-.0182	-.0216	-.0637	.0041	-.0210	3090.		
.1790	411.	590.	169.	-314.	653.	-771.	-.0460	-.0119	-.0236	-.0593	.0053	.0094	3218.		
.1800	524.	417.	163.	-267.	800.	-657.	-.0439	-.0052	-.0249	-.0530	.0070	.0401	3252.		
.1810	571.	201.	165.	-201.	905.	-505.	-.0412	.0018	-.0257	-.0450	.0088	.0699	3213.		
.1820	649.	-5.	125.	-123.	954.	-326.	-.0381	.0088	-.0259	-.0356	.0107	.0966	3091.		
.1830	723.	-215.	61.	-34.	947.	-119.	-.0347	.0154	-.0256	-.0242	.0128	.1191	2905.		
.1840	720.	-454.	10.	63.	891.	110.	-.0314	.0214	-.0251	-.0101	.0150	.1372	2739.		
.1850	662.	-685.	-35.	154.	788.	338.	-.0280	.0263	-.0243	-.0057	.0174	.1504	2650.		
.1860	600.	-865.	-98.	231.	637.	547.	-.0245	.0300	-.0229	.0211	.0202	.1580	2648.		
.1870	532.	-1009.	-169.	301.	455.	751.	-.0216	.0324	-.0211	.0352	.0231	.1591	2825.		
.1880	397.	-1151.	-211.	371.	255.	954.	-.0194	.0332	-.0187	.0481	.0255	.1543	3207.		
.1890	222.	-1259.	-239.	429.	39.	1126.	-.0180	.0324	-.0162	.0594	.0268	.1437	3668.		
.1900	84.	-1281.	-283.	460.	-192.	1234.	-.0171	.0297	-.0137	.0684	.0270	.1278	4048.		
.1910	-51.	-1227.	-321.	458.	-421.	1276.	-.0170	.0252	-.0113	.0752	.0263	.1072	4316.		
.1920	-196.	-1139.	-336.	422.	-624.	1277.	-.0180	.0191	-.0092	.0800	.0254	.0824	4521.		
.1930	-334.	-1012.	-331.	383.	-787.	1238.	-.0200	.0115	-.0072	.0817	.0253	.0548	4612.		
.1940	-443.	-814.	-317.	295.	-905.	1139.	-.0225	.0028	-.0052	.0788	.0268	.0259	4515.		
.1950	-537.	-562.	-283.	177.	-964.	995.	-.0257	-.0068	-.0032	.0707	.0299	-.0031	4248.		
.1960	-622.	-306.	-219.	53.	-959.	834.	-.0296	-.0167	-.0011	.0577	.0340	-.0311	3868.		
.1970	-704.	-47.	-132.	-70.	-899.	654.	-.0341	-.0268	.0009	.0405	.0376	-.0567	3388.		
.1980	-752.	242.	-45.	-191.	-809.	437.	-.0389	-.0366	.0024	.0198	.0393	-.0790	2850.		
.1990	-766.	542.	34.	-296.	-707.	177.	-.0439	-.0457	.0032	-.0027	.0376	-.0972	2393.		
.2000	-771.	800.	112.	-364.	-600.	-78.	-.0491	-.0539	.0032	-.0251	.0322	-.1111	2148.		
.2010	-764.	1004.	187.	-392.	-488.	-313.	-.0547	-.0607	.0026	-.0467	.0238	-.1205	2129.		
.2020	-716.	1182.	245.	-305.	-368.	-534.	-.0599	-.0658	.0014	-.0677	.0142	-.1247	2310.		
.2030	-630.	1336.	280.	-388.	-231.	-741.	-.0643	-.0594	.0001	-.0882	.0052	-.1229	2640.		
.2040	-551.	1440.	340.	-375.	-62.	-920.	-.0676	-.0712	-.0010	-.1078	-.0017	-.1141	3029.		
.2050	-486.	1480.	404.	-353.	140.	-1052.	-.0698	-.0712	-.0017	-.1267	-.0058	-.0989	3403.		

ADLPIPE PAGE 2662

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.48.

S/RV PIPING KEWAUNEE GKW00F 2 RUP DISK
2 SAFETY COLD FKW24F--2 PSVCONDITION 24
LOADS
SHOCK
PRESSURE
ENGLISH UNITS

.1950	-533.	-562.	-283.	177.	-964.	995.	-.0257	-.0068	-.0032	.0707	.0299	-.0031	4248.
.1960	-622.	-306.	-219.	53.	-959.	834.	-.0296	-.0167	-.0011	.0577	.0340	-.0311	3868.
.1970	-704.	-47.	-132.	-70.	-899.	654.	-.0341	-.0268	.0009	.0405	.0376	-.0567	3388.
.1980	-752.	242.	-45.	-191.	-809.	432.	-.0389	-.0366	.0024	.0198	.0393	-.0790	2850.
.1990	-766.	542.	34.	-256.	-707.	177.	-.0439	-.0457	.0032	-.0027	.0376	-.0972	2393.
.2000	-771.	800.	112.	-364.	-600.	-78.	-.0491	-.0539	.0032	-.0251	.0322	-.1111	2148.
.2010	-764.	1004.	187.	-392.	-488.	-313.	-.0547	-.0607	.0026	-.0467	.0338	-.1205	2129.
.2020	-716.	1182.	245.	-395.	-368.	-534.	-.0599	-.0658	.0014	-.0677	.0342	-.1247	2310.
.2030	-630.	1376.	280.	-388.	-231.	-741.	-.0643	-.0694	.0001	-.0882	.0052	-.1229	2640.
.2040	-551.	1440.	340.	-375.	-62.	-920.	-.0676	-.0712	-.0010	-.1078	-.0017	-.1141	3029.
.2050	-486.	1480.	404.	-353.	140.	-1052.	-.0698	-.0712	-.0017	-.1267	-.0058	-.0989	3403.

ADLPIPE PAGE 2663

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.48.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION	END	TYPE	VA								
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.2060	-400.	1472.	459.	-318.	362.	-1128.	-.0708	-.0694	-.0016	-.1449	-.0073	-.0786	3731.	
.2070	-290.	1415.	496.	-266.	583.	-1146.	-.0707	-.0657	-.0010	-.1610	-.0073	-.0544	3994.	
.2080	-194.	1298.	523.	-195.	778.	-1116.	-.0694	-.0606	-.0001	-.1726	-.0077	-.0273	4181.	
.2090	-117.	1131.	535.	-108.	925.	-1052.	-.0672	-.0543	.0008	-.1776	-.0096	.0014	4274.	
.2100	-27.	941.	510.	-10.	1005.	-940.	-.0640	-.0470	.0015	-.1755	-.0134	.0294	4229.	
.2110	77.	731.	448.	97.	1015.	-834.	-.0603	-.0390	.0021	-.1662	-.0187	.0551	4006.	
.2120	165.	487.	368.	209.	965.	-664.	-.0560	-.0305	.0029	-.1499	-.0242	.0777	3619.	
.2130	224.	220.	281.	312.	871.	-463.	-.0513	-.0221	.0040	-.1280	-.0285	.0970	3146.	
.2140	269.	-32.	187.	384.	748.	-256.	-.0458	-.0139	.0057	-.1024	-.0301	.1132	2672.	
.2150	304.	-249.	90.	415.	610.	-55.	-.0395	-.0065	.0081	-.0749	-.0284	.1260	2250.	
.2160	314.	-444.	4.	412.	468.	145.	-.0328	.0001	.0111	-.0463	-.0235	.1350	1946.	
.2170	299.	-619.	-72.	381.	320.	337.	-.0260	.0056	.0147	-.0170	-.0166	.1398	1828.	
.2180	273.	-755.	-147.	325.	155.	504.	-.0193	.0098	.0183	.0127	-.0089	.1402	1885.	
.2190	243.	-842.	-226.	252.	-35.	635.	-.0129	.0128	.0217	.0426	-.0020	.1358	2083.	
.2200	206.	-899.	-305.	173.	-244.	737.	-.0071	.0144	.0244	.0727	.0034	.1267	2420.	
.2210	161.	-928.	-376.	92.	-457.	810.	-.0023	.0148	.0264	.1021	.0072	.1134	2843.	
.2220	118.	-912.	-439.	1.	-659.	839.	.0020	.0140	.0276	.1289	.0099	.0972	3245.	
.2230	79.	-844.	-487.	-103.	-830.	816.	.0057	.0121	.0282	.1512	.0124	.0798	3555.	
.2240	34.	-744.	-509.	-211.	-940.	760.	.0089	.0092	.0284	.1670	.0154	.0623	3752.	
.2250	-22.	-634.	-496.	-311.	-999.	691.	.0115	.0057	.0284	.1751	.0191	.0455	3814.	
.2260	-73.	-512.	-456.	-396.	-983.	611.	.0135	.0019	.0282	.1750	.0230	.0301	3721.	
.2270	-107.	-369.	-399.	-464.	-913.	507.	.0149	-.0022	.0275	.1674	.0259	.0168	3478.	
.2280	-136.	-217.	-327.	-510.	-805.	375.	.0159	-.0063	.0259	.1540	.0267	.0061	3115.	
.2290	-164.	-71.	-243.	-525.	-671.	225.	.0164	-.0103	.0234	.1364	.0243	-.0022	2681.	
.2300	-176.	64.	-158.	-501.	-526.	70.	.0163	-.0139	.0198	.1155	.0186	-.0085	2219.	
.2310	-167.	185.	-81.	-438.	-373.	-77.	.0157	-.0169	.0156	.0917	.0102	-.0129	1766.	
.2320	-147.	283.	-2.	-343.	-210.	-210.	.0148	-.0193	.0109	.0654	.0002	-.0152	1382.	
.2330	-129.	353.	83.	-225.	-34.	-327.	.0139	-.0209	.0060	.0369	-.0101	-.0148	1213.	
.2340	-113.	404.	171.	-97.	158.	-427.	.0134	-.0218	.0015	.0066	-.0195	-.0116	1415.	
.2350	-88.	441.	256.	35.	361.	-505.	.0134	-.0221	-.0025	-.0250	-.0271	-.0063	1892.	
.2360	-67.	455.	339.	166.	568.	-555.	.0139	-.0216	-.0058	-.0563	-.0324	.0006	2468.	
.2370	-47.	441.	416.	293.	763.	-575.	.0150	-.0206	-.0084	-.0854	-.0357	.0081	3040.	
.2380	-35.	409.	480.	411.	928.	-570.	.0166	-.0191	-.0105	-.1105	-.0372	.0151	3541.	
.2390	-26.	364.	521.	516.	1045.	-544.	.0187	-.0172	-.0121	-.1300	-.0373	.0207	3912.	
.2400	-24.	304.	539.	609.	1104.	-492.	.0211	-.0149	-.0131	-.1429	-.0363	.0237	4118.	
.2410	-34.	225.	536.	688.	1105.	-414.	.0237	-.0124	-.0137	-.1485	-.0343	.0236	4154.	
.2420	-56.	138.	513.	746.	1047.	-318.	.0266	-.0098	-.0136	-.1470	-.0312	.0205	4029.	
.2430	-92.	56.	472.	778.	935.	-219.	.0298	-.0072	-.0129	-.1391	-.0270	.0146	3759.	

ADLPIPE PAGE 2664

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.48.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

.2320	-147.	291.	-2.	-243.	-216.	-210.	.0148	-.0193	.0109	.0654	.0002	-.0152	1382.
.2330	-129.	353.	83.	-225.	-34.	-327.	.0139	-.0209	.0060	.0369	-.0101	-.0148	1215.
.2340	-113.	404.	171.	-97.	158.	-427.	.0134	-.0218	.0015	.0066	-.0195	-.0116	1415.
.2350	-89.	441.	256.	35.	361.	-505.	.0134	-.0221	-.0025	-.0250	-.0271	-.0063	1892.
.2360	-67.	455.	339.	166.	569.	-555.	.0139	-.0216	-.0058	-.0563	-.0324	.0006	2468.
.2370	-47.	441.	416.	293.	763.	-575.	.0150	-.0206	-.0084	-.0854	-.0357	.0081	3040.
.2380	-35.	409.	480.	411.	928.	-570.	.0166	-.0191	-.0105	-.1105	-.0372	.0151	3541.
.2390	-26.	364.	521.	516.	1045.	-544.	.0187	-.0172	-.0121	-.1300	-.0373	.0207	3912.
.2400	-24.	304.	539.	609.	1104.	-492.	.0211	-.0149	-.0131	-.1429	-.0363	.0237	4118.
.2410	-34.	225.	536.	688.	1105.	-414.	.0237	-.0124	-.0137	-.1485	-.0343	.0236	4154.
.2420	-56.	138.	513.	746.	1047.	-318.	.0266	-.0098	-.0136	-.1470	-.0312	.0205	4029.
.2430	-92.	56.	472.	778.	935.	-219.	.0298	-.0072	-.0129	-.1391	-.0270	.0146	3759.

ADLPIPE PAGE 2664

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.48.

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	67	MEMBER	1	SEQUENCE	98	LOCATION	END	TYPE	VA						
TIME	FX	FY	FZ	MX	MY	MZ		DX	DY	DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)		(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.2440	-144.	-24.	417.	783.	778.	-114.		.0331	-.0047	-.0115	-.1257	-.0216	.0060	3375.	
.2450	-210.	-106.	354.	767.	584.	1.		.0364	-.0023	-.0094	-.1074	-.0149	-.0052	2932.	
.2460	-281.	-187.	282.	722.	363.	121.		.0395	-.0000	-.0066	-.0851	-.0073	-.0188	2505.	
.2470	-348.	-253.	201.	668.	120.	233.		.0422	.0021	-.0035	-.0595	.0009	-.0342	2183.	
.2480	-408.	-300.	113.	583.	-136.	324.		.0446	.0039	-.0002	-.0309	.0092	-.0508	2069.	
.2490	-462.	-329.	25.	477.	-392.	388.		.0464	.0056	.0029	-.0005	.0171	-.0677	2220.	
.2500	-503.	-343.	-62.	360.	-638.	430.		.0476	.0071	.0058	.0305	.0243	-.0843	2584.	
.2510	-519.	-343.	-146.	238.	-860.	451.		.0479	.0085	.0086	.0601	.0306	-.0998	3042.	
.2520	-508.	-331.	-222.	118.	-1042.	452.		.0474	.0099	.0110	.0868	.0355	-.1133	3474.	
.2530	-474.	-307.	-283.	-0.	-1172.	423.		.0462	.0113	.0131	.1096	.0391	-.1235	3790.	
.2540	-416.	-264.	-327.	-116.	-1242.	356.		.0444	.0128	.0147	.1275	.0410	-.1293	3946.	
.2550	-328.	-205.	-356.	-225.	-1249.	255.		.0421	.0143	.0156	.1398	.0412	-.1305	3937.	
.2560	-211.	-140.	-370.	-317.	-1193.	134.		.0393	.0160	.0160	.1462	.0398	-.1272	3776.	
.2570	-69.	-84.	-368.	-383.	-1077.	9.		.0359	.0180	.0157	.1469	.0368	-.1198	3476.	
.2580	94.	-36.	-352.	-423.	-907.	-120.		.0321	.0203	.0148	.1422	.0322	-.1082	3067.	
.2590	272.	12.	-326.	-442.	-694.	-259.		.0281	.0227	.0130	.1327	.0262	-.0927	2625.	
.2600	458.	58.	-289.	-440.	-447.	-406.		.0243	.0254	.0106	.1190	.0188	-.0737	2272.	
.2610	643.	92.	-242.	-413.	-174.	-545.		.0206	.0281	.0077	.1014	.0105	-.0520	2146.	
.2620	822.	108.	-189.	-358.	115.	-662.		.0173	.0310	.0045	.0806	.0014	-.0287	2316.	
.2630	989.	107.	-132.	-279.	405.	-755.		.0144	.0339	.0010	.0576	-.0080	-.0047	2741.	
.2640	1130.	94.	-73.	-184.	682.	-827.		.0122	.0366	-.0025	.0336	-.0174	.0193	3309.	
.2650	1238.	71.	-14.	-79.	933.	-878.		.0110	.0390	-.0061	.0102	-.0264	.0420	3904.	
.2660	1314.	37.	41.	31.	1146.	-900.		.0105	.0409	-.0097	-.0114	-.0345	.0622	4434.	
.2670	1357.	-5.	88.	140.	1314.	-888.		.0110	.0424	-.0131	-.0301	-.0412	.0785	4843.	
.2680	1367.	-50.	125.	241.	1428.	-848.		.0124	.0431	-.0164	-.0447	-.0463	.0904	5104.	
.2690	1323.	-95.	155.	327.	1487.	-784.		.0147	.0432	-.0193	-.0547	-.0494	.0974	5198.	
.2700	1239.	-139.	175.	395.	1478.	-697.		.0181	.0424	-.0219	-.0600	-.0505	.0994	5114.	
.2710	1120.	-179.	186.	445.	1417.	-583.		.0223	.0408	-.0239	-.0607	-.0494	.0959	4855.	
.2720	969.	-214.	188.	473.	1306.	-447.		.0271	.0384	-.0252	-.0569	-.0463	.0870	4438.	
.2730	787.	-238.	183.	476.	1146.	-302.		.0326	.0352	-.0261	-.0486	-.0415	.0736	3884.	
.2740	574.	-248.	172.	453.	941.	-158.		.0386	.0313	-.0265	-.0362	-.0353	.0562	3212.	
.2750	344.	-245.	152.	400.	697.	-12.		.0449	.0269	-.0265	-.0202	-.0281	.0352	2458.	
.2760	114.	-235.	122.	350.	427.	143.		.0510	.0222	-.0262	-.0012	-.0203	.0111	1735.	
.2770	-112.	-224.	87.	282.	143.	301.		.0568	.0174	-.0256	.0199	-.0121	-.0149	1328.	
.2780	-336.	-204.	50.	201.	-145.	444.		.0622	.0126	-.0249	.0422	-.0040	-.0410	1548.	
.2790	-551.	-170.	14.	108.	-425.	561.		.0672	.0078	-.0241	.0644	.0037	-.0657	2165.	
.2800	-739.	-128.	-22.	14.	-680.	661.		.0716	.0036	-.0232	.0847	.0108	-.0881	2886.	
.2810	-893.	-87.	-54.	-69.	-897.	759.		.0750	-.0000	-.0221	.1021	.0171	-.1074	3580.	

ADLPIPE PAGE 2665

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.48.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

.2710	1120.	-179.	186.	445.	1417.	-583.	.0223	.0408	-.0239	-.0607	-.0494	.0959	4855.
.2720	969.	-214.	188.	473.	1306.	-447.	.0271	.0384	-.0252	-.0569	-.0463	.0870	4438.
.2730	787.	-238.	183.	476.	1146.	-302.	.0326	.0352	-.0261	-.0486	-.0415	.0736	3884.
.2740	574.	-248.	172.	453.	941.	-158.	.0306	.0313	-.0265	-.0362	-.0353	.0562	3212.
.2750	344.	-245.	152.	408.	697.	-12.	.0449	.0269	-.0265	-.0202	-.0281	.0352	2458.
.2760	114.	-235.	122.	350.	427.	143.	.0510	.0222	-.0262	-.0012	-.0203	.0111	1735.
.2770	-112.	-224.	87.	282.	143.	301.	.0568	.0174	-.0256	.0199	-.0121	-.0149	1328.
.2780	-336.	-204.	50.	201.	-145.	444.	.0622	.0126	-.0249	.0422	-.0040	-.0410	1548.
.2790	-551.	-170.	14.	108.	-425.	561.	.0672	.0078	-.0241	.0644	.0037	-.0657	2165.
.2800	-730.	-128.	-22.	14.	-680.	661.	.0716	.0036	-.0232	.0847	.0108	-.0881	2886.
.2810	-893.	-97.	-54.	-69.	-897.	759.	.0750	-.0000	-.0221	.1021	.0171	-.1074	3580.

ADLPIPE PAGE 2665

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.48.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	67	MEMBER	1	SEQUENCE	98	LOCATION	END	TYPE	VA						
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)	
.2820	-1019.	-81.	-77.	-135.	-1066.	850.		.0773	-.0028	-.0208	.1159	.0222	-.1224	4167.	
.2830	-1110.	-66.	-91.	-190.	-1189.	911.		.0786	-.0047	-.0197	.1255	.0254	-.1320	4594.	
.2840	-1175.	-48.	-101.	-230.	-1265.	943.		.0788	-.0057	-.0187	.1308	.0266	-.1359	4849.	
.2850	-1192.	-44.	-108.	-245.	-1291.	960.		.0777	-.0056	-.0179	.1319	.0254	-.1345	4951.	
.2860	-1165.	-64.	-110.	-231.	-1267.	971.		.0751	-.0044	-.0174	.1290	.0217	-.1280	4906.	
.2870	-1104.	-23.	-106.	-196.	-1198.	959.		.0713	-.0022	-.0171	.1225	.0156	-.1163	4705.	
.2880	-1005.	-117.	-101.	-151.	-1088.	911.		.0664	.0007	-.0171	.1124	.0077	-.0993	4339.	
.2890	-871.	-140.	-93.	-96.	-935.	838.		.0607	.0042	-.0172	.0987	-.0014	-.0779	3830.	
.2900	-711.	-176.	-76.	-32.	-737.	760.		.0540	.0084	-.0171	.0818	-.0108	-.0531	3220.	
.2910	-532.	-217.	-50.	33.	-500.	673.		.0465	.0128	-.0166	.0622	-.0198	-.0258	2551.	
.2920	-335.	-241.	-21.	86.	-237.	563.		.0386	.0173	-.0159	.0407	-.0279	.0032	1875.	
.2930	-130.	-246.	9.	119.	38.	428.		.0306	.0217	-.0148	.0187	-.0350	.0328	1357.	
.2940	60.	-244.	42.	138.	311.	286.		.0223	.0257	-.0134	-.0026	-.0411	.0612	1352.	
.2950	260.	-241.	73.	147.	566.	150.		.0138	.0294	-.0116	-.0220	-.0463	.0867	1837.	
.2960	450.	-223.	91.	140.	787.	17.		.0053	.0325	-.0096	-.0384	-.0508	.1081	2433.	
.2970	626.	-186.	97.	115.	962.	-122.		-.0030	.0348	-.0074	-.0511	-.0547	.1250	2970.	
.2980	771.	-136.	96.	69.	1086.	-261.		-.0108	.0363	-.0050	-.0595	-.0579	.1370	3405.	
.2990	883.	-80.	89.	7.	1160.	-389.		-.0180	.0370	-.0023	-.0638	-.0599	.1437	3722.	
.3000	974.	-14.	72.	-69.	1186.	-493.		-.0246	.0369	.0009	-.0648	-.0602	.1446	3914.	
.3010	1040.	59.	46.	-158.	1169.	-572.		-.0305	.0360	.0045	-.0627	-.0584	.1400	3989.	
.3020	1064.	132.	20.	-262.	1112.	-629.		-.0353	.0345	.0085	-.0577	-.0545	.1308	3967.	
.3030	1044.	207.	-5.	-377.	1017.	-668.		-.0390	.0322	.0126	-.0500	-.0486	.1177	3874.	
.3040	996.	283.	-35.	-496.	885.	-683.		-.0416	.0296	.0167	-.0402	-.0411	.1008	3721.	
.3050	931.	352.	-74.	-608.	721.	-665.		-.0434	.0266	.0208	-.0289	-.0325	.0806	3510.	
.3060	840.	402.	-113.	-703.	532.	-614.		-.0444	.0235	.0246	-.0166	-.0234	.0580	3268.	
.3070	717.	436.	-150.	-782.	321.	-544.		-.0444	.0203	.0280	-.0039	-.0145	.0346	3058.	
.3080	575.	464.	-187.	-843.	97.	-463.		-.0436	.0172	.0308	.0080	-.0060	.0114	2942.	
.3090	427.	481.	-224.	-879.	-127.	-364.		-.0422	.0144	.0330	.0180	.0021	-.0111	2919.	
.3100	272.	471.	-252.	-861.	-336.	-237.		-.0403	.0120	.0348	.0252	.0096	-.0323	2958.	
.3110	106.	438.	-267.	-854.	-521.	-95.		-.0381	.0099	.0359	.0291	.0163	-.0510	3057.	
.3120	-60.	403.	-270.	-808.	-677.	40.		-.0354	.0082	.0362	.0296	.0221	-.0664	3210.	
.3130	-218.	370.	-265.	-743.	-802.	162.		-.0325	.0059	.0357	.0264	.0267	-.0783	3363.	
.3140	-362.	327.	-249.	-654.	-889.	281.		-.0297	.0060	.0343	.0197	.0298	-.0869	3464.	
.3150	-492.	269.	-220.	-541.	-934.	400.		-.0272	.0055	.0321	.0098	.0312	-.0926	3503.	
.3160	-598.	214.	-182.	-415.	-941.	501.		-.0249	.0052	.0291	-.0031	.0309	-.0950	3479.	
.3170	-670.	179.	-139.	-286.	-910.	567.		-.0229	.0052	.0253	-.0185	.0288	-.0942	3376.	
.3180	-737.	156.	-85.	-159.	-842.	601.		-.0211	.0051	.0209	-.0359	.0252	-.0904	3183.	
.3190	-770.	137.	-21.	-33.	-735.	615.		-.0197	.0052	.0161	-.0549	.0206	-.0843	2918.	

ADLPIPE PAGE 2666

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.48.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

.3100	272.	471.	-252.	-881.	-336.	-237.	-.0403	.0120	.0348	.0252	.0096	-.0323	2919.
.3110	106.	438.	-267.	-854.	-521.	-95.	-.0381	.0099	.0359	.0291	.0163	-.0510	3057.
.3120	-60.	403.	-270.	-808.	-677.	40.	-.0354	.0082	.0362	.0296	.0221	-.0664	3210.
.3130	-210.	370.	-265.	-743.	-802.	162.	-.0325	.0069	.0357	.0264	.0267	-.0783	3363.
.3140	-362.	327.	-249.	-654.	-889.	281.	-.0297	.0060	.0343	.0197	.0298	-.0869	3464.
.3150	-492.	269.	-220.	-541.	-934.	400.	-.0272	.0055	.0321	.0098	.0312	-.0926	3503.
.3160	-598.	214.	-182.	-415.	-941.	501.	-.0249	.0052	.0291	-.0031	.0309	-.0950	3479.
.3170	-678.	179.	-139.	-286.	-910.	567.	-.0229	.0052	.0253	-.0185	.0288	-.0942	3376.
.3180	-737.	156.	-85.	-159.	-842.	601.	-.0211	.0051	.0209	-.0359	.0252	-.0904	3183.
.3190	-778.	137.	-21.	-33.	-735.	615.	-.0197	.0052	.0161	-.0549	.0206	-.0843	2918.

ADLPIPE PAGE 2666

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.48.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	67	MEMBER	1	SEQUENCE	98	LOCATION	END	TYPE	VA						
TIME	FX	FY	FZ	MX	MY	MZ		DX	DY	DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)		(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.3200	-790.	127.	48.	86.	-595.	614.		-.0189	.0052	.0111	-.0748	.0155	-.0766	2613.	
.3210	-773.	136.	117.	191.	-430.	588.		-.0184	.0052	.0060	-.0950	.0100	-.0677	2291.	
.3220	-740.	162.	188.	273.	-251.	533.		-.0180	.0049	.0009	-.1140	.0045	-.0576	1975.	
.3230	-700.	198.	259.	333.	-65.	456.		-.0179	.0045	-.0041	-.1309	-.0007	-.0470	1729.	
.3240	-642.	242.	323.	372.	116.	368.		-.0179	.0038	-.0088	-.1453	-.0054	-.0367	1632.	
.3250	-562.	293.	371.	393.	283.	280.		-.0181	.0030	-.0130	-.1564	-.0094	-.0274	1702.	
.3260	-476.	342.	409.	395.	430.	191.		-.0184	.0021	-.0167	-.1638	-.0125	-.0188	1869.	
.3270	-399.	386.	437.	376.	550.	102.		-.0184	.0010	-.0197	-.1669	-.0145	-.0109	2050.	
.3280	-326.	426.	452.	338.	638.	15.		-.0182	-.0003	-.0220	-.1657	-.0155	-.0038	2196.	
.3290	-250.	457.	448.	287.	691.	-54.		-.0177	-.0015	-.0235	-.1606	-.0147	.0022	2282.	
.3300	-179.	467.	429.	231.	710.	-96.		-.0171	-.0027	-.0241	-.1514	-.0128	.0069	2289.	
.3310	-124.	453.	398.	170.	692.	-114.		-.0161	-.0038	-.0239	-.1383	-.0097	.0106	2196.	
.3320	-82.	422.	354.	104.	637.	-116.		-.0148	-.0049	-.0230	-.1214	-.0057	.0139	1994.	
.3330	-47.	378.	292.	37.	545.	-102.		-.0131	-.0059	-.0216	-.1016	-.0010	.0165	1691.	
.3340	-17.	310.	219.	-22.	426.	-59.		-.0113	-.0067	-.0196	-.0795	.0043	.0184	1310.	
.3350	4.	213.	139.	-70.	287.	14.		-.0095	-.0075	-.0171	-.0558	.0100	.0198	901.	
.3360	16.	102.	54.	-111.	135.	99.		-.0075	-.0082	-.0143	-.0315	.0157	.0213	611.	
.3370	23.	-9.	-34.	-149.	-24.	182.		-.0055	-.0089	-.0113	-.0076	.0213	.0233	718.	
.3380	28.	-122.	-120.	-179.	-181.	264.		-.0035	-.0098	-.0082	.0152	.0264	.0257	1115.	
.3390	31.	-244.	-200.	-196.	-325.	352.		-.0018	-.0107	-.0051	.0361	.0310	.0284	1574.	
.3400	36.	-365.	-272.	-201.	-452.	436.		-.0006	-.0119	-.0022	.0545	.0345	.0314	2008.	
.3410	49.	-468.	-338.	-201.	-562.	498.		.0003	-.0133	.0003	.0699	.0369	.0349	2364.	
.3420	69.	-549.	-394.	-198.	-646.	531.		.0008	-.0152	.0023	.0820	.0380	.0390	2614.	
.3430	92.	-613.	-435.	-191.	-700.	537.		.0008	-.0175	.0038	.0907	.0378	.0435	2747.	
.3440	123.	-657.	-462.	-179.	-720.	521.		.0002	-.0202	.0048	.0954	.0364	.0483	2757.	
.3450	169.	-674.	-475.	-166.	-703.	478.		-.0009	-.0233	.0052	.0959	.0341	.0531	2636.	
.3460	222.	-662.	-473.	-154.	-650.	405.		-.0024	-.0268	.0051	.0923	.0310	.0582	2377.	
.3470	274.	-626.	-452.	-146.	-561.	302.		-.0042	-.0305	.0045	.0849	.0274	.0637	1990.	
.3480	325.	-567.	-415.	-140.	-442.	177.		-.0063	-.0352	.0035	.0742	.0234	.0692	1508.	
.3490	383.	-487.	-368.	-134.	-298.	36.		-.0085	-.0398	.0020	.0607	.0190	.0742	1000.	
.3500	444.	-392.	-314.	-127.	-138.	-115.		-.0109	-.0445	.0001	.0452	.0142	.0786	670.	
.3510	497.	-288.	-252.	-119.	28.	-271.		-.0133	-.0493	-.0022	.0287	.0092	.0823	905.	
.3520	539.	-179.	-185.	-111.	194.	-432.		-.0154	-.0541	-.0047	.0121	.0041	.0855	1478.	
.3530	574.	-65.	-119.	-103.	350.	-588.		-.0172	-.0587	-.0075	-.0039	-.0009	.0878	2105.	
.3540	602.	44.	-57.	-92.	493.	-728.		-.0185	-.0629	-.0103	-.0190	-.0054	.0891	2690.	
.3550	615.	138.	3.	-77.	620.	-844.		-.0194	-.0667	-.0131	-.0323	-.0092	.0894	3193.	
.3560	610.	217.	60.	-61.	724.	-935.		-.0195	-.0699	-.0156	-.0435	-.0120	.0890	3603.	
.3570	589.	284.	110.	-46.	802.	-1003.		-.0188	-.0726	-.0179	-.0520	-.0136	.0881	3910.	

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ADLPIPE STRESS ANALYSIS

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18.29.48.

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

CONDITION 24

LOADS

SHOCK

.3470	274.	-626.	-452.	-146.	-561.	302.	-.042	-.0308	.0045	.0849	.0274	.0637	1990.
.3480	325.	-567.	-415.	-140.	-442.	177.	-.0063	-.0352	.0035	.0742	.0234	.0692	1508.
.3490	383.	-487.	-368.	-134.	-298.	36.	-.0085	-.0398	.0020	.0607	.0190	.0742	1000.
.3500	444.	-392.	-314.	-127.	-138.	-115.	-.0109	-.0445	.0001	.0452	.0142	.0786	670.
.3510	497.	-288.	-252.	-119.	28.	-271.	-.0133	-.0493	-.0022	.0287	.0092	.0823	905.
.3520	539.	-179.	-185.	-111.	194.	-432.	-.0154	-.0541	-.0047	.0121	.0041	.0855	1478.
.3530	574.	-65.	-119.	-103.	350.	-588.	-.0172	-.0587	-.0075	-.0039	-.0009	.0878	2105.
.3540	602.	44.	-57.	-92.	493.	-728.	-.0185	-.0629	-.0103	-.0190	-.0054	.0891	2690.
.3550	615.	138.	3.	-77.	620.	-844.	-.0194	-.0667	-.0131	-.0323	-.0092	.0894	3193.
.3560	610.	217.	60.	-61.	724.	-935.	-.0195	-.0699	-.0156	-.0435	-.0120	.0890	3603.
.3570	589.	284.	110.	-46.	802.	-1003.	-.0188	-.0726	-.0179	-.0520	-.0136	.0881	3910.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

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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	VA								
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RY (DEG)	RZ (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)
.3580	557.	334.	149.	-30.	849.	-1042.	-.0173	-.0745	-.0199	-.0575	-.0143	.0865	.0865	4089.
.3590	504.	356.	178.	-8.	863.	-1041.	-.0151	-.0756	-.0216	-.0596	-.0140	.0839	.0839	4114.
.3600	442.	349.	196.	21.	844.	-1001.	-.0122	-.0759	-.0229	-.0581	-.0130	.0805	.0805	3983.
.3610	371.	322.	201.	52.	789.	-932.	-.0087	-.0753	-.0238	-.0528	-.0114	.0766	.0766	3717.
.3620	293.	278.	192.	83.	701.	-839.	-.0044	-.0740	-.0245	-.0439	-.0094	.0723	.0723	3336.
.3630	208.	215.	172.	116.	587.	-721.	.0003	-.0719	-.0248	-.0319	-.0069	.0677	.0677	2851.
.3640	121.	129.	145.	151.	455.	-576.	.0053	-.0691	-.0247	-.0174	-.0039	.0629	.0629	2279.
.3650	37.	29.	111.	187.	313.	-409.	.0105	-.0656	-.0243	-.0013	-.0004	.0582	.0582	1667.
.3660	-42.	-76.	72.	220.	166.	-235.	.0159	-.0616	-.0234	.0159	.0077	.0537	.0537	1101.
.3670	-120.	-185.	33.	247.	22.	-59.	.0213	-.0571	-.0223	.0333	.0002	.0500	.0500	776.
.3680	-194.	-296.	-5.	273.	-114.	117.	.0265	-.0523	-.0209	.0505	.0128	.0467	.0467	967.
.3690	-256.	-405.	-41.	298.	-240.	288.	.0313	-.0473	-.0193	.0668	.0172	.0439	.0439	1457.
.3700	-305.	-507.	-76.	324.	-353.	450.	.0354	-.0421	-.0176	.0816	.0211	.0413	.0413	1998.
.3710	-343.	-599.	-108.	350.	-451.	592.	.0388	-.0369	-.0160	.0945	.0239	.0391	.0391	2502.
.3720	-374.	-677.	-137.	376.	-537.	707.	.0414	-.0318	-.0145	.1053	.0256	.0375	.0375	2927.
.3730	-394.	-737.	-152.	403.	-596.	794.	.0430	-.0270	-.0131	.1133	.0261	.0362	.0362	3260.
.3740	-398.	-777.	-165.	431.	-635.	855.	.0437	-.0225	-.0118	.1179	.0255	.0351	.0351	3494.
.3750	-388.	-798.	-169.	459.	-646.	888.	.0433	-.0183	-.0105	.1188	.0241	.0341	.0341	3621.
.3760	-371.	-796.	-161.	483.	-628.	889.	.0419	-.0147	-.0092	.1158	.0222	.0334	.0334	3622.
.3770	-346.	-769.	-141.	499.	-580.	854.	.0397	-.0116	-.0081	.1090	.0200	.0330	.0330	3489.
.3780	-312.	-714.	-112.	508.	-504.	788.	.0367	-.0091	-.0069	.0984	.0177	.0327	.0327	3236.
.3790	-269.	-638.	-73.	511.	-402.	697.	.0329	-.0071	-.0056	.0844	.0154	.0321	.0321	2900.
.3800	-219.	-545.	-27.	510.	-279.	588.	.0283	-.0057	-.0044	.0676	.0130	.0309	.0309	2516.
.3810	-166.	-435.	26.	503.	-143.	457.	.0231	-.0049	-.0031	.0487	.0105	.0292	.0292	2114.
.3820	-112.	-305.	81.	488.	-2.	305.	.0177	-.0046	-.0020	.0284	.0078	.0269	.0269	1751.
.3830	-58.	-163.	137.	468.	138.	140.	.0119	-.0047	-.0008	.0073	.0048	.0238	.0238	1544.
.3840	-5.	-19.	192.	447.	273.	-24.	.0060	-.0052	.0005	-.0138	.0017	.0197	.0197	1595.
.3850	44.	123.	245.	426.	397.	-181.	.0001	-.0060	.0018	-.0344	-.0013	.0145	.0145	1856.
.3860	87.	264.	293.	401.	507.	-333.	-.0056	-.0069	.0033	-.0539	-.0042	.0085	.0085	2211.
.3870	120.	401.	336.	371.	597.	-477.	-.0108	-.0080	.0048	-.0715	-.0066	.0020	.0020	2583.
.3880	142.	527.	372.	339.	665.	-603.	-.0155	-.0091	.0065	-.0869	-.0085	-.0051	-.0051	2920.
.3890	154.	673.	400.	308.	710.	-703.	-.0196	-.0101	.0084	-.0996	-.0097	-.0128	-.0128	3179.
.3900	158.	718.	419.	280.	720.	-772.	-.0230	-.0108	.0103	-.1093	-.0103	-.0208	-.0208	3338.
.3910	152.	782.	426.	253.	718.	-814.	-.0255	-.0113	.0124	-.1156	-.0103	-.0289	-.0289	3391.
.3920	130.	823.	424.	227.	679.	-834.	-.0272	-.0116	.0145	-.1183	-.0100	-.0365	-.0365	3343.
.3930	93.	838.	417.	205.	611.	-827.	-.0280	-.0115	.0166	-.1173	-.0093	-.0435	-.0435	3190.
.3940	50.	826.	389.	190.	518.	-789.	-.0280	-.0110	.0186	-.1132	-.0083	-.0500	-.0500	2927.
.3950	4.	786.	355.	184.	403.	-717.	-.0273	-.0101	.0207	-.1061	-.0070	-.0559	-.0559	2565.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

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18.29.48.

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

.3860	87.	264.	293.	401.	507.	-333.	-1056	-0069	.0035	-0539	-0042	.0085	2211.
.3870	120.	401.	336.	371.	597.	-477.	-1108	-0080	.0048	-0715	-0066	.0020	2583.
.3880	147.	527.	372.	329.	665.	-603.	-0155	-0091	.0065	-0869	-0085	-0051	2920.
.3890	154.	677.	400.	302.	710.	-703.	-0196	-0101	.0084	-0996	-0097	-0128	3179.
.3900	158.	718.	419.	280.	720.	-772.	-0230	-0108	.0103	-1093	-0103	-0208	3338.
.3910	152.	782.	426.	253.	710.	-814.	-0255	-0113	.0124	-1156	-0103	-0249	3391.
.3920	130.	823.	424.	227.	679.	-834.	-0272	-0116	.0145	-1183	-0100	-0365	3343.
.3930	97.	838.	412.	205.	611.	-827.	-0280	-0115	.0166	-1173	-0093	-0435	3190.
.3940	50.	826.	389.	190.	510.	-789.	-0280	-0110	.0186	-1132	-0083	-0500	2927.
.3950	4.	786.	355.	164.	403.	-717.	-0273	-0101	.0207	-1061	-0070	-0559	2565.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.48.

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

CONDITION 24
LOADS
SHOCK
PRESSURE
ENGLISH UNITS

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

SECTION	67	MEMBER	1	SEQUENCE	98	LOCATION	END	TYPE	VA					
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	-52.	720.	315.	184.	272.	-622.	-0259	-0088	.0227	-0963	-0055	-0606	2140.	
.3970	-120.	635.	270.	186.	120.	-513.	-0238	-0073	.0245	-0842	-0037	-0639	1706.	
.3980	-190.	537.	221.	100.	-27.	-393.	-0212	-0056	.0261	-0706	-0017	-0656	1330.	
.3990	-255.	423.	167.	200.	-174.	-258.	-0184	-0037	.0276	-0560	.0005	-0662	1127.	
.4000	-316.	294.	113.	217.	-320.	-112.	-0154	-0016	.0289	-0410	.0025	-0655	1224.	

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)
.2690	1327.	-95.	155.	327.	1483.	-784.	.0147	.0432	-0193	-0547	-0494	.0974	5198.

SECTION	67	MEMBER	2	SEQUENCE	99	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.	-0.0000	-0.0000	-0.0000	.0000	-0.0000	.0000	0.	
.0020	-0.	-0.	0.	-0.	-0.	-0.	-0.0000	-0.0000	.0000	.0000	-0.0000	.0000	0.	
.0030	-0.	-0.	0.	-0.	0.	-0.	.0000	-0.0000	.0000	.0000	.0000	.0000	0.	
.0040	-0.	-0.	0.	-0.	0.	-0.	-0.0000	-0.0000	-0.0000	.0000	.0000	.0000	0.	
.0050	-1.	-0.	0.	0.	0.	-0.	-0.0000	-0.0000	-0.0000	.0000	-0.0000	-0.0000	0.	
.0060	-2.	-0.	1.	0.	-0.	-0.	-0.0000	.0000	-0.0000	.0001	-0.0001	-0.0000	1.	
.0070	-4.	-1.	1.	1.	-1.	0.	-0.0001	.0000	-0.0001	.0002	-0.0003	-0.0001	5.	
.0080	-7.	-3.	1.	2.	-2.	0.	-0.0001	.0000	-0.0001	.0004	-0.0006	-0.0001	13.	
.0090	-11.	-5.	2.	4.	-5.	1.	-0.0003	.0000	-0.0003	.0007	-0.0012	-0.0003	27.	
.0100	-17.	-8.	2.	8.	-8.	1.	-0.0005	.0001	-0.0004	.0012	-0.0021	-0.0005	48.	
.0110	-25.	-12.	1.	12.	-14.	1.	-0.0007	.0001	-0.0007	.0019	-0.0033	-0.0008	78.	
.0120	-35.	-17.	0.	19.	-23.	2.	-0.0011	.0001	-0.0011	.0028	-0.0051	-0.0013	124.	
.0130	-47.	-26.	-2.	28.	-35.	4.	-0.0017	.0002	-0.0015	.0041	-0.0074	-0.0018	189.	
.0140	-58.	-39.	-7.	41.	-51.	8.	-0.0025	.0003	-0.0020	.0057	-0.0104	-0.0026	275.	
.0150	-69.	-53.	-13.	55.	-69.	13.	-0.0034	.0004	-0.0026	.0075	-0.0137	-0.0034	373.	
.0160	-77.	-63.	-20.	68.	-80.	16.	-0.0045	.0005	-0.0032	.0094	-0.0171	-0.0045	470.	
.0170	-81.	-66.	-28.	78.	-105.	15.	-0.0054	.0004	-0.0039	.0111	-0.0201	-0.0058	549.	
.0180	-80.	-63.	-34.	81.	-117.	8.	-0.0062	.0001	-0.0043	.0122	-0.0220	-0.0070	594.	
.0190	-69.	-52.	-39.	76.	-120.	-1.	-0.0067	-0.0002	-0.0043	.0121	-0.0220	-0.0079	592.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

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18.29.48.

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

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

.0090	-11.	-5.	2.	4.	-5.	1.	-.0003	.0000	-.0003	.0004	-.0008	-.0001	15.
.0100	-17.	-8.	2.	8.	-5.	1.	-.0005	.0001	-.0004	.0012	-.0021	-.0005	48.
.0110	-25.	-12.	1.	12.	-14.	1.	-.0007	.0001	-.0007	.0019	-.0033	-.0008	78.
.0120	-35.	-17.	0.	19.	-23.	2.	-.0011	.0001	-.0011	.0028	-.0051	-.0013	124.
.0130	-47.	-26.	-2.	28.	-35.	4.	-.0017	.0002	-.0015	.0041	-.0074	-.0018	189.
.0140	-58.	-39.	-7.	41.	-51.	8.	-.0025	.0003	-.0020	.0057	-.0104	-.0026	275.
.0150	-69.	-53.	-13.	55.	-69.	13.	-.0034	.0004	-.0026	.0075	-.0137	-.0034	373.
.0160	-77.	-63.	-20.	68.	-88.	16.	-.0045	.0005	-.0032	.0094	-.0171	-.0045	470.
.0170	-81.	-66.	-28.	78.	-105.	15.	-.0054	.0004	-.0039	.0111	-.0201	-.0058	549.
.0180	-89.	-63.	-34.	91.	-117.	8.	-.0062	.0001	-.0043	.0122	-.0220	-.0070	594.
.0190	-69.	-52.	-39.	76.	-120.	-1.	-.0067	-.0002	-.0043	.0121	-.0220	-.0079	592.

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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	67	MEMBER	2	SEQUENCE	99	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	-49.	-35.	-41.	61.	-111.	-13.	-.0069	-.0007	-.0037	.0106	-.0195	-.0082	531.		
.0210	-17.	-8.	-39.	35.	-83.	-24.	-.0065	-.0013	-.0025	.0071	-.0141	-.0077	408.		
.0220	28.	33.	-35.	-0.	-52.	-33.	-.0056	-.0019	-.0006	.0020	-.0058	-.0065	257.		
.0230	74.	78.	-28.	-41.	-7.	-40.	-.0044	-.0026	.0017	-.0044	.0043	-.0047	240.		
.0240	107.	117.	-16.	-80.	39.	-43.	-.0032	-.0031	.0040	-.0107	.0145	-.0023	412.		
.0250	136.	136.	-3.	-111.	79.	-41.	-.0022	-.0036	.0060	-.0159	.0232	.0003	596.		
.0260	181.	143.	2.	-134.	111.	-39.	-.0016	-.0039	.0073	-.0192	.0296	.0026	744.		
.0270	234.	168.	-1.	-152.	133.	-47.	-.0009	-.0043	.0076	-.0205	.0331	.0040	865.		
.0280	244.	216.	3.	-165.	145.	-76.	.0001	-.0049	.0066	-.0200	.0331	.0044	970.		
.0290	244.	234.	10.	-168.	144.	-111.	.0009	-.0054	.0050	-.0178	.0303	.0052	1032.		
.0300	278.	198.	-9.	-154.	141.	-110.	.0012	-.0053	.0037	-.0145	.0278	.0075	986.		
.0310	347.	155.	-25.	-141.	152.	-86.	.0017	-.0048	.0031	-.0121	.0276	.0108	935.		
.0320	341.	148.	-12.	-146.	175.	-84.	.0037	-.0047	.0028	-.0121	.0298	.0148	1014.		
.0330	307.	153.	8.	-161.	204.	-96.	.0071	-.0048	.0030	-.0141	.0338	.0198	1156.		
.0340	274.	115.	27.	-164.	237.	-68.	.0101	-.0042	.0041	-.0164	.0394	.0262	1237.		
.0350	227.	18.	56.	-143.	265.	8.	.0116	-.0028	.0053	-.0170	.0437	.0329	1259.		
.0360	170.	-95.	72.	-103.	264.	78.	.0124	-.0013	.0051	-.0141	.0422	.0378	1226.		
.0370	113.	-166.	60.	-53.	221.	98.	.0133	-.0004	.0025	-.0067	.0326	.0390	1031.		
.0380	5.	-192.	46.	4.	145.	79.	.0138	.0000	-.0022	.0047	.0158	.0360	691.		
.0390	-125.	-235.	33.	79.	46.	71.	.0130	.0007	-.0077	.0184	-.0052	.0311	484.		
.0400	-165.	-341.	-16.	170.	-64.	101.	.0109	.0019	-.0123	.0325	-.0256	.0265	870.		
.0410	-134.	-441.	-76.	244.	-149.	150.	.0091	.0033	-.0151	.0429	-.0393	.0223	1347.		
.0420	-201.	-440.	-76.	261.	-180.	162.	.0096	.0037	-.0160	.0457	-.0432	.0177	1487.		
.0430	-342.	-361.	-30.	229.	-168.	144.	.0123	.0033	-.0145	.0402	-.0376	.0138	1328.		
.0440	-402.	-317.	0.	190.	-129.	167.	.0150	.0034	-.0102	.0289	-.0239	.0123	1185.		
.0450	-409.	-342.	36.	163.	-70.	264.	.0156	.0046	-.0038	.0158	-.0053	.0121	1330.		
.0460	-454.	-352.	91.	144.	-18.	361.	.0147	.0059	.0017	.0042	.0095	.0094	1623.		
.0470	-493.	-275.	108.	128.	-20.	364.	.0139	.0060	.0038	-.0027	.0134	.0012	1613.		
.0480	-506.	-146.	83.	123.	-78.	286.	.0124	.0051	.0023	-.0034	.0057	-.0119	1342.		
.0490	-532.	-52.	65.	141.	-155.	219.	.0084	.0047	-.0006	.0005	-.0081	-.0270	1264.		
.0500	-507.	-17.	39.	183.	-233.	206.	.0021	.0052	-.0030	.0056	-.0223	-.0411	1508.		
.0510	-384.	13.	-22.	273.	-304.	204.	-.0039	.0059	-.0043	.0081	-.0331	-.0530	1788.		
.0520	-307.	96.	-50.	218.	-331.	158.	-.0077	.0059	-.0040	.0049	-.0361	-.0625	1780.		
.0530	-342.	221.	-1.	162.	-292.	87.	-.0094	.0052	-.0017	-.0051	-.0288	-.0686	1440.		
.0540	-316.	327.	48.	92.	-211.	54.	-.0104	.0050	.0033	-.0202	-.0127	-.0699	988.		
.0550	-163.	377.	56.	37.	-117.	69.	-.0119	.0056	.0097	-.0368	.0072	-.0670	588.		
.0560	-65.	397.	84.	-14.	-25.	69.	-.0136	.0061	.0153	-.0507	.0244	-.0628	311.		
.0570	-63.	429.	129.	-60.	39.	8.	-.0153	.0058	.0182	-.0590	.0331	-.0596	300.		

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CONDITION 24

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ENGLISH UNITS

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

.0470	-497.	-275.	103.	128.	-20.	364.	.0139	.0060	.0038	-.0027	.0134	.0012	1613.
.0480	-506.	-146.	83.	123.	-78.	286.	.1124	.0051	.0023	-.0034	.0057	-.0119	1342.
.0490	-532.	-52.	65.	141.	-155.	219.	.0084	.0047	-.0006	.0005	-.0081	-.0270	1264.
.0500	-507.	-17.	39.	183.	-233.	206.	.0021	.0052	-.0030	.0056	-.0223	-.0411	1508.
.0510	-384.	13.	-22.	273.	-704.	204.	-.0039	.0059	-.0043	.0081	-.0331	-.0530	1788.
.0520	-307.	26.	-50.	218.	-331.	158.	-.0077	.0059	-.0040	.0049	-.0361	-.0625	1780.
.0530	-342.	221.	-1.	162.	-292.	87.	-.0094	.0052	-.0017	-.0051	-.0288	-.0686	1440.
.0540	-316.	327.	48.	92.	-211.	54.	-.0104	.0050	.0033	-.0202	-.0127	-.0699	988.
.0550	-163.	377.	56.	37.	-117.	69.	-.0119	.0056	.0097	-.0368	.0072	-.0670	588.
.0560	-65.	377.	84.	-14.	-25.	69.	-.0136	.0061	.0153	-.0507	.0244	-.0628	311.
.0570	-67.	429.	129.	-60.	39.	8.	-.0153	.0058	.0182	-.0590	.0331	-.0596	300.

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CONDITION 24

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ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION	END	TYPE	RU	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)							
.0580	1.	468.	112.	-77.	46.	-86.	-.0175	.0053	.0181	-.0602	.0310	-.0578	519.
.0590	145.	464.	42.	-58.	10.	-165.	-.0209	.0053	.0162	-.0547	.0211	-.0560	751.
.0600	255.	397.	-12.	-28.	-30.	-223.	-.0253	.0055	.0136	-.0452	.0092	-.0527	946.
.0610	342.	324.	-52.	-16.	-56.	-288.	-.0285	.0054	.0115	-.0360	-.0000	-.0475	1224.
.0620	455.	307.	-103.	-34.	-56.	-368.	-.0289	.0047	.0106	-.0310	-.0026	-.0397	1561.
.0630	521.	311.	-120.	-85.	-11.	-439.	-.0268	.0037	.0121	-.0318	.0044	-.0284	1869.
.0640	520.	253.	-84.	-154.	82.	-464.	-.0239	.0030	.0164	-.0371	.0205	-.0127	2070.
.0650	552.	135.	-50.	-216.	191.	-433.	-.0209	.0029	.0222	-.0439	.0409	.0057	2171.
.0660	612.	38.	-41.	-263.	276.	-386.	-.0177	.0028	.0272	-.0490	.0579	.0227	2266.
.0670	597.	-4.	-30.	-296.	317.	-379.	-.0145	.0021	.0290	-.0483	.0645	.0349	2403.
.0680	530.	-47.	-32.	-303.	295.	-412.	-.0124	.0008	.0267	-.0385	.0576	.0414	2464.
.0690	511.	-131.	-85.	-263.	207.	-436.	-.0125	-.0004	.0215	-.0198	.0382	.0433	2296.
.0700	526.	-235.	-167.	-185.	78.	-423.	-.0142	-.0011	.0142	.0038	.0118	.0418	1953.
.0710	511.	-325.	-236.	-106.	-53.	-393.	-.0159	-.0018	.0070	.0269	-.0144	.0384	1713.
.0720	473.	-374.	-279.	-60.	-148.	-372.	-.0158	-.0032	.0012	.0446	-.0332	.0349	1691.
.0730	421.	-364.	-289.	-56.	-186.	-347.	-.0132	-.0050	-.0018	.0531	-.0397	.0328	1659.
.0740	343.	-317.	-255.	-81.	-160.	-284.	-.0089	-.0068	-.0015	.0517	-.0332	.0329	1402.
.0750	268.	-290.	-195.	-116.	-90.	-175.	-.0039	-.0081	.0016	.0435	-.0172	.0353	954.
.0760	210.	-292.	-130.	-148.	-5.	-53.	.0009	-.0094	.0055	.0332	.0019	.0381	655.
.0770	124.	-261.	-63.	-171.	63.	41.	.0054	-.0110	.0077	.0247	.0165	.0379	780.
.0780	13.	-168.	-12.	-173.	84.	91.	.0092	-.0130	.0066	.0210	.0208	.0329	887.
.0790	-58.	-75.	-4.	-136.	46.	119.	.0114	-.0149	.0022	.0241	.0137	.0240	777.
.0800	-98.	-40.	-25.	-60.	-31.	150.	.0114	-.0164	-.0043	.0331	-.0015	.0133	688.
.0810	-157.	-38.	-40.	35.	-119.	192.	.0101	-.0173	-.0114	.0440	-.0193	.0026	951.
.0820	-217.	-19.	-49.	125.	-191.	230.	.0095	-.0181	-.0178	.0517	-.0340	-.0065	1352.
.0830	-258.	24.	-48.	187.	-219.	259.	.0105	-.0189	-.0222	.0533	-.0401	-.0124	1619.
.0840	-328.	66.	-1.	214.	-182.	289.	.0130	-.0197	-.0238	.0476	-.0347	-.0138	1680.
.0850	-418.	101.	84.	214.	-89.	333.	.0165	-.0201	-.0227	.0356	-.0195	-.0110	1692.
.0860	-453.	129.	150.	207.	24.	389.	.0203	-.0200	-.0201	.0205	.0004	-.0052	1844.
.0870	-444.	149.	211.	202.	133.	434.	.0239	-.0197	-.0177	.0066	.0192	.0015	2072.
.0880	-466.	160.	265.	198.	220.	441.	.0267	-.0195	-.0168	-.0029	.0324	.0071	2217.
.0890	-484.	165.	296.	206.	267.	418.	.0284	-.0192	-.0178	-.0065	.0377	.0111	2242.
.0900	-426.	159.	275.	232.	273.	389.	.0289	-.0184	-.0201	-.0052	.0363	.0139	2208.
.0910	-346.	129.	239.	261.	262.	364.	.0286	-.0171	-.0225	-.0011	.0325	.0168	2167.
.0920	-319.	87.	228.	274.	260.	335.	.0281	-.0157	-.0241	.0028	.0302	.0206	2107.
.0930	-314.	49.	230.	267.	271.	303.	.0284	-.0141	-.0240	.0042	.0315	.0260	2030.
.0940	-297.	16.	228.	248.	291.	286.	.0290	-.0121	-.0221	.0028	.0363	.0329	1993.
.0950	-304.	-39.	241.	224.	317.	290.	.0290	-.0096	-.0191	.0009	.0424	.0404	2021.

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2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

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ENGLISH UNITS

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

.0860	-453.	129.	150.	207.	24.	389.	.0165	-.0201	-.0227	.0356	-.0195	-.0110	1692.
.0870	-444.	149.	211.	202.	133.	434.	.0239	-.0197	-.0177	.0066	.0192	.0015	2072.
.0880	-466.	160.	265.	198.	220.	441.	.0267	-.0195	-.0168	-.0029	.0324	.0071	2217.
.0890	-484.	165.	296.	206.	267.	418.	.0284	-.0192	-.0178	-.0065	.0377	.0111	2242.
.0900	-426.	159.	275.	232.	273.	389.	.0289	-.0184	-.0201	-.0052	.0363	.0139	2208.
.0910	-346.	129.	239.	261.	262.	364.	.0286	-.0171	-.0225	-.0011	.0325	.0168	2167.
.0920	-319.	87.	229.	274.	260.	335.	.0281	-.0157	-.0241	.0023	.0302	.0206	2107.
.0930	-314.	49.	230.	267.	271.	303.	.0284	-.0141	-.0240	.0042	.0315	.0260	2030.
.0940	-297.	16.	228.	248.	291.	286.	.0290	-.0121	-.0221	.0028	.0363	.0329	1993.
.0950	-304.	-39.	241.	224.	317.	290.	.0290	-.0096	-.0191	.0009	.0424	.0404	2021.

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

CONDITION 24
LOADS
SHOCK
PRESSURE
ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION	END	TYPE	RU	DX	DY	DZ	RX	RY	RZ	STRESS
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	FX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
.0960	-330.	-121.	258.	204.	327.	297.	.0278	-.0068	-.0161	.0017	.0452	.0467	2030.
.0970	-326.	-197.	239.	195.	294.	281.	.0254	-.0041	-.0149	.0079	.0400	.0495	1883.
.0980	-304.	-239.	186.	197.	211.	229.	.0219	-.0018	-.0160	.0202	.0251	.0476	1537.
.0990	-299.	-267.	123.	205.	93.	152.	.0172	.0002	-.0189	.0377	.0029	.0414	1132.
.1000	-280.	-312.	50.	216.	-39.	76.	.0112	.0023	-.0221	.0575	-.0218	.0332	968.
.1010	-221.	-365.	-29.	220.	-160.	18.	.0049	.0044	-.0241	.0755	-.0435	.0247	1137.
.1020	-169.	-386.	-87.	200.	-243.	-30.	-.0007	.0063	-.0240	.0879	-.0579	.0168	1320.
.1030	-147.	-363.	-107.	145.	-277.	-83.	-.0049	.0070	-.0216	.0930	-.0632	.0099	1348.
.1040	-113.	-315.	-107.	62.	-267.	-138.	-.0078	.0089	-.0170	.0915	-.0601	.0045	1280.
.1050	-45.	-253.	-103.	-30.	-228.	-185.	-.0103	.0098	-.0108	.0850	-.0515	-.0000	1233.
.1060	42.	-176.	-97.	-119.	-179.	-225.	-.0127	.0107	-.0042	.0760	-.0411	-.0046	1300.
.1070	151.	-87.	-102.	-198.	-137.	-274.	-.0152	.0114	.0019	.0664	-.0321	-.0098	1522.
.1080	275.	3.	-120.	-264.	-110.	-340.	-.0176	.0117	.0070	.0574	-.0258	-.0159	1856.
.1090	395.	92.	-140.	-317.	-91.	-407.	-.0200	.0120	.0114	.0484	-.0211	-.0220	2185.
.1100	520.	194.	-159.	-351.	-67.	-444.	-.0223	.0127	.0156	.0382	-.0159	-.0277	2379.
.1110	623.	273.	-167.	-370.	-37.	-467.	-.0241	.0136	.0198	.0266	-.0098	-.0317	2493.
.1120	675.	313.	-154.	-378.	-0.	-486.	-.0252	.0144	.0238	.0140	-.0034	-.0338	2570.
.1130	694.	248.	-125.	-367.	42.	-482.	-.0259	.0156	.0272	.0011	.0025	-.0349	2533.
.1140	721.	390.	-104.	-330.	79.	-458.	-.0263	.0169	.0293	-.0105	.0057	-.0358	2380.
.1150	746.	410.	-97.	-274.	98.	-450.	-.0262	.0181	.0295	-.0184	.0041	-.0370	2238.
.1160	725.	403.	-85.	-207.	99.	-462.	-.0255	.0189	.0276	-.0225	-.0021	-.0387	2152.
.1170	680.	395.	-73.	-128.	89.	-456.	-.0244	.0197	.0246	-.0243	-.0103	-.0404	2011.
.1180	698.	382.	-90.	-40.	80.	-408.	-.0226	.0210	.0216	-.0253	-.0167	-.0413	1743.
.1190	697.	330.	-94.	29.	89.	-354.	-.0193	.0221	.0193	-.0271	-.0179	-.0401	1529.
.1200	599.	269.	-44.	57.	137.	-308.	-.0137	.0226	.0184	-.0319	-.0112	-.0367	1428.
.1210	487.	263.	24.	56.	219.	-235.	-.0060	.0232	.0190	-.0413	.0038	-.0317	1362.
.1220	387.	288.	89.	47.	311.	-131.	.0031	.0240	.0209	-.0532	.0230	-.0256	1421.
.1230	257.	260.	156.	42.	389.	-21.	.0121	.0250	.0225	-.0627	.0405	-.0193	1634.
.1240	42.	171.	238.	53.	425.	74.	.0199	.0258	.0223	-.0656	.0500	-.0149	1815.
.1250	-159.	97.	279.	97.	392.	167.	.0262	.0269	.0192	-.0607	.0473	-.0148	1822.
.1260	-250.	64.	237.	175.	282.	258.	.0309	.0284	.0130	-.0478	.0324	-.0195	1754.
.1270	-361.	16.	184.	253.	133.	309.	.0345	.0294	.0047	-.0282	.0098	-.0275	1756.
.1280	-532.	-49.	161.	308.	-17.	330.	.0378	.0301	-.0040	-.0067	-.0129	-.0366	1884.
.1290	-680.	-70.	144.	339.	-132.	374.	.0416	.0311	-.0106	.0103	-.0291	-.0446	2178.
.1300	-757.	-58.	119.	353.	-209.	463.	.0460	.0327	-.0140	.0197	-.0355	-.0495	2582.
.1310	-839.	-92.	128.	338.	-230.	569.	.0505	.0346	-.0141	.0231	-.0318	-.0504	2925.
.1320	-1001.	-172.	199.	295.	-206.	653.	.0547	.0363	-.0124	.0228	-.0224	-.0488	3113.
.1330	-1098.	-196.	247.	251.	-181.	725.	.0583	.0380	-.0106	.0208	-.0139	-.0475	3292.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.48.

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

CONDITION 24
LOADS
SHOCK
PRESSURE
ENGLISH UNITS

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

.1230	257.	260.	56.	42.	389.	-21.	.0121	.0250	.0223	-.0627	.0405	-.0193	1634.
.1240	42.	171.	230.	53.	425.	74.	.0199	.0258	.0223	-.0656	.0500	-.0149	1815.
.1250	-159.	97.	279.	97.	392.	167.	.0262	.0269	.0192	-.0607	.0473	-.0148	1822.
.1260	-250.	64.	237.	175.	282.	258.	.0309	.0284	.0130	-.0478	.0324	-.0195	1754.
.1270	-361.	16.	184.	253.	133.	309.	.0345	.0294	.0047	-.0282	.0098	-.0275	1756.
.1280	-532.	-49.	161.	308.	-12.	330.	.0378	.0301	-.0040	-.0067	-.0129	-.0366	1884.
.1290	-680.	-70.	144.	339.	-132.	374.	.0416	.0311	-.0106	.0103	-.0291	-.0446	2178.
.1300	-757.	-58.	119.	353.	-209.	463.	.0460	.0327	-.0140	.0197	-.0355	-.0495	2582.
.1310	-839.	-92.	128.	338.	-230.	569.	.0505	.0346	-.0141	.0231	-.0318	-.0504	2925.
.1320	-1001.	-172.	199.	295.	-206.	653.	.0547	.0363	-.0124	.0228	-.0224	-.0488	3113.
.1330	-1098.	-196.	247.	251.	-181.	725.	.0583	.0380	-.0106	.0208	-.0139	-.0475	3292.

ADLPIPE PAGE 2677

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.48.

S/RV PIPING KEWAUNEE GKW08F 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	67	MEMBER	2	SEQUENCE	99	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	-1069.	-144.	230.	228.	-187.	779.		.0606	.0399	-.0102	.0207	-.0119	-.0486	3476.	
.1350	-1027.	-117.	190.	218.	-223.	780.		.0607	.0413	-.0121	.0264	-.0186	-.0519	3508.	
.1360	-1010.	-157.	173.	219.	-282.	730.		.0584	.0424	-.0157	.0380	-.0325	-.0564	3391.	
.1370	-971.	-190.	124.	233.	-360.	671.		.0546	.0436	-.0198	.0507	-.0497	-.0611	3323.	
.1380	-809.	-176.	32.	253.	-433.	635.		.0501	.0453	-.0227	.0599	-.0640	-.0644	3376.	
.1390	-654.	-176.	-25.	243.	-456.	586.		.0459	.0466	-.0233	.0638	-.0696	-.0643	3260.	
.1400	-580.	-190.	-11.	182.	-410.	496.		.0427	.0471	-.0213	.0612	-.0646	-.0605	2788.	
.1410	-472.	-134.	10.	93.	-320.	391.		.0410	.0472	-.0172	.0509	-.0512	-.0539	2144.	
.1420	-303.	-23.	10.	5.	-215.	296.		.0397	.0473	-.0116	.0355	-.0343	-.0453	1526.	
.1430	-132.	13.	15.	-71.	-106.	200.		.0373	.0473	-.0058	.0210	-.0180	-.0350	991.	
.1440	-5.	-49.	38.	-136.	-7.	85.		.0332	.0469	-.0009	.0110	-.0059	-.0245	670.	
.1450	153.	-69.	28.	-184.	55.	-44.		.0285	.0463	.0019	.0047	-.0007	-.0167	823.	
.1460	390.	13.	-41.	-216.	77.	-180.		.0240	.0454	.0027	.0011	-.0017	-.0123	1216.	
.1470	581.	72.	-101.	-250.	88.	-331.		.0195	.0440	.0024	.0004	-.0054	-.0092	1769.	
.1480	698.	29.	-121.	-289.	115.	-471.		.0145	.0423	.0028	.0011	-.0068	-.0048	2354.	
.1490	812.	-34.	-134.	-325.	158.	-558.		.0101	.0409	.0048	-.0011	-.0036	.0011	2775.	
.1500	952.	-44.	-162.	-360.	213.	-598.		.0072	.0398	.0085	-.0085	.0046	.0080	3045.	
.1510	1048.	-52.	-169.	-409.	286.	-633.		.0060	.0382	.0133	-.0189	.0170	.0154	3362.	
.1520	1019.	-101.	-123.	-472.	367.	-680.		.0056	.0360	.0183	-.0292	.0307	.0224	3779.	
.1530	982.	-126.	-94.	-515.	419.	-697.		.0052	.0339	.0228	-.0381	.0409	.0272	4017.	
.1540	1003.	-142.	-123.	-515.	412.	-666.		.0041	.0323	.0258	-.0434	.0439	.0283	3913.	
.1550	988.	-191.	-169.	-486.	351.	-628.		.0020	.0307	.0268	-.0421	.0386	.0255	3622.	
.1560	871.	-293.	-194.	-446.	254.	-610.		-.0010	.0286	.0256	-.0342	.0266	.0187	3326.	
.1570	696.	-358.	-219.	-397.	124.	-594.		-.0039	.0262	.0229	-.0238	.0100	.0080	3026.	
.1580	581.	-352.	-283.	-331.	-28.	-541.		-.0064	.0242	.0201	-.0147	-.0075	-.0053	2649.	
.1590	468.	-359.	-339.	-262.	-168.	-453.		-.0090	.0224	.0182	-.0079	-.0214	-.0189	2303.	
.1600	249.	-412.	-328.	-211.	-271.	-368.		-.0113	.0204	.0176	-.0041	-.0300	-.0318	2102.	
.1610	13.	-428.	-298.	-170.	-351.	-278.		-.0129	.0182	.0179	-.0050	-.0342	-.0447	1999.	
.1620	-124.	-362.	-305.	-126.	-420.	-171.		-.0137	.0163	.0188	-.0103	-.0352	-.0583	1965.	
.1630	-265.	-290.	-297.	-90.	-469.	-67.		-.0149	.0142	.0198	-.0170	-.0340	-.0722	2013.	
.1640	-444.	-255.	-241.	-66.	-495.	14.		-.0168	.0119	.0202	-.0227	-.0314	-.0864	2086.	
.1650	-561.	-183.	-206.	-46.	-517.	81.		-.0191	.0096	.0197	-.0282	-.0290	-.1015	2194.	
.1660	-611.	-26.	-195.	-25.	-542.	136.		-.0214	.0074	.0181	-.0346	-.0276	-.1174	2333.	
.1670	-651.	142.	-173.	-8.	-550.	174.		-.0240	.0053	.0160	-.0410	-.0257	-.1322	2410.	
.1680	-717.	248.	-115.	3.	-532.	194.		-.0275	.0033	.0138	-.0470	-.0225	-.1441	2364.	
.1690	-731.	343.	-61.	18.	-497.	208.		-.0313	.0017	.0115	-.0537	-.0183	-.1527	2250.	
.1700	-681.	486.	-26.	38.	-453.	214.		-.0347	.0005	.0090	-.0618	-.0142	-.1584	2096.	
.1710	-635.	635.	21.	50.	-396.	185.		-.0378	-.0008	.0059	-.0696	-.0106	-.1608	1834.	

ADLPIPE PAGE 2677

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.48.

S/RV PIPING KEWAUNEE GKW08F 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

.1610	17.	-428.	90.	-170.	-251.	-278.	-.0129	.0182	.0179	-.0050	-.0342	-.0447	1999.
.1620	-124.	-362.	305.	-126.	-420.	-171.	-.0137	.0163	.0188	-.0103	-.0352	-.0583	1965.
.1630	-265.	-290.	-292.	-90.	-469.	-67.	-.0149	.0142	.0198	-.0170	-.0340	-.0722	2013.
.1640	-444.	-255.	-241.	-66.	-495.	14.	-.0168	.0119	.0202	-.0227	-.0314	-.0864	2086.
.1650	-561.	-183.	-206.	-46.	-517.	81.	-.0191	.0096	.0197	-.0282	-.0290	-.1015	2194.
.1660	-611.	-26.	-195.	-25.	-542.	136.	-.0214	.0074	.0181	-.0346	-.0276	-.1174	2333.
.1670	-651.	142.	-173.	-8.	-550.	174.	-.0240	.0053	.0160	-.0410	-.0257	-.1322	2410.
.1680	-717.	248.	-115.	3.	-532.	194.	-.0275	.0033	.0138	-.0470	-.0225	-.1441	2364.
.1690	-731.	343.	-61.	18.	-497.	208.	-.0313	.0017	.0115	-.0537	-.0183	-.1527	2250.
.1700	-681.	406.	-26.	38.	-453.	214.	-.0347	.0005	.0090	-.0618	-.0142	-.1584	2096.
.1710	-635.	635.	21.	50.	-396.	185.	-.0378	-.0008	.0059	-.0696	-.0106	-.1608	1834.

ADLPIPE PAGE 2677

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.48.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION	END	TYPE	RU								
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.1720	-572.	732.	73.	54.	-323.	124.	-.0407	-.0022	.0023	-.0750	-.0070	-.1590	1462.	
.1730	-484.	798.	119.	56.	-245.	52.	-.0435	-.0032	-.0016	-.0784	-.0038	-.1530	1072.	
.1740	-342.	866.	137.	62.	-170.	-9.	-.0458	-.0037	-.0056	-.0805	-.0006	-.1429	755.	
.1750	-167.	895.	140.	65.	-89.	-66.	-.0475	-.0038	-.0093	-.0806	.0035	-.1281	536.	
.1760	-33.	847.	161.	51.	6.	-138.	-.0485	-.0040	-.0126	-.0784	.0095	-.1083	617.	
.1770	92.	764.	184.	26.	113.	-212.	-.0482	-.0041	-.0153	-.0750	.0174	-.0842	1010.	
.1780	244.	690.	186.	-2.	220.	-270.	-.0466	-.0039	-.0172	-.0717	.0264	-.0566	1455.	
.1790	411.	590.	169.	-30.	324.	-313.	-.0439	-.0036	-.0183	-.0675	.0361	-.0259	1886.	
.1800	524.	417.	163.	-63.	425.	-354.	-.0407	-.0033	-.0187	-.0608	.0455	.0071	2323.	
.1810	571.	201.	165.	-95.	507.	-388.	-.0369	-.0031	-.0188	-.0518	.0531	.0407	2694.	
.1820	649.	-5.	125.	-114.	554.	-389.	-.0329	-.0026	-.0186	-.0408	.0581	.0731	2865.	
.1830	723.	-215.	61.	-126.	567.	-364.	-.0288	-.0020	-.0182	-.0273	.0603	.1030	2861.	
.1840	720.	-454.	10.	-143.	555.	-335.	-.0249	-.0018	-.0179	-.0112	.0603	.1294	2768.	
.1850	662.	-685.	-35.	-161.	516.	-296.	-.0212	-.0019	-.0174	.0063	.0582	.1513	2571.	
.1860	600.	-865.	-98.	-172.	446.	-233.	-.0176	-.0021	-.0167	.0230	.0541	.1678	2220.	
.1870	532.	-1009.	-169.	-174.	355.	-142.	-.0147	-.0024	-.0154	.0383	.0484	.1786	1752.	
.1880	393.	-1151.	-211.	-172.	253.	-46.	-.0129	-.0031	-.0139	.0526	.0412	.1835	1291.	
.1890	222.	-1259.	-239.	-165.	138.	50.	-.0120	-.0042	-.0124	.0651	.0321	.1819	923.	
.1900	84.	-1281.	-283.	-149.	7.	152.	-.0120	-.0056	-.0112	.0748	.0209	.1729	889.	
.1910	-51.	-1227.	-321.	-130.	-129.	251.	-.0130	-.0074	-.0102	.0814	.0087	.1571	1296.	
.1920	-196.	-1139.	-336.	-115.	-253.	340.	-.0151	-.0097	-.0093	.0852	-.0025	.1355	1832.	
.1930	-334.	-1012.	-331.	-108.	-358.	419.	-.0180	-.0124	-.0081	.0849	-.0110	.1095	2341.	
.1940	-443.	-814.	-317.	-104.	-437.	496.	-.0213	-.0153	-.0064	.0787	-.0158	.0802	2794.	
.1950	-533.	-562.	-283.	-104.	-484.	571.	-.0249	-.0182	-.0039	.0663	-.0160	.0494	3153.	
.1960	-622.	-306.	-219.	-106.	-492.	633.	-.0290	-.0212	-.0008	.0489	-.0121	.0187	3374.	
.1970	-704.	-47.	-132.	-103.	-468.	678.	-.0336	-.0241	.0024	.0276	-.0059	-.0110	3463.	
.1980	-752.	242.	-45.	-84.	-429.	702.	-.0386	-.0268	.0051	.0038	-.0002	-.0395	3454.	
.1990	-766.	542.	34.	-46.	-387.	699.	-.0439	-.0294	.0066	-.0201	.0027	-.0662	3341.	
.2000	-771.	800.	112.	10.	-343.	661.	-.0498	-.0317	.0066	-.0417	.0022	-.0899	3109.	
.2010	-764.	1004.	187.	82.	-297.	597.	-.0561	-.0337	.0054	-.0603	-.0011	-.1095	2804.	
.2020	-716.	1182.	245.	165.	-248.	521.	-.0621	-.0352	.0035	-.0770	-.0053	-.1240	2505.	
.2030	-630.	1336.	288.	246.	-185.	436.	-.0671	-.0362	.0016	-.0928	-.0078	-.1323	2226.	
.2040	-551.	1440.	340.	311.	-96.	336.	-.0706	-.0368	.0004	-.1081	-.0065	-.1333	1951.	
.2050	-486.	1480.	404.	357.	23.	232.	-.0724	-.0371	.0004	-.1232	-.0003	-.1264	1780.	
.2060	-400.	1472.	459.	393.	159.	142.	-.0726	-.0368	.0016	-.1377	.0095	-.1120	1867.	
.2070	-290.	1415.	496.	422.	299.	66.	-.0714	-.0358	.0036	-.1501	.0208	-.0914	2177.	
.2080	-194.	1298.	523.	443.	428.	-10.	-.0691	-.0346	.0057	-.1577	.0308	-.0663	2569.	
.2090	-117.	1131.	535.	455.	530.	-93.	-.0661	-.0332	.0070	-.1587	.0367	-.0388	2941.	

ADLPIPE PAGE 2674

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.48.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

.2000	-771.	800.	112.	10.	-343.	661.	-0498	-0317	.0066	-0417	.0022	-0899	3109.
.2010	-764.	1004.	187.	82.	-297.	597.	-0561	-0337	.0054	-0603	-0011	-1095	2804.
.2020	-716.	1182.	245.	165.	-248.	521.	-0621	-0352	.0035	-0770	-0053	-1240	2505.
.2030	-630.	1336.	288.	246.	-185.	436.	-0671	-0362	.0016	-0928	-0078	-1323	2226.
.2040	-551.	1440.	340.	311.	-96.	336.	-0706	-0368	.0004	-1081	-0065	-1333	1951.
.2050	-486.	1480.	404.	357.	23.	232.	-0724	-0371	.0004	-1232	-0003	-1264	1780.
.2060	-400.	1472.	459.	393.	159.	142.	-0726	-0368	.0016	-1377	.0095	-1120	1867.
.2070	-290.	1415.	496.	422.	299.	66.	-0714	-0358	.0036	-1501	.0208	-0914	2177.
.2080	-194.	1298.	523.	443.	428.	-10.	-0691	-0346	.0057	-1577	.0308	-0663	2569.
.2090	-117.	1131.	535.	455.	530.	-93.	-0661	-0332	.0070	-1587	.0367	-0388	2941.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.48.

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

SECTION	MEMBER	SEQUENCE	LOCATION	END	TYPE	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	-27.	941.	510.	464.	590.	-169.	-0625	-0316	.0073	-1525	.0374	-0107	3211.	
.2110	77.	731.	448.	470.	604.	-228.	-0587	-0296	.0069	-1390	.0329	.0168	3332.	
.2120	165.	487.	368.	464.	581.	-271.	-0546	-0276	.0061	-1192	.0251	.0432	3302.	
.2130	224.	220.	281.	437.	533.	-298.	-0501	-0256	.0055	-0952	.0164	.0681	3135.	
.2140	269.	-32.	187.	386.	468.	-306.	-0446	-0237	.0058	-0697	.0088	.0909	2837.	
.2150	304.	-249.	90.	310.	396.	-291.	-0382	-0220	.0073	-0449	.0038	.1112	2423.	
.2160	314.	-444.	4.	209.	322.	-256.	-0312	-0206	.0100	-0214	.0017	.1285	1926.	
.2170	299.	-619.	-72.	92.	244.	-209.	-0239	-0194	.0136	.0011	.0014	.1420	1394.	
.2180	273.	-755.	-147.	-31.	153.	-153.	-0168	-0186	.0172	.0229	.0008	.1507	912.	
.2190	243.	-842.	-226.	-151.	43.	-93.	-0103	-0181	.0203	.0444	-0019	.1535	763.	
.2200	206.	-899.	-305.	-263.	-82.	-34.	-0047	-0180	.0225	.0663	-0072	.1506	1159.	
.2210	161.	-928.	-376.	-364.	-215.	18.	-0003	-0182	.0236	.0879	-0144	.1423	1767.	
.2220	118.	-912.	-439.	-453.	-345.	63.	.0034	-0186	.0238	.1073	-0223	.1295	2392.	
.2230	79.	-844.	-487.	-531.	-457.	102.	.0066	-0193	.0236	.1223	-0288	.1134	2954.	
.2240	34.	-744.	-509.	-595.	-536.	134.	.0094	-0201	.0235	.1314	-0321	.0958	3390.	
.2250	-22.	-634.	-496.	-644.	-573.	162.	.0119	-0209	.0238	.1339	-0312	.0783	3658.	
.2260	-73.	-512.	-456.	-670.	-568.	188.	.0139	-0215	.0244	.1298	-0267	.0616	3747.	
.2270	-107.	-369.	-399.	-668.	-530.	207.	.0155	-0220	.0247	.1200	-0204	.0457	3662.	
.2280	-136.	-217.	-327.	-638.	-468.	205.	.0166	-0223	.0241	.1066	-0143	.0305	3414.	
.2290	-164.	-71.	-243.	-579.	-393.	180.	.0170	-0225	.0221	.0916	-0101	.0161	3015.	
.2300	-176.	64.	-158.	-486.	-313.	139.	.0165	-0225	.0186	.0762	-0085	.0027	2481.	
.2310	-163.	185.	-81.	-361.	-231.	93.	.0154	-0220	.0140	.0605	-0093	-0091	1830.	
.2320	-147.	283.	-2.	-215.	-143.	40.	.0138	-0211	.0088	.0444	-0112	-0186	1089.	
.2330	-129.	353.	83.	-97.	-45.	-19.	.0124	-0199	.0035	.0274	-0127	-0252	314.	
.2340	-113.	404.	171.	103.	66.	-78.	.0115	-0184	-0013	.0090	-0123	-0286	604.	
.2350	-88.	441.	256.	259.	187.	-128.	.0114	-0166	-0051	-0108	-0094	-0288	1434.	
.2360	-67.	455.	339.	403.	313.	-168.	.0121	-0145	-0078	-0309	-0041	-0261	2243.	
.2370	-47.	441.	416.	531.	436.	-200.	.0135	-0123	-0096	-0498	.0028	-0215	2986.	
.2380	-35.	409.	480.	640.	542.	-224.	.0155	-0100	-0107	-0659	.0100	-0161	3622.	
.2390	-26.	364.	521.	729.	620.	-236.	.0180	-0075	-0113	-0779	.0161	-0109	4112.	
.2400	-24.	304.	539.	795.	663.	-236.	.0208	-0051	-0117	-0847	.0204	-0068	4432.	
.2410	-34.	225.	536.	838.	671.	-222.	.0236	-0026	-0118	-0860	.0227	-0043	4574.	
.2420	-56.	138.	513.	855.	642.	-198.	.0266	-0001	-0116	-0822	.0231	-0036	4538.	
.2430	-92.	56.	472.	845.	581.	-164.	.0298	.0022	-0109	-0741	.0219	-0051	4336.	
.2440	-144.	-24.	417.	810.	493.	-121.	.0332	.0045	-0095	-0626	.0195	-0086	3988.	
.2450	-210.	-106.	354.	750.	383.	-70.	.0364	.0067	-0075	-0482	.0166	-0138	3526.	
.2460	-281.	-187.	282.	669.	254.	-10.	.0394	.0088	-0049	-0314	.0130	-0208	2988.	
.2470	-348.	-253.	201.	571.	110.	52.	.0421	.0108	-0019	-0128	.0089	-0297	2435.	

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ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.49.

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

.2380	-50.	409.	480.	640.	542.	-224.	.0155	-.0100	-.0107	-.0659	.0100	-.0161	3622.
.2390	-26.	364.	521.	729.	620.	-236.	.0180	-.0075	-.0113	-.0779	.0161	-.0109	4112.
.2400	-24.	304.	539.	795.	663.	-236.	.0208	-.0051	-.0117	-.0847	.0204	-.0068	4432.
.2410	-24.	225.	536.	878.	671.	-222.	.0236	-.0026	-.0118	-.0860	.0227	-.0043	4574.
.2420	-56.	138.	513.	855.	642.	-198.	.0266	-.0001	-.0116	-.0822	.0231	-.0036	4538.
.2430	-92.	56.	472.	845.	581.	-164.	.0298	.0022	-.0109	-.0741	.0219	-.0051	4336.
.2440	-144.	-24.	417.	810.	493.	-121.	.0332	.0045	-.0095	-.0626	.0195	-.0086	3988.
.2450	-210.	-106.	354.	750.	383.	-70.	.0364	.0067	-.0075	-.0482	.0166	-.0138	3526.
.2460	-281.	-187.	282.	669.	254.	-10.	.0394	.0088	-.0049	-.0314	.0130	-.0208	2988.
.2470	-348.	-253.	201.	571.	110.	52.	.0421	.0108	-.0019	-.0128	.0089	-.0297	2435.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

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18.29.49.

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	67	MEMBER	2	SEQUENCE	99	LOCATION	END	TYPE	RU						
TIME	FX	FY	FZ	MX	MY	MZ		DX	DY	DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)		(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.2480	-408.	-300.	113.	456.	-45.	109.		.0443	.0127	.0010	.0072	.0042	-.0403	1967.	
.2490	-462.	-329.	25.	330.	-203.	154.		.0459	.0144	.0038	.0280	-.0011	-.0525	1739.	
.2500	-503.	-343.	-62.	198.	-358.	187.		.0468	.0160	.0063	.0487	-.0067	-.0655	1877.	
.2510	-519.	-343.	-146.	69.	-502.	210.		.0468	.0175	.0085	.0683	-.0121	-.0784	2287.	
.2520	-508.	-331.	-222.	-53.	-625.	219.		.0461	.0191	.0105	.0855	-.0169	-.0905	2773.	
.2530	-474.	-307.	-283.	-165.	-719.	208.		.0446	.0206	.0121	.0994	-.0206	-.1010	3199.	
.2540	-416.	-264.	-327.	-266.	-778.	172.		.0427	.0221	.0134	.1092	-.0228	-.1094	3507.	
.2550	-328.	-205.	-356.	-350.	-801.	112.		.0404	.0234	.0142	.1147	-.0236	-.1152	3678.	
.2560	-211.	-140.	-370.	-414.	-787.	36.		.0375	.0248	.0145	.1160	-.0228	-.1179	3712.	
.2570	-69.	-84.	-368.	-454.	-737.	-55.		.0342	.0262	.0142	.1155	-.0206	-.1173	3619.	
.2580	94.	-36.	-352.	-471.	-655.	-158.		.0306	.0277	.0134	.1078	-.0173	-.1134	3430.	
.2590	272.	12.	-326.	-465.	-545.	-274.		.0268	.0291	.0118	.0990	-.0131	-.1065	3203.	
.2600	458.	58.	-289.	-439.	-413.	-399.		.0232	.0305	.0095	.0877	-.0085	-.0968	3016.	
.2610	647.	92.	-242.	-392.	-263.	-525.		.0198	.0318	.0068	.0743	-.0034	-.0844	2948.	
.2620	822.	108.	-189.	-325.	-101.	-645.		.0168	.0330	.0037	.0595	.0019	-.0696	3045.	
.2630	989.	107.	-132.	-242.	65.	-753.		.0142	.0342	.0004	.0438	.0070	-.0531	3313.	
.2640	1130.	94.	-73.	-147.	228.	-849.		.0123	.0351	-.0030	.0281	.0115	-.0357	3720.	
.2650	1238.	71.	-14.	-48.	380.	-929.		.0112	.0357	-.0066	.0133	.0154	-.0183	4194.	
.2660	1314.	37.	41.	51.	514.	-986.		.0109	.0360	-.0102	.0003	.0183	-.0017	4644.	
.2670	1357.	-9.	88.	146.	622.	-1013.		.0115	.0361	-.0137	-.0102	.0204	.0132	5000.	
.2680	1363.	-50.	125.	229.	702.	-1011.		.0130	.0357	-.0170	-.0177	.0216	.0257	5227.	
.2690	1323.	-95.	155.	298.	751.	-982.		.0154	.0349	-.0201	-.0221	.0217	.0352	5305.	
.2700	1239.	-139.	175.	348.	767.	-923.		.0187	.0336	-.0227	-.0234	.0211	.0415	5215.	
.2710	1120.	-179.	186.	380.	751.	-833.		.0228	.0320	-.0248	-.0218	.0198	.0445	4943.	
.2720	969.	-214.	188.	392.	706.	-713.		.0276	.0300	-.0262	-.0176	.0179	.0441	4498.	
.2730	787.	-238.	183.	384.	634.	-572.		.0329	.0276	-.0272	-.0108	.0153	.0403	3907.	
.2740	574.	-248.	172.	355.	536.	-417.		.0387	.0249	-.0277	-.0018	.0118	.0333	3197.	
.2750	344.	-245.	152.	310.	413.	-248.		.0447	.0219	-.0279	.0093	.0073	.0233	2393.	
.2760	114.	-235.	122.	254.	273.	-65.		.0505	.0189	-.0278	.0222	.0021	.0111	1579.	
.2770	-112.	-224.	87.	188.	121.	124.		.0559	.0160	-.0275	.0364	-.0037	-.0027	1065.	
.2780	-336.	-204.	50.	112.	-34.	303.		.0609	.0130	-.0272	.0512	-.0097	-.0172	1357.	
.2790	-551.	-170.	14.	32.	-186.	468.		.0655	.0100	-.0267	.0653	-.0158	-.0317	2104.	
.2800	-739.	-128.	-22.	-47.	-326.	620.		.0695	.0074	-.0261	.0777	-.0212	-.0448	2928.	
.2810	-893.	-97.	-54.	-118.	-445.	758.		.0726	.0052	-.0252	.0881	-.0256	-.0555	3700.	
.2820	-1019.	-81.	-77.	-179.	-538.	873.		.0747	.0034	-.0241	.0959	-.0290	-.0631	4343.	
.2830	-1118.	-66.	-91.	-228.	-604.	956.		.0758	.0020	-.0231	.1008	-.0318	-.0673	4814.	
.2840	-1170.	-48.	-101.	-261.	-644.	1007.		.0760	.0012	-.0224	.1029	-.0344	-.0681	5107.	
.2850	-1192.	-44.	-108.	-275.	-658.	1030.		.0747	.0009	-.0220	.1026	-.0369	-.0653	5226.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.49.

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

.2750	344.	-245.	52.	310.	413.	-248.	.0447	.0219	-.0279	.0093	.0075	.0253	2393.
.2760	114.	-235.	122.	254.	273.	-65.	.0505	.0189	-.0278	.0222	.0021	.0111	1579.
.2770	-112.	-224.	87.	168.	121.	124.	.0559	.0160	-.0275	.0364	-.0037	-.0027	1065.
.2780	-336.	-204.	50.	112.	-34.	303.	.0609	.0150	-.0272	.0512	-.0097	-.0172	1357.
.2790	-551.	-170.	14.	32.	-186.	468.	.0655	.0100	-.0267	.0653	-.0158	-.0317	2104.
.2800	-732.	-128.	-22.	-47.	-326.	620.	.0695	.0074	-.0261	.0777	-.0212	-.0448	2928.
.2810	-893.	-97.	-54.	-118.	-445.	758.	.0726	.0052	-.0252	.0881	-.0256	-.0555	3700.
.2820	-1019.	-81.	-77.	-179.	-538.	873.	.0747	.0034	-.0241	.0959	-.0290	-.0631	4343.
.2830	-1118.	-66.	-91.	-228.	-604.	956.	.0758	.0020	-.0231	.1008	-.0318	-.0673	4814.
.2840	-1178.	-48.	-101.	-261.	-644.	1007.	.0760	.0012	-.0224	.1029	-.0344	-.0681	5107.
.2850	-1192.	-44.	-108.	-275.	-658.	1030.	.0747	.0009	-.0220	.1026	-.0369	-.0653	5226.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

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18.29.49.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION	END	TYPE	RU	DX	DY	DZ	RX	RY	RZ	STRESS
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
.2860	-1165.	-64.	-110.	-270.	-644.	1021.	.0719	.0011	-.0219	.1006	-.0394	-.0588	5164.
.2870	-1104.	-93.	-106.	-248.	-606.	979.	.0679	.0018	-.0223	.0965	-.0420	-.0492	4915.
.2880	-1005.	-117.	-101.	-212.	-545.	902.	.0629	.0029	-.0230	.0901	-.0445	-.0367	4489.
.2890	-871.	-140.	-93.	-168.	-460.	798.	.0571	.0043	-.0237	.0811	-.0459	-.0217	3910.
.2900	-711.	-176.	-76.	-119.	-350.	675.	.0504	.0060	-.0240	.0696	-.0455	-.0042	3212.
.2910	-532.	-217.	-50.	-70.	-216.	538.	.0431	.0079	-.0236	.0556	-.0427	.0151	2437.
.2920	-335.	-241.	-21.	-26.	-67.	390.	.0357	.0098	-.0226	.0391	-.0377	.0349	1656.
.2930	-130.	-246.	9.	3.	89.	234.	.0282	.0118	-.0210	.0211	-.0312	.0543	1045.
.2940	68.	-244.	42.	31.	244.	75.	.0206	.0136	-.0190	.0029	-.0237	.0724	1074.
.2950	260.	-241.	73.	43.	387.	-75.	.0126	.0154	-.0166	-.0142	-.0163	.0880	1654.
.2960	450.	-223.	91.	47.	506.	-211.	.0046	.0170	-.0140	-.0295	-.0101	.1004	2296.
.2970	626.	-186.	97.	39.	595.	-334.	-.0033	.0184	-.0113	-.0422	-.0056	.1085	2853.
.2980	771.	-136.	96.	16.	654.	-445.	-.0109	.0194	-.0087	-.0521	-.0030	.1124	3302.
.2990	882.	-80.	89.	-21.	683.	-535.	-.0181	.0201	-.0059	-.0593	-.0018	.1121	3621.
.3000	974.	-14.	72.	-69.	683.	-592.	-.0247	.0207	-.0076	-.0644	-.0013	.1081	3782.
.3010	1040.	59.	46.	-127.	657.	-615.	-.0305	.0211	.0012	-.0677	-.0009	.1007	3795.
.3020	1064.	132.	20.	-200.	611.	-613.	-.0353	.0212	.0055	-.0693	-.0003	.0905	3706.
.3030	1044.	207.	-5.	-283.	546.	-588.	-.0390	.0210	.0101	-.0693	.0004	.0777	3549.
.3040	996.	283.	-35.	-371.	461.	-535.	-.0416	.0206	.0148	-.0677	.0009	.0630	3327.
.3050	931.	352.	-74.	-454.	359.	-453.	-.0434	.0203	.0194	-.0645	.0010	.0470	3067.
.3060	840.	402.	-113.	-530.	244.	-351.	-.0444	.0199	.0237	-.0597	.0003	.0303	2844.
.3070	717.	436.	-150.	-597.	121.	-242.	-.0446	.0194	.0274	-.0535	-.0014	.0136	2735.
.3080	575.	464.	-187.	-649.	-8.	-125.	-.0439	.0190	.0304	-.0469	-.0040	-.0025	2757.
.3090	427.	481.	-224.	-680.	-134.	1.	-.0427	.0186	.0328	-.0407	-.0071	-.0171	2891.
.3100	272.	471.	-252.	-689.	-249.	134.	-.0410	.0185	.0347	-.0352	-.0099	-.0294	3108.
.3110	106.	438.	-267.	-679.	-346.	263.	-.0389	.0185	.0360	-.0311	-.0121	-.0390	3364.
.3120	-60.	403.	-270.	-649.	-423.	384.	-.0363	.0187	.0366	-.0288	-.0136	-.0461	3607.
.3130	-218.	370.	-265.	-598.	-481.	492.	-.0334	.0189	.0363	-.0287	-.0148	-.0507	3804.
.3140	-362.	327.	-249.	-528.	-515.	587.	-.0306	.0193	.0351	-.0302	-.0154	-.0528	3935.
.3150	-492.	269.	-220.	-438.	-526.	669.	-.0282	.0198	.0331	-.0331	-.0157	-.0525	3997.
.3160	-598.	214.	-182.	-333.	-516.	734.	-.0260	.0203	.0302	-.0378	-.0158	-.0503	3995.
.3170	-678.	179.	-139.	-217.	-486.	777.	-.0240	.0209	.0265	-.0442	-.0159	-.0468	3930.
.3180	-737.	156.	-85.	-96.	-435.	797.	-.0223	.0213	.0221	-.0521	-.0155	-.0422	3810.
.3190	-778.	137.	-21.	27.	-363.	799.	-.0210	.0216	.0173	-.0614	-.0143	-.0366	3666.
.3200	-790.	127.	48.	149.	-275.	791.	-.0201	.0219	.0124	-.0720	-.0122	-.0303	3549.
.3210	-773.	136.	117.	263.	-177.	771.	-.0195	.0220	.0075	-.0833	-.0092	-.0239	3478.
.3220	-740.	162.	188.	363.	-71.	735.	-.0190	.0219	.0026	-.0947	-.0056	-.0177	3434.
.3230	-700.	198.	259.	446.	36.	684.	-.0187	.0213	-.0022	-.1055	-.0015	-.0120	3412.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

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18.29.49.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

.3130	-210.	370.	-265.	-598.	-481.	492.	-.334	.0189	.0363	-.0287	-.0148	-.0507	3804.
.3140	-362.	327.	-249.	-528.	-515.	587.	-.306	.0193	.0351	-.0302	-.0154	-.0528	3935.
.3150	-492.	269.	-220.	-478.	-526.	669.	-.0282	.0198	.0331	-.0331	-.0157	-.0525	3997.
.3160	-598.	214.	-182.	-333.	-516.	734.	-.0260	.0203	.0302	-.0378	-.0158	-.0503	3995.
.3170	-678.	179.	-139.	-217.	-486.	777.	-.0240	.0209	.0265	-.0442	-.0159	-.0468	3950.
.3180	-737.	156.	-89.	-96.	-435.	797.	-.0223	.0213	.0221	-.0521	-.0155	-.0422	3810.
.3190	-778.	137.	-21.	27.	-363.	799.	-.0210	.0216	.0173	-.0614	-.0143	-.0366	3666.
.3200	-790.	127.	48.	149.	-275.	791.	-.0201	.0219	.0124	-.0720	-.0122	-.0303	3549.
.3210	-777.	136.	117.	263.	-177.	771.	-.0195	.0220	.0075	-.0833	-.0092	-.0239	3478.
.3220	-740.	162.	188.	363.	-71.	735.	-.0190	.0219	.0026	-.0947	-.0056	-.0177	3434.
.3230	-700.	198.	259.	446.	36.	684.	-.0187	.0213	-.0022	-.1055	-.0015	-.0120	3412.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.49.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION	END	TYPE	RU	TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS
67	2	99					(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
.3240	-642.	242.	323.	512.	137.	629.	-.0186	.0205	-.0066	-.1150	.0028	-.0070	3431.							
.3250	-562.	293.	371.	560.	228.	575.	-.0186	.0195	-.0105	-.1228	.0070	-.0028	3481.							
.3260	-476.	342.	409.	587.	304.	520.	-.0186	.0182	-.0138	-.1283	.0109	.0008	3511.							
.3270	-399.	386.	437.	591.	365.	461.	-.0185	.0165	-.0166	-.1312	.0146	.0037	3477.							
.3280	-326.	426.	452.	572.	407.	402.	-.0180	.0144	-.0186	-.1316	.0179	.0061	3376.							
.3290	-250.	457.	448.	536.	429.	352.	-.0172	.0122	-.0198	-.1293	.0208	.0084	3218.							
.3300	-179.	467.	429.	482.	431.	312.	-.0163	.0097	-.0201	-.1240	.0234	.0108	2996.							
.3310	-124.	453.	399.	412.	414.	277.	-.0150	.0069	-.0197	-.1157	.0253	.0133	2698.							
.3320	-82.	422.	354.	328.	377.	245.	-.0134	.0040	-.0187	-.1045	.0263	.0161	2324.							
.3330	-47.	378.	292.	235.	321.	219.	-.0114	.0008	-.0172	-.0909	.0263	.0190	1897.							
.3340	-17.	310.	219.	138.	250.	203.	-.0094	-.0025	-.0152	-.0751	.0255	.0225	1462.							
.3350	4.	213.	139.	39.	169.	192.	-.0073	-.0058	-.0128	-.0575	.0242	.0266	1081.							
.3360	16.	102.	54.	-60.	83.	183.	-.0052	-.0093	-.0102	-.0390	.0223	.0313	875.							
.3370	23.	-9.	-34.	-156.	-6.	172.	-.0030	-.0128	-.0074	-.0207	.0199	.0363	970.							
.3380	28.	-122.	-120.	-245.	-93.	159.	-.0008	-.0165	-.0046	-.0029	.0174	.0416	1280.							
.3390	31.	-244.	-200.	-325.	-172.	144.	.0010	-.0202	-.0018	.0138	.0148	.0472	1647.							
.3400	36.	-365.	-272.	-391.	-241.	126.	.0023	-.0238	.0007	.0290	.0121	.0527	1990.							
.3410	42.	-468.	-338.	-444.	-301.	101.	.0032	-.0276	.0029	.0421	.0092	.0577	2278.							
.3420	69.	-549.	-394.	-484.	-347.	64.	.0037	-.0314	.0045	.0528	.0061	.0619	2498.							
.3430	92.	-613.	-435.	-509.	-377.	15.	.0036	-.0352	.0055	.0608	.0033	.0651	2645.							
.3440	122.	-657.	-462.	-519.	-389.	-41.	.0029	-.0391	.0060	.0659	.0009	.0674	2714.							
.3450	160.	-674.	-475.	-515.	-382.	-102.	.0017	-.0429	.0061	.0675	-.0006	.0688	2709.							
.3460	222.	-662.	-473.	-498.	-355.	-174.	.0001	-.0466	.0058	.0655	-.0010	.0691	2648.							
.3470	274.	-626.	-452.	-471.	-307.	-247.	-.0017	-.0504	.0051	.0603	-.0003	.0683	2563.							
.3480	325.	-567.	-415.	-435.	-242.	-328.	-.0038	-.0541	.0041	.0522	.0016	.0667	2487.							
.3490	383.	-487.	-368.	-389.	-163.	-407.	-.0061	-.0576	.0028	.0417	.0043	.0640	2446.							
.3500	444.	-392.	-314.	-374.	-77.	-483.	-.0085	-.0610	.0012	.0296	.0074	.0605	2470.							
.3510	497.	-288.	-252.	-273.	13.	-557.	-.0109	-.0642	-.0009	.0169	.0106	.0562	2590.							
.3520	539.	-179.	-185.	-209.	103.	-630.	-.0131	-.0672	-.0033	.0042	.0136	.0512	2803.							
.3530	574.	-65.	-119.	-144.	189.	-694.	-.0150	-.0700	-.0059	-.0080	.0163	.0457	3061.							
.3540	602.	44.	-57.	-77.	267.	-746.	-.0165	-.0724	-.0085	-.0192	.0188	.0402	3320.							
.3550	615.	138.	3.	-14.	337.	-783.	-.0174	-.0745	-.0110	-.0288	.0214	.0351	3557.							
.3560	610.	217.	60.	43.	396.	-807.	-.0175	-.0763	-.0134	-.0365	.0238	.0305	3757.							
.3570	589.	284.	110.	93.	442.	-818.	-.0168	-.0778	-.0154	-.0421	.0261	.0266	3899.							
.3580	553.	334.	149.	135.	472.	-812.	-.0153	-.0788	-.0172	-.0452	.0279	.0237	3958.							
.3590	504.	356.	178.	170.	484.	-788.	-.0131	-.0794	-.0187	-.0452	.0291	.0217	3923.							
.3600	442.	349.	196.	197.	478.	-748.	-.0102	-.0795	-.0200	-.0419	.0293	.0208	3793.							
.3610	371.	322.	201.	216.	452.	-695.	-.0067	-.0792	-.0210	-.0352	.0283	.0208	3574.							

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

CONDITION 24

LOADS

SHOCK

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ENGLISH UNITS

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

.3500	444.	-392.	-314.	-324.	-77.	-483.	-.0085	-.0610	.0012	.0296	.0074	.0605	2470.
.3510	497.	-288.	-252.	-273.	13.	-557.	-.0109	-.0642	-.0009	.0169	.0106	.0562	2590.
.3520	539.	-179.	-185.	-209.	103.	-630.	-.0131	-.0672	-.0033	.0042	.0136	.0512	2803.
.3530	574.	-65.	-119.	-144.	189.	-694.	-.0150	-.0700	-.0059	-.0080	.0163	.0457	3061.
.3540	607.	44.	-57.	-77.	267.	-746.	-.0165	-.0724	-.0085	-.0192	.0188	.0402	3320.
.3550	615.	138.	3.	-14.	337.	-783.	-.0174	-.0745	-.0110	-.0288	.0214	.0351	3557.
.3560	610.	217.	60.	43.	396.	-807.	-.0175	-.0763	-.0134	-.0365	.0238	.0305	3757.
.3570	589.	284.	110.	93.	442.	-818.	-.0168	-.0778	-.0154	-.0421	.0261	.0266	3899.
.3580	553.	334.	149.	135.	472.	-812.	-.0153	-.0788	-.0172	-.0452	.0279	.0237	3958.
.3590	504.	356.	178.	170.	484.	-788.	-.0131	-.0794	-.0187	-.0452	.0291	.0217	3923.
.3600	442.	349.	196.	197.	478.	-748.	-.0102	-.0795	-.0200	-.0419	.0293	.0208	3793.
.3610	371.	322.	201.	216.	452.	-695.	-.0067	-.0792	-.0210	-.0352	.0283	.0208	3574.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

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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	67	MEMBER	2	SEQUENCE	99	LOCATION	END	TYPE	RU						
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS		
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		
.3620	293.	278.	192.	227.	407.	-632.	-.0025	-.0785	-.0219	-.0254	.0262	.0216	5276.		
.3630	208.	215.	172.	229.	348.	-560.	.0021	-.0774	-.0226	-.0130	.0232	.0233	2911.		
.3640	121.	129.	145.	223.	278.	-478.	.0070	-.0759	-.0229	.0016	.0198	.0260	2489.		
.3650	37.	29.	111.	211.	203.	-388.	.0122	-.0740	-.0228	.0175	.0164	.0298	2028.		
.3660	-42.	-76.	72.	191.	125.	-295.	.0176	-.0718	-.0223	.0339	.0134	.0344	1557.		
.3670	-120.	-185.	33.	166.	49.	-203.	.0231	-.0692	-.0214	.0503	.0109	.0396	1114.		
.3680	-194.	-296.	-5.	137.	-22.	-114.	.0284	-.0664	-.0202	.0662	.0089	.0453	752.		
.3690	-256.	-405.	-41.	110.	-89.	-28.	.0332	-.0633	-.0188	.0811	.0071	.0511	601.		
.3700	-305.	-507.	-76.	86.	-150.	52.	.0374	-.0598	-.0173	.0949	.0054	.0566	753.		
.3710	-343.	-599.	-108.	68.	-205.	120.	.0409	-.0563	-.0159	.1073	.0034	.0615	1030.		
.3720	-374.	-677.	-133.	56.	-251.	173.	.0434	-.0526	-.0147	.1179	.0010	.0655	1295.		
.3730	-394.	-737.	-152.	54.	-289.	212.	.0450	-.0487	-.0137	.1263	-.0017	.0683	1512.		
.3740	-398.	-777.	-165.	63.	-315.	239.	.0455	-.0448	-.0127	.1319	-.0043	.0700	1672.		
.3750	-388.	-798.	-169.	81.	-328.	254.	.0449	-.0408	-.0118	.1343	-.0064	.0704	1763.		
.3760	-371.	-796.	-161.	106.	-324.	255.	.0434	-.0368	-.0108	.1332	-.0076	.0696	1776.		
.3770	-346.	-769.	-141.	137.	-304.	241.	.0411	-.0329	-.0096	.1285	-.0076	.0674	1716.		
.3780	-312.	-714.	-112.	173.	-268.	217.	.0380	-.0290	-.0083	.1201	-.0063	.0639	1608.		
.3790	-269.	-638.	-73.	214.	-218.	186.	.0342	-.0253	-.0067	.1084	-.0038	.0590	1493.		
.3800	-219.	-545.	-27.	260.	-157.	150.	.0296	-.0216	-.0050	.0940	-.0003	.0527	1413.		
.3810	-166.	-435.	26.	307.	-89.	108.	.0245	-.0180	-.0032	.0774	.0037	.0450	1409.		
.3820	-112.	-305.	81.	356.	-19.	59.	.0190	-.0147	-.0014	.0594	.0076	.0358	1510.		
.3830	-58.	-163.	137.	406.	49.	9.	.0132	-.0116	.0003	.0405	.0113	.0253	1708.		
.3840	-5.	-19.	192.	456.	114.	-39.	.0072	-.0086	.0021	.0214	.0146	.0139	1968.		
.3850	44.	123.	245.	504.	172.	-82.	.0012	-.0057	.0039	.0027	.0173	.0019	2249.		
.3860	87.	264.	293.	548.	222.	-119.	-.0047	-.0030	.0057	-.0151	.0195	-.0106	2515.		
.3870	120.	401.	336.	584.	261.	-151.	-.0101	-.0006	.0076	-.0317	.0212	-.0230	2743.		
.3880	142.	527.	372.	612.	289.	-174.	-.0150	.0016	.0095	-.0466	.0224	-.0352	2917.		
.3890	154.	633.	400.	632.	304.	-186.	-.0192	.0037	.0116	-.0593	.0231	-.0465	3028.		
.3900	158.	718.	419.	644.	305.	-184.	-.0228	.0056	.0138	-.0693	.0232	-.0567	3072.		
.3910	152.	782.	426.	647.	292.	-172.	-.0256	.0074	.0159	-.0765	.0224	-.0657	3048.		
.3920	130.	823.	424.	640.	264.	-156.	-.0275	.0088	.0179	-.0804	.0206	-.0733	2961.		
.3930	93.	838.	412.	624.	223.	-133.	-.0285	.0101	.0198	-.0811	.0178	-.0791	2819.		
.3940	50.	826.	389.	601.	168.	-100.	-.0288	.0112	.0215	-.0788	.0141	-.0831	2640.		
.3950	4.	786.	355.	574.	104.	-59.	-.0283	.0121	.0231	-.0735	.0097	-.0849	2446.		
.3960	-52.	720.	315.	540.	32.	-14.	-.0272	.0128	.0245	-.0658	.0049	-.0848	2257.		
.3970	-120.	635.	270.	499.	-44.	30.	-.0253	.0132	.0258	-.0560	-.0003	-.0827	2094.		
.3980	-190.	537.	221.	454.	-122.	74.	-.0229	.0134	.0268	-.0447	-.0055	-.0787	1986.		
.3990	-255.	423.	167.	408.	-198.	119.	-.0202	.0135	.0276	-.0324	-.0107	-.0731	1956.		

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

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18.29.49.

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

.3890	154.	633.	400.	632.	304.	-186.	-.192	.0037	.0116	-.0593	.0231	-.0465	3028.
.3900	158.	718.	419.	644.	305.	-184.	-.0228	.0056	.0138	-.0693	.0232	-.0567	3072.
.3910	152.	782.	426.	647.	292.	-172.	-.0256	.0074	.0159	-.0765	.0224	-.0657	3048.
.3920	130.	823.	424.	640.	264.	-156.	-.0275	.0088	.0179	-.0804	.0206	-.0733	2961.
.3930	97.	838.	412.	624.	223.	-133.	-.0285	.0101	.0198	-.0811	.0178	-.0791	2819.
.3940	50.	826.	389.	601.	168.	-100.	-.0288	.0112	.0215	-.0788	.0141	-.0831	2640.
.3950	4.	786.	355.	574.	104.	-59.	-.0283	.0121	.0231	-.0735	.0097	-.0849	2446.
.3960	-52.	720.	315.	540.	32.	-14.	-.0272	.0128	.0245	-.0658	.0049	-.0848	2257.
.3970	-120.	635.	270.	499.	-44.	30.	-.0253	.0132	.0258	-.0560	-.0003	-.0827	2094.
.3980	-190.	537.	221.	454.	-122.	74.	-.0229	.0134	.0268	-.0447	-.0055	-.0787	1986.
.3990	-255.	423.	167.	408.	-190.	119.	-.0202	.0135	.0276	-.0324	-.0107	-.0731	1956.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.49.

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	67	MEMBER	2	SEQUENCE	99	LOCATION	END	TYPE	RU						
TIME	FX	FY	FZ	MX	MY	MZ		DX	DY	DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)		(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.4000	-316.	294.	113.	361.	-271.	163.		-.0174	.0133	.0283	-.0193	-.0156	-.0659	2001.	

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)	
.2690	1323.	-95.	155.	298.	751.	-982.		.0154	.0349	-.0201	-.0221	.0217	.0352	5305.	

SECTION	67	MEMBER	3	SEQUENCE	100	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	-0.	-0.	0.	-0.	0.	-0.		-.0000	-.0000	-.0000	-.0000	.0000	-.0000	1.	
.0050	-1.	-0.	0.	-0.	0.	-0.		-.0000	-.0000	-.0000	.0000	-.0000	-.0000	1.	
.0060	-2.	-0.	1.	0.	0.	-0.		-.0000	.0000	-.0000	.0001	-.0001	-.0000	1.	
.0070	-4.	-1.	1.	0.	0.	-1.		-.0001	.0000	-.0001	.0002	-.0003	-.0001	3.	
.0080	-7.	-3.	1.	1.	-0.	-1.		-.0002	.0000	-.0003	.0005	-.0007	-.0002	8.	
.0090	-11.	-5.	2.	2.	-1.	-3.		-.0004	.0000	-.0005	.0009	-.0014	-.0004	15.	
.0100	-17.	-8.	2.	4.	-2.	-4.		-.0007	.0000	-.0009	.0016	-.0024	-.0006	26.	
.0110	-25.	-12.	1.	7.	-4.	-6.		-.0011	.0000	-.0014	.0026	-.0039	-.0011	42.	
.0120	-35.	-17.	0.	11.	-7.	-9.		-.0017	.0000	-.0021	.0040	-.0060	-.0016	67.	
.0130	-47.	-26.	-2.	16.	-12.	-14.		-.0025	.0001	-.0031	.0058	-.0089	-.0023	101.	
.0140	-58.	-39.	-7.	23.	-18.	-19.		-.0037	.0001	-.0042	.0081	-.0125	-.0031	146.	
.0150	-69.	-53.	-13.	30.	-27.	-25.		-.0050	.0001	-.0055	.0108	-.0166	-.0041	197.	
.0160	-77.	-63.	-20.	38.	-36.	-30.		-.0064	.0001	-.0069	.0135	-.0209	-.0054	251.	
.0170	-81.	-66.	-28.	45.	-45.	-34.		-.0077	.0001	-.0081	.0158	-.0247	-.0069	300.	
.0180	-80.	-63.	-34.	50.	-51.	-37.		-.0087	.0000	-.0090	.0172	-.0271	-.0084	336.	
.0190	-69.	-52.	-39.	49.	-55.	-39.		-.0093	-.0001	-.0090	.0170	-.0274	-.0097	349.	
.0200	-48.	-35.	-41.	42.	-54.	-38.		-.0092	-.0003	-.0079	.0146	-.0246	-.0102	326.	
.0210	-17.	-8.	-39.	28.	-48.	-29.		-.0082	-.0006	-.0055	.0097	-.0183	-.0097	261.	
.0220	28.	33.	-35.	12.	-35.	-8.		-.0065	-.0008	-.0019	.0025	-.0085	-.0079	157.	
.0230	74.	78.	-28.	-8.	-17.	19.		-.0041	-.0011	.0025	-.0062	.0035	-.0051	112.	

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.49.

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

.0140	-58.	-39.	-7.	23.	-10.	-19.	-.0037	.0001	-.0042	.0081	-.0125	-.0025	101.
.0150	-69.	-53.	-13.	30.	-27.	-25.	-.0050	.0001	-.0055	.0108	-.0166	-.0041	146.
.0160	-77.	-63.	-20.	38.	-36.	-30.	-.0064	.0001	-.0069	.0135	-.0209	-.0054	251.
.0170	-81.	-66.	-28.	45.	-45.	-34.	-.0077	.0001	-.0081	.0158	-.0247	-.0069	300.
.0180	-89.	-63.	-34.	58.	-51.	-37.	-.0087	.0000	-.0090	.0172	-.0271	-.0084	336.
.0190	-69.	-52.	-39.	49.	-55.	-39.	-.0093	-.0001	-.0090	.0170	-.0274	-.0097	349.
.0200	-48.	-35.	-41.	42.	-54.	-38.	-.0092	-.0003	-.0079	.0146	-.0246	-.0102	326.
.0210	-17.	-8.	-39.	28.	-48.	-29.	-.0082	-.0006	-.0055	.0097	-.0183	-.0097	261.
.0220	28.	33.	-35.	12.	-35.	-8.	-.0065	-.0008	-.0019	.0025	-.0085	-.0079	157.
.0230	74.	78.	-28.	-8.	-17.	19.	-.0041	-.0011	.0025	-.0062	.0035	-.0051	112.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.29.49.

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	67	MEMBER	3	SEQUENCE	100	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)		
.0240	107.	117.	-16.	-28.	3.	45.	-.0017	-.0014	.0070	-.0149	.0157	-.0018	223.		
.0250	136.	136.	-3.	-50.	20.	61.	.0002	-.0017	.0108	-.0221	.0262	.0015	338.		
.0260	181.	143.	2.	-69.	27.	64.	.0016	-.0021	.0135	-.0270	.0337	.0042	410.		
.0270	234.	168.	-1.	-75.	29.	73.	.0026	-.0025	.0144	-.0292	.0380	.0057	454.		
.0280	244.	216.	3.	-67.	32.	83.	.0037	-.0031	.0135	-.0288	.0385	.0055	465.		
.0290	224.	234.	10.	-61.	33.	66.	.0042	-.0038	.0113	-.0262	.0357	.0045	398.		
.0300	278.	198.	-9.	-65.	22.	31.	.0043	-.0044	.0096	-.0225	.0327	.0056	315.		
.0310	347.	155.	-25.	-72.	15.	14.	.0049	-.0049	.0089	-.0199	.0327	.0092	313.		
.0320	341.	148.	-12.	-79.	30.	10.	.0073	-.0054	.0091	-.0203	.0361	.0132	357.		
.0330	303.	153.	8.	-91.	59.	5.	.0112	-.0061	.0102	-.0233	.0419	.0177	454.		
.0340	274.	115.	27.	-110.	90.	4.	.0149	-.0065	.0125	-.0265	.0494	.0250	592.		
.0350	227.	18.	56.	-130.	115.	3.	.0171	-.0066	.0146	-.0273	.0554	.0342	725.		
.0360	170.	-95.	72.	-140.	126.	-16.	.0179	-.0066	.0141	-.0233	.0542	.0407	787.		
.0370	113.	-166.	60.	-124.	119.	-52.	.0178	-.0068	.0095	-.0134	.0431	.0410	748.		
.0380	5.	-192.	46.	-79.	104.	-82.	.0164	-.0069	.0012	.0020	.0235	.0361	644.		
.0390	-125.	-235.	33.	-25.	75.	-115.	.0133	-.0069	-.0087	.0208	-.0014	.0294	582.		
.0400	-165.	-341.	-16.	14.	24.	-170.	.0089	-.0064	-.0177	.0398	-.0267	.0235	719.		
.0410	-134.	-441.	-76.	37.	-24.	-208.	.0054	-.0057	-.0236	.0538	-.0444	.0193	887.		
.0420	-201.	-440.	-76.	54.	-25.	-188.	.0054	-.0049	-.0254	.0578	-.0493	.0157	825.		
.0430	-342.	-361.	-30.	62.	13.	-129.	.0086	-.0040	-.0227	.0512	-.0422	.0132	599.		
.0440	-402.	-317.	0.	46.	53.	-63.	.0127	-.0026	-.0154	.0375	-.0261	.0149	393.		
.0450	-409.	-342.	36.	11.	87.	14.	.0153	-.0005	-.0053	.0214	-.0050	.0207	369.		
.0460	-454.	-352.	91.	-8.	113.	106.	.0160	.0018	.0033	.0077	.0123	.0244	647.		
.0470	-493.	-275.	108.	13.	113.	178.	.0153	.0039	.0062	.0007	.0162	.0187	881.		
.0480	-506.	-146.	83.	64.	83.	209.	.0127	.0057	.0032	.0018	.0058	.0039	976.		
.0490	-532.	-52.	65.	123.	33.	223.	.0069	.0077	-.0026	.0089	-.0119	-.0132	1073.		
.0500	-507.	-17.	39.	179.	-36.	237.	-.0012	.0101	-.0082	.0176	-.0307	-.0276	1248.		
.0510	-384.	13.	-22.	226.	-111.	249.	-.0087	.0126	-.0118	.0233	-.0459	-.0395	1478.		
.0520	-307.	96.	-50.	257.	-149.	266.	-.0130	.0147	-.0122	.0211	-.0509	-.0500	1663.		
.0530	-342.	221.	-1.	262.	-135.	303.	-.0141	.0164	-.0081	.0093	-.0420	-.0571	1764.		
.0540	-316.	327.	48.	245.	-107.	356.	-.0135	.0181	.0003	-.0091	-.0226	-.0575	1859.		
.0550	-163.	377.	56.	213.	-90.	399.	-.0127	.0198	.0110	-.0291	.0007	-.0523	1926.		
.0560	-65.	397.	84.	174.	-66.	407.	-.0125	.0210	.0203	-.0465	.0215	-.0475	1870.		
.0570	-63.	429.	129.	147.	-41.	373.	-.0132	.0214	.0252	-.0572	.0329	-.0473	1682.		
.0580	1.	468.	112.	146.	-49.	306.	-.0155	.0213	.0249	-.0584	.0309	-.0508	1431.		
.0590	145.	464.	42.	157.	-91.	212.	-.0200	.0208	.0208	-.0511	.0186	-.0548	1164.		
.0600	255.	397.	-12.	151.	-136.	88.	-.0256	.0198	.0158	-.0401	.0041	-.0577	925.		
.0610	342.	324.	-52.	127.	-168.	-46.	-.0297	.0184	.0117	-.0306	-.0068	-.0590	899.		

ADLPIPE PAGE 2681

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.29.49.

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

.0510	-384.	13.	-22.	226.	-111.	249.	-.0087	.0126	-.0118	.0233	-.0459	-.0395	1248.
.0520	-307.	96.	-59.	257.	-149.	266.	-.0130	.0147	-.0122	.0211	-.0509	-.0500	1663.
.0530	-342.	221.	-1.	262.	-135.	303.	-.0141	.0164	-.0081	.0093	-.0420	-.0571	1764.
.0540	-316.	327.	48.	245.	-107.	356.	-.0135	.0181	.0003	-.0091	-.0226	-.0575	1859.
.0550	-163.	377.	56.	213.	-90.	399.	-.0127	.0198	.0110	-.0291	.0007	-.0523	1926.
.0560	-61.	397.	84.	174.	-66.	407.	-.0125	.0210	.0203	-.0465	.0215	-.0475	1870.
.0570	-63.	429.	129.	147.	-41.	373.	-.0132	.0214	.0252	-.0572	.0329	-.0473	1682.
.0580	1.	468.	112.	146.	-49.	306.	-.0155	.0213	.0249	-.0584	.0309	-.0508	1431.
.0590	145.	464.	42.	157.	-91.	212.	-.0200	.0208	.0208	-.0511	.0186	-.0548	1164.
.0600	255.	397.	-12.	151.	-136.	88.	-.0256	.0198	.0158	-.0401	.0041	-.0577	925.
.0610	342.	324.	-52.	127.	-168.	-46.	-.0297	.0184	.0117	-.0306	-.0068	-.0590	899.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.49.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	67	MEMBER	3	SEQUENCE	100	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)	
.0620	455.	307.	-103.	96.	-177.	-152.		-.0302	.0164	.0103	-.0268	-.0096	-.0572	1051.	
.0630	521.	311.	-120.	45.	-147.	-225.		-.0272	.0140	.0133	-.0309	-.0003	-.0503	1139.	
.0640	520.	253.	-84.	-46.	-84.	-298.		-.0222	.0115	.0210	-.0418	.0207	-.0374	1308.	
.0650	552.	135.	-50.	-160.	-19.	-369.		-.0166	.0090	.0311	-.0551	.0464	-.0197	1681.	
.0660	612.	38.	-41.	-249.	32.	-409.		-.0113	.0065	.0396	-.0654	.0675	-.0019	2004.	
.0670	597.	-4.	-30.	-301.	71.	-436.		-.0071	.0036	.0428	-.0678	.0765	.0099	2229.	
.0680	530.	-47.	-32.	-327.	81.	-499.		-.0057	.0005	.0390	-.0589	.0692	.0133	2512.	
.0690	511.	-131.	-85.	-330.	45.	-592.		-.0078	-.0027	.0294	-.0384	.0461	.0112	2836.	
.0700	526.	-235.	-167.	-308.	-22.	-667.		-.0124	-.0055	.0166	-.0108	.0136	.0073	3067.	
.0710	511.	-325.	-236.	-275.	-82.	-711.		-.0170	-.0081	.0037	.0164	-.0186	.0032	3204.	
.0720	473.	-374.	-279.	-255.	-130.	-729.		-.0190	-.0108	-.0062	.0365	-.0417	-.0004	3267.	
.0730	421.	-364.	-289.	-247.	-135.	-690.		-.0171	-.0132	-.0107	.0453	-.0495	-.0005	3112.	
.0740	343.	-317.	-255.	-248.	-102.	-580.		-.0120	-.0152	-.0090	.0423	-.0413	.0054	2668.	
.0750	268.	-290.	-195.	-265.	-48.	-442.		-.0053	-.0167	-.0025	.0312	-.0215	.0163	2160.	
.0760	210.	-292.	-130.	-292.	9.	-316.		.0017	-.0181	.0053	.0177	.0019	.0275	1798.	
.0770	124.	-261.	-63.	-295.	59.	-189.		.0078	-.0194	.0106	.0074	.0200	.0348	1484.	
.0780	13.	-168.	-12.	-250.	87.	-50.		.0121	-.0205	.0104	.0047	.0258	.0358	1125.	
.0790	-58.	-75.	-4.	-170.	77.	61.		.0134	-.0216	.0045	.0117	.0172	.0311	820.	
.0800	-98.	-40.	-25.	-81.	34.	125.		.0115	-.0225	-.0052	.0266	-.0016	.0230	639.	
.0810	-157.	-38.	-40.	14.	-14.	173.		.0081	-.0231	-.0162	.0443	-.0236	.0146	728.	
.0820	-217.	-19.	-49.	112.	-51.	234.		.0057	-.0235	-.0257	.0588	-.0416	.0081	1103.	
.0830	-258.	24.	-48.	194.	-62.	303.		.0060	-.0238	-.0313	.0655	-.0488	.0050	1523.	
.0840	-320.	66.	-1.	244.	-32.	374.		.0091	-.0241	-.0317	.0624	-.0413	.0066	1866.	
.0850	-410.	101.	84.	267.	30.	454.		.0144	-.0242	-.0272	.0510	-.0213	.0134	2203.	
.0860	-453.	129.	158.	280.	98.	538.		.0206	-.0241	-.0203	.0357	.0042	.0238	2563.	
.0870	-444.	149.	211.	288.	158.	598.		.0264	-.0239	-.0138	.0216	.0283	.0339	2848.	
.0880	-466.	160.	265.	295.	210.	617.		.0308	-.0238	-.0099	.0123	.0458	.0403	2984.	
.0890	-484.	165.	296.	308.	239.	600.		.0332	-.0237	-.0097	.0096	.0535	.0428	2986.	
.0900	-426.	159.	275.	328.	236.	560.		.0336	-.0234	-.0123	.0131	.0523	.0432	2884.	
.0910	-346.	129.	239.	342.	220.	504.		.0329	-.0230	-.0156	.0191	.0477	.0432	2700.	
.0920	-319.	87.	228.	334.	214.	436.		.0323	-.0224	-.0176	.0235	.0452	.0438	2460.	
.0930	-314.	49.	230.	310.	221.	373.		.0328	-.0216	-.0173	.0241	.0471	.0461	2224.	
.0940	-297.	16.	228.	275.	235.	326.		.0340	-.0205	-.0144	.0209	.0530	.0511	2032.	
.0950	-304.	-39.	241.	227.	253.	284.		.0348	-.0190	-.0101	.0164	.0603	.0576	1849.	
.0960	-330.	-121.	258.	172.	261.	225.		.0340	-.0173	-.0066	.0146	.0636	.0624	1606.	
.0970	-326.	-197.	239.	127.	241.	145.		.0311	-.0155	-.0065	.0190	.0568	.0623	1290.	
.0980	-304.	-239.	186.	105.	193.	56.		.0259	-.0137	-.0109	.0310	.0379	.0557	946.	
.0990	-299.	-267.	123.	94.	126.	-45.		.0185	-.0118	-.0186	.0489	.0100	.0437	683.	

ADLPIPE PAGE 2682

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.49.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

.0890	-484.	159.	275.	328.	236.	560.	.0332	-.0237	-.0097	.0096	.0535	.0428	2986.
.0900	-426.	159.	275.	328.	236.	560.	.0336	-.0234	-.0123	.0131	.0523	.0432	2884.
.0910	-346.	129.	239.	342.	220.	504.	.0329	-.0230	-.0156	.0191	.0477	.0432	2700.
.0920	-319.	87.	228.	334.	214.	436.	.0323	-.0224	-.0176	.0235	.0452	.0438	2460.
.0930	-314.	49.	230.	310.	221.	373.	.0328	-.0216	-.0173	.0241	.0471	.0461	2224.
.0940	-297.	16.	228.	275.	235.	326.	.0340	-.0205	-.0144	.0209	.0530	.0511	2032.
.0950	-304.	-39.	241.	227.	253.	284.	.0348	-.0190	-.0101	.0164	.0603	.0576	1849.
.0960	-330.	-121.	258.	172.	261.	225.	.0341	-.0173	-.0066	.0146	.0636	.0624	1606.
.0970	-326.	-197.	239.	127.	241.	145.	.0311	-.0155	-.0065	.0190	.0568	.0623	1290.
.0980	-304.	-239.	186.	105.	193.	56.	.0259	-.0137	-.0109	.0310	.0379	.0557	946.
.0990	-299.	-267.	123.	94.	126.	-45.	.0185	-.0118	-.0186	.0489	.0100	.0437	683.

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DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.49.

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								
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	PX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)	
.1000	-280.	-312.	50.	78.	46.	-161.	.0097	-.0097	-.0272	.0691	-.0213	.0292	770.	
.1010	-221.	-355.	-29.	51.	-34.	-268.	.0008	-.0074	-.0339	.0868	-.0493	.0154	1148.	
.1020	-162.	-386.	-87.	16.	-93.	-338.	-.0066	-.0049	-.0371	.0974	-.0682	.0038	1467.	
.1030	-147.	-363.	-107.	-30.	-121.	-374.	-.0115	-.0023	-.0358	.0989	-.0754	-.0056	1644.	
.1040	-113.	-315.	-107.	-91.	-126.	-392.	-.0143	.0004	-.0305	.0921	-.0722	-.0130	1761.	
.1050	-45.	-253.	-103.	-154.	-122.	-393.	-.0159	.0032	-.0225	.0799	-.0624	-.0185	1836.	
.1060	42.	-176.	-97.	-208.	-117.	-376.	-.0173	.0061	-.0137	.0655	-.0504	-.0232	1859.	
.1070	151.	-87.	-102.	-247.	-121.	-360.	-.0190	.0090	-.0056	.0516	-.0403	-.0292	1891.	
.1080	275.	3.	-120.	-274.	-135.	-362.	-.0209	.0117	.0009	.0393	-.0336	-.0371	1977.	
.1090	395.	92.	-140.	-287.	-153.	-365.	-.0229	.0144	.0064	.0280	-.0290	-.0453	2040.	
.1100	520.	194.	-159.	-276.	-170.	-328.	-.0248	.0172	.0118	.0169	-.0235	-.0509	1926.	
.1110	623.	273.	-167.	-261.	-180.	-294.	-.0260	.0200	.0174	.0051	-.0167	-.0546	1805.	
.1120	675.	313.	-154.	-250.	-179.	-284.	-.0265	.0225	.0229	-.0072	-.0091	-.0570	1744.	
.1130	694.	348.	-125.	-219.	-169.	-252.	-.0265	.0249	.0277	-.0187	-.0017	-.0570	1561.	
.1140	721.	390.	-104.	-162.	-162.	-195.	-.0265	.0273	.0307	-.0269	.0030	-.0557	1255.	
.1150	746.	410.	-97.	-96.	-160.	-173.	-.0265	.0291	.0308	-.0303	.0021	-.0564	1064.	
.1160	725.	403.	-85.	-72.	-160.	-188.	-.0265	.0305	.0279	-.0292	-.0040	-.0594	1040.	
.1170	680.	395.	-73.	45.	-160.	-185.	-.0262	.0316	.0234	-.0250	-.0123	-.0614	1037.	
.1180	698.	382.	-90.	126.	-163.	-150.	-.0251	.0326	.0192	-.0199	-.0190	-.0602	1064.	
.1190	697.	370.	-94.	170.	-149.	-140.	-.0218	.0332	.0168	-.0176	-.0194	-.0573	1111.	
.1200	599.	269.	-44.	175.	-99.	-136.	-.0154	.0333	.0174	-.0212	-.0096	-.0524	1013.	
.1210	487.	263.	24.	178.	-23.	-59.	-.0058	.0335	.0213	-.0310	.0102	-.0425	787.	
.1220	387.	288.	89.	186.	61.	76.	.0056	.0338	.0272	-.0438	.0349	-.0285	875.	
.1230	257.	260.	156.	174.	141.	174.	.0166	.0340	.0325	-.0545	.0572	-.0153	1184.	
.1240	42.	171.	238.	152.	207.	213.	.0256	.0339	.0343	-.0584	.0699	-.0064	1391.	
.1250	-159.	97.	279.	166.	230.	262.	.0315	.0339	.0305	-.0518	.0668	-.0018	1612.	
.1260	-250.	64.	237.	225.	198.	334.	.0345	.0343	.0210	-.0344	.0475	-.0015	1872.	
.1270	-361.	16.	184.	277.	143.	354.	.0355	.0344	.0075	-.0102	.0186	-.0076	1969.	
.1280	-532.	-49.	161.	300.	94.	337.	.0361	.0344	-.0062	.0141	-.0101	-.0168	1923.	
.1290	-680.	-70.	144.	320.	57.	376.	.0379	.0349	-.0166	.0327	-.0313	-.0221	2075.	
.1300	-757.	-58.	119.	337.	36.	482.	.0414	.0359	-.0216	.0424	-.0408	-.0206	2460.	
.1310	-839.	-92.	128.	308.	44.	567.	.0463	.0372	-.0212	.0433	-.0376	-.0150	2698.	
.1320	-1001.	-172.	199.	234.	83.	599.	.0515	.0383	-.0176	.0381	-.0264	-.0090	2706.	
.1330	-1098.	-196.	247.	184.	112.	659.	.0561	.0398	-.0141	.0321	-.0163	-.0030	2895.	
.1340	-1068.	-144.	230.	103.	106.	754.	.0586	.0415	-.0134	.0304	-.0148	.0010	3267.	
.1350	-1027.	-117.	198.	182.	78.	773.	.0579	.0430	-.0167	.0357	-.0235	-.0016	3332.	
.1360	-1019.	-157.	173.	162.	37.	689.	.0540	.0441	-.0233	.0469	-.0405	-.0105	2957.	
.1370	-971.	-190.	124.	158.	-22.	599.	.0482	.0453	-.0311	.0604	-.0619	-.0201	2585.	

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ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.49.

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

CONDITION 24

LOADS

SHOCK

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ENGLISH UNITS

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

.1270	-761.	16.	184.	277.	143.	354.	.355	.0344	.0075	-.0102	.0186	-.0076	1969.
.1280	-532.	-49.	161.	300.	94.	357.	.361	.0344	-.0062	.0141	-.0101	-.0168	1923.
.1290	-680.	-70.	144.	320.	57.	376.	.0379	.0349	-.0166	.0327	-.0313	-.0221	2075.
.1300	-757.	-58.	119.	337.	36.	482.	.0414	.0359	-.0216	.0424	-.0408	-.0206	2460.
.1310	-830.	-92.	128.	308.	44.	567.	.0463	.0372	-.0212	.0433	-.0376	-.0150	2698.
.1320	-1001.	-172.	199.	234.	83.	599.	.0515	.0383	-.0176	.0381	-.0264	-.0090	2706.
.1330	-1090.	-196.	247.	164.	112.	659.	.0561	.0398	-.0141	.0321	-.0163	-.0030	2895.
.1340	-1068.	-144.	230.	183.	106.	754.	.0586	.0415	-.0134	.0304	-.0148	.0010	3267.
.1350	-1027.	-117.	198.	182.	78.	773.	.0579	.0430	-.0167	.0357	-.0235	-.0016	3332.
.1360	-1010.	-157.	177.	162.	37.	689.	.0540	.0441	-.0233	.0469	-.0405	-.0105	2957.
.1370	-971.	-190.	124.	158.	-22.	599.	.0482	.0453	-.0311	.0604	-.0619	-.0201	2585.

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S/RV PIPING KEWAUNEE GKWOBF 2 RUP DISK
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INTERNAL FORCES IN THE PIPING
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SECTION	MEMBER	SEQUENCE	LOCATION	END	TYPE	RU	DX	DY	DZ	RX	RY	RZ	STRESS
TIME	FX	FY	FZ	MX	MY	MZ	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)							
.1380	-809.	-176.	32.	176.	-92.	559.	.0421	.0468	-.0371	.0713	-.0806	-.0260	2475.
.1390	-654.	-176.	-25.	161.	-136.	497.	.0372	.0481	-.0389	.0747	-.0883	-.0296	2251.
.1400	-590.	-120.	-11.	94.	-136.	388.	.0346	.0488	-.0358	.0679	-.0818	-.0319	1760.
.1410	-472.	-134.	10.	33.	-113.	321.	.0344	.0495	-.0286	.0526	-.0650	-.0304	1428.
.1420	-303.	-23.	10.	-5.	-85.	304.	.0352	.0502	-.0193	.0329	-.0439	-.0251	1317.
.1430	-132.	13.	15.	-64.	-58.	223.	.0347	.0505	-.0098	.0140	-.0234	-.0202	997.
.1440	-5.	-49.	38.	-155.	-37.	44.	.0322	.0502	-.0022	-.0007	-.0076	-.0191	690.
.1450	153.	-69.	28.	-213.	-38.	-115.	.0282	.0497	.0020	-.0099	-.0004	-.0205	1023.
.1460	390.	13.	-41.	-214.	-66.	-204.	.0237	.0491	.0027	-.0139	-.0015	-.0234	1263.
.1470	581.	72.	-101.	-226.	-92.	-322.	.0188	.0481	.0019	-.0153	-.0056	-.0291	1687.
.1480	698.	29.	-121.	-286.	-102.	-509.	.0138	.0465	.0020	-.0172	-.0065	-.0352	2473.
.1490	812.	-34.	-134.	-352.	-99.	-659.	.0098	.0450	.0048	-.0223	-.0017	-.0369	3147.
.1500	953.	-44.	-162.	-394.	-85.	-720.	.0080	.0438	.0104	-.0322	.0086	-.0330	3443.
.1510	1048.	-52.	-169.	-447.	-50.	-769.	.0082	.0422	.0180	-.0461	.0244	-.0281	3720.
.1520	1010.	-101.	-123.	-529.	7.	-855.	.0094	.0403	.0260	-.0614	.0422	-.0250	4195.
.1530	982.	-136.	-94.	-585.	51.	-898.	.0102	.0384	.0328	-.0738	.0555	-.0219	4478.
.1540	1003.	-142.	-123.	-591.	58.	-875.	.0095	.0370	.0364	-.0796	.0584	-.0190	4412.
.1550	988.	-191.	-169.	-588.	42.	-876.	.0067	.0356	.0361	-.0772	.0507	-.0206	4408.
.1560	871.	-293.	-194.	-597.	20.	-933.	.0022	.0338	.0322	-.0681	.0350	-.0288	4625.
.1570	696.	-358.	-219.	-579.	-9.	-956.	-.0028	.0322	.0258	-.0552	.0135	-.0400	4665.
.1580	581.	-352.	-287.	-516.	-55.	-888.	-.0076	.0311	.0190	-.0418	-.0101	-.0496	4292.
.1590	468.	-359.	-339.	-456.	-97.	-798.	-.0121	.0304	.0139	-.0308	-.0297	-.0578	3857.
.1600	249.	-412.	-328.	-428.	-110.	-736.	-.0157	.0297	.0112	-.0247	-.0420	-.0660	3583.
.1610	13.	-428.	-298.	-392.	-107.	-639.	-.0181	.0292	.0105	-.0234	-.0485	-.0729	3158.
.1620	-124.	-362.	-305.	-319.	-108.	-464.	-.0193	.0293	.0110	-.0253	-.0518	-.0775	2390.
.1630	-265.	-290.	-292.	-248.	-103.	-287.	-.0207	.0296	.0121	-.0290	-.0520	-.0825	1641.
.1640	-444.	-255.	-241.	-204.	-91.	-160.	-.0227	.0297	.0130	-.0330	-.0499	-.0900	1148.
.1650	-561.	-183.	-206.	-148.	-89.	-22.	-.0250	.0300	.0129	-.0363	-.0482	-.0986	727.
.1660	-611.	-26.	-195.	-54.	-100.	168.	-.0275	.0306	.0116	-.0393	-.0479	-.1067	847.
.1670	-651.	142.	-173.	41.	-109.	351.	-.0302	.0312	.0098	-.0423	-.0466	-.1146	1544.
.1680	-717.	248.	-115.	106.	-110.	466.	-.0335	.0316	.0084	-.0459	-.0427	-.1223	2046.
.1690	-731.	343.	-61.	169.	-113.	561.	-.0370	.0319	.0071	-.0500	-.0375	-.1275	2489.
.1700	-681.	486.	-26.	257.	-121.	682.	-.0400	.0321	.0056	-.0544	-.0323	-.1294	3084.
.1710	-635.	635.	21.	341.	-124.	774.	-.0426	.0319	.0035	-.0587	-.0270	-.1301	3569.
.1720	-572.	732.	73.	394.	-124.	789.	-.0451	.0310	.0009	-.0617	-.0211	-.1301	3715.
.1730	-484.	798.	119.	430.	-124.	764.	-.0473	.0295	-.0021	-.0632	-.0153	-.1276	3694.
.1740	-342.	866.	137.	468.	-129.	748.	-.0489	.0277	-.0052	-.0632	-.0099	-.1202	3721.
.1750	-167.	895.	140.	485.	-131.	700.	-.0498	.0252	-.0078	-.0622	-.0032	-.1090	3595.

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S/RV PIPING KEWAUNEE GKWOBF 2 RUP DISK
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