

50-305

RESPONSE TO NUREG-0737 ITEM II.D.1

Docket # *50-305*

Control # *8403280048*

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

.0510	0.	0.	0.	0.	0.	0.	0.	.0079	-.0108	-.0017	-.0133	.0048	-.0781	0.
.0520	0.	0.	0.	0.	0.	0.	0.	.0046	-.0129	-.0010	-.0154	.0034	-.0775	0.
.0530	0.	0.	0.	0.	0.	0.	0.	.0014	-.0146	-.0002	-.0144	.0059	-.0691	0.
.0540	0.	0.	0.	0.	0.	0.	0.	-.0022	-.0159	.0008	-.0196	.0118	-.0607	0.
.0550	0.	0.	0.	0.	0.	0.	0.	-.0062	-.0165	.0021	-.0289	.0190	-.0555	0.
.0560	0.	0.	0.	0.	0.	0.	0.	-.0104	-.0165	.0034	-.0378	.0241	-.0497	0.
.0570	0.	0.	0.	0.	0.	0.	0.	-.0141	-.0159	.0044	-.0418	.0250	-.0382	0.
.0580	0.	0.	0.	0.	0.	0.	0.	-.0176	-.0146	.0052	-.0410	.0213	-.0231	0.
.0590	0.	0.	0.	0.	0.	0.	0.	-.0210	-.0126	.0059	-.0383	.0140	-.0118	0.
.0600	0.	0.	0.	0.	0.	0.	0.	-.0246	-.0101	.0066	-.0352	.0051	-.0065	0.
.0610	0.	0.	0.	0.	0.	0.	0.	-.0276	-.0072	.0073	-.0306	-.0023	.0011	0.

ADLPIPE PAGE 2594

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.44.

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	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)							
.0620	0.	0.	0.	0.	0.	0.	-.0296	-.0041	.0080	-.0243	-.0054	.0175	0.
.0630	0.	0.	0.	0.	0.	0.	-.0306	-.0010	.0088	-.0194	-.0033	.0380	0.
.0640	0.	0.	0.	0.	0.	0.	-.0313	.0022	.0100	-.0192	.0030	.0532	0.
.0650	0.	0.	0.	0.	0.	0.	-.0318	.0053	.0114	-.0230	.0116	.0616	0.
.0660	0.	0.	0.	0.	0.	0.	-.0315	.0082	.0128	-.0254	.0192	.0689	0.
.0670	0.	0.	0.	0.	0.	0.	-.0303	.0108	.0137	-.0216	.0222	.0784	0.
.0680	0.	0.	0.	0.	0.	0.	-.0285	.0128	.0141	-.0116	.0191	.0859	0.
.0690	0.	0.	0.	0.	0.	0.	-.0264	.0144	.0143	.0015	.0105	.0851	0.
.0700	0.	0.	0.	0.	0.	0.	-.0243	.0154	.0143	.0150	-.0011	.0754	0.
.0710	0.	0.	0.	0.	0.	0.	-.0219	.0157	.0140	.0286	-.0122	.0625	0.
.0720	0.	0.	0.	0.	0.	0.	-.0187	.0152	.0136	.0416	-.0195	.0528	0.
.0730	0.	0.	0.	0.	0.	0.	-.0150	.0137	.0129	.0519	-.0208	.0479	0.
.0740	0.	0.	0.	0.	0.	0.	-.0109	.0115	.0123	.0564	-.0160	.0435	0.
.0750	0.	0.	0.	0.	0.	0.	-.0069	.0087	.0116	.0542	-.0068	.0354	0.
.0760	0.	0.	0.	0.	0.	0.	-.0031	.0054	.0107	.0483	.0034	.0245	0.
.0770	0.	0.	0.	0.	0.	0.	.0008	.0018	.0093	.0438	.0112	.0157	0.
.0780	0.	0.	0.	0.	0.	0.	.0048	-.0021	.0071	.0435	.0142	.0106	0.
.0790	0.	0.	0.	0.	0.	0.	.0086	-.0060	.0043	.0439	.0119	.0044	0.
.0800	0.	0.	0.	0.	0.	0.	.0117	-.0097	.0011	.0478	.0053	-.0077	0.
.0810	0.	0.	0.	0.	0.	0.	.0142	-.0130	-.0023	.0478	-.0025	-.0233	0.
.0820	0.	0.	0.	0.	0.	0.	.0166	-.0160	-.0059	.0458	-.0090	-.0353	0.
.0830	0.	0.	0.	0.	0.	0.	.0190	-.0187	-.0096	.0410	-.0116	-.0408	0.
.0840	0.	0.	0.	0.	0.	0.	.0213	-.0209	-.0132	.0321	-.0099	-.0421	0.
.0850	0.	0.	0.	0.	0.	0.	.0231	-.0226	-.0165	.0189	-.0043	-.0415	0.
.0860	0.	0.	0.	0.	0.	0.	.0246	-.0236	-.0195	.0031	.0028	-.0390	0.
.0870	0.	0.	0.	0.	0.	0.	.0257	-.0239	-.0224	-.0119	.0093	-.0345	0.
.0880	0.	0.	0.	0.	0.	0.	.0265	-.0235	-.0251	-.0232	.0129	-.0283	0.
.0890	0.	0.	0.	0.	0.	0.	.0270	-.0224	-.0276	-.0301	.0129	-.0212	0.
.0900	0.	0.	0.	0.	0.	0.	.0270	-.0206	-.0297	-.0334	.0104	-.0148	0.
.0910	0.	0.	0.	0.	0.	0.	.0266	-.0181	-.0313	-.0348	.0071	-.0102	0.
.0920	0.	0.	0.	0.	0.	0.	.0259	-.0150	-.0322	-.0350	.0047	-.0057	0.
.0930	0.	0.	0.	0.	0.	0.	.0251	-.0116	-.0322	-.0349	.0049	.0013	0.
.0940	0.	0.	0.	0.	0.	0.	.0242	-.0077	-.0314	-.0353	.0073	.0091	0.
.0950	0.	0.	0.	0.	0.	0.	.0229	-.0037	-.0297	-.0362	.0109	.0136	0.
.0960	0.	0.	0.	0.	0.	0.	.0212	.0005	-.0273	-.0355	.0128	.0142	0.
.0970	0.	0.	0.	0.	0.	0.	.0192	.0046	-.0244	-.0299	.0113	.0140	0.
.0980	0.	0.	0.	0.	0.	0.	.0172	.0085	-.0212	-.0176	.0057	.0148	0.
.0990	0.	0.	0.	0.	0.	0.	.0148	.0122	-.0176	-.0002	-.0033	.0142	0.

ADLPIPE PAGE 2595

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.44.

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



.0890	0.	0.	0.	0.	0.	0.	0.	.0270	-.0224	-.0276	-.0301	.0129	-.0212	0.
.0900	0.	0.	0.	0.	0.	0.	0.	.0270	-.0206	-.0297	-.0334	.0104	-.0148	0.
.0910	0.	0.	0.	0.	0.	0.	0.	.0266	-.0181	-.0313	-.0348	.0071	-.0102	0.
.0920	0.	0.	0.	0.	0.	0.	0.	.0259	-.0150	-.0322	-.0350	.0047	-.0057	0.
.0930	0.	0.	0.	0.	0.	0.	0.	.0251	-.0116	-.0322	-.0349	.0049	.0013	0.
.0940	0.	0.	0.	0.	0.	0.	0.	.0242	-.0077	-.0314	-.0353	.0075	.0091	0.
.0950	0.	0.	0.	0.	0.	0.	0.	.0229	-.0037	-.0297	-.0362	.0109	.0136	0.
.0960	0.	0.	0.	0.	0.	0.	0.	.0212	.0005	-.0273	-.0355	.0128	.0142	0.
.0970	0.	0.	0.	0.	0.	0.	0.	.0192	.0046	-.0244	-.0299	.0113	.0140	0.
.0980	0.	0.	0.	0.	0.	0.	0.	.0172	.0085	-.0212	-.0176	.0057	.0148	0.
.0990	0.	0.	0.	0.	0.	0.	0.	.0148	.0122	-.0176	-.0002	-.0033	.0142	0.

ADLPIPE PAGE 2595

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02. 18.29.44.

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	66	MEMBER	1	SEQUENCE	07	LOCATION	DIS	TYPE	VA	DX	DY	DZ	FX	RY	RZ	STRESS
TIME	(SEC)	FX	FY	FZ	MX	MY	MZ	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		
.1000	0.	0.	0.	0.	0.	0.	0.	.0120	.0155	-.0137	.0189	-.0136	.0096	0.		
.1010	0.	0.	0.	0.	0.	0.	0.	.0089	.0183	-.0093	.0372	-.0225	.0024	0.		
.1020	0.	0.	0.	0.	0.	0.	0.	.0055	.0205	-.0045	.0536	-.0282	-.0034	0.		
.1030	0.	0.	0.	0.	0.	0.	0.	.0021	.0220	.0005	.0677	-.0301	-.0051	0.		
.1040	0.	0.	0.	0.	0.	0.	0.	-.0013	.0229	.0056	.0785	-.0287	-.0033	0.		
.1050	0.	0.	0.	0.	0.	0.	0.	-.0048	.0232	.0107	.0857	-.0254	-.0003	0.		
.1060	0.	0.	0.	0.	0.	0.	0.	-.0086	.0230	.0157	.0900	-.0218	.0029	0.		
.1070	0.	0.	0.	0.	0.	0.	0.	-.0123	.0225	.0202	.0929	-.0191	.0074	0.		
.1080	0.	0.	0.	0.	0.	0.	0.	-.0159	.0216	.0242	.0949	-.0176	.0138	0.		
.1090	0.	0.	0.	0.	0.	0.	0.	-.0193	.0206	.0276	.0951	-.0168	.0204	0.		
.1100	0.	0.	0.	0.	0.	0.	0.	-.0224	.0195	.0303	.0922	-.0162	.0254	0.		
.1110	0.	0.	0.	0.	0.	0.	0.	-.0251	.0184	.0325	.0854	-.0151	.0298	0.		
.1120	0.	0.	0.	0.	0.	0.	0.	-.0272	.0174	.0339	.0749	-.0140	.0340	0.		
.1130	0.	0.	0.	0.	0.	0.	0.	-.0285	.0164	.0346	.0611	-.0139	.0366	0.		
.1140	0.	0.	0.	0.	0.	0.	0.	-.0291	.0156	.0346	.0456	-.0158	.0377	0.		
.1150	0.	0.	0.	0.	0.	0.	0.	-.0286	.0148	.0337	.0306	-.0201	.0389	0.		
.1160	0.	0.	0.	0.	0.	0.	0.	-.0271	.0143	.0319	.0170	-.0266	.0399	0.		
.1170	0.	0.	0.	0.	0.	0.	0.	-.0246	.0138	.0296	.0043	-.0335	.0382	0.		
.1180	0.	0.	0.	0.	0.	0.	0.	-.0213	.0134	.0267	-.0086	-.0388	.0324	0.		
.1190	0.	0.	0.	0.	0.	0.	0.	-.0170	.0132	.0235	-.0210	-.0407	.0255	0.		
.1200	0.	0.	0.	0.	0.	0.	0.	-.0116	.0129	.0199	-.0324	-.0379	.0202	0.		
.1210	0.	0.	0.	0.	0.	0.	0.	-.0052	.0125	.0163	-.0433	-.0303	.0169	0.		
.1220	0.	0.	0.	0.	0.	0.	0.	.0020	.0122	.0128	-.0544	-.0194	.0135	0.		
.1230	0.	0.	0.	0.	0.	0.	0.	.0096	.0121	.0094	-.0649	-.0083	.0065	0.		
.1240	0.	0.	0.	0.	0.	0.	0.	.0174	.0121	.0061	-.0728	-.0002	-.0054	0.		
.1250	0.	0.	0.	0.	0.	0.	0.	.0252	.0122	.0028	-.0755	.0035	-.0205	0.		
.1260	0.	0.	0.	0.	0.	0.	0.	.0330	.0124	-.0004	-.0714	.0027	-.0373	0.		
.1270	0.	0.	0.	0.	0.	0.	0.	.0407	.0128	-.0035	-.0608	-.0013	-.0547	0.		
.1280	0.	0.	0.	0.	0.	0.	0.	.0481	.0132	-.0064	-.0463	-.0055	-.0722	0.		
.1290	0.	0.	0.	0.	0.	0.	0.	.0551	.0138	-.0087	-.0318	-.0065	-.0881	0.		
.1300	0.	0.	0.	0.	0.	0.	0.	.0614	.0144	-.0103	-.0210	-.0026	-.1029	0.		
.1310	0.	0.	0.	0.	0.	0.	0.	.0668	.0152	-.0111	-.0151	.0049	-.1184	0.		
.1320	0.	0.	0.	0.	0.	0.	0.	.0713	.0161	-.0113	-.0122	.0132	-.1329	0.		
.1330	0.	0.	0.	0.	0.	0.	0.	.0748	.0172	-.0112	-.0091	.0200	-.1424	0.		
.1340	0.	0.	0.	0.	0.	0.	0.	.0773	.0185	-.0108	-.0036	.0226	-.1466	0.		
.1350	0.	0.	0.	0.	0.	0.	0.	.0785	.0201	-.0104	.0049	.0196	-.1493	0.		
.1360	0.	0.	0.	0.	0.	0.	0.	.0781	.0220	-.0098	.0152	.0118	-.1527	0.		
.1370	0.	0.	0.	0.	0.	0.	0.	.0764	.0242	-.0089	.0255	.0025	-.1542	0.		

ADLPIPE PAGE 2596

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02. 18.29.44.

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

.1270	0.	0.	0.	0.	0.	0.	0.	.0407	.0128	-.0035	-.0608	-.0013	-.0547	0.
.1280	0.	0.	0.	0.	0.	0.	0.	.0481	.0132	-.0064	-.0463	-.0055	-.0722	0.
.1290	0.	0.	0.	0.	0.	0.	0.	.0551	.0138	-.0087	-.0318	-.0065	-.0881	0.
.1300	0.	0.	0.	0.	0.	0.	0.	.0614	.0144	-.0103	-.0210	-.0026	-.1029	0.
.1310	0.	0.	0.	0.	0.	0.	0.	.0668	.0152	-.0111	-.0151	.0049	-.1184	0.
.1320	0.	0.	0.	0.	0.	0.	0.	.0713	.0161	-.0115	-.0122	.0132	-.1329	0.
.1330	0.	0.	0.	0.	0.	0.	0.	.0748	.0172	-.0112	-.0091	.0200	-.1424	0.
.1340	0.	0.	0.	0.	0.	0.	0.	.0773	.0185	-.0108	-.0036	.0226	-.1466	0.
.1350	0.	0.	0.	0.	0.	0.	0.	.0785	.0201	-.0104	.0049	.0196	-.1493	0.
.1360	0.	0.	0.	0.	0.	0.	0.	.0781	.0220	-.0098	.0152	.0118	-.1527	0.
.1370	0.	0.	0.	0.	0.	0.	0.	.0764	.0242	-.0089	.0255	.0025	-.1542	0.

ADLPIPE PAGE 2596

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.44.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION	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)							
.1380	0.	0.	0.	0.	0.	0.	.0734	.0266	-.0078	.0339	-.0055	-.1525	0.
.1390	0.	0.	0.	0.	0.	0.	.0693	.0292	-.0064	.0395	-.0106	-.1469	0.
.1400	0.	0.	0.	0.	0.	0.	.0644	.0317	-.0047	.0422	-.0123	-.1344	0.
.1410	0.	0.	0.	0.	0.	0.	.0590	.0342	-.0028	.0424	-.0107	-.1122	0.
.1420	0.	0.	0.	0.	0.	0.	.0530	.0367	-.0008	.0392	-.0075	-.0842	0.
.1430	0.	0.	0.	0.	0.	0.	.0463	.0391	.0015	.0324	-.0056	-.0594	0.
.1440	0.	0.	0.	0.	0.	0.	.0389	.0416	.0038	.0249	-.0067	-.0393	0.
.1450	0.	0.	0.	0.	0.	0.	.0316	.0438	.0058	.0210	-.0108	-.0178	0.
.1460	0.	0.	0.	0.	0.	0.	.0247	.0458	.0075	.0223	-.0169	.0081	0.
.1470	0.	0.	0.	0.	0.	0.	.0181	.0474	.0090	.0261	-.0239	.0325	0.
.1480	0.	0.	0.	0.	0.	0.	.0117	.0487	.0105	.0282	-.0299	.0492	0.
.1490	0.	0.	0.	0.	0.	0.	.0058	.0495	.0122	.0267	-.0329	.0605	0.
.1500	0.	0.	0.	0.	0.	0.	.0009	.0498	.0140	.0225	-.0319	.0719	0.
.1510	0.	0.	0.	0.	0.	0.	-.0029	.0493	.0158	.0169	-.0281	.0832	0.
.1520	0.	0.	0.	0.	0.	0.	-.0058	.0482	.0175	.0109	-.0230	.0917	0.
.1530	0.	0.	0.	0.	0.	0.	-.0079	.0464	.0191	.0050	-.0176	.0955	0.
.1540	0.	0.	0.	0.	0.	0.	-.0092	.0439	.0205	.0005	-.0130	.0933	0.
.1550	0.	0.	0.	0.	0.	0.	-.0100	.0408	.0216	-.0016	-.0103	.0831	0.
.1560	0.	0.	0.	0.	0.	0.	-.0102	.0370	.0223	-.0000	-.0094	.0666	0.
.1570	0.	0.	0.	0.	0.	0.	-.0097	.0324	.0226	.0048	-.0088	.0485	0.
.1580	0.	0.	0.	0.	0.	0.	-.0086	.0272	.0226	.0098	-.0066	.0292	0.
.1590	0.	0.	0.	0.	0.	0.	-.0075	.0213	.0225	.0118	-.0025	.0052	0.
.1600	0.	0.	0.	0.	0.	0.	-.0063	.0147	.0222	.0100	.0033	-.0225	0.
.1610	0.	0.	0.	0.	0.	0.	-.0050	.0076	.0217	.0055	.0111	-.0480	0.
.1620	0.	0.	0.	0.	0.	0.	-.0037	.0000	.0208	-.0007	.0203	-.0697	0.
.1630	0.	0.	0.	0.	0.	0.	-.0028	-.0077	.0196	-.0079	.0291	-.0915	0.
.1640	0.	0.	0.	0.	0.	0.	-.0026	-.0155	.0179	-.0150	.0363	-.1147	0.
.1650	0.	0.	0.	0.	0.	0.	-.0030	-.0232	.0156	-.0203	.0421	-.1347	0.
.1660	0.	0.	0.	0.	0.	0.	-.0039	-.0304	.0128	-.0234	.0465	-.1477	0.
.1670	0.	0.	0.	0.	0.	0.	-.0055	-.0370	.0096	-.0265	.0491	-.1572	0.
.1680	0.	0.	0.	0.	0.	0.	-.0080	-.0427	.0062	-.0315	.0497	-.1658	0.
.1690	0.	0.	0.	0.	0.	0.	-.0114	-.0473	.0026	-.0387	.0484	-.1706	0.
.1700	0.	0.	0.	0.	0.	0.	-.0151	-.0507	-.0012	-.0464	.0454	-.1671	0.
.1710	0.	0.	0.	0.	0.	0.	-.0192	-.0526	-.0051	-.0534	.0403	-.1557	0.
.1720	0.	0.	0.	0.	0.	0.	-.0237	-.0530	-.0091	-.0596	.0331	-.1399	0.
.1730	0.	0.	0.	0.	0.	0.	-.0285	-.0517	-.0130	-.0647	.0248	-.1203	0.
.1740	0.	0.	0.	0.	0.	0.	-.0332	-.0488	-.0168	-.0682	.0164	-.0968	0.
.1750	0.	0.	0.	0.	0.	0.	-.0378	-.0442	-.0204	-.0703	.0085	-.0710	0.

ADLPIPE PAGE 2597

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.44.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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



.1650	0.	0.	0.	0.	0.	0.	0.	-0.0026	-0.0155	.0179	-0.0150	.0363	-0.1147	0.
.1660	0.	0.	0.	0.	0.	0.	0.	-0.0039	-0.0304	.0128	-0.0234	.0463	-0.1477	0.
.1670	0.	0.	0.	0.	0.	0.	0.	-0.0055	-0.0370	.0096	-0.0265	.0491	-0.1572	0.
.1680	0.	0.	0.	0.	0.	0.	0.	-0.0080	-0.0427	.0072	-0.0315	.0497	-0.1658	0.
.1690	0.	0.	0.	0.	0.	0.	0.	-0.0114	-0.0473	.0026	-0.0387	.0484	-0.1706	0.
.1700	0.	0.	0.	0.	0.	0.	0.	-0.0151	-0.0507	-0.0012	-0.0464	.0454	-0.1671	0.
.1710	0.	0.	0.	0.	0.	0.	0.	-0.0192	-0.0526	-0.0051	-0.0534	.0403	-0.1557	0.
.1720	0.	0.	0.	0.	0.	0.	0.	-0.0237	-0.0530	-0.0091	-0.0596	.0331	-0.1399	0.
.1730	0.	0.	0.	0.	0.	0.	0.	-0.0285	-0.0517	-0.0130	-0.0647	.0248	-0.1203	0.
.1740	0.	0.	0.	0.	0.	0.	0.	-0.0332	-0.0488	-0.0168	-0.0682	.0164	-0.0968	0.
.1750	0.	0.	0.	0.	0.	0.	0.	-0.0378	-0.0442	-0.0204	-0.0703	.0085	-0.0710	0.

ADLPIPE PAGE 2597

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.44.

S/RV PIPING KEWAUNEE CKN02F 2 RUP DISK  
2 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	66	MEMBER	1	SEQUENCE	97	LOCATION	DIS	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)	
.1760	0.	0.	0.	0.	0.	0.		-0.0421	-0.0281	-0.0236	-0.0708	.0013	-0.0438	0.	
.1770	0.	0.	0.	0.	0.	0.		-0.0408	-0.0307	-0.0264	-0.0698	-0.0048	-0.0143	0.	
.1780	0.	0.	0.	0.	0.	0.		-0.0407	-0.0223	-0.0286	-0.0676	-0.0092	.0180	0.	
.1790	0.	0.	0.	0.	0.	0.		-0.0507	-0.0130	-0.0302	-0.0648	-0.0123	.0502	0.	
.1800	0.	0.	0.	0.	0.	0.		-0.0519	-0.0033	-0.0311	-0.0614	-0.0144	.0794	0.	
.1810	0.	0.	0.	0.	0.	0.		-0.0522	.0066	-0.0313	-0.0566	-0.0153	.1052	0.	
.1820	0.	0.	0.	0.	0.	0.		-0.0516	.0163	-0.0308	-0.0495	-0.0145	.1270	0.	
.1830	0.	0.	0.	0.	0.	0.		-0.0502	.0253	-0.0297	-0.0397	-0.0121	.1432	0.	
.1840	0.	0.	0.	0.	0.	0.		-0.0402	.0333	-0.0280	-0.0269	-0.0084	.1524	0.	
.1850	0.	0.	0.	0.	0.	0.		-0.0456	.0400	-0.0258	-0.0116	-0.0030	.1558	0.	
.1860	0.	0.	0.	0.	0.	0.		-0.0423	.0449	-0.0231	.0050	.0039	.1543	0.	
.1870	0.	0.	0.	0.	0.	0.		-0.0389	.0478	-0.0200	.0209	.0117	.1463	0.	
.1880	0.	0.	0.	0.	0.	0.		-0.0354	.0486	-0.0166	.0353	.0195	.1308	0.	
.1890	0.	0.	0.	0.	0.	0.		-0.0321	.0471	-0.0131	.0482	.0266	.1101	0.	
.1900	0.	0.	0.	0.	0.	0.		-0.0289	.0432	-0.0096	.0601	.0329	.0870	0.	
.1910	0.	0.	0.	0.	0.	0.		-0.0262	.0371	-0.0064	.0710	.0383	.0615	0.	
.1920	0.	0.	0.	0.	0.	0.		-0.0242	.0290	-0.0035	.0799	.0428	.0328	0.	
.1930	0.	0.	0.	0.	0.	0.		-0.0229	.0191	-0.0011	.0861	.0469	.0027	0.	
.1940	0.	0.	0.	0.	0.	0.		-0.0224	.0077	.0008	.0887	.0514	-0.0258	0.	
.1950	0.	0.	0.	0.	0.	0.		-0.0228	-0.0047	.0021	.0864	.0561	-0.0519	0.	
.1960	0.	0.	0.	0.	0.	0.		-0.0242	-0.0177	.0028	.0781	.0599	-0.0761	0.	
.1970	0.	0.	0.	0.	0.	0.		-0.0265	-0.0307	.0029	.0641	.0620	-0.0967	0.	
.1980	0.	0.	0.	0.	0.	0.		-0.0296	-0.0432	.0023	.0457	.0612	-0.1112	0.	
.1990	0.	0.	0.	0.	0.	0.		-0.0333	-0.0548	.0010	.0242	.0567	-0.1192	0.	
.2000	0.	0.	0.	0.	0.	0.		-0.0377	-0.0650	-0.0010	.0005	.0483	-0.1223	0.	
.2010	0.	0.	0.	0.	0.	0.		-0.0427	-0.0735	-0.0034	-0.0246	.0368	-0.1213	0.	
.2020	0.	0.	0.	0.	0.	0.		-0.0479	-0.0799	-0.0063	-0.0500	.0238	-0.1148	0.	
.2030	0.	0.	0.	0.	0.	0.		-0.0530	-0.0840	-0.0093	-0.0752	.0109	-0.1016	0.	
.2040	0.	0.	0.	0.	0.	0.		-0.0579	-0.0858	-0.0123	-0.1001	-0.0005	-0.0823	0.	
.2050	0.	0.	0.	0.	0.	0.		-0.0623	-0.0853	-0.0150	-0.1249	-0.0100	-0.0582	0.	
.2060	0.	0.	0.	0.	0.	0.		-0.0660	-0.0824	-0.0171	-0.1493	-0.0173	-0.0308	0.	
.2070	0.	0.	0.	0.	0.	0.		-0.0689	-0.0774	-0.0186	-0.1718	-0.0232	-0.0013	0.	
.2080	0.	0.	0.	0.	0.	0.		-0.0708	-0.0704	-0.0193	-0.1900	-0.0286	.0287	0.	
.2090	0.	0.	0.	0.	0.	0.		-0.0716	-0.0619	-0.0193	-0.2014	-0.0343	.0580	0.	
.2100	0.	0.	0.	0.	0.	0.		-0.0712	-0.0520	-0.0184	-0.2046	-0.0402	.0853	0.	
.2110	0.	0.	0.	0.	0.	0.		-0.0698	-0.0414	-0.0166	-0.1991	-0.0457	.1083	0.	
.2120	0.	0.	0.	0.	0.	0.		-0.0673	-0.0303	-0.0138	-0.1855	-0.0499	.1254	0.	
.2130	0.	0.	0.	0.	0.	0.		-0.0638	-0.0192	-0.0101	-0.1647	-0.0516	.1368	0.	

ADLPIPE PAGE 2598

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.44.

S/RV PIPING KEWAUNEE CKN02F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

.2030	0.	0.	0.	0.	0.	0.	0.	0.	-.0479	-.0799	-.0063	-.0500	.0258	-.1148	0.
.2040	0.	0.	0.	0.	0.	0.	0.	0.	-.0530	-.0840	-.0093	-.0752	.0109	-.1016	0.
.2050	0.	0.	0.	0.	0.	0.	0.	0.	-.0579	-.0858	-.0123	-.1001	-.0003	-.0823	0.
.2060	0.	0.	0.	0.	0.	0.	0.	0.	-.0623	-.0853	-.0150	-.1249	-.0100	-.0582	0.
.2060	0.	0.	0.	0.	0.	0.	0.	0.	-.0660	-.0824	-.0171	-.1493	-.0173	-.0308	0.
.2070	0.	0.	0.	0.	0.	0.	0.	0.	-.0689	-.0774	-.0186	-.1718	-.0232	-.0013	0.
.2080	0.	0.	0.	0.	0.	0.	0.	0.	-.0708	-.0704	-.0193	-.1900	-.0286	.0287	0.
.2090	0.	0.	0.	0.	0.	0.	0.	0.	-.0716	-.0619	-.0193	-.2014	-.0343	.0580	0.
.2100	0.	0.	0.	0.	0.	0.	0.	0.	-.0712	-.0520	-.0184	-.2046	-.0402	.0853	0.
.2110	0.	0.	0.	0.	0.	0.	0.	0.	-.0698	-.0414	-.0166	-.1991	-.0457	.1083	0.
.2120	0.	0.	0.	0.	0.	0.	0.	0.	-.0673	-.0303	-.0138	-.1855	-.0499	.1254	0.
.2130	0.	0.	0.	0.	0.	0.	0.	0.	-.0628	-.0192	-.0101	-.1647	-.0516	.1368	0.

ADLPIPE PAGE 2590

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.44.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	66	MEMBER	1	SEQUENCE	97	LOCATION	DIS	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)	
.2140	0.	0.	0.	0.	0.	0.	0.	-.0593	-.0086	-.0055	-.1378	-.0500	.1441	0.	
.2150	0.	0.	0.	0.	0.	0.	0.	-.0538	.0012	.0000	-.1064	-.0443	.1478	0.	
.2160	0.	0.	0.	0.	0.	0.	0.	-.0475	.0098	.0062	-.0722	-.0358	.1471	0.	
.2170	0.	0.	0.	0.	0.	0.	0.	-.0408	.0170	.0128	-.0360	-.0248	.1417	0.	
.2180	0.	0.	0.	0.	0.	0.	0.	-.0337	.0226	.0196	.0019	-.0127	.1323	0.	
.2190	0.	0.	0.	0.	0.	0.	0.	-.0264	.0265	.0263	.0410	-.0006	.1193	0.	
.2200	0.	0.	0.	0.	0.	0.	0.	-.0194	.0288	.0325	.0806	.0103	.1022	0.	
.2210	0.	0.	0.	0.	0.	0.	0.	-.0127	.0294	.0380	.1192	.0198	.0817	0.	
.2220	0.	0.	0.	0.	0.	0.	0.	-.0064	.0285	.0426	.1552	.0278	.0600	0.	
.2230	0.	0.	0.	0.	0.	0.	0.	-.0007	.0261	.0461	.1863	.0348	.0395	0.	
.2240	0.	0.	0.	0.	0.	0.	0.	.0043	.0225	.0484	.2098	.0409	.0208	0.	
.2250	0.	0.	0.	0.	0.	0.	0.	.0086	.0181	.0495	.2235	.0459	.0038	0.	
.2260	0.	0.	0.	0.	0.	0.	0.	.0119	.0129	.0492	.2267	.0494	-.0105	0.	
.2270	0.	0.	0.	0.	0.	0.	0.	.0145	.0074	.0476	.2202	.0503	-.0208	0.	
.2280	0.	0.	0.	0.	0.	0.	0.	.0162	.0018	.0445	.2056	.0484	-.0264	0.	
.2290	0.	0.	0.	0.	0.	0.	0.	.0172	-.0037	.0401	.1845	.0424	-.0282	0.	
.2300	0.	0.	0.	0.	0.	0.	0.	.0175	-.0088	.0344	.1577	.0328	-.0269	0.	
.2310	0.	0.	0.	0.	0.	0.	0.	.0171	-.0132	.0277	.1260	.0202	-.0233	0.	
.2320	0.	0.	0.	0.	0.	0.	0.	.0163	-.0170	.0202	.0899	.0058	-.0173	0.	
.2330	0.	0.	0.	0.	0.	0.	0.	.0153	-.0199	.0124	.0503	-.0094	-.0088	0.	
.2340	0.	0.	0.	0.	0.	0.	0.	.0144	-.0221	.0044	.0082	-.0239	.0021	0.	
.2350	0.	0.	0.	0.	0.	0.	0.	.0136	-.0234	-.0033	-.0354	-.0370	.0149	0.	
.2360	0.	0.	0.	0.	0.	0.	0.	.0132	-.0239	-.0104	-.0784	-.0478	.0280	0.	
.2370	0.	0.	0.	0.	0.	0.	0.	.0133	-.0237	-.0168	-.1187	-.0563	.0401	0.	
.2380	0.	0.	0.	0.	0.	0.	0.	.0141	-.0229	-.0223	-.1555	-.0621	.0504	0.	
.2390	0.	0.	0.	0.	0.	0.	0.	.0155	-.0215	-.0266	-.1810	-.0653	.0575	0.	
.2400	0.	0.	0.	0.	0.	0.	0.	.0176	-.0197	-.0297	-.1996	-.0659	.0601	0.	
.2410	0.	0.	0.	0.	0.	0.	0.	.0204	-.0176	-.0315	-.2090	-.0638	.0574	0.	
.2420	0.	0.	0.	0.	0.	0.	0.	.0239	-.0154	-.0317	-.2089	-.0592	.0498	0.	
.2430	0.	0.	0.	0.	0.	0.	0.	.0280	-.0130	-.0306	-.2000	-.0520	.0382	0.	
.2440	0.	0.	0.	0.	0.	0.	0.	.0326	-.0108	-.0281	-.1832	-.0424	.0228	0.	
.2450	0.	0.	0.	0.	0.	0.	0.	.0374	-.0086	-.0243	-.1598	-.0303	.0035	0.	
.2460	0.	0.	0.	0.	0.	0.	0.	.0423	-.0065	-.0194	-.1307	-.0170	-.0192	0.	
.2470	0.	0.	0.	0.	0.	0.	0.	.0471	-.0047	-.0136	-.0965	-.0024	-.0439	0.	
.2480	0.	0.	0.	0.	0.	0.	0.	.0515	-.0029	-.0074	-.0579	.0127	-.0691	0.	
.2490	0.	0.	0.	0.	0.	0.	0.	.0554	-.0014	-.0008	-.0164	.0273	-.0938	0.	
.2500	0.	0.	0.	0.	0.	0.	0.	.0584	.0002	.0057	.0261	.0412	-.1170	0.	
.2510	0.	0.	0.	0.	0.	0.	0.	.0603	.0017	.0120	.0670	.0533	-.1379	0.	

ADLPIPE PAGE 2590

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.44.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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



.2410	0.	0.	0.	0.	0.	0.	0.	.0204	-.0176	-.0315	-.2090	-.0638	.0574	0.
.2420	0.	0.	0.	0.	0.	0.	0.	.0239	-.0154	-.0317	-.2089	-.0592	.0498	0.
.2430	0.	0.	0.	0.	0.	0.	0.	.0280	-.0130	-.0306	-.2000	-.0520	.0382	0.
.2440	0.	0.	0.	0.	0.	0.	0.	.0326	-.0108	-.0281	-.1832	-.0424	.0228	0.
.2450	0.	0.	0.	0.	0.	0.	0.	.0374	-.0086	-.0243	-.1598	-.0305	.0035	0.
.2460	0.	0.	0.	0.	0.	0.	0.	.0423	-.0065	-.0194	-.1307	-.0170	-.0192	0.
.2470	0.	0.	0.	0.	0.	0.	0.	.0471	-.0047	-.0136	-.0965	-.0024	-.0439	0.
.2480	0.	0.	0.	0.	0.	0.	0.	.0515	-.0029	-.0074	-.0579	.0127	-.0691	0.
.2490	0.	0.	0.	0.	0.	0.	0.	.0554	-.0014	-.0008	-.0164	.0275	-.0938	0.
.2500	0.	0.	0.	0.	0.	0.	0.	.0584	.0002	.0057	-.0261	.0412	-.1170	0.
.2510	0.	0.	0.	0.	0.	0.	0.	.0605	.0017	.0120	.0670	.0533	-.1379	0.

ADLPIPE PAGE 2599

DIS/ADLPIPE  
S/RV PIPING KEWAUNEE CRK00F 2 RUP DISK  
2 SAFETY COLD FRW24F--2 PSV

ADLPIPE STRESS ANALYSIS

8/3/12/02. 18.29.44.

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	FX	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)
.2520	0.	0.	0.	0.	0.	0.	.0615	.0033	.0177	.1044	.0630	-.1551	0.
.2530	0.	0.	0.	0.	0.	0.	.0613	.0050	.0228	.1365	.0699	-.1671	0.
.2540	0.	0.	0.	0.	0.	0.	.0599	.0069	.0268	.1622	.0736	-.1721	0.
.2550	0.	0.	0.	0.	0.	0.	.0574	.0091	.0297	.1807	.0740	-.1697	0.
.2560	0.	0.	0.	0.	0.	0.	.0538	.0116	.0314	.1913	.0710	-.1608	0.
.2570	0.	0.	0.	0.	0.	0.	.0491	.0145	.0318	.1936	.0648	-.1464	0.
.2580	0.	0.	0.	0.	0.	0.	.0436	.0178	.0309	.1883	.0556	-.1266	0.
.2590	0.	0.	0.	0.	0.	0.	.0375	.0214	.0287	.1763	.0438	-.1015	0.
.2600	0.	0.	0.	0.	0.	0.	.0310	.0252	.0253	.1582	.0298	-.0715	0.
.2610	0.	0.	0.	0.	0.	0.	.0245	.0293	.0210	.1344	.0141	-.0386	0.
.2620	0.	0.	0.	0.	0.	0.	.0182	.0333	.0158	.1056	-.0027	-.0045	0.
.2630	0.	0.	0.	0.	0.	0.	.0124	.0373	.0102	.0732	-.0198	.0296	0.
.2640	0.	0.	0.	0.	0.	0.	.0074	.0410	.0042	.0390	-.0366	.0626	0.
.2650	0.	0.	0.	0.	0.	0.	.0035	.0443	-.0019	.0052	-.0523	.0931	0.
.2660	0.	0.	0.	0.	0.	0.	.0008	.0470	-.0078	-.0264	-.0660	.1191	0.
.2670	0.	0.	0.	0.	0.	0.	-.0004	.0490	-.0133	-.0542	-.0772	.1391	0.
.2680	0.	0.	0.	0.	0.	0.	-.0001	.0500	-.0183	-.0766	-.0852	.1522	0.
.2690	0.	0.	0.	0.	0.	0.	.0018	.0501	-.0226	-.0926	-.0897	.1583	0.
.2700	0.	0.	0.	0.	0.	0.	.0053	.0490	-.0260	-.1020	-.0905	.1569	0.
.2710	0.	0.	0.	0.	0.	0.	.0103	.0469	-.0285	-.1047	-.0877	.1477	0.
.2720	0.	0.	0.	0.	0.	0.	.0166	.0438	-.0299	-.1011	-.0815	.1309	0.
.2730	0.	0.	0.	0.	0.	0.	.0242	.0396	-.0302	-.0910	-.0723	.1078	0.
.2740	0.	0.	0.	0.	0.	0.	.0327	.0346	-.0297	-.0746	-.0605	.0797	0.
.2750	0.	0.	0.	0.	0.	0.	.0418	.0290	-.0283	-.0528	-.0467	.0473	0.
.2760	0.	0.	0.	0.	0.	0.	.0512	.0228	-.0263	-.0269	-.0316	.0107	0.
.2770	0.	0.	0.	0.	0.	0.	.0604	.0165	-.0237	.0021	-.0157	-.0284	0.
.2780	0.	0.	0.	0.	0.	0.	.0693	.0103	-.0207	.0331	.0002	-.0671	0.
.2790	0.	0.	0.	0.	0.	0.	.0776	.0043	-.0177	.0643	.0154	-.1029	0.
.2800	0.	0.	0.	0.	0.	0.	.0848	-.0010	-.0146	.0935	.0295	-.1351	0.
.2810	0.	0.	0.	0.	0.	0.	.0907	-.0056	-.0116	.1185	.0416	-.1633	0.
.2820	0.	0.	0.	0.	0.	0.	.0950	-.0091	-.0089	.1382	.0512	-.1859	0.
.2830	0.	0.	0.	0.	0.	0.	.0976	-.0115	-.0067	.1524	.0578	-.2008	0.
.2840	0.	0.	0.	0.	0.	0.	.0984	-.0126	-.0050	.1606	.0610	-.2073	0.
.2850	0.	0.	0.	0.	0.	0.	.0972	-.0123	-.0040	.1626	.0605	-.2066	0.
.2860	0.	0.	0.	0.	0.	0.	.0941	-.0106	-.0035	.1584	.0562	-.1995	0.
.2870	0.	0.	0.	0.	0.	0.	.0890	-.0078	-.0037	.1487	.0482	-.1849	0.
.2880	0.	0.	0.	0.	0.	0.	.0822	-.0038	-.0044	.1341	.0373	-.1624	0.
.2890	0.	0.	0.	0.	0.	0.	.0740	.0011	-.0055	.1149	.0242	-.1334	0.

ADLPIPE PAGE 2600

DIS/ADLPIPE  
S/RV PIPING KEWAUNEE CRK00F 2 RUP DISK  
2 SAFETY COLD FRW24F--2 PSV

ADLPIPE STRESS ANALYSIS

8/3/12/02. 18.29.44.

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

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

.2790	0.	0.	0.	0.	0.	0.	0.	.776	.0043	-.0177	.0643	.0154	-.1029	0.
.2800	0.	0.	0.	0.	0.	0.	0.	.848	-.0010	-.0146	.0935	.0295	-.1351	0.
.2810	0.	0.	0.	0.	0.	0.	0.	.0907	-.0056	-.0116	.1185	.0416	-.1633	0.
.2820	0.	0.	0.	0.	0.	0.	0.	.0950	-.0091	-.0089	.1382	.0512	-.1859	0.
.2830	0.	0.	0.	0.	0.	0.	0.	.0976	-.0115	-.0067	.1524	.0578	-.2008	0.
.2840	0.	0.	0.	0.	0.	0.	0.	.0984	-.0126	-.0050	.1606	.0610	-.2073	0.
.2850	0.	0.	0.	0.	0.	0.	0.	.0972	-.0123	-.0040	.1626	.0605	-.2066	0.
.2860	0.	0.	0.	0.	0.	0.	0.	.0941	-.0106	-.0035	.1584	.0562	-.1995	0.
.2870	0.	0.	0.	0.	0.	0.	0.	.0890	-.0078	-.0037	.1487	.0482	-.1849	0.
.2880	0.	0.	0.	0.	0.	0.	0.	.0822	-.0038	-.0044	.1341	.0373	-.1624	0.
.2890	0.	0.	0.	0.	0.	0.	0.	.0740	.0011	-.0055	.1149	.0242	-.1334	0.

ADLPIPE PAGE 2600

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02. 18.29.44.

S/RV PIPING KEWAUNEE CKW00F 2 RUP DISK  
2 SAFETY COLD TKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	66	MEMBER	1	SEQUENCE	97	LOCATION	DIS	TYPE	VA	DX	DY	DZ	FX	RY	RZ	STRESS
TIME	(SEC)	FX	FY	FZ	MX	MY	MZ	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		
.2900	0.	0.	0.	0.	0.	0.	0.	.0643	.0067	-.0068	.0912	.0094	-.1001	0.		
.2910	0.	0.	0.	0.	0.	0.	0.	.0535	.0128	-.0081	.0640	-.0059	-.0634	0.		
.2920	0.	0.	0.	0.	0.	0.	0.	.0420	.0190	-.0094	.0353	-.0211	-.0236	0.		
.2930	0.	0.	0.	0.	0.	0.	0.	.0301	.0251	-.0104	.0067	-.0355	.0180	0.		
.2940	0.	0.	0.	0.	0.	0.	0.	.0180	.0308	-.0110	-.0202	-.0489	.0584	0.		
.2950	0.	0.	0.	0.	0.	0.	0.	.0061	.0360	-.0111	-.0442	-.0609	.0950	0.		
.2960	0.	0.	0.	0.	0.	0.	0.	-.0054	.0404	-.0105	-.0639	-.0714	.1269	0.		
.2970	0.	0.	0.	0.	0.	0.	0.	-.0162	.0438	-.0095	-.0778	-.0800	.1536	0.		
.2980	0.	0.	0.	0.	0.	0.	0.	-.0259	.0462	-.0075	-.0857	-.0866	.1744	0.		
.2990	0.	0.	0.	0.	0.	0.	0.	-.0344	.0474	-.0046	-.0878	-.0900	.1882	0.		
.3000	0.	0.	0.	0.	0.	0.	0.	-.0416	.0475	-.0011	-.0848	-.0917	.1942	0.		
.3010	0.	0.	0.	0.	0.	0.	0.	-.0472	.0465	.0031	-.0772	-.0895	.1927	0.		
.3020	0.	0.	0.	0.	0.	0.	0.	-.0514	.0445	.0078	-.0652	-.0841	.1845	0.		
.3030	0.	0.	0.	0.	0.	0.	0.	-.0539	.0415	.0128	-.0493	-.0757	.1705	0.		
.3040	0.	0.	0.	0.	0.	0.	0.	-.0549	.0379	.0181	-.0304	-.0647	.1512	0.		
.3050	0.	0.	0.	0.	0.	0.	0.	-.0545	.0337	.0235	-.0098	-.0518	.1265	0.		
.3060	0.	0.	0.	0.	0.	0.	0.	-.0530	.0291	.0282	.0116	-.0377	.0977	0.		
.3070	0.	0.	0.	0.	0.	0.	0.	-.0503	.0244	.0327	.0327	-.0231	.0668	0.		
.3080	0.	0.	0.	0.	0.	0.	0.	-.0468	.0197	.0364	.0521	-.0086	.0357	0.		
.3090	0.	0.	0.	0.	0.	0.	0.	-.0426	.0152	.0394	.0682	.0055	.0049	0.		
.3100	0.	0.	0.	0.	0.	0.	0.	-.0380	.0110	.0415	.0794	.0186	-.0253	0.		
.3110	0.	0.	0.	0.	0.	0.	0.	-.0333	.0073	.0422	.0853	.0303	-.0534	0.		
.3120	0.	0.	0.	0.	0.	0.	0.	-.0285	.0040	.0418	.0858	.0403	-.0770	0.		
.3130	0.	0.	0.	0.	0.	0.	0.	-.0239	.0013	.0402	.0811	.0483	-.0957	0.		
.3140	0.	0.	0.	0.	0.	0.	0.	-.0197	-.0010	.0375	.0708	.0538	-.1103	0.		
.3150	0.	0.	0.	0.	0.	0.	0.	-.0162	-.0027	.0335	.0551	.0565	-.1213	0.		
.3160	0.	0.	0.	0.	0.	0.	0.	-.0133	-.0039	.0282	.0350	.0563	-.1275	0.		
.3170	0.	0.	0.	0.	0.	0.	0.	-.0111	-.0048	.0221	.0114	.0535	-.1281	0.		
.3180	0.	0.	0.	0.	0.	0.	0.	-.0095	-.0055	.0155	-.0150	.0481	-.1238	0.		
.3190	0.	0.	0.	0.	0.	0.	0.	-.0087	-.0059	.0081	-.0436	.0407	-.1161	0.		
.3200	0.	0.	0.	0.	0.	0.	0.	-.0086	-.0062	.0006	-.0736	.0317	-.1058	0.		
.3210	0.	0.	0.	0.	0.	0.	0.	-.0090	-.0065	-.0070	-.1032	.0219	-.0928	0.		
.3220	0.	0.	0.	0.	0.	0.	0.	-.0099	-.0067	-.0145	-.1310	.0116	-.0774	0.		
.3230	0.	0.	0.	0.	0.	0.	0.	-.0111	-.0070	-.0212	-.1556	.0014	-.0608	0.		
.3240	0.	0.	0.	0.	0.	0.	0.	-.0126	-.0074	-.0274	-.1762	-.0081	-.0443	0.		
.3250	0.	0.	0.	0.	0.	0.	0.	-.0141	-.0078	-.0327	-.1922	-.0166	-.0289	0.		
.3260	0.	0.	0.	0.	0.	0.	0.	-.0156	-.0082	-.0370	-.2028	-.0237	-.0147	0.		
.3270	0.	0.	0.	0.	0.	0.	0.	-.0168	-.0087	-.0402	-.2074	-.0290	-.0018	0.		

ADLPIPE PAGE 2601

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02. 18.29.44.

S/RV PIPING KEWAUNEE CKW00F 2 RUP DISK  
2 SAFETY COLD TKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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



.3170	0.	0.	0.	0.	0.	0.	0.	-.1111	-.0048	.0221	.0114	.0535	-.1281	0.
.3180	0.	0.	0.	0.	0.	0.	0.	-.0095	-.0055	.0153	-.0150	.0481	-.1238	0.
.3190	0.	0.	0.	0.	0.	0.	0.	-.0087	-.0059	.0081	-.0436	.0407	-.1161	0.
.3200	0.	0.	0.	0.	0.	0.	0.	-.0086	-.0062	.0006	-.0736	.0317	-.1058	0.
.3210	0.	0.	0.	0.	0.	0.	0.	-.0090	-.0065	-.0070	-.1032	.0219	-.0928	0.
.3220	0.	0.	0.	0.	0.	0.	0.	-.0099	-.0067	-.0143	-.1310	.0116	-.0774	0.
.3230	0.	0.	0.	0.	0.	0.	0.	-.0111	-.0070	-.0212	-.1556	.0014	-.0608	0.
.3240	0.	0.	0.	0.	0.	0.	0.	-.0126	-.0074	-.0274	-.1762	-.0081	-.0443	0.
.3250	0.	0.	0.	0.	0.	0.	0.	-.0141	-.0078	-.0327	-.1922	-.0166	-.0289	0.
.3260	0.	0.	0.	0.	0.	0.	0.	-.0156	-.0082	-.0370	-.2028	-.0237	-.0147	0.
.3270	0.	0.	0.	0.	0.	0.	0.	-.0168	-.0087	-.0402	-.2074	-.0290	-.0018	0.

ADLPIPE PAGE 2601

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.44.

S/RV PIPING KEWAUNEE CRW02F 2 RUP DISK  
2 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 (SEC)	FX (LB)	FY (LB)	FZ (LB)	FX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)		
.3280	0.	0.	0.	0.	0.	0.	-.0177	-.0091	-.0421	-.2060	-.0321	.0097	0.		
.3290	0.	0.	0.	0.	0.	0.	-.0182	-.0094	-.0428	-.1991	-.0330	.0189	0.		
.3300	0.	0.	0.	0.	0.	0.	-.0183	-.0096	-.0422	-.1868	-.0316	.0251	0.		
.3310	0.	0.	0.	0.	0.	0.	-.0179	-.0097	-.0405	-.1695	-.0281	.0286	0.		
.3320	0.	0.	0.	0.	0.	0.	-.0171	-.0096	-.0377	-.1473	-.0226	.0305	0.		
.3330	0.	0.	0.	0.	0.	0.	-.0158	-.0093	-.0340	-.1211	-.0154	.0307	0.		
.3340	0.	0.	0.	0.	0.	0.	-.0142	-.0089	-.0295	-.0923	-.0069	.0287	0.		
.3350	0.	0.	0.	0.	0.	0.	-.0124	-.0084	-.0244	-.0620	.0024	.0245	0.		
.3360	0.	0.	0.	0.	0.	0.	-.0105	-.0078	-.0190	-.0310	.0122	.0198	0.		
.3370	0.	0.	0.	0.	0.	0.	-.0085	-.0073	-.0134	-.0005	.0221	.0157	0.		
.3380	0.	0.	0.	0.	0.	0.	-.0066	-.0068	-.0079	.0284	.0315	.0123	0.		
.3390	0.	0.	0.	0.	0.	0.	-.0050	-.0066	-.0026	.0545	.0399	.0091	0.		
.3400	0.	0.	0.	0.	0.	0.	-.0039	-.0067	.0022	.0770	.0469	.0065	0.		
.3410	0.	0.	0.	0.	0.	0.	-.0032	-.0071	.0064	.0957	.0522	.0059	0.		
.3420	0.	0.	0.	0.	0.	0.	-.0030	-.0080	.0098	.1104	.0555	.0076	0.		
.3430	0.	0.	0.	0.	0.	0.	-.0035	-.0094	.0123	.1205	.0567	.0112	0.		
.3440	0.	0.	0.	0.	0.	0.	-.0046	-.0114	.0139	.1255	.0559	.0164	0.		
.3450	0.	0.	0.	0.	0.	0.	-.0063	-.0140	.0146	.1252	.0531	.0234	0.		
.3460	0.	0.	0.	0.	0.	0.	-.0086	-.0172	.0143	.1200	.0486	.0324	0.		
.3470	0.	0.	0.	0.	0.	0.	-.0113	-.0210	.0131	.1102	.0426	.0433	0.		
.3480	0.	0.	0.	0.	0.	0.	-.0143	-.0253	.0111	.0963	.0353	.0555	0.		
.3490	0.	0.	0.	0.	0.	0.	-.0176	-.0299	.0083	.0790	.0270	.0682	0.		
.3500	0.	0.	0.	0.	0.	0.	-.0209	-.0349	.0049	.0591	.0179	.0807	0.		
.3510	0.	0.	0.	0.	0.	0.	-.0241	-.0400	.0011	.0379	.0084	.0929	0.		
.3520	0.	0.	0.	0.	0.	0.	-.0270	-.0451	-.0031	.0164	-.0012	.1044	0.		
.3530	0.	0.	0.	0.	0.	0.	-.0295	-.0501	-.0075	-.0044	-.0104	.1149	0.		
.3540	0.	0.	0.	0.	0.	0.	-.0313	-.0548	-.0118	-.0240	-.0188	.1235	0.		
.3550	0.	0.	0.	0.	0.	0.	-.0325	-.0591	-.0159	-.0418	-.0259	.1297	0.		
.3560	0.	0.	0.	0.	0.	0.	-.0328	-.0629	-.0197	-.0569	-.0315	.1339	0.		
.3570	0.	0.	0.	0.	0.	0.	-.0322	-.0660	-.0230	-.0687	-.0353	.1362	0.		
.3580	0.	0.	0.	0.	0.	0.	-.0306	-.0683	-.0257	-.0767	-.0372	.1363	0.		
.3590	0.	0.	0.	0.	0.	0.	-.0281	-.0698	-.0278	-.0808	-.0372	.1334	0.		
.3600	0.	0.	0.	0.	0.	0.	-.0247	-.0703	-.0291	-.0806	-.0357	.1275	0.		
.3610	0.	0.	0.	0.	0.	0.	-.0204	-.0700	-.0297	-.0759	-.0326	.1196	0.		
.3620	0.	0.	0.	0.	0.	0.	-.0154	-.0687	-.0297	-.0666	-.0282	.1100	0.		
.3630	0.	0.	0.	0.	0.	0.	-.0098	-.0666	-.0289	-.0535	-.0227	.0989	0.		
.3640	0.	0.	0.	0.	0.	0.	-.0037	-.0637	-.0275	-.0374	-.0161	.0861	0.		
.3650	0.	0.	0.	0.	0.	0.	.0027	-.0600	-.0256	-.0192	-.0087	.0724	0.		

ADLPIPE PAGE 2602

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.44.

S/RV PIPING KEWAUNEE CRW02F 2 RUP DISK  
2 SAFETY COLD FKW24F--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

.3550	0.	0.	0.	0.	0.	0.	0.	0.	-.0154	-.0591	-.0154	-.0418	-.0259	.1297	0.
.3560	0.	0.	0.	0.	0.	0.	0.	0.	-.0328	-.0629	-.0197	-.0569	-.0315	.1339	0.
.3570	0.	0.	0.	0.	0.	0.	0.	0.	-.0322	-.0660	-.0230	-.0687	-.0353	.1362	0.
.3580	0.	0.	0.	0.	0.	0.	0.	0.	-.0306	-.0683	-.0257	-.0767	-.0372	.1363	0.
.3590	0.	0.	0.	0.	0.	0.	0.	0.	-.0281	-.0698	-.0278	-.0808	-.0372	.1334	0.
.3600	0.	0.	0.	0.	0.	0.	0.	0.	-.0247	-.0703	-.0291	-.0806	-.0357	.1275	0.
.3610	0.	0.	0.	0.	0.	0.	0.	0.	-.0204	-.0700	-.0297	-.0759	-.0326	.1196	0.
.3620	0.	0.	0.	0.	0.	0.	0.	0.	-.0154	-.0687	-.0297	-.0666	-.0282	.1100	0.
.3630	0.	0.	0.	0.	0.	0.	0.	0.	-.0098	-.0666	-.0289	-.0535	-.0227	.0989	0.
.3640	0.	0.	0.	0.	0.	0.	0.	0.	-.0037	-.0637	-.0275	-.0374	-.0161	.0861	0.
.3650	0.	0.	0.	0.	0.	0.	0.	0.	.0027	-.0600	-.0256	-.0192	-.0087	.0724	0.

ADLPIPE PAGE 2602

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.44.

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	66	MEMBER	1	SEQUENCE	97	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)		
.3660	0.	0.	0.	0.	0.	0.	.0091	-.0557	-.0232	.0004	-.0007	.0588	0.		
.3670	0.	0.	0.	0.	0.	0.	.0155	-.0510	-.0204	.0208	.0077	.0458	0.		
.3680	0.	0.	0.	0.	0.	0.	.0216	-.0458	-.0174	.0410	.0160	.0335	0.		
.3690	0.	0.	0.	0.	0.	0.	.0271	-.0404	-.0143	.0602	.0238	.0219	0.		
.3700	0.	0.	0.	0.	0.	0.	.0320	-.0349	-.0113	.0776	.0307	.0114	0.		
.3710	0.	0.	0.	0.	0.	0.	.0361	-.0295	-.0084	.0929	.0362	.0024	0.		
.3720	0.	0.	0.	0.	0.	0.	.0393	-.0242	-.0058	.1055	.0400	-.0046	0.		
.3730	0.	0.	0.	0.	0.	0.	.0414	-.0192	-.0035	.1147	.0422	-.0098	0.		
.3740	0.	0.	0.	0.	0.	0.	.0424	-.0146	-.0016	.1198	.0426	-.0132	0.		
.3750	0.	0.	0.	0.	0.	0.	.0423	-.0105	-.0002	.1205	.0415	-.0149	0.		
.3760	0.	0.	0.	0.	0.	0.	.0410	-.0071	.0008	.1167	.0391	-.0147	0.		
.3770	0.	0.	0.	0.	0.	0.	.0388	-.0043	.0014	.1086	.0355	-.0122	0.		
.3780	0.	0.	0.	0.	0.	0.	.0355	-.0023	.0016	.0963	.0311	-.0080	0.		
.3790	0.	0.	0.	0.	0.	0.	.0314	-.0010	.0015	.0802	.0260	-.0029	0.		
.3800	0.	0.	0.	0.	0.	0.	.0266	-.0004	.0008	.0609	.0205	.0026	0.		
.3810	0.	0.	0.	0.	0.	0.	.0211	-.0005	.0001	.0394	.0141	.0086	0.		
.3820	0.	0.	0.	0.	0.	0.	.0154	-.0013	-.0008	.0166	.0076	.0149	0.		
.3830	0.	0.	0.	0.	0.	0.	.0094	-.0026	-.0017	-.0069	.0008	.0209	0.		
.3840	0.	0.	0.	0.	0.	0.	.0033	-.0043	-.0026	-.0304	-.0060	.0257	0.		
.3850	0.	0.	0.	0.	0.	0.	-.0025	-.0064	-.0034	-.0533	-.0125	.0289	0.		
.3860	0.	0.	0.	0.	0.	0.	-.0081	-.0087	-.0039	-.0745	-.0184	.0308	0.		
.3870	0.	0.	0.	0.	0.	0.	-.0130	-.0111	-.0041	-.0933	-.0233	.0316	0.		
.3880	0.	0.	0.	0.	0.	0.	-.0173	-.0134	-.0039	-.1093	-.0271	.0307	0.		
.3890	0.	0.	0.	0.	0.	0.	-.0209	-.0156	-.0033	-.1221	-.0296	.0277	0.		
.3900	0.	0.	0.	0.	0.	0.	-.0236	-.0175	-.0023	-.1314	-.0307	.0227	0.		
.3910	0.	0.	0.	0.	0.	0.	-.0255	-.0190	-.0009	-.1367	-.0305	.0162	0.		
.3920	0.	0.	0.	0.	0.	0.	-.0263	-.0200	.0010	-.1378	-.0291	.0088	0.		
.3930	0.	0.	0.	0.	0.	0.	-.0263	-.0205	.0032	-.1349	-.0267	.0004	0.		
.3940	0.	0.	0.	0.	0.	0.	-.0254	-.0204	.0057	-.1284	-.0232	-.0092	0.		
.3950	0.	0.	0.	0.	0.	0.	-.0237	-.0198	.0085	-.1190	-.0188	-.0196	0.		
.3960	0.	0.	0.	0.	0.	0.	-.0214	-.0186	.0115	-.1067	-.0137	-.0302	0.		
.3970	0.	0.	0.	0.	0.	0.	-.0186	-.0169	.0146	-.0920	-.0080	-.0401	0.		
.3980	0.	0.	0.	0.	0.	0.	-.0153	-.0148	.0176	-.0757	-.0020	-.0490	0.		
.3990	0.	0.	0.	0.	0.	0.	-.0119	-.0124	.0206	-.0586	.0043	-.0572	0.		
.4000	0.	0.	0.	0.	0.	0.	-.0085	-.0097	.0234	-.0414	.0103	-.0647	0.		

ADLPIPE PAGE 2602

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.44.

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



.3930	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
.3940	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
.3950	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
.3960	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
.3970	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
.3980	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
.3990	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
.4000	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

ADLPIPE PAGE 2603

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.44.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

MAXIMUM VALUE OF 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)	RX (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	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)
06	1	97					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	-0.0000	0.
							.0020	0.	0.	-0.	-0.	0.	-0.	-0.0000	.0000	.0000	-0.0000	.0000	-0.0000	0.
							.0030	0.	0.	-0.	-0.	0.	-0.	-0.0000	.0000	.0000	-0.0000	.0000	-0.0000	0.
							.0040	0.	0.	-0.	-0.	0.	-0.	-0.0000	-0.0000	-0.0000	.0000	-0.0000	-0.0000	0.
							.0050	0.	-0.	-0.	-0.	0.	-0.	-0.0000	-0.0000	-0.0000	.0000	-0.0000	-0.0000	0.
							.0060	1.	-0.	-0.	-0.	0.	-0.	-0.0000	.0000	-0.0000	.0000	-0.0001	-0.0000	1.
							.0070	3.	0.	-1.	-0.	0.	-1.	-0.0000	.0000	-0.0000	.0000	-0.0001	-0.0001	3.
							.0080	6.	2.	-2.	-1.	0.	-2.	-0.0000	.0000	-0.0000	.0000	-0.0003	-0.0003	6.
							.0090	10.	5.	-3.	-1.	0.	-3.	-0.0001	.0000	.0000	.0001	-0.0006	-0.0006	11.
							.0100	17.	9.	-5.	-1.	-0.	-6.	-0.0001	-0.0000	.0000	.0001	-0.0010	-0.0011	18.
							.0110	25.	12.	-6.	-2.	-0.	-8.	-0.0002	-0.0000	.0000	.0002	-0.0015	-0.0017	26.
							.0120	38.	18.	-9.	-3.	-0.	-12.	-0.0003	-0.0000	.0000	.0003	-0.0022	-0.0025	39.
							.0130	57.	32.	-12.	-4.	-0.	-19.	-0.0005	-0.0001	.0000	.0003	-0.0030	-0.0038	58.
							.0140	84.	57.	-17.	-6.	-0.	-28.	-0.0007	-0.0001	.0001	.0002	-0.0041	-0.0058	86.
							.0150	115.	87.	-22.	-7.	-0.	-38.	-0.0011	-0.0002	.0001	.0001	-0.0052	-0.0080	117.
							.0160	142.	111.	-24.	-8.	-0.	-47.	-0.0015	-0.0004	.0002	.0003	-0.0064	-0.0102	145.
							.0170	160.	120.	-23.	-8.	-0.	-53.	-0.0020	-0.0006	.0002	.0009	-0.0075	-0.0116	162.
							.0180	164.	114.	-17.	-6.	-0.	-54.	-0.0025	-0.0009	.0002	.0017	-0.0081	-0.0121	166.
							.0190	154.	96.	-10.	-3.	-0.	-51.	-0.0031	-0.0013	.0003	.0025	-0.0079	-0.0115	155.
							.0200	120.	65.	0.	0.	-0.	-43.	-0.0037	-0.0018	.0004	.0030	-0.0067	-0.0098	150.
							.0210	86.	15.	13.	4.	-0.	-28.	-0.0043	-0.0023	.0005	.0031	-0.0041	-0.0067	87.
							.0220	18.	-54.	30.	10.	0.	-6.	-0.0048	-0.0028	.0006	.0029	-0.0005	-0.0023	35.
							.0230	-65.	-133.	50.	16.	0.	21.	-0.0053	-0.0033	.0007	.0023	.0044	.0031	82.
							.0240	-138.	-210.	66.	22.	0.	46.	-0.0057	-0.0036	.0008	.0013	.0091	.0081	154.
							.0250	-189.	-241.	73.	24.	0.	62.	-0.0062	-0.0038	.0008	.0000	.0129	.0118	204.
							.0260	-234.	-213.	76.	25.	0.	71.	-0.0065	-0.0039	.0008	-0.0006	.0152	.0144	247.
							.0270	-302.	-221.	84.	28.	0.	100.	-0.0066	-0.0037	.0006	.0006	.0154	.0183	315.
							.0280	-394.	-346.	104.	34.	0.	130.	-0.0062	-0.0034	.0002	.0038	.0139	.0250	409.
							.0290	-467.	-425.	124.	41.	0.	154.	-0.0056	-0.0029	-0.0003	.0069	.0115	.0310	485.
							.0300	-490.	-284.	116.	38.	0.	162.	-0.0051	-0.0020	-0.0007	.0075	.0085	.0315	505.

ADLPIPE PAGE 2604

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.44.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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



.0180	164.	114.	-17.	-6.	-0.	114.	-54.	-.0025	-.0009	.0002	.0017	-.0081	-.0121	166.
.0190	154.	96.	-10.	-3.	-0.	-51.	-.0031	-.0013	.0003	.0025	-.0079	-.0115	155.	
.0200	120.	65.	0.	0.	-0.	-43.	-.0037	-.0018	.0004	.0030	-.0067	-.0098	150.	
.0210	86.	15.	13.	4.	-0.	-28.	-.0043	-.0023	.0005	.0031	-.0041	-.0067	87.	
.0220	18.	-54.	30.	10.	0.	-6.	-.0048	-.0028	.0006	.0029	-.0003	-.0023	35.	
.0230	-65.	-133.	50.	16.	0.	21.	-.0053	-.0033	.0007	.0023	.0044	.0031	82.	
.0240	-138.	-210.	66.	22.	0.	46.	-.0057	-.0036	.0008	.0013	.0091	.0081	154.	
.0250	-189.	-241.	73.	24.	0.	62.	-.0062	-.0038	.0008	.0000	.0129	.0118	204.	
.0260	-234.	-213.	76.	25.	0.	77.	-.0065	-.0039	.0008	-.0006	.0152	.0144	247.	
.0270	-302.	-221.	84.	28.	0.	100.	-.0064	-.0037	.0006	.0006	.0154	.0183	315.	
.0280	-394.	-346.	104.	34.	0.	130.	-.0062	-.0034	.0002	.0038	.0139	.0250	409.	
.0290	-467.	-435.	124.	41.	0.	154.	-.0056	-.0029	-.0003	.0069	.0115	.0310	485.	
.0300	-490.	-284.	116.	38.	0.	162.	-.0051	-.0020	-.0007	.0075	.0085	.0315	505.	

ADLPIPE PAGE 2604

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.44.

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	66	MEMBER	1	SEQUENCE	97	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)	(PST)		
.0310	-455.	-124.	73.	24.	0.	150.	-.0044	-.0010	-.0011	.0068	.0064	.0298	463.		
.0320	-460.	-163.	56.	18.	0.	152.	-.0029	.0002	-.0016	.0069	.0060	.0333	465.		
.0330	-541.	-243.	86.	28.	0.	178.	-.0008	.0014	-.0022	.0070	.0076	.0408	550.		
.0340	-543.	-182.	80.	26.	0.	179.	.0012	.0028	-.0026	.0042	.0101	.0428	551.		
.0350	-371.	-1.	-6.	-2.	0.	123.	.0030	.0044	-.0028	-.0016	.0118	.0357	373.		
.0360	-182.	229.	-87.	-29.	0.	60.	.0048	.0059	-.0031	-.0063	.0115	.0266	202.		
.0370	-109.	385.	-98.	-32.	0.	36.	.0072	.0072	-.0037	-.0061	.0076	.0220	148.		
.0380	-54.	355.	-92.	-30.	0.	18.	.0097	.0082	-.0045	-.0016	.0008	.0198	107.		
.0390	93.	329.	-111.	-37.	-0.	-31.	.0120	.0090	-.0052	.0028	-.0075	.0128	145.		
.0400	286.	609.	-133.	-44.	-0.	-94.	.0136	.0095	-.0056	.0042	-.0149	-.0016	316.		
.0410	467.	962.	-156.	-52.	-0.	-154.	.0148	.0095	-.0059	.0041	-.0191	-.0174	494.		
.0420	592.	880.	-169.	-56.	-0.	-195.	.0164	.0089	-.0061	.0052	-.0186	-.0243	618.		
.0430	598.	501.	-126.	-41.	-0.	-197.	.0182	.0076	-.0061	.0058	-.0124	-.0221	614.		
.0440	563.	377.	-65.	-22.	-0.	-186.	.0193	.0060	-.0057	.0012	-.0017	-.0230	568.		
.0450	709.	487.	-112.	-37.	-0.	-234.	.0191	.0040	-.0048	-.0094	.0100	-.0356	721.		
.0460	949.	465.	-217.	-72.	-0.	-313.	.0182	.0018	-.0039	-.0195	.0192	-.0510	977.		
.0470	947.	258.	-195.	-64.	-0.	-313.	.0174	-.0008	-.0033	-.0221	.0235	-.0554	971.		
.0480	752.	-19.	-72.	-24.	-0.	-248.	.0165	-.0035	-.0031	-.0179	.0223	-.0521	759.		
.0490	717.	-280.	-36.	-12.	-0.	-235.	.0146	-.0061	-.0029	-.0134	.0167	-.0553	717.		
.0500	823.	-338.	-77.	-26.	-0.	-272.	.0115	-.0086	-.0024	-.0124	.0098	-.0678	830.		
.0510	806.	-201.	-61.	-20.	-0.	-266.	.0079	-.0108	-.0017	-.0153	.0048	-.0781	811.		
.0520	656.	-279.	-3.	-1.	-0.	-216.	.0046	-.0129	-.0010	-.0134	.0034	-.0775	658.		
.0530	518.	-685.	13.	4.	-0.	-171.	.0014	-.0146	-.0002	-.0144	.0059	-.0691	520.		
.0540	367.	-945.	8.	3.	-0.	-121.	-.0022	-.0159	.0008	-.0196	.0118	-.0607	368.		
.0550	190.	-849.	-2.	-1.	-0.	-63.	-.0062	-.0165	.0021	-.0289	.0190	-.0555	191.		
.0560	81.	-789.	-63.	-21.	-0.	-27.	-.0104	-.0165	.0034	-.0378	.0241	-.0497	103.		
.0570	-25.	-938.	-129.	-42.	0.	8.	-.0141	-.0159	.0044	-.0418	.0250	-.0382	152.		
.0580	-257.	-982.	-114.	-38.	0.	35.	-.0176	-.0146	.0052	-.0410	.0215	-.0231	282.		
.0590	-475.	-784.	-82.	-27.	0.	157.	-.0210	-.0126	.0059	-.0383	.0140	-.0118	484.		
.0600	-516.	-519.	-121.	-40.	0.	170.	-.0246	-.0101	.0066	-.0352	.0051	-.0065	532.		
.0610	-551.	-284.	-148.	-49.	0.	182.	-.0276	-.0072	.0073	-.0306	-.0023	.0011	572.		
.0620	-765.	-119.	-76.	-25.	0.	253.	-.0296	-.0041	.0080	-.0243	-.0054	.0175	772.		
.0630	-999.	-82.	6.	7.	0.	330.	-.0306	-.0010	.0088	-.0194	-.0033	.0380	1003.		
.0640	-1061.	-20.	2.	1.	0.	350.	-.0313	.0022	.0100	-.0192	.0030	.0532	1066.		
.0650	-1038.	257.	-34.	-11.	0.	343.	-.0318	.0053	.0114	-.0230	.0116	.0616	1043.		
.0660	-1056.	559.	-24.	-8.	0.	348.	-.0315	.0082	.0128	-.0254	.0192	.0689	1060.		
.0670	-1085.	612.	25.	8.	0.	358.	-.0303	.0108	.0137	-.0216	.0222	.0784	1090.		
.0680	-1073.	577.	96.	32.	0.	354.	-.0285	.0128	.0141	-.0116	.0191	.0859	1082.		

ADLPIPE PAGE 2605

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.45.

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



.0580	-257.	-982.	14.	-38.	0.	85.	-.0176	-.0146	.0052	-.0410	.0213	-.0231	282.
.0590	-475.	-784.	-82.	-27.	0.	157.	-.0210	-.0126	.0059	-.0383	.0140	-.0118	484.
.0600	-516.	-519.	-121.	-40.	0.	170.	-.0246	-.0101	.0066	-.0352	.0051	-.0065	532.
.0610	-551.	-284.	-147.	-49.	0.	182.	-.0276	-.0072	.0073	-.0306	-.0023	.0011	572.
.0620	-765.	-119.	-76.	-25.	0.	253.	-.0296	-.0041	.0080	-.0243	-.0054	.0175	772.
.0630	-999.	-82.	0.	2.	0.	370.	-.0306	-.0010	.0088	-.0194	-.0033	.0380	1003.
.0640	-1061.	-20.	2.	1.	0.	350.	-.0313	.0022	.0100	-.0192	.0030	.0532	1066.
.0650	-1038.	257.	-34.	-11.	0.	343.	-.0318	.0053	.0114	-.0230	.0116	.0616	1043.
.0660	-1056.	559.	-24.	-8.	0.	348.	-.0315	.0082	.0128	-.0254	.0192	.0689	1060.
.0670	-1087.	612.	25.	1.	0.	358.	-.0303	.0108	.0137	-.0216	.0222	.0784	1090.
.0680	-1073.	577.	96.	32.	0.	354.	-.0285	.0128	.0141	-.0116	.0191	.0859	1082.

ADLPIPE PAGE 2605

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.45.

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	66	MEMBER	1	SEQUENCE	97	LOCATION	END	TYPE	VA						
TIME	FX	FY	FZ	Mx	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS		
(SEC)	(LB)	(LB)	(LF)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)		
.0690	-1002.	730.	185.	61.	0.	331.	-.0264	.0144	.0143	.0015	.0103	.0851	1023.		
.0700	-839.	908.	273.	90.	-0.	277.	-.0243	.0154	.0143	.0150	-.0011	.0754	886.		
.0710	-618.	1181.	356.	117.	-0.	204.	-.0219	.0157	.0140	.0286	-.0122	.0625	716.		
.0720	-451.	1223.	460.	152.	-0.	149.	-.0187	.0152	.0136	.0416	-.0193	.0528	646.		
.0730	-361.	1098.	577.	190.	-0.	119.	-.0150	.0137	.0129	.0519	-.0208	.0479	683.		
.0740	-266.	844.	657.	217.	-0.	88.	-.0109	.0115	.0123	.0564	-.0160	.0435	711.		
.0750	-119.	657.	675.	223.	-0.	39.	-.0069	.0087	.0116	.0542	-.0068	.0354	688.		
.0760	52.	576.	644.	213.	-0.	-17.	-.0031	.0054	.0107	.0483	.0034	.0245	649.		
.0770	191.	375.	604.	199.	-0.	-63.	.0008	.0018	.0093	.0438	.0112	.0157	636.		
.0780	253.	0.	595.	196.	-0.	-83.	.0048	-.0021	.0071	.0435	.0142	.0106	649.		
.0790	272.	-287.	604.	199.	-0.	-90.	.0086	-.0060	.0043	.0459	.0119	.0044	665.		
.0800	362.	-376.	569.	188.	-0.	-119.	.0117	-.0097	.0011	.0478	.0055	-.0077	676.		
.0810	533.	-414.	473.	156.	-0.	-176.	.0142	-.0130	-.0023	.0478	-.0025	-.0233	715.		
.0820	646.	-482.	376.	124.	-0.	-213.	.0166	-.0160	-.0059	.0458	-.0090	-.0353	751.		
.0830	651.	-565.	284.	94.	-0.	-215.	.0190	-.0187	-.0096	.0410	-.0116	-.0408	713.		
.0840	655.	-712.	133.	44.	-0.	-216.	.0213	-.0209	-.0132	.0321	-.0099	-.0421	671.		
.0850	691.	-890.	-80.	-26.	-0.	-228.	.0231	-.0226	-.0165	.0189	-.0045	-.0415	698.		
.0860	673.	-958.	-292.	-96.	-0.	-222.	.0246	-.0236	-.0195	.0031	.0028	-.0390	737.		
.0870	611.	-947.	-489.	-161.	-0.	-202.	.0257	-.0239	-.0224	-.0119	.0093	-.0345	786.		
.0880	570.	-1001.	-692.	-228.	0.	-191.	.0265	-.0235	-.0251	-.0232	.0129	-.0283	905.		
.0890	536.	-1049.	-860.	-284.	0.	-177.	.0270	-.0224	-.0276	-.0301	.0129	-.0212	1017.		
.0900	442.	-937.	-960.	-317.	0.	-146.	.0270	-.0206	-.0297	-.0334	.0104	-.0148	1061.		
.0910	372.	-742.	-1039.	-343.	0.	-123.	.0266	-.0181	-.0313	-.0348	.0071	-.0102	1107.		
.0920	359.	-611.	-1122.	-370.	0.	-118.	.0259	-.0150	-.0322	-.0350	.0047	-.0057	1182.		
.0930	307.	-569.	-1163.	-384.	0.	-101.	.0251	-.0116	-.0322	-.0349	.0049	.0013	1208.		
.0940	210.	-365.	-1158.	-382.	0.	-69.	.0242	-.0077	-.0314	-.0353	.0073	.0091	1182.		
.0950	185.	-204.	-1163.	-384.	0.	-61.	.0229	-.0037	-.0297	-.0362	.0109	.0136	1182.		
.0960	244.	-18.	-1173.	-387.	0.	-81.	.0212	.0005	-.0273	-.0355	.0128	.0142	1203.		
.0970	271.	203.	-1115.	-368.	0.	-89.	.0192	.0046	-.0244	-.0299	.0113	.0140	1152.		
.0980	246.	366.	-972.	-321.	0.	-81.	.0172	.0085	-.0212	-.0176	.0057	.0148	1007.		
.0990	253.	447.	-790.	-261.	0.	-84.	.0148	.0122	-.0176	-.0002	-.0033	.0142	833.		
.1000	314.	585.	-591.	-195.	0.	-104.	.0120	.0155	-.0137	.0189	-.0136	.0096	672.		
.1010	382.	801.	-273.	-123.	0.	-126.	.0089	.0183	-.0093	.0372	-.0223	.0024	536.		
.1020	431.	924.	-148.	-49.	0.	-142.	.0055	.0205	-.0043	.0536	-.0282	-.0034	458.		
.1030	441.	878.	73.	24.	0.	-146.	.0021	.0220	.0005	.0677	-.0301	-.0051	449.		
.1040	387.	776.	288.	95.	-0.	-128.	-.0013	.0229	.0056	.0785	-.0287	-.0033	484.		
.1050	292.	674.	482.	159.	-0.	-96.	-.0048	.0232	.0107	.0857	-.0254	-.0003	566.		
.1060	182.	540.	649.	214.	-0.	-60.	-.0086	.0230	.0157	.0900	-.0218	.0029	676.		

ADLPIPE PAGE 2606

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.45.

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

.0960	244.	-18.	-173.	-357.	0.	-81.	.212	.0005	-.0273	-.0355	.0109	.0150	1182.
.0970	271.	203.	-1115.	-368.	0.	-89.	.192	.0046	-.0244	-.0299	.0113	.0140	1152.
.0980	246.	366.	-972.	-321.	0.	-81.	.0172	.0085	-.0212	-.0176	.0057	.0148	1007.
.0990	257.	447.	-790.	-161.	0.	-84.	.0148	.0122	-.0176	-.0002	-.0033	.0142	833.
.1000	314.	585.	-591.	-115.	0.	-104.	.0120	.0155	-.0137	.0189	-.0136	.0096	672.
.1010	382.	801.	-273.	-123.	0.	-126.	.0089	.0183	-.0093	.0372	-.0225	.0024	536.
.1020	431.	924.	-148.	-49.	0.	-142.	.0055	.0205	-.0045	.0536	-.0282	-.0034	458.
.1030	441.	878.	73.	24.	0.	-146.	.0021	.0220	.0005	.0677	-.0301	-.0051	449.
.1040	387.	776.	288.	95.	-0.	-128.	-.0013	.0229	.0056	.0785	-.0287	-.0033	484.
.1050	290.	674.	482.	159.	-0.	-96.	-.0048	.0232	.0107	.0857	-.0254	-.0003	566.
.1060	182.	540.	649.	214.	-0.	-60.	-.0086	.0230	.0157	.0900	-.0218	.0029	676.

ADLPIPE PAGE 2606

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.45.

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	66	MEMBER	1	SEQUENCE	97	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)		
.1070	26.	396.	808.	267.	-0.	-0.	-.0123	.0225	.0202	.0929	-.0191	.0074	811.		
.1080	-192.	270.	973.	321.	-0.	64.	-.0159	.0216	.0242	.0949	-.0176	.0138	995.		
.1090	-429.	144.	1122.	370.	-0.	142.	-.0193	.0206	.0276	.0951	-.0168	.0204	1206.		
.1100	-649.	4.	1226.	404.	-0.	214.	-.0224	.0195	.0305	.0922	-.0162	.0254	1392.		
.1110	-869.	-77.	1292.	427.	-0.	287.	-.0251	.0184	.0325	.0854	-.0151	.0298	1564.		
.1120	-1076.	-99.	1314.	434.	-0.	355.	-.0272	.0174	.0339	.0749	-.0140	.0340	1705.		
.1130	-1229.	-145.	1262.	416.	-0.	406.	-.0285	.0164	.0346	.0611	-.0139	.0366	1768.		
.1140	-1354.	-187.	1134.	381.	-0.	447.	-.0291	.0156	.0346	.0456	-.0158	.0377	1786.		
.1150	-1481.	-165.	1025.	338.	-0.	489.	-.0286	.0148	.0337	.0306	-.0201	.0389	1808.		
.1160	-1559.	-155.	868.	287.	-0.	515.	-.0271	.0143	.0319	.0170	-.0266	.0399	1792.		
.1170	-1550.	-190.	683.	225.	-0.	511.	-.0246	.0138	.0296	.0043	-.0335	.0382	1700.		
.1180	-1503.	-109.	503.	166.	0.	496.	-.0213	.0134	.0267	-.0086	-.0388	.0324	1591.		
.1190	-1407.	41.	324.	107.	0.	464.	-.0170	.0132	.0235	-.0210	-.0407	.0255	1449.		
.1200	-1246.	60.	132.	44.	0.	411.	-.0116	.0129	.0199	-.0324	-.0379	.0202	1258.		
.1210	-1102.	-51.	-43.	-14.	0.	364.	-.0052	.0125	.0163	-.0433	-.0303	.0169	1107.		
.1220	-986.	-176.	-189.	-62.	0.	325.	.0020	.0122	.0128	-.0544	-.0194	.0135	1008.		
.1230	-806.	-198.	-351.	-116.	0.	266.	.0096	.0121	.0094	-.0649	-.0083	.0065	883.		
.1240	-491.	-207.	-551.	-182.	0.	162.	.0174	.0121	.0061	-.0728	-.0002	-.0054	741.		
.1250	-163.	-221.	-705.	-233.	0.	54.	.0252	.0122	.0028	-.0755	.0035	-.0205	726.		
.1260	70.	-140.	-748.	-247.	0.	-23.	.0330	.0124	-.0004	-.0714	.0027	-.0373	754.		
.1270	325.	-72.	-743.	-245.	0.	-107.	.0407	.0128	-.0035	-.0608	-.0013	-.0547	814.		
.1280	647.	-96.	-733.	-242.	0.	-213.	.0481	.0132	-.0064	-.0463	-.0055	-.0722	981.		
.1290	924.	-105.	-674.	-222.	0.	-305.	.0551	.0138	-.0087	-.0318	-.0065	-.0881	1148.		
.1300	1120.	-224.	-568.	-187.	0.	-370.	.0614	.0144	-.0103	-.0210	-.0026	-.1029	1260.		
.1310	1365.	-188.	-514.	-170.	0.	-450.	.0668	.0152	-.0111	-.0151	.0049	-.1184	1464.		
.1320	1703.	-225.	-541.	-179.	0.	-562.	.0713	.0161	-.0113	-.0122	.0132	-.1329	1794.		
.1330	1922.	-314.	-534.	-176.	0.	-634.	.0748	.0172	-.0112	-.0091	.0200	-.1424	2002.		
.1340	1953.	-392.	-446.	-147.	0.	-644.	.0773	.0185	-.0108	-.0036	.0226	-.1466	2011.		
.1350	1981.	-438.	-370.	-122.	0.	-654.	.0785	.0201	-.0104	.0049	.0196	-.1493	2023.		
.1360	2077.	-424.	-241.	-113.	0.	-685.	.0781	.0220	-.0098	.0152	.0118	-.1527	2113.		
.1370	2105.	-355.	-276.	-91.	0.	-695.	.0764	.0242	-.0089	.0255	.0025	-.1542	2131.		
.1380	1979.	-179.	-148.	-49.	0.	-653.	.0734	.0266	-.0078	.0339	-.0055	-.1525	1992.		
.1390	1831.	4.	-54.	-19.	0.	-604.	.0693	.0292	-.0064	.0395	-.0106	-.1469	1839.		
.1400	1679.	57.	-34.	-11.	0.	-554.	.0644	.0317	-.0047	.0422	-.0123	-.1344	1686.		
.1410	1350.	1.	10.	3.	-0.	-446.	.0590	.0342	-.0028	.0424	-.0107	-.1122	1356.		
.1420	871.	-68.	82.	27.	-0.	-287.	.0530	.0367	-.0008	.0392	-.0075	-.0842	878.		
.1430	468.	20.	76.	25.	-0.	-154.	.0463	.0391	.0015	.0324	-.0056	-.0594	476.		
.1440	220.	223.	-22.	-7.	0.	-73.	.0389	.0416	.0038	.0249	-.0067	-.0393	222.		

ADLPIPE PAGE 2607

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.45.

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



.1340	1957.	-392.	-446.	-147.	0.	-644.	.773	.0185	-.0108	-.0036	.0226	-.1466	2011.
.1350	1981.	-430.	-370.	-122.	0.	-654.	.785	.0201	-.0104	.0049	.0196	-.1493	2023.
.1360	2077.	-421.	-341.	-113.	0.	-685.	.0781	.0220	-.0098	.0152	.0118	-.1527	2113.
.1370	2109.	-355.	-276.	-91.	0.	-695.	.0764	.0242	-.0089	.0255	.0025	-.1542	2131.
.1380	1979.	-179.	-148.	-49.	0.	-653.	.0734	.0266	-.0078	.0339	-.0055	-.1525	1992.
.1390	1831.	4.	-56.	-19.	0.	-604.	.0693	.0292	-.0064	.0395	-.0106	-.1469	1839.
.1400	1679.	57.	-34.	-11.	0.	-554.	.0644	.0317	-.0047	.0422	-.0123	-.1344	1686.
.1410	1350.	1.	10.	3.	-0.	-446.	.0590	.0342	-.0028	.0424	-.0107	-.1122	1356.
.1420	871.	-68.	82.	27.	-0.	-287.	.0530	.0367	-.0008	.0392	-.0075	-.0842	878.
.1430	468.	20.	76.	25.	-0.	-154.	.0463	.0391	.0015	.0324	-.0056	-.0594	476.
.1440	220.	223.	-22.	-7.	0.	-73.	.0389	.0416	.0038	.0249	-.0067	-.0393	222.

ADLPIPE PAGE 2607

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02.

18.29.45.

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	66	MEMBER	1	SEQUENCE	97	LOCATION	END	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)		
.1450	-84.	375.	-67.	-22.	0.	28.	.0316	.0438	.0058	.0210	-.0108	-.0178	108.		
.1460	-554.	434.	16.	5.	0.	183.	.0247	.0458	.0075	.0223	-.0169	.0081	556.		
.1470	-961.	462.	108.	36.	0.	317.	.0181	.0474	.0090	.0261	-.0239	.0325	971.		
.1480	-1156.	588.	116.	38.	0.	381.	.0117	.0487	.0105	.0282	-.0299	.0492	1166.		
.1490	-1268.	770.	103.	34.	0.	418.	.0058	.0495	.0122	.0267	-.0329	.0605	1277.		
.1500	-1440.	909.	136.	45.	0.	475.	.0009	.0498	.0140	.0225	-.0319	.0719	1452.		
.1510	-1591.	974.	158.	52.	0.	525.	-.0029	.0493	.0158	.0169	-.0281	.0832	1605.		
.1520	-1601.	921.	116.	38.	0.	528.	-.0058	.0482	.0175	.0109	-.0230	.0917	1611.		
.1530	-1569.	853.	91.	30.	0.	518.	-.0079	.0464	.0191	.0050	-.0176	.0955	1577.		
.1540	-1557.	875.	142.	47.	0.	514.	-.0092	.0439	.0205	.0005	-.0130	.0933	1569.		
.1550	-1438.	979.	203.	67.	0.	475.	-.0109	.0408	.0216	-.0016	-.0103	.0831	1458.		
.1560	-1163.	1052.	235.	78.	0.	384.	-.0102	.0370	.0223	-.0000	-.0094	.0666	1191.		
.1570	-878.	989.	315.	104.	0.	290.	-.0097	.0324	.0226	.0048	-.0088	.0485	936.		
.1580	-690.	923.	476.	157.	0.	228.	-.0086	.0272	.0226	.0098	-.0066	.0292	842.		
.1590	-442.	912.	600.	198.	0.	146.	-.0075	.0213	.0225	.0118	-.0025	.0052	748.		
.1600	-33.	815.	608.	201.	0.	11.	-.0063	.0147	.0222	.0100	.0033	-.0225	611.		
.1610	335.	608.	602.	199.	0.	-111.	-.0050	.0076	.0217	.0055	.0111	-.0480	692.		
.1620	537.	388.	649.	214.	0.	-177.	-.0037	.0000	.0208	-.0007	.0203	-.0697	845.		
.1630	764.	120.	652.	215.	0.	-252.	-.0028	-.0077	.0196	-.0079	.0291	-.0915	1009.		
.1640	1091.	-166.	576.	190.	0.	-360.	-.0026	-.0155	.0179	-.0150	.0363	-.1147	1239.		
.1650	1321.	-446.	530.	175.	0.	-436.	-.0030	-.0232	.0156	-.0203	.0421	-.1347	1429.		
.1660	1372.	-801.	555.	183.	0.	-453.	-.0039	-.0304	.0128	-.0234	.0465	-.1477	1486.		
.1670	1383.	-1181.	555.	183.	-0.	-456.	-.0055	-.0370	.0096	-.0265	.0491	-.1572	1496.		
.1680	1450.	-1483.	457.	151.	-0.	-478.	-.0080	-.0427	.0062	-.0315	.0497	-.1658	1526.		
.1690	1443.	-1678.	322.	106.	-0.	-476.	-.0114	-.0473	.0026	-.0387	.0484	-.1706	1484.		
.1700	1271.	-1884.	202.	67.	-0.	-419.	-.0151	-.0507	-.0012	-.0464	.0454	-.1671	1291.		
.1710	1020.	-2133.	60.	20.	-0.	-336.	-.0192	-.0526	-.0051	-.0534	.0403	-.1557	1025.		
.1720	754.	-2272.	-126.	-42.	-0.	-249.	-.0237	-.0530	-.0091	-.0596	.0331	-.1399	767.		
.1730	462.	-2318.	-314.	-104.	-0.	-153.	-.0285	-.0517	-.0130	-.0647	.0248	-.1203	561.		
.1740	106.	-2281.	-457.	-151.	-0.	-35.	-.0332	-.0488	-.0168	-.0682	.0164	-.0968	471.		
.1750	-262.	-2111.	-576.	-190.	-0.	86.	-.0378	-.0442	-.0204	-.0703	.0085	-.0710	635.		
.1760	-551.	-1849.	-718.	-237.	-0.	182.	-.0421	-.0381	-.0236	-.0708	.0013	-.0438	908.		
.1770	-814.	-1538.	-852.	-281.	-0.	269.	-.0458	-.0307	-.0264	-.0698	-.0048	-.0143	1183.		
.1780	-1112.	-1205.	-938.	-310.	-0.	367.	-.0487	-.0223	-.0286	-.0676	-.0092	.0180	1460.		
.1790	-1394.	-784.	-1002.	-331.	-0.	460.	-.0507	-.0130	-.0302	-.0648	-.0123	.0502	1723.		
.1800	-1550.	-297.	-1091.	-360.	-0.	512.	-.0519	-.0033	-.0311	-.0614	-.0144	.0794	1903.		
.1810	-1595.	184.	-1170.	-386.	-0.	526.	-.0522	.0066	-.0313	-.0566	-.0153	.1052	1986.		
.1820	-1636.	726.	-1163.	-384.	0.	540.	-.0516	.0163	-.0308	-.0495	-.0145	.1270	2015.		

ADLPIPE PAGE 2608

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/31/02.

18.29.45.

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

.1710	1020.	-2133.	60.	20.	-0.	-226.	-.0192	-.0526	-.0051	-.0534	.0403	-.1557	1025.
.1720	754.	-2272.	-126.	-42.	-0.	-249.	-.0237	-.0530	-.0091	-.0596	.0331	-.1399	767.
.1730	462.	-2318.	-314.	-104.	-0.	-153.	-.0285	-.0517	-.0130	-.0647	.0248	-.1203	561.
.1740	106.	-2281.	-457.	-151.	-0.	-35.	-.0332	-.0488	-.0168	-.0682	.0164	-.0968	471.
.1750	-262.	-2111.	-576.	-150.	-0.	86.	-.0378	-.0442	-.0204	-.0703	.0085	-.0710	635.
.1760	-551.	-1149.	-718.	-217.	-0.	102.	-.0421	-.0381	-.0236	-.0708	.0013	-.0438	908.
.1770	-814.	-1538.	-852.	-271.	-0.	269.	-.0458	-.0307	-.0264	-.0698	-.0048	-.0143	1183.
.1780	-1112.	-1205.	-938.	-310.	-0.	367.	-.0487	-.0223	-.0286	-.0676	-.0092	.0180	1460.
.1790	-1394.	-784.	-1002.	-331.	-0.	460.	-.0507	-.0130	-.0302	-.0648	-.0123	.0502	1723.
.1800	-1550.	-297.	-1091.	-360.	-0.	512.	-.0519	-.0033	-.0311	-.0614	-.0144	.0794	1903.
.1810	-1595.	104.	-1170.	-386.	-0.	526.	-.0522	.0066	-.0313	-.0566	-.0153	.1052	1986.
.1820	-1636.	726.	-1163.	-384.	0.	540.	-.0516	.0163	-.0308	-.0495	-.0145	.1270	2015.

ADLPIPE PAGE 2600

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.45.

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	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)	
.1830	-1622.	1297.	-1084.	-358.	0.	535.	-.0502	.0253	-.0297	-.0397	-.0121	.1432	1959.	
.1840	-1471.	1821.	-979.	-323.	0.	486.	-.0482	.0333	-.0280	-.0269	-.0084	.1524	1774.	
.1850	-1244.	2265.	-824.	-272.	0.	410.	-.0456	.0400	-.0258	-.0116	-.0030	.1558	1498.	
.1860	-1025.	2629.	-590.	-195.	0.	338.	-.0423	.0449	-.0231	.0050	.0039	.1543	1187.	
.1870	-778.	2932.	-325.	-107.	0.	257.	-.0389	.0478	-.0200	.0209	.0117	.1463	846.	
.1880	-418.	3120.	-97.	-32.	0.	138.	-.0354	.0486	-.0166	.0353	.0195	.1308	431.	
.1890	-24.	3189.	120.	40.	0.	8.	-.0321	.0471	-.0131	.0482	.0266	.1101	123.	
.1900	300.	3123.	373.	123.	0.	-99.	-.0289	.0432	-.0096	.0601	.0329	.0870	480.	
.1910	593.	2802.	633.	209.	0.	-196.	-.0262	.0371	-.0064	.0710	.0383	.0615	871.	
.1920	907.	2529.	858.	283.	0.	-299.	-.0242	.0290	-.0035	.0799	.0428	.0328	1254.	
.1930	1203.	2085.	1054.	348.	-0.	-397.	-.0229	.0191	-.0011	.0861	.0469	.0027	1606.	
.1940	1408.	1523.	1242.	410.	-0.	-465.	-.0224	.0077	.0008	.0887	.0514	-.0258	1885.	
.1950	1534.	870.	1390.	459.	-0.	-506.	-.0228	-.0047	.0021	.0864	.0561	-.0519	2078.	
.1960	1631.	198.	1445.	477.	-0.	-538.	-.0242	-.0177	.0028	.0781	.0599	-.0761	2187.	
.1970	1678.	-474.	1403.	463.	-0.	-554.	-.0265	-.0207	.0029	.0641	.0620	-.0967	2196.	
.1980	1607.	-1158.	1300.	429.	-0.	-530.	-.0296	-.0432	.0023	.0457	.0612	-.1112	2075.	
.1990	1423.	-1808.	1143.	377.	-0.	-469.	-.0333	-.0548	.0010	.0242	.0567	-.1192	1832.	
.2000	1197.	-2352.	909.	300.	-0.	-395.	-.0377	-.0650	-.0010	.0005	.0483	-.1223	1509.	
.2010	953.	-2758.	609.	201.	-0.	-315.	-.0427	-.0735	-.0034	-.0246	.0368	-.1213	1136.	
.2020	644.	-3031.	293.	97.	-0.	-213.	-.0479	-.0799	-.0063	-.0500	.0238	-.1148	710.	
.2030	261.	-3188.	-20.	-7.	-0.	-86.	-.0530	-.0840	-.0093	-.0752	.0109	-.1016	263.	
.2040	-136.	-3248.	-351.	-116.	-0.	45.	-.0579	-.0858	-.0123	-.1001	-.0005	-.0823	378.	
.2050	-512.	-3201.	-706.	-233.	-0.	169.	-.0623	-.0853	-.0150	-.1249	-.0100	-.0582	876.	
.2060	-285.	-3018.	-1057.	-349.	-0.	292.	-.0660	-.0824	-.0171	-.1493	-.0173	-.0308	1384.	
.2070	-1242.	-2699.	-1386.	-457.	-0.	410.	-.0689	-.0774	-.0186	-.1718	-.0232	-.0013	1868.	
.2080	-1531.	-2290.	-1691.	-558.	-0.	505.	-.0708	-.0704	-.0193	-.1900	-.0286	.0287	2290.	
.2090	-1745.	-1824.	-1942.	-641.	-0.	576.	-.0716	-.0619	-.0193	-.2014	-.0343	.0580	2621.	
.2100	-1911.	-1299.	-2093.	-691.	-0.	631.	-.0712	-.0520	-.0184	-.2046	-.0402	.0853	2845.	
.2110	-2009.	-715.	-2129.	-703.	-0.	663.	-.0698	-.0414	-.0166	-.1991	-.0457	.1083	2939.	
.2120	-1993.	-95.	-2071.	-683.	-0.	658.	-.0673	-.0303	-.0138	-.1855	-.0499	.1254	2885.	
.2130	-1860.	517.	-1921.	-634.	-0.	617.	-.0638	-.0192	-.0101	-.1647	-.0516	.1368	2691.	
.2140	-1695.	1064.	-1668.	-550.	-0.	559.	-.0593	-.0086	-.0055	-.1378	-.0500	.1441	2387.	
.2150	-1490.	1512.	-1324.	-437.	-0.	492.	-.0538	.0012	.0000	-.1064	-.0445	.1478	2001.	
.2160	-1228.	1860.	-929.	-307.	0.	405.	-.0475	.0098	.0062	-.0722	-.0358	.1471	1546.	
.2170	-910.	2111.	-503.	-166.	0.	300.	-.0408	.0170	.0128	-.0360	-.0248	.1417	1044.	
.2180	-576.	2254.	-38.	-13.	0.	190.	-.0337	.0226	.0196	.0019	-.0127	.1323	580.	
.2190	-245.	2272.	460.	152.	0.	81.	-.0264	.0265	.0263	.0410	-.0006	.1193	523.	
.2200	107.	2254.	964.	318.	0.	-34.	-.0194	.0288	.0325	.0806	.0103	.1022	973.	

ADLPIPE PAGE 2600

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.45.

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



.2090	-1745.	-1024.	-1942.	-641.	-0.	576.	-.0716	-.0619	-.0193	-.2014	-.0343	.0580	2621.
.2100	-1911.	-1299.	-2093.	-691.	-0.	631.	-.0712	-.0520	-.0184	-.2046	-.0402	.0853	2845.
.2110	-2009.	-715.	-2129.	-703.	-0.	663.	-.0698	-.0414	-.0166	-.1991	-.0457	.1083	2939.
.2120	-1993.	-95.	-2071.	-683.	-0.	658.	-.0673	-.0303	-.0138	-.1855	-.0499	.1254	2885.
.2130	-1869.	517.	-1921.	-674.	-0.	617.	-.0638	-.0192	-.0101	-.1647	-.0516	.1368	2691.
.2140	-1695.	1064.	-1668.	-550.	-0.	559.	-.0593	-.0086	-.0055	-.1378	-.0500	.1441	2387.
.2150	-1490.	1512.	-1324.	-437.	-0.	492.	-.0538	.0012	.0000	-.1064	-.0445	.1478	2001.
.2160	-1228.	1860.	-929.	-307.	0.	405.	-.0475	.0098	.0062	-.0722	-.0358	.1471	1546.
.2170	-910.	2111.	-503.	-166.	0.	300.	-.0408	.0170	.0128	-.0360	-.0248	.1417	1044.
.2180	-576.	2254.	-38.	-13.	0.	190.	-.0337	.0226	.0196	.0019	-.0127	.1323	580.
.2190	-249.	2292.	460.	152.	0.	81.	-.0264	.0265	.0263	.0410	-.0006	.1193	523.
.2200	103.	2254.	964.	318.	0.	-34.	-.0194	.0288	.0325	.0806	.0103	.1022	973.

ADLPIPE PAGE 2609

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.45.

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

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

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

SECTION	66	MEMBER	1	SEQUENCE	97	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)	
.2210	465.	2151.	1448.	478.	0.	-153.		-.0127	.0294	.0380	.1192	.0198	.0817	1526.	
.2220	794.	1962.	1903.	628.	0.	-262.		-.0064	.0285	.0426	.1552	.0278	.0600	2070.	
.2230	1057.	1680.	2312.	763.	0.	-348.		-.0007	.0261	.0461	.1863	.0348	.0395	2550.	
.2240	1258.	1333.	2627.	867.	-0.	-415.		.0043	.0225	.0484	.2098	.0409	.0208	2924.	
.2250	1425.	961.	2811.	928.	-0.	-470.		.0086	.0181	.0495	.2235	.0459	.0038	3164.	
.2260	1529.	587.	2861.	944.	-0.	-505.		.0119	.0129	.0492	.2267	.0494	-.0105	3256.	
.2270	1541.	213.	2792.	921.	-0.	-508.		.0145	.0074	.0476	.2202	.0505	-.0208	3201.	
.2280	1465.	-158.	2611.	862.	-0.	-483.		.0162	.0018	.0445	.2056	.0484	-.0264	3005.	
.2290	1325.	-502.	2325.	767.	-0.	-437.		.0172	-.0037	.0401	.1845	.0424	-.0282	2686.	
.2300	1123.	-777.	1956.	646.	-0.	-371.		.0175	-.0088	.0344	.1577	.0328	-.0269	2264.	
.2310	864.	-961.	1523.	503.	-0.	-285.		.0171	-.0132	.0277	.1260	.0202	-.0233	1758.	
.2320	571.	-1066.	1032.	340.	-0.	-188.		.0163	-.0170	.0202	.0899	.0058	-.0173	1183.	
.2330	259.	-1114.	489.	161.	-0.	-86.		.0153	-.0199	.0124	.0503	-.0094	-.0088	555.	
.2340	-73.	-1117.	-83.	-27.	-0.	24.		.0144	-.0221	.0044	.0082	-.0239	.0021	111.	
.2350	-420.	-1076.	-658.	-217.	-0.	138.		.0136	-.0234	-.0033	-.0354	-.0370	.0149	783.	
.2360	-745.	-997.	-1220.	-403.	-0.	246.		.0132	-.0239	-.0104	-.0784	-.0478	.0280	1435.	
.2370	-1021.	-884.	-1744.	-576.	-0.	337.		.0133	-.0237	-.0168	-.1187	-.0563	.0401	2029.	
.2380	-1241.	-750.	-2193.	-724.	-0.	410.		.0141	-.0229	-.0223	-.1535	-.0621	.0504	2530.	
.2390	-1397.	-602.	-2535.	-837.	-0.	461.		.0155	-.0215	-.0266	-.1810	-.0653	.0575	2906.	
.2400	-1465.	-437.	-2759.	-910.	0.	484.		.0176	-.0197	-.0297	-.1996	-.0659	.0601	3136.	
.2410	-1429.	-259.	-2864.	-945.	0.	471.		.0204	-.0176	-.0315	-.2090	-.0638	.0574	3213.	
.2420	-1300.	-93.	-2848.	-940.	0.	429.		.0239	-.0154	-.0317	-.2089	-.0592	.0498	3142.	
.2430	-1099.	34.	-2710.	-894.	0.	363.		.0280	-.0130	-.0306	-.2000	-.0520	.0382	2936.	
.2440	-829.	121.	-2469.	-815.	0.	273.		.0326	-.0108	-.0281	-.1832	-.0424	.0228	2615.	
.2450	-484.	180.	-2145.	-708.	0.	160.		.0374	-.0086	-.0243	-.1598	-.0305	.0035	2208.	
.2460	-84.	217.	-1746.	-576.	0.	28.		.0423	-.0065	-.0194	-.1307	-.0170	-.0192	1755.	
.2470	338.	222.	-1275.	-421.	0.	-112.		.0471	-.0047	-.0136	-.0965	-.0024	-.0439	1324.	
.2480	758.	184.	-744.	-245.	0.	-250.		.0515	-.0029	-.0074	-.0579	.0127	-.0691	1066.	
.2490	1164.	105.	-178.	-59.	0.	-384.		.0554	-.0014	-.0008	-.0164	.0275	-.0938	1182.	
.2500	1536.	7.	398.	131.	0.	-507.		.0584	.0002	.0057	.0261	.0412	-.1170	1593.	
.2510	1854.	-67.	954.	315.	0.	-612.		.0605	.0017	.0120	.0670	.0533	-.1379	2093.	
.2520	2102.	-171.	1458.	481.	0.	-694.		.0615	.0033	.0177	.1044	.0630	-.1551	2567.	
.2530	2262.	-259.	1881.	621.	0.	-746.		.0613	.0050	.0228	.1365	.0699	-.1671	2953.	
.2540	2309.	-358.	2312.	730.	0.	-762.		.0599	.0069	.0268	.1622	.0736	-.1721	3210.	
.2550	2232.	-454.	2442.	806.	0.	-736.		.0574	.0091	.0297	.1807	.0740	-.1697	3321.	
.2560	2048.	-518.	2561.	845.	0.	-676.		.0538	.0116	.0314	.1913	.0710	-.1608	3292.	
.2570	1779.	-521.	2563.	846.	0.	-587.		.0491	.0145	.0318	.1936	.0648	-.1464	3132.	
.2580	1429.	-466.	2457.	811.	0.	-472.		.0436	.0178	.0309	.1883	.0556	-.1266	2853.	

ADLPIPE PAGE 2610

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.45.

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

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

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



.2476	758.	184.	-174.	-245.	0.	-250.	.0515	-.0029	-.0074	-.0579	.0127	-.0691	1066.
.2490	1164.	105.	-178.	-59.	0.	-384.	.0554	-.0014	-.0008	-.0164	.0275	-.0938	1182.
.2500	1536.	7.	398.	131.	0.	-507.	.0584	.0002	.0057	.0261	.0412	-.1170	1593.
.2510	1854.	-87.	954.	315.	0.	-612.	.0605	.0017	.0120	.0670	.0533	-.1379	2093.
.2520	2102.	-171.	1458.	481.	0.	-694.	.0615	.0033	.0177	.1044	.0630	-.1551	2567.
.2530	2262.	-259.	1881.	621.	0.	-746.	.0613	.0050	.0228	.1365	.0699	-.1671	2953.
.2540	2309.	-358.	2212.	730.	0.	-762.	.0599	.0069	.0268	.1622	.0736	-.1721	3210.
.2550	2232.	-454.	2442.	806.	0.	-736.	.0574	.0091	.0297	.1807	.0740	-.1697	3321.
.2560	2048.	-518.	2561.	845.	0.	-676.	.0538	.0116	.0314	.1913	.0710	-.1608	3292.
.2570	1779.	-521.	2563.	846.	0.	-587.	.0491	.0145	.0318	.1936	.0648	-.1464	3132.
.2580	1429.	-466.	2457.	811.	0.	-472.	.0436	.0178	.0309	.1883	.0556	-.1266	2853.

ADLPIPE PAGE 2610

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02. 18.29.45.

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	66	MEMBER	1	SEQUENCE	97	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)
.2590	994.	-376.	2260.	746.	0.	-328.		.0375	.0214	.0287	.1763	.0438	-.1015	2478.
.2600	489.	-260.	1780.	653.	0.	-161.		.0310	.0252	.0253	.1582	.0298	-.0715	2047.
.2610	-55.	-106.	1620.	525.	0.	18.		.0245	.0293	.0210	.1344	.0141	-.0386	1627.
.2620	-605.	96.	1187.	392.	0.	200.		.0182	.0333	.0158	.1056	-.0027	-.0045	1337.
.2630	-1143.	331.	702.	232.	0.	377.		.0124	.0373	.0102	.0732	-.0198	.0296	1346.
.2640	-1652.	570.	193.	64.	0.	545.		.0074	.0410	.0042	.0390	-.0366	.0626	1670.
.2650	-2108.	797.	-314.	-104.	0.	696.		.0035	.0443	-.0019	.0052	-.0523	.0931	2139.
.2660	-2482.	1011.	-791.	-261.	-0.	819.		.0008	.0470	-.0078	-.0264	-.0660	.1191	2615.
.2670	-2755.	1210.	-1213.	-400.	0.	909.		-.0004	.0490	-.0133	-.0542	-.0772	.1391	3022.
.2680	-2916.	1371.	-1550.	-514.	-0.	962.		-.0001	.0500	-.0183	-.0766	-.0852	.1522	3319.
.2690	-2957.	1470.	-1814.	-599.	0.	976.		.0018	.0501	-.0226	-.0926	-.0897	.1583	3482.
.2700	-2875.	1504.	-1974.	-651.	0.	949.		.0053	.0490	-.0260	-.1020	-.0905	.1569	3501.
.2710	-2670.	1479.	-2040.	-673.	0.	881.		.0103	.0469	-.0285	-.1047	-.0877	.1477	3373.
.2720	-2345.	1392.	-2018.	-666.	0.	774.		.0166	.0438	-.0299	-.1011	-.0815	.1309	3105.
.2730	-1919.	1226.	-1907.	-629.	0.	623.		.0242	.0396	-.0302	-.0910	-.0723	.1078	2716.
.2740	-1417.	976.	-1709.	-564.	0.	468.		.0327	.0346	-.0297	-.0746	-.0605	.0797	2228.
.2750	-854.	668.	-1430.	-472.	0.	282.		.0418	.0290	-.0283	-.0528	-.0467	.0473	1672.
.2760	-238.	341.	-1090.	-360.	0.	78.		.0512	.0228	-.0263	-.0269	-.0316	.0107	1120.
.2770	410.	11.	-708.	-234.	0.	-135.		.0604	.0165	-.0237	.0021	-.0157	-.0284	821.
.2780	1049.	-342.	-299.	-99.	0.	-346.		.0693	.0103	-.0207	.0331	.0002	-.0671	1095.
.2790	1638.	-719.	121.	40.	0.	-540.		.0776	.0043	-.0177	.0643	.0154	-.1029	1648.
.2800	2162.	-1075.	520.	172.	0.	-714.		.0848	-.0010	-.0146	.0935	.0295	-.1351	2232.
.2810	2623.	-1359.	862.	285.	0.	-866.		.0907	-.0056	-.0116	.1185	.0416	-.1633	2772.
.2820	3004.	-1572.	1127.	372.	0.	-991.		.0950	-.0091	-.0089	.1382	.0512	-.1859	3221.
.2830	3270.	-1741.	1317.	435.	0.	-1079.		.0976	-.0115	-.0067	.1524	.0578	-.2008	3539.
.2840	3401.	-1852.	1433.	473.	0.	-1122.		.0984	-.0126	-.0050	.1606	.0610	-.2073	3705.
.2850	3410.	-1857.	1463.	483.	0.	-1128.		.0972	-.0123	-.0040	.1626	.0605	-.2066	3732.
.2860	3342.	-1744.	1397.	461.	0.	-1103.		.0941	-.0106	-.0035	.1584	.0562	-.1995	3636.
.2870	3158.	-1553.	1250.	412.	0.	-1042.		.0890	-.0078	-.0037	.1487	.0482	-.1849	3409.
.2880	2845.	-1316.	1045.	345.	0.	-939.		.0822	-.0038	-.0044	.1341	.0373	-.1624	3042.
.2890	2427.	-1025.	781.	258.	0.	-801.		.0740	.0011	-.0055	.1149	.0242	-.1334	2559.
.2900	1951.	-671.	454.	150.	0.	-644.		.0643	.0067	-.0068	.0912	.0094	-.1001	2011.
.2910	1429.	-284.	87.	27.	0.	-471.		.0535	.0128	-.0081	.0640	-.0059	-.0634	1436.
.2920	847.	90.	-295.	-98.	0.	-279.		.0420	.0190	-.0094	.0353	-.0211	-.0236	900.
.2930	226.	426.	-653.	-215.	0.	-74.		.0301	.0251	-.0104	.0067	-.0355	.0180	693.
.2940	-380.	732.	-983.	-324.	0.	126.		.0180	.0308	-.0110	-.0202	-.0489	.0584	1058.
.2950	-930.	1016.	-1268.	-418.	0.	310.		.0061	.0360	-.0111	-.0442	-.0609	.0950	1583.
.2960	-1448.	1265.	-1479.	-488.	-0.	478.		-.0054	.0404	-.0105	-.0639	-.0714	.1269	2078.

ADLPIPE PAGE 2611

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02. 18.29.45.

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



.2860	3342.	-1744.	1397.	461.	0.	-1103.	.0941	-.0106	-.0035	.1584	.0562	-.1995	3636.
.2870	3158.	-1553.	1250.	412.	0.	-1042.	.0890	-.0078	-.0037	.1487	.0482	-.1849	3409.
.2880	2945.	-1316.	1045.	345.	0.	-929.	.0822	-.0038	-.0044	.1341	.0373	-.1624	3042.
.2890	2427.	-1025.	781.	258.	0.	-801.	.0740	.0011	-.0055	.1149	.0242	-.1334	2559.
.2900	1951.	-671.	454.	150.	0.	-644.	.0643	.0067	-.0068	.0912	.0094	-.1001	2011.
.2910	1425.	-284.	82.	27.	0.	-471.	.0535	.0128	-.0081	.0640	-.0059	-.0634	1436.
.2920	847.	90.	-295.	-98.	0.	-279.	.0420	.0190	-.0094	.0353	-.0211	-.0236	900.
.2930	226.	426.	-653.	-215.	0.	-74.	.0301	.0251	-.0104	.0067	-.0355	.0180	693.
.2940	-280.	732.	-983.	-324.	0.	126.	.0180	.0308	-.0110	-.0202	-.0489	.0584	1058.
.2950	-938.	1016.	-1268.	-418.	0.	310.	.0061	.0360	-.0111	-.0442	-.0609	.0950	1583.
.2960	-1448.	1265.	-1479.	-488.	-0.	478.	-.0054	.0404	-.0105	-.0639	-.0714	.1269	2078.

ADLPIPE PAGE 2611

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.29.45.

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	66	MEMBER	1	SEQUENCE	07	LOCATION	END	TYPE	VA	DZ	RX	RY	RZ	STRESS
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)	
.2970	-1905.	1445.	-1598.	-527.	-0.	628.	-.0162	.0438	-.0093	-.0778	-.0800	.1536	2496.	
.2980	-2279.	1538.	-1629.	-538.	-0.	752.	-.0259	.0462	-.0073	-.0857	-.0866	.1744	2812.	
.2990	-2552.	1556.	-1577.	-521.	-0.	842.	-.0344	.0474	-.0046	-.0878	-.0906	.1882	3011.	
.3000	-2725.	1521.	-1441.	-475.	-0.	899.	-.0416	.0475	-.0011	-.0848	-.0917	.1942	3094.	
.3010	-2796.	1432.	-1225.	-404.	-0.	923.	-.0472	.0465	.0031	-.0772	-.0895	.1927	3065.	
.3020	-2761.	1273.	-945.	-312.	-0.	911.	-.0514	.0445	.0078	-.0652	-.0841	.1845	2930.	
.3030	-2630.	1045.	-606.	-200.	-0.	868.	-.0539	.0415	.0128	-.0493	-.0757	.1705	2709.	
.3040	-2419.	780.	-214.	-71.	-0.	798.	-.0549	.0379	.0181	-.0304	-.0647	.1512	2438.	
.3050	-2132.	518.	207.	68.	-0.	703.	-.0545	.0337	.0233	-.0098	-.0518	.1265	2150.	
.3060	-1769.	271.	631.	208.	-0.	584.	-.0530	.0291	.0282	.0116	-.0377	.0977	1885.	
.3070	-1358.	24.	1041.	344.	-0.	448.	-.0503	.0244	.0327	.0327	-.0231	.0668	1718.	
.3080	-938.	-218.	1426.	471.	-0.	310.	-.0468	.0197	.0364	.0521	-.0086	.0357	1714.	
.3090	-520.	-420.	1762.	581.	-0.	172.	-.0426	.0152	.0394	.0682	.0055	.0049	1844.	
.3100	-96.	-552.	2017.	665.	0.	32.	-.0380	.0110	.0413	.0794	.0186	-.0253	2027.	
.3110	312.	-632.	2179.	719.	0.	-103.	-.0333	.0073	.0422	.0853	.0303	-.0534	2210.	
.3120	664.	-688.	2260.	746.	0.	-219.	-.0285	.0040	.0418	.0858	.0403	-.0770	2364.	
.3130	938.	-718.	2260.	746.	0.	-310.	-.0239	.0013	.0402	.0811	.0485	-.0957	2457.	
.3140	1157.	-692.	2166.	715.	0.	-382.	-.0197	-.0010	.0373	.0708	.0538	-.1103	2465.	
.3150	1329.	-607.	1973.	651.	0.	-439.	-.0162	-.0027	.0333	.0551	.0565	-.1213	2388.	
.3160	1427.	-493.	1703.	562.	0.	-471.	-.0133	-.0039	.0282	.0350	.0565	-.1275	2230.	
.3170	1429.	-383.	1375.	454.	0.	-471.	-.0111	-.0048	.0221	.0114	.0535	-.1281	1991.	
.3180	1356.	-284.	992.	327.	0.	-447.	-.0095	-.0055	.0153	-.0150	.0481	-.1238	1686.	
.3190	1236.	-182.	556.	183.	-0.	-408.	-.0087	-.0059	.0081	-.0436	.0407	-.1161	1360.	
.3200	1071.	-76.	90.	30.	-0.	-353.	-.0086	-.0062	.0006	-.0736	.0317	-.1058	1078.	
.3210	853.	13.	-374.	-123.	-0.	-202.	-.0090	-.0065	-.0070	-.1032	.0219	-.0928	935.	
.3220	601.	62.	-820.	-271.	-0.	-198.	-.0099	-.0067	-.0143	-.1310	.0116	-.0774	1021.	
.3230	336.	70.	-1233.	-407.	-0.	-111.	-.0111	-.0070	-.0212	-.1556	.0014	-.0608	1283.	
.3240	72.	60.	-1592.	-525.	-0.	-24.	-.0126	-.0074	-.0274	-.1762	-.0081	-.0443	1600.	
.3250	-183.	49.	-1883.	-621.	-0.	60.	-.0141	-.0078	-.0327	-.1922	-.0166	-.0289	1899.	
.3260	-409.	25.	-2100.	-693.	-0.	135.	-.0156	-.0082	-.0370	-.2028	-.0237	-.0147	2148.	
.3270	-597.	-27.	-2239.	-739.	-0.	197.	-.0168	-.0087	-.0402	-.2074	-.0290	-.0018	2326.	
.3280	-749.	-98.	-2290.	-756.	-0.	247.	-.0177	-.0091	-.0421	-.2060	-.0321	.0097	2419.	
.3290	-856.	-159.	-2254.	-744.	-0.	283.	-.0182	-.0094	-.0428	-.1991	-.0330	.0189	2420.	
.3300	-897.	-194.	-2142.	-707.	-0.	296.	-.0183	-.0096	-.0422	-.1868	-.0316	.0251	2331.	
.3310	-869.	-210.	-1961.	-647.	-0.	287.	-.0179	-.0097	-.0405	-.1695	-.0281	.0286	2153.	
.3320	-793.	-222.	-1705.	-563.	-0.	262.	-.0171	-.0096	-.0377	-.1473	-.0226	.0305	1888.	
.3330	-678.	-217.	-1383.	-456.	-0.	224.	-.0158	-.0093	-.0340	-.1211	-.0154	.0307	1547.	
.3340	-513.	-170.	-1019.	-326.	-0.	169.	-.0142	-.0089	-.0293	-.0923	-.0069	.0287	1145.	

ADLPIPE PAGE 2612

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.29.45.

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



.3250	-183.	49.	-1883.	-621.	-0.	60.	-.0126	-.0074	-.0274	-.1762	-.0081	-.0443	1899.
.3260	-409.	25.	-2100.	-693.	-0.	135.	-.0156	-.0082	-.0370	-.2028	-.0237	-.0147	2148.
.3270	-597.	-27.	-2239.	-739.	-0.	197.	-.0168	-.0087	-.0402	-.2074	-.0290	-.0018	2326.
.3280	-749.	-98.	-2290.	-756.	-0.	247.	-.0177	-.0091	-.0421	-.2060	-.0321	.0097	2419.
.3290	-856.	-159.	-2254.	-744.	-0.	283.	-.0182	-.0094	-.0428	-.1991	-.0330	.0189	2420.
.3300	-897.	-194.	-2142.	-707.	-0.	296.	-.0183	-.0096	-.0422	-.1868	-.0316	.0251	2331.
.3310	-869.	-210.	-1961.	-647.	-0.	287.	-.0179	-.0097	-.0405	-.1695	-.0281	.0286	2153.
.3320	-793.	-222.	-1705.	-563.	-0.	262.	-.0171	-.0096	-.0377	-.1473	-.0226	.0305	1888.
.3330	-670.	-217.	-1383.	-456.	-0.	224.	-.0158	-.0093	-.0340	-.1211	-.0154	.0307	1547.
.3340	-513.	-170.	-1019.	-336.	-0.	169.	-.0142	-.0089	-.0295	-.0923	-.0069	.0287	1145.

ADLPIPE PAGE 2612

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.45.

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	66	MEMBER	1	SEQUENCE	97	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)	
.3350	-294.	-78.	-636.	-210.	-0.	97.	-.0124	-.0084	-.0244	-.0620	.0024	.0245	703.	
.3360	-53.	33.	-240.	-79.	-0.	18.	-.0105	-.0078	-.0190	-.0310	.0122	.0198	247.	
.3370	177.	139.	161.	53.	-0.	-58.	-.0085	-.0073	-.0134	-.0005	.0221	.0157	240.	
.3380	397.	251.	545.	180.	-0.	-131.	-.0066	-.0068	-.0079	.0284	.0315	.0123	677.	
.3390	614.	382.	887.	293.	-0.	-203.	-.0050	-.0066	-.0026	.0545	.0399	.0091	1083.	
.3400	810.	522.	1181.	390.	-0.	-267.	-.0039	-.0067	.0022	.0770	.0469	.0065	1438.	
.3410	953.	643.	1429.	472.	-0.	-314.	-.0032	-.0071	.0064	.0957	.0522	.0059	1724.	
.3420	1034.	732.	1626.	536.	-0.	-341.	-.0030	-.0080	.0098	.1104	.0555	.0076	1934.	
.3430	1065.	792.	1755.	579.	-0.	-351.	-.0035	-.0094	.0123	.1205	.0567	.0112	2061.	
.3440	1045.	830.	1812.	598.	-0.	-345.	-.0046	-.0114	.0139	.1255	.0559	.0164	2100.	
.3450	964.	839.	1803.	595.	-0.	-318.	-.0063	-.0140	.0146	.1252	.0531	.0234	2052.	
.3460	821.	806.	1728.	570.	-0.	-271.	-.0086	-.0172	.0143	.1200	.0486	.0324	1920.	
.3470	629.	721.	1586.	523.	-0.	-208.	-.0113	-.0210	.0131	.1102	.0426	.0433	1712.	
.3480	399.	595.	1384.	457.	-0.	-132.	-.0143	-.0253	.0111	.0963	.0353	.0555	1446.	
.3490	137.	444.	1136.	375.	-0.	-45.	-.0176	-.0299	.0083	.0790	.0270	.0682	1148.	
.3500	-142.	277.	852.	281.	-0.	47.	-.0209	-.0349	.0049	.0591	.0179	.0807	867.	
.3510	-421.	89.	542.	179.	-0.	139.	-.0241	-.0400	.0011	.0379	.0084	.0929	689.	
.3520	-691.	-118.	222.	73.	-0.	228.	-.0270	-.0451	-.0031	.0164	-.0012	.1044	729.	
.3530	-948.	-330.	-92.	-30.	-0.	313.	-.0295	-.0501	-.0075	-.0044	-.0104	.1149	956.	
.3540	-1174.	-529.	-391.	-129.	-0.	387.	-.0313	-.0548	-.0118	-.0240	-.0188	.1235	1242.	
.3550	-1350.	-707.	-672.	-222.	-0.	446.	-.0325	-.0591	-.0159	-.0418	-.0259	.1297	1514.	
.3560	-1475.	-868.	-921.	-304.	-0.	487.	-.0328	-.0629	-.0197	-.0569	-.0315	.1339	1745.	
.3570	-1554.	-1016.	-1125.	-371.	-0.	513.	-.0322	-.0660	-.0230	-.0687	-.0353	.1362	1926.	
.3580	-1582.	-1138.	-1275.	-421.	-0.	522.	-.0306	-.0683	-.0257	-.0767	-.0372	.1363	2040.	
.3590	-1540.	-1213.	-1376.	-454.	-0.	508.	-.0281	-.0698	-.0278	-.0808	-.0372	.1334	2073.	
.3600	-1430.	-1238.	-1422.	-469.	-0.	472.	-.0247	-.0703	-.0291	-.0806	-.0357	.1275	2024.	
.3610	-1267.	-1229.	-1406.	-464.	-0.	418.	-.0204	-.0700	-.0297	-.0759	-.0326	.1196	1900.	
.3620	-1065.	-1193.	-1326.	-438.	-0.	352.	-.0154	-.0687	-.0297	-.0666	-.0282	.1100	1708.	
.3630	-820.	-1124.	-1194.	-394.	-0.	271.	-.0098	-.0666	-.0289	-.0535	-.0227	.0989	1454.	
.3640	-533.	-1013.	-1023.	-337.	-0.	176.	-.0037	-.0637	-.0275	-.0374	-.0161	.0861	1158.	
.3650	-222.	-868.	-817.	-270.	-0.	73.	.0027	-.0600	-.0256	-.0192	-.0087	.0724	850.	
.3660	92.	-709.	-583.	-192.	-0.	-70.	.0091	-.0557	-.0232	.0004	-.0007	.0588	592.	
.3670	401.	-544.	-333.	-110.	-0.	-132.	.0155	-.0510	-.0204	.0208	.0077	.0458	523.	
.3680	699.	-372.	-81.	-27.	-0.	-231.	.0216	-.0458	-.0174	.0410	.0160	.0335	707.	
.3690	978.	-186.	164.	54.	-0.	-323.	.0271	-.0404	-.0143	.0602	.0238	.0219	995.	
.3700	1223.	10.	396.	131.	-0.	-404.	.0320	-.0349	-.0113	.0776	.0307	.0114	1291.	
.3710	1427.	201.	604.	199.	-0.	-471.	.0361	-.0295	-.0084	.0929	.0362	.0024	1556.	
.3720	1583.	377.	770.	257.	-0.	-523.	.0393	-.0242	-.0058	.1055	.0400	-.0046	1772.	

ADLPIPE PAGE 2613

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.45.

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





.4000 307. -176. 378. 125. 0. -101. -0.085 -0.0097 .0234 -0.0414 .0103 -0.0572 199. 489.

MAXIMUM VALUE OF STRESS OCCURS AT

TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)
.2850	3418.	-1857.	1463.	493.	0.	-1128.	.0972	-0.0123	-0.0040	.1626	.0605	-0.2066	3732.

SECTION	MEMBER	SEQUENCE	LOCATION	DIS	TYPE	VA	STRESS						
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)
66	2	032											

ADLPIPE PAGE 2014 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 8/12/02. 18.29.45.

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

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION	DIS	TYPE	VA	STRESS						
TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	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.	.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	.0000	-.0001	-.0001	0.
.0080	0.	0.	0.	0.	0.	0.	-.0000	.0000	.0000	.0000	-.0003	-.0003	0.
.0090	0.	0.	0.	0.	0.	0.	-.0000	.0000	.0000	.0001	-.0006	-.0007	0.
.0100	0.	0.	0.	0.	0.	0.	-.0000	-.0000	.0000	.0001	-.0010	-.0011	0.
.0110	0.	0.	0.	0.	0.	0.	-.0001	-.0000	.0000	.0002	-.0015	-.0017	0.
.0120	0.	0.	0.	0.	0.	0.	-.0001	-.0000	.0000	.0003	-.0022	-.0026	0.
.0130	0.	0.	0.	0.	0.	0.	-.0002	-.0001	.0001	.0003	-.0030	-.0040	0.
.0140	0.	0.	0.	0.	0.	0.	-.0003	-.0001	.0001	.0001	-.0041	-.0060	0.
.0150	0.	0.	0.	0.	0.	0.	-.0005	-.0002	.0001	.0001	-.0052	-.0083	0.
.0160	0.	0.	0.	0.	0.	0.	-.0008	-.0004	.0002	.0003	-.0064	-.0105	0.
.0170	0.	0.	0.	0.	0.	0.	-.0012	-.0006	.0003	.0009	-.0075	-.0120	0.
.0180	0.	0.	0.	0.	0.	0.	-.0017	-.0009	.0004	.0017	-.0081	-.0125	0.
.0190	0.	0.	0.	0.	0.	0.	-.0023	-.0013	.0005	.0025	-.0079	-.0119	0.
.0200	0.	0.	0.	0.	0.	0.	-.0030	-.0018	.0006	.0030	-.0067	-.0102	0.
.0210	0.	0.	0.	0.	0.	0.	-.0038	-.0023	.0007	.0031	-.0041	-.0069	0.
.0220	0.	0.	0.	0.	0.	0.	-.0047	-.0028	.0008	.0029	-.0005	-.0023	0.
.0230	0.	0.	0.	0.	0.	0.	-.0055	-.0033	.0008	.0024	.0044	.0032	0.
.0240	0.	0.	0.	0.	0.	0.	-.0063	-.0036	.0009	.0014	.0091	.0085	0.
.0250	0.	0.	0.	0.	0.	0.	-.0070	-.0039	.0009	.0002	.0129	.0123	0.
.0260	0.	0.	0.	0.	0.	0.	-.0076	-.0039	.0008	-.0004	.0152	.0151	0.
.0270	0.	0.	0.	0.	0.	0.	-.0079	-.0037	.0007	.0008	.0154	.0191	0.
.0280	0.	0.	0.	0.	0.	0.	-.0081	-.0034	.0005	.0041	.0139	.0260	0.
.0290	0.	0.	0.	0.	0.	0.	-.0079	-.0029	.0002	.0072	.0115	.0322	0.
.0300	0.	0.	0.	0.	0.	0.	-.0074	-.0020	-.0002	.0078	.0085	.0328	0.
.0310	0.	0.	0.	0.	0.	0.	-.0065	-.0010	-.0006	.0070	.0064	.0309	0.
.0320	0.	0.	0.	0.	0.	0.	-.0053	.0002	-.0011	.0070	.0060	.0345	0.
.0330	0.	0.	0.	0.	0.	0.	-.0038	.0014	-.0017	.0072	.0076	.0422	0.
.0340	0.	0.	0.	0.	0.	0.	-.0019	.0028	-.0025	.0044	.0101	.0442	0.
.0350	0.	0.	0.	0.	0.	0.	.0004	.0044	-.0029	-.0016	.0118	.0367	0.
.0360	0.	0.	0.	0.	0.	0.	.0030	.0059	-.0035	-.0065	.0115	.0270	0.
.0370	0.	0.	0.	0.	0.	0.	.0056	.0072	-.0041	-.0063	.0076	.0223	0.

ADLPIPE PAGE 2015 DIS/ADLPIPE ADLPIPE STRESS ANALYSIS 8/12/02. 18.29.45.

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

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

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



.0270	0.	0.	0.	0.	0.	0.	0.	0.	-.0079	-.0037	.0007	.0008	.0154	.0191	0.
.0280	0.	0.	0.	0.	0.	0.	0.	0.	-.0081	-.0034	.0005	.0041	.0139	.0260	0.
.0290	0.	0.	0.	0.	0.	0.	0.	0.	-.0079	-.0029	.0002	.0072	.0115	.0322	0.
.0300	0.	0.	0.	0.	0.	0.	0.	0.	-.0074	-.0020	-.0002	.0078	.0085	.0328	0.
.0310	0.	0.	0.	0.	0.	0.	0.	0.	-.0065	-.0010	-.0006	.0070	.0064	.0309	0.
.0320	0.	0.	0.	0.	0.	0.	0.	0.	-.0053	.0002	-.0011	.0070	.0060	.0345	0.
.0330	0.	0.	0.	0.	0.	0.	0.	0.	-.0038	.0014	-.0017	.0072	.0076	.0422	0.
.0340	0.	0.	0.	0.	0.	0.	0.	0.	-.0019	.0028	-.0023	.0044	.0101	.0442	0.
.0350	0.	0.	0.	0.	0.	0.	0.	0.	.0004	.0044	-.0029	-.0016	.0118	.0367	0.
.0360	0.	0.	0.	0.	0.	0.	0.	0.	.0030	.0039	-.0035	-.0065	.0115	.0270	0.
.0370	0.	0.	0.	0.	0.	0.	0.	0.	.0056	.0072	-.0041	-.0063	.0076	.0223	0.

ADLPIPE PAGE 2615

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.45.

S/RV PIPING KEWAUNEE CRUDET 2 RUP DISK  
2 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	66	MEMBER	2	SEQUENCE	832	LOCATION	DIS	TYPE	VA	DZ	RX	RY	RZ	STRESS
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ	STRESS	
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)	
.0380	0.	0.	0.	0.	0.	0.	.0084	.0082	-.0046	-.0019	.0008	.0199	0.	
.0390	0.	0.	0.	0.	0.	0.	.0111	.0090	-.0050	.0025	-.0075	.0126	0.	
.0400	0.	0.	0.	0.	0.	0.	.0137	.0095	-.0054	.0039	-.0149	-.0024	0.	
.0410	0.	0.	0.	0.	0.	0.	.0161	.0095	-.0056	.0037	-.0191	-.0186	0.	
.0420	0.	0.	0.	0.	0.	0.	.0182	.0089	-.0057	.0047	-.0186	-.0258	0.	
.0430	0.	0.	0.	0.	0.	0.	.0198	.0076	-.0057	.0055	-.0124	-.0236	0.	
.0440	0.	0.	0.	0.	0.	0.	.0210	.0060	-.0057	.0010	-.0010	-.0244	0.	
.0450	0.	0.	0.	0.	0.	0.	.0217	.0041	-.0055	-.0097	.0100	-.0375	0.	
.0460	0.	0.	0.	0.	0.	0.	.0219	.0018	-.0053	-.0201	.0192	-.0534	0.	
.0470	0.	0.	0.	0.	0.	0.	.0214	-.0007	-.0049	-.0226	.0235	-.0578	0.	
.0480	0.	0.	0.	0.	0.	0.	.0203	-.0035	-.0044	-.0181	.0223	-.0540	0.	
.0490	0.	0.	0.	0.	0.	0.	.0186	-.0061	-.0038	-.0155	.0167	-.0572	0.	
.0500	0.	0.	0.	0.	0.	0.	.0163	-.0086	-.0032	-.0126	.0098	-.0699	0.	
.0510	0.	0.	0.	0.	0.	0.	.0135	-.0108	-.0026	-.0134	.0048	-.0802	0.	
.0520	0.	0.	0.	0.	0.	0.	.0101	-.0129	-.0019	-.0134	.0034	-.0792	0.	
.0530	0.	0.	0.	0.	0.	0.	.0063	-.0147	-.0012	-.0143	.0059	-.0705	0.	
.0540	0.	0.	0.	0.	0.	0.	.0021	-.0159	-.0005	-.0195	.0118	-.0617	0.	
.0550	0.	0.	0.	0.	0.	0.	-.0024	-.0165	.0001	-.0289	.0190	-.0560	0.	
.0560	0.	0.	0.	0.	0.	0.	-.0069	-.0165	.0008	-.0379	.0241	-.0499	0.	
.0570	0.	0.	0.	0.	0.	0.	-.0115	-.0159	.0015	-.0421	.0250	-.0382	0.	
.0580	0.	0.	0.	0.	0.	0.	-.0160	-.0146	.0023	-.0413	.0215	-.0224	0.	
.0590	0.	0.	0.	0.	0.	0.	-.0203	-.0126	.0032	-.0385	.0140	-.0106	0.	
.0600	0.	0.	0.	0.	0.	0.	-.0243	-.0101	.0042	-.0355	.0051	-.0051	0.	
.0610	0.	0.	0.	0.	0.	0.	-.0278	-.0072	.0052	-.0309	-.0023	.0025	0.	
.0620	0.	0.	0.	0.	0.	0.	-.0309	-.0041	.0063	-.0245	-.0054	.0195	0.	
.0630	0.	0.	0.	0.	0.	0.	-.0335	-.0010	.0075	-.0194	-.0035	.0406	0.	
.0640	0.	0.	0.	0.	0.	0.	-.0353	.0022	.0087	-.0192	.0030	.0560	0.	
.0650	0.	0.	0.	0.	0.	0.	-.0363	.0053	.0098	-.0231	.0116	.0643	0.	
.0660	0.	0.	0.	0.	0.	0.	-.0365	.0083	.0110	-.0255	.0192	.0717	0.	
.0670	0.	0.	0.	0.	0.	0.	-.0360	.0108	.0122	-.0215	.0222	.0812	0.	
.0680	0.	0.	0.	0.	0.	0.	-.0346	.0128	.0134	-.0113	.0191	.0886	0.	
.0690	0.	0.	0.	0.	0.	0.	-.0325	.0144	.0144	.0019	.0105	.0877	0.	
.0700	0.	0.	0.	0.	0.	0.	-.0297	.0155	.0154	.0158	-.0011	.0776	0.	
.0710	0.	0.	0.	0.	0.	0.	-.0263	.0158	.0161	.0295	-.0122	.0641	0.	
.0720	0.	0.	0.	0.	0.	0.	-.0225	.0152	.0165	.0428	-.0195	.0540	0.	
.0730	0.	0.	0.	0.	0.	0.	-.0184	.0138	.0166	.0534	-.0208	.0488	0.	
.0740	0.	0.	0.	0.	0.	0.	-.0140	.0115	.0163	.0581	-.0160	.0442	0.	
.0750	0.	0.	0.	0.	0.	0.	-.0094	.0087	.0155	.0560	-.0068	.0357	0.	

ADLPIPE PAGE 2616

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.45.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

.0650	0.	0.	0.	0.	0.	0.	0.	-.0323	.0053	.0098	-.0231	.0116	.0643	0.
.0660	0.	0.	0.	0.	0.	0.	0.	-.0365	.0083	.0110	-.0255	.0192	.0717	0.
.0670	0.	0.	0.	0.	0.	0.	0.	-.0360	.0108	.0122	-.0215	.0222	.0812	0.
.0680	0.	0.	0.	0.	0.	0.	0.	-.0346	.0128	.0134	-.0113	.0191	.0886	0.
.0690	0.	0.	0.	0.	0.	0.	0.	-.0325	.0144	.0144	.0019	.0105	.0877	0.
.0700	0.	0.	0.	0.	0.	0.	0.	-.0297	.0155	.0154	.0158	-.0011	.0776	0.
.0710	0.	0.	0.	0.	0.	0.	0.	-.0263	.0158	.0161	.0295	-.0122	.0641	0.
.0720	0.	0.	0.	0.	0.	0.	0.	-.0225	.0152	.0165	.0428	-.0195	.0540	0.
.0730	0.	0.	0.	0.	0.	0.	0.	-.0184	.0138	.0166	.0534	-.0208	.0488	0.
.0740	0.	0.	0.	0.	0.	0.	0.	-.0140	.0115	.0163	.0581	-.0160	.0442	0.
.0750	0.	0.	0.	0.	0.	0.	0.	-.0094	.0087	.0155	.0560	-.0068	.0357	0.

ADLPIPE PAGE 2616

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.45.

S/RV PIPING KEWAUNEE CKW00F 2 RUP DISK  
2 SAFETY COLD FKW24T--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	66	MEMBER	2	SEQUENCE	832	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)	
.0760	0.	0.	0.	0.	0.	0.	-.0048	.0054	.0142	.0500	.0034	.0244	0.	
.0770	0.	0.	0.	0.	0.	0.	-.0003	.0010	.0124	.0454	.0112	.0152	0.	
.0780	0.	0.	0.	0.	0.	0.	.0041	-.0021	.0102	.0451	.0142	.0099	0.	
.0790	0.	0.	0.	0.	0.	0.	.0083	-.0060	.0076	.0474	.0119	.0037	0.	
.0800	0.	0.	0.	0.	0.	0.	.0123	-.0097	.0046	.0493	.0055	-.0087	0.	
.0810	0.	0.	0.	0.	0.	0.	.0160	-.0130	.0011	.0490	-.0025	-.0247	0.	
.0820	0.	0.	0.	0.	0.	0.	.0192	-.0160	-.0027	.0467	-.0090	-.0370	0.	
.0830	0.	0.	0.	0.	0.	0.	.0220	-.0187	-.0067	.0417	-.0116	-.0425	0.	
.0840	0.	0.	0.	0.	0.	0.	.0243	-.0209	-.0109	.0324	-.0099	-.0438	0.	
.0850	0.	0.	0.	0.	0.	0.	.0261	-.0226	-.0152	.0187	-.0045	-.0433	0.	
.0860	0.	0.	0.	0.	0.	0.	.0274	-.0236	-.0194	.0024	.0028	-.0407	0.	
.0870	0.	0.	0.	0.	0.	0.	.0283	-.0239	-.0233	-.0132	.0093	-.0361	0.	
.0880	0.	0.	0.	0.	0.	0.	.0286	-.0236	-.0269	-.0250	.0129	-.0298	0.	
.0890	0.	0.	0.	0.	0.	0.	.0286	-.0225	-.0299	-.0323	.0129	-.0226	0.	
.0900	0.	0.	0.	0.	0.	0.	.0281	-.0206	-.0323	-.0359	.0104	-.0159	0.	
.0910	0.	0.	0.	0.	0.	0.	.0274	-.0181	-.0339	-.0375	.0071	-.0112	0.	
.0920	0.	0.	0.	0.	0.	0.	.0264	-.0150	-.0348	-.0379	.0047	-.0066	0.	
.0930	0.	0.	0.	0.	0.	0.	.0251	-.0116	-.0349	-.0379	.0049	.0005	0.	
.0940	0.	0.	0.	0.	0.	0.	.0236	-.0078	-.0341	-.0382	.0075	.0086	0.	
.0950	0.	0.	0.	0.	0.	0.	.0220	-.0037	-.0325	-.0392	.0109	.0131	0.	
.0960	0.	0.	0.	0.	0.	0.	.0202	.0005	-.0300	-.0386	.0128	.0135	0.	
.0970	0.	0.	0.	0.	0.	0.	.0183	.0046	-.0267	-.0328	.0113	.0133	0.	
.0980	0.	0.	0.	0.	0.	0.	.0162	.0085	-.0226	-.0201	.0057	.0142	0.	
.0990	0.	0.	0.	0.	0.	0.	.0139	.0122	-.0178	-.0023	-.0033	.0135	0.	
.1000	0.	0.	0.	0.	0.	0.	.0115	.0155	-.0125	.0174	-.0136	.0088	0.	
.1010	0.	0.	0.	0.	0.	0.	.0088	.0183	-.0068	.0363	-.0225	.0014	0.	
.1020	0.	0.	0.	0.	0.	0.	.0058	.0205	-.0008	.0533	-.0282	-.0045	0.	
.1030	0.	0.	0.	0.	0.	0.	.0026	.0220	.0052	.0679	-.0301	-.0063	0.	
.1040	0.	0.	0.	0.	0.	0.	-.0010	.0229	.0111	.0793	-.0287	-.0043	0.	
.1050	0.	0.	0.	0.	0.	0.	-.0048	.0232	.0168	.0870	-.0254	-.0011	0.	
.1060	0.	0.	0.	0.	0.	0.	-.0087	.0230	.0221	.0917	-.0218	.0024	0.	
.1070	0.	0.	0.	0.	0.	0.	-.0128	.0225	.0268	.0950	-.0191	.0074	0.	
.1080	0.	0.	0.	0.	0.	0.	-.0169	.0216	.0310	.0974	-.0176	.0143	0.	
.1090	0.	0.	0.	0.	0.	0.	-.0208	.0206	.0344	.0980	-.0168	.0215	0.	
.1100	0.	0.	0.	0.	0.	0.	-.0243	.0195	.0370	.0953	-.0162	.0271	0.	
.1110	0.	0.	0.	0.	0.	0.	-.0274	.0184	.0387	.0888	-.0151	.0321	0.	
.1120	0.	0.	0.	0.	0.	0.	-.0298	.0174	.0394	.0783	-.0140	.0368	0.	
.1130	0.	0.	0.	0.	0.	0.	-.0313	.0164	.0392	.0644	-.0139	.0398	0.	

ADLPIPE PAGE 2617

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.45.

S/RV PIPING KEWAUNEE CKW00F 2 RUP DISK  
2 SAFETY COLD FKW24T--2 PSV

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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



.1030	0.	0.	0.	0.	0.	0.	0.	0.	0.0026	.0220	.0052	.0679	-.0301	-.0063	0.
.1040	0.	0.	0.	0.	0.	0.	0.	0.	-.0010	.0229	.0111	.0793	-.0287	-.0043	0.
.1050	0.	0.	0.	0.	0.	0.	0.	0.	-.0048	.0232	.0168	.0876	-.0254	-.0011	0.
.1060	0.	0.	0.	0.	0.	0.	0.	0.	-.0087	.0230	.0221	.0917	-.0218	.0024	0.
.1070	0.	0.	0.	0.	0.	0.	0.	0.	-.0128	.0225	.0268	.0950	-.0191	.0074	0.
.1080	0.	0.	0.	0.	0.	0.	0.	0.	-.0169	.0216	.0310	.0974	-.0176	.0143	0.
.1090	0.	0.	0.	0.	0.	0.	0.	0.	-.0208	.0206	.0344	.0980	-.0168	.0215	0.
.1100	0.	0.	0.	0.	0.	0.	0.	0.	-.0243	.0195	.0370	.0953	-.0162	.0271	0.
.1110	0.	0.	0.	0.	0.	0.	0.	0.	-.0274	.0184	.0387	.0888	-.0151	.0321	0.
.1120	0.	0.	0.	0.	0.	0.	0.	0.	-.0298	.0174	.0394	.0783	-.0140	.0368	0.
.1130	0.	0.	0.	0.	0.	0.	0.	0.	-.0313	.0164	.0392	.0644	-.0139	.0398	0.

ADLPIPE PAGE 2617

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.45.

S/RV PIPING KEWAUNEE CRKCOFF 2 RUP DISK  
2 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	66	MEMBER	2	SEQUENCE	832	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)		
.1140	0.	0.	0.	0.	0.	0.	-.0320	.0155	.0380	.0486	-.0158	.0412	0.		
.1150	0.	0.	0.	0.	0.	0.	-.0316	.0148	.0360	.0333	-.0201	.0428	0.		
.1160	0.	0.	0.	0.	0.	0.	-.0302	.0142	.0333	.0193	-.0266	.0440	0.		
.1170	0.	0.	0.	0.	0.	0.	-.0276	.0138	.0300	.0060	-.0335	.0422	0.		
.1180	0.	0.	0.	0.	0.	0.	-.0239	.0134	.0262	-.0073	-.0388	.0363	0.		
.1190	0.	0.	0.	0.	0.	0.	-.0191	.0132	.0221	-.0201	-.0407	.0291	0.		
.1200	0.	0.	0.	0.	0.	0.	-.0133	.0129	.0177	-.0321	-.0379	.0234	0.		
.1210	0.	0.	0.	0.	0.	0.	-.0066	.0125	.0133	-.0434	-.0303	.0197	0.		
.1220	0.	0.	0.	0.	0.	0.	.0008	.0122	.0090	-.0548	-.0194	.0161	0.		
.1230	0.	0.	0.	0.	0.	0.	.0089	.0121	.0048	-.0658	-.0083	.0086	0.		
.1240	0.	0.	0.	0.	0.	0.	.0176	.0120	.0009	-.0742	-.0002	-.0041	0.		
.1250	0.	0.	0.	0.	0.	0.	.0266	.0122	-.0026	-.0773	.0035	-.0201	0.		
.1260	0.	0.	0.	0.	0.	0.	.0356	.0124	-.0055	-.0753	.0027	-.0375	0.		
.1270	0.	0.	0.	0.	0.	0.	.0446	.0128	-.0079	-.0628	-.0013	-.0556	0.		
.1280	0.	0.	0.	0.	0.	0.	.0532	.0132	-.0098	-.0482	-.0055	-.0739	0.		
.1290	0.	0.	0.	0.	0.	0.	.0614	.0137	-.0111	-.0336	-.0065	-.0905	0.		
.1300	0.	0.	0.	0.	0.	0.	.0688	.0144	-.0119	-.0225	-.0026	-.1058	0.		
.1310	0.	0.	0.	0.	0.	0.	.0753	.0152	-.0123	-.0165	.0049	-.1219	0.		
.1320	0.	0.	0.	0.	0.	0.	.0808	.0161	-.0123	-.0136	.0132	-.1373	0.		
.1330	0.	0.	0.	0.	0.	0.	.0851	.0172	-.0119	-.0105	.0200	-.1473	0.		
.1340	0.	0.	0.	0.	0.	0.	.0879	.0185	-.0112	-.0047	.0226	-.1516	0.		
.1350	0.	0.	0.	0.	0.	0.	.0892	.0201	-.0101	.0039	.0196	-.1545	0.		
.1360	0.	0.	0.	0.	0.	0.	.0892	.0220	-.0088	.0143	.0118	-.1581	0.		
.1370	0.	0.	0.	0.	0.	0.	.0876	.0242	-.0073	.0248	.0025	-.1597	0.		
.1380	0.	0.	0.	0.	0.	0.	.0844	.0266	-.0055	.0336	-.0055	-.1576	0.		
.1390	0.	0.	0.	0.	0.	0.	.0799	.0292	-.0037	.0393	-.0106	-.1516	0.		
.1400	0.	0.	0.	0.	0.	0.	.0740	.0317	-.0018	.0422	-.0123	-.1387	0.		
.1410	0.	0.	0.	0.	0.	0.	.0670	.0342	.0001	.0424	-.0107	-.1157	0.		
.1420	0.	0.	0.	0.	0.	0.	.0591	.0366	.0020	.0394	-.0075	-.0865	0.		
.1430	0.	0.	0.	0.	0.	0.	.0505	.0391	.0038	.0326	-.0056	-.0606	0.		
.1440	0.	0.	0.	0.	0.	0.	.0417	.0416	.0055	.0249	-.0067	-.0399	0.		
.1450	0.	0.	0.	0.	0.	0.	.0328	.0438	.0073	.0208	-.0108	-.0175	0.		
.1460	0.	0.	0.	0.	0.	0.	.0240	.0458	.0091	.0223	-.0169	.0096	0.		
.1470	0.	0.	0.	0.	0.	0.	.0157	.0474	.0108	.0263	-.0239	.0350	0.		
.1480	0.	0.	0.	0.	0.	0.	.0081	.0487	.0125	.0285	-.0299	.0522	0.		
.1490	0.	0.	0.	0.	0.	0.	.0013	.0495	.0141	.0270	-.0329	.0638	0.		
.1500	0.	0.	0.	0.	0.	0.	-.0044	.0498	.0156	.0229	-.0319	.0756	0.		
.1510	0.	0.	0.	0.	0.	0.	-.0091	.0493	.0170	.0173	-.0281	.0873	0.		

ADLPIPE PAGE 2618

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.45.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

.1410	0.	0.	0.	0.	0.	0.	0.	.670	.0342	.0001	.0424	-.0107	-.1157	0.
.1420	0.	0.	0.	0.	0.	0.	0.	.0591	.0366	.0020	.0394	-.0075	-.0865	0.
.1430	0.	0.	0.	0.	0.	0.	0.	.0505	.0391	.0038	.0326	-.0056	-.0606	0.
.1440	0.	0.	0.	0.	0.	0.	0.	.0417	.0416	.0055	.0249	-.0067	-.0399	0.
.1450	0.	0.	0.	0.	0.	0.	0.	.0328	.0438	.0073	.0208	-.0108	-.0175	0.
.1460	0.	0.	0.	0.	0.	0.	0.	.0240	.0458	.0091	.0223	-.0169	.0096	0.
.1470	0.	0.	0.	0.	0.	0.	0.	.0157	.0474	.0108	.0263	-.0239	.0350	0.
.1480	0.	0.	0.	0.	0.	0.	0.	.0081	.0487	.0125	.0285	-.0299	.0522	0.
.1490	0.	0.	0.	0.	0.	0.	0.	.0013	.0495	.0141	.0270	-.0329	.0638	0.
.1500	0.	0.	0.	0.	0.	0.	0.	-.0044	.0498	.0156	.0229	-.0319	.0756	0.
.1510	0.	0.	0.	0.	0.	0.	0.	-.0091	.0493	.0170	.0173	-.0281	.0873	0.

ADLPIPE PAGE 2610

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.45.

S/RV PIPING KEWAUNEE CKWOPF 2 RUP DISK  
2 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	66	MEMBER	2	SEQUENCE	872	LOCATION	DJS	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)		
.1520	0.	0.	0.	0.	0.	0.	-.0125	.0482	.0183	.0112	-.0230	.0958	0.		
.1530	0.	0.	0.	0.	0.	0.	-.0149	.0464	.0194	.0053	-.0176	.0996	0.		
.1540	0.	0.	0.	0.	0.	0.	-.0160	.0439	.0205	.0008	-.0130	.0973	0.		
.1550	0.	0.	0.	0.	0.	0.	-.0161	.0408	.0215	-.0011	-.0103	.0869	0.		
.1560	0.	0.	0.	0.	0.	0.	-.0151	.0370	.0224	.0006	-.0094	.0696	0.		
.1570	0.	0.	0.	0.	0.	0.	-.0133	.0325	.0230	.0056	-.0088	.0508	0.		
.1580	0.	0.	0.	0.	0.	0.	-.0108	.0272	.0234	.0110	-.0066	.0310	0.		
.1590	0.	0.	0.	0.	0.	0.	-.0079	.0213	.0235	.0153	-.0025	.0063	0.		
.1600	0.	0.	0.	0.	0.	0.	-.0048	.0147	.0231	.0115	.0033	-.0224	0.		
.1610	0.	0.	0.	0.	0.	0.	-.0016	.0076	.0222	.0070	.0111	-.0489	0.		
.1620	0.	0.	0.	0.	0.	0.	.0013	.0001	.0209	.0010	.0203	-.0711	0.		
.1630	0.	0.	0.	0.	0.	0.	.0037	-.0077	.0192	-.0062	.0291	-.0935	0.		
.1640	0.	0.	0.	0.	0.	0.	.0056	-.0155	.0170	-.0155	.0363	-.1176	0.		
.1650	0.	0.	0.	0.	0.	0.	.0066	-.0232	.0143	-.0189	.0421	-.1381	0.		
.1660	0.	0.	0.	0.	0.	0.	.0067	-.0304	.0113	-.0220	.0463	-.1513	0.		
.1670	0.	0.	0.	0.	0.	0.	.0057	-.0370	.0079	-.0251	.0491	-.1608	0.		
.1680	0.	0.	0.	0.	0.	0.	.0038	-.0428	.0041	-.0304	.0497	-.1696	0.		
.1690	0.	0.	0.	0.	0.	0.	.0007	-.0474	-.0000	-.0379	.0484	-.1743	0.		
.1700	0.	0.	0.	0.	0.	0.	-.0033	-.0507	-.0043	-.0459	.0454	-.1703	0.		
.1710	0.	0.	0.	0.	0.	0.	-.0082	-.0527	-.0088	-.0533	.0403	-.1583	0.		
.1720	0.	0.	0.	0.	0.	0.	-.0139	-.0530	-.0132	-.0600	.0331	-.1419	0.		
.1730	0.	0.	0.	0.	0.	0.	-.0201	-.0518	-.0176	-.0655	.0248	-.1215	0.		
.1740	0.	0.	0.	0.	0.	0.	-.0265	-.0488	-.0217	-.0694	.0164	-.0971	0.		
.1750	0.	0.	0.	0.	0.	0.	-.0330	-.0442	-.0254	-.0718	.0085	-.0703	0.		
.1760	0.	0.	0.	0.	0.	0.	-.0392	-.0381	-.0287	-.0726	.0013	-.0423	0.		
.1770	0.	0.	0.	0.	0.	0.	-.0450	-.0307	-.0314	-.0720	-.0048	-.0122	0.		
.1780	0.	0.	0.	0.	0.	0.	-.0502	-.0223	-.0335	-.0700	-.0092	.0208	0.		
.1790	0.	0.	0.	0.	0.	0.	-.0545	-.0130	-.0349	-.0674	-.0123	.0538	0.		
.1800	0.	0.	0.	0.	0.	0.	-.0577	-.0033	-.0356	-.0642	-.0144	.0834	0.		
.1810	0.	0.	0.	0.	0.	0.	-.0598	.0066	-.0355	-.0596	-.0153	.1093	0.		
.1820	0.	0.	0.	0.	0.	0.	-.0608	.0163	-.0345	-.0525	-.0145	.1312	0.		
.1830	0.	0.	0.	0.	0.	0.	-.0605	.0254	-.0327	-.0425	-.0121	.1474	0.		
.1840	0.	0.	0.	0.	0.	0.	-.0591	.0334	-.0301	-.0294	-.0084	.1562	0.		
.1850	0.	0.	0.	0.	0.	0.	-.0566	.0400	-.0268	-.0137	-.0030	.1590	0.		
.1860	0.	0.	0.	0.	0.	0.	-.0533	.0449	-.0229	.0035	.0039	.1570	0.		
.1870	0.	0.	0.	0.	0.	0.	-.0492	.0479	-.0187	.0201	.0117	.1483	0.		
.1880	0.	0.	0.	0.	0.	0.	-.0446	.0486	-.0142	.0350	.0193	.1319	0.		
.1890	0.	0.	0.	0.	0.	0.	-.0397	.0471	-.0097	.0485	.0266	.1102	0.		

ADLPIPE PAGE 2610

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.45.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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



.1790	0.	0.	0.	0.	0.	0.	0.	-.0545	-.0130	-.0349	-.0674	-.0125	.0538	0.
.1800	0.	0.	0.	0.	0.	0.	0.	-.0577	-.0033	-.0356	-.0642	-.0144	.0834	0.
.1810	0.	0.	0.	0.	0.	0.	0.	-.0598	.0066	-.0355	-.0596	-.0153	.1093	0.
.1820	0.	0.	0.	0.	0.	0.	0.	-.0608	.0163	-.0345	-.0525	-.0145	.1312	0.
.1830	0.	0.	0.	0.	0.	0.	0.	-.0605	.0254	-.0327	-.0425	-.0121	.1474	0.
.1840	0.	0.	0.	0.	0.	0.	0.	-.0591	.0334	-.0301	-.0294	-.0084	.1562	0.
.1850	0.	0.	0.	0.	0.	0.	0.	-.0566	.0400	-.0268	-.0157	-.0030	.1590	0.
.1860	0.	0.	0.	0.	0.	0.	0.	-.0535	.0449	-.0229	.0035	.0039	.1570	0.
.1870	0.	0.	0.	0.	0.	0.	0.	-.0492	.0479	-.0187	.0201	.0117	.1483	0.
.1880	0.	0.	0.	0.	0.	0.	0.	-.0446	.0486	-.0142	.0350	.0195	.1319	0.
.1890	0.	0.	0.	0.	0.	0.	0.	-.0397	.0471	-.0097	.0485	.0266	.1102	0.

ADLPIPE PAGE 2619

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.45.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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

SECTION	MEMBER	SEQUENCE	LOCATION	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)
.1900	0.	0.	0.	0.	0.	0.	-.0349	.0433	-.0054	.0611	.0529	.0862	0.
.1910	0.	0.	0.	0.	0.	0.	-.0303	.0372	-.0013	.0726	.0585	.0600	0.
.1920	0.	0.	0.	0.	0.	0.	-.0262	.0290	.0022	.0821	.0428	.0305	0.
.1930	0.	0.	0.	0.	0.	0.	-.0228	.0191	.0051	.0888	.0469	-.0004	0.
.1940	0.	0.	0.	0.	0.	0.	-.0203	.0077	.0072	.0919	.0514	-.0295	0.
.1950	0.	0.	0.	0.	0.	0.	-.0189	-.0047	.0084	.0900	.0561	-.0559	0.
.1960	0.	0.	0.	0.	0.	0.	-.0186	-.0177	.0086	.0818	.0599	-.0803	0.
.1970	0.	0.	0.	0.	0.	0.	-.0194	-.0307	.0077	.0677	.0620	-.1011	0.
.1980	0.	0.	0.	0.	0.	0.	-.0215	-.0432	.0058	.0490	.0612	-.1154	0.
.1990	0.	0.	0.	0.	0.	0.	-.0248	-.0549	.0029	.0271	.0567	-.1229	0.
.2000	0.	0.	0.	0.	0.	0.	-.0290	-.0651	-.0007	.0029	.0485	-.1254	0.
.2010	0.	0.	0.	0.	0.	0.	-.0341	-.0736	-.0050	-.0230	.0368	-.1238	0.
.2020	0.	0.	0.	0.	0.	0.	-.0398	-.0800	-.0096	-.0493	.0238	-.1165	0.
.2030	0.	0.	0.	0.	0.	0.	-.0460	-.0841	-.0145	-.0753	.0109	-.1023	0.
.2040	0.	0.	0.	0.	0.	0.	-.0522	-.0859	-.0193	-.1010	-.0005	-.0819	0.
.2050	0.	0.	0.	0.	0.	0.	-.0584	-.0853	-.0238	-.1267	-.0100	-.0569	0.
.2060	0.	0.	0.	0.	0.	0.	-.0641	-.0825	-.0277	-.1520	-.0175	-.0285	0.
.2070	0.	0.	0.	0.	0.	0.	-.0691	-.0774	-.0308	-.1753	-.0232	.0019	0.
.2080	0.	0.	0.	0.	0.	0.	-.0731	-.0705	-.0328	-.1943	-.0286	.0326	0.
.2090	0.	0.	0.	0.	0.	0.	-.0760	-.0619	-.0336	-.2064	-.0345	.0625	0.
.2100	0.	0.	0.	0.	0.	0.	-.0776	-.0521	-.0330	-.2100	-.0402	.0902	0.
.2110	0.	0.	0.	0.	0.	0.	-.0778	-.0414	-.0308	-.2046	-.0457	.1135	0.
.2120	0.	0.	0.	0.	0.	0.	-.0765	-.0303	-.0271	-.1909	-.0499	.1305	0.
.2130	0.	0.	0.	0.	0.	0.	-.0737	-.0192	-.0219	-.1697	-.0516	.1416	0.
.2140	0.	0.	0.	0.	0.	0.	-.0696	-.0086	-.0154	-.1421	-.0500	.1485	0.
.2150	0.	0.	0.	0.	0.	0.	-.0643	.0012	-.0077	-.1099	-.0445	.1517	0.
.2160	0.	0.	0.	0.	0.	0.	-.0580	.0098	.0010	-.0746	-.0358	.1503	0.
.2170	0.	0.	0.	0.	0.	0.	-.0508	.0170	.0102	-.0373	-.0248	.1440	0.
.2180	0.	0.	0.	0.	0.	0.	-.0429	.0226	.0198	.0018	-.0127	.1338	0.
.2190	0.	0.	0.	0.	0.	0.	-.0347	.0266	.0292	.0422	-.0006	.1199	0.
.2200	0.	0.	0.	0.	0.	0.	-.0264	.0288	.0383	.0831	.0103	.1020	0.
.2210	0.	0.	0.	0.	0.	0.	-.0182	.0295	.0466	.1229	.0198	.0805	0.
.2220	0.	0.	0.	0.	0.	0.	-.0104	.0285	.0538	.1601	.0278	.0579	0.
.2230	0.	0.	0.	0.	0.	0.	-.0032	.0261	.0595	.1923	.0348	.0368	0.
.2240	0.	0.	0.	0.	0.	0.	.0032	.0226	.0635	.2166	.0409	.0176	0.
.2250	0.	0.	0.	0.	0.	0.	.0086	.0181	.0656	.2308	.0459	.0001	0.
.2260	0.	0.	0.	0.	0.	0.	.0130	.0129	.0656	.2341	.0494	-.0145	0.
.2270	0.	0.	0.	0.	0.	0.	.0163	.0074	.0635	.2274	.0505	-.0248	0.

ADLPIPE PAGE 2620

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.45.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

INTERNAL FORCES IN THE PIPING

.2170	0.	0.	0.	0.	0.	0.	0.	-.508	.0170	.0102	-.0373	-.0248	.1440	0.
.2180	0.	0.	0.	0.	0.	0.	0.	-.0429	.0226	.0198	.0018	-.0127	.1338	0.
.2190	0.	0.	0.	0.	0.	0.	0.	-.0347	.0266	.0292	.0422	-.0006	.1199	0.
.2200	0.	0.	0.	0.	0.	0.	0.	-.0264	.0288	.0383	.0831	.0103	.1020	0.
.2210	0.	0.	0.	0.	0.	0.	0.	-.0182	.0295	.0466	.1229	.0198	.0805	0.
.2220	0.	0.	0.	0.	0.	0.	0.	-.0104	.0285	.0538	.1601	.0278	.0579	0.
.2230	0.	0.	0.	0.	0.	0.	0.	-.0032	.0261	.0595	.1923	.0348	.0368	0.
.2240	0.	0.	0.	0.	0.	0.	0.	.0032	.0226	.0635	.2166	.0409	.0176	0.
.2250	0.	0.	0.	0.	0.	0.	0.	.0086	.0181	.0656	.2308	.0459	.0001	0.
.2260	0.	0.	0.	0.	0.	0.	0.	.0120	.0129	.0656	.2341	.0494	-.0145	0.
.2270	0.	0.	0.	0.	0.	0.	0.	.0163	.0074	.0635	.2274	.0505	-.0248	0.

ADLPIPE PAGE 2620

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.45.

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							STRESS
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)	(PSI)
.2280	0.	0.	0.	0.	0.	0.	.0184	.0018	.0594	.2124	.0484	-.0302	0.
.2290	0.	0.	0.	0.	0.	0.	.0195	-.0037	.0534	.1905	.0424	-.0316	0.
.2300	0.	0.	0.	0.	0.	0.	.0196	-.0088	.0457	.1628	.0328	-.0298	0.
.2310	0.	0.	0.	0.	0.	0.	.0189	-.0133	.0367	.1299	.0202	-.0255	0.
.2320	0.	0.	0.	0.	0.	0.	.0176	-.0170	.0267	.0926	.0058	-.0187	0.
.2330	0.	0.	0.	0.	0.	0.	.0160	-.0200	.0160	.0516	-.0094	-.0095	0.
.2340	0.	0.	0.	0.	0.	0.	.0142	-.0221	.0050	.0079	-.0239	.0023	0.
.2350	0.	0.	0.	0.	0.	0.	.0125	-.0234	-.0059	-.0371	-.0370	.0159	0.
.2360	0.	0.	0.	0.	0.	0.	.0111	-.0259	-.0161	-.0816	-.0478	.0299	0.
.2370	0.	0.	0.	0.	0.	0.	.0103	-.0257	-.0255	-.1232	-.0563	.0428	0.
.2380	0.	0.	0.	0.	0.	0.	.0103	-.0229	-.0334	-.1592	-.0621	.0536	0.
.2390	0.	0.	0.	0.	0.	0.	.0112	-.0215	-.0397	-.1875	-.0653	.0611	0.
.2400	0.	0.	0.	0.	0.	0.	.0131	-.0197	-.0442	-.2068	-.0659	.0639	0.
.2410	0.	0.	0.	0.	0.	0.	.0161	-.0176	-.0466	-.2164	-.0638	.0611	0.
.2420	0.	0.	0.	0.	0.	0.	.0201	-.0154	-.0468	-.2163	-.0592	.0532	0.
.2430	0.	0.	0.	0.	0.	0.	.0251	-.0130	-.0451	-.2070	-.0520	.0411	0.
.2440	0.	0.	0.	0.	0.	0.	.0308	-.0108	-.0413	-.1896	-.0424	.0250	0.
.2450	0.	0.	0.	0.	0.	0.	.0371	-.0086	-.0358	-.1654	-.0305	.0047	0.
.2460	0.	0.	0.	0.	0.	0.	.0436	-.0065	-.0288	-.1352	-.0170	-.0190	0.
.2470	0.	0.	0.	0.	0.	0.	.0502	-.0047	-.0206	-.0998	-.0024	-.0448	0.
.2480	0.	0.	0.	0.	0.	0.	.0565	-.0029	-.0115	-.0599	.0127	-.0711	0.
.2490	0.	0.	0.	0.	0.	0.	.0621	-.0014	-.0020	-.0168	.0275	-.0968	0.
.2500	0.	0.	0.	0.	0.	0.	.0669	.0002	.0076	.0271	.0412	-.1210	0.
.2510	0.	0.	0.	0.	0.	0.	.0705	.0017	.0168	.0695	.0533	-.1427	0.
.2520	0.	0.	0.	0.	0.	0.	.0727	.0033	.0253	.1081	.0630	-.1606	0.
.2530	0.	0.	0.	0.	0.	0.	.0733	.0050	.0326	.1413	.0699	-.1720	0.
.2540	0.	0.	0.	0.	0.	0.	.0724	.0069	.0385	.1680	.0736	-.1781	0.
.2550	0.	0.	0.	0.	0.	0.	.0697	.0091	.0428	.1871	.0740	-.1755	0.
.2560	0.	0.	0.	0.	0.	0.	.0654	.0116	.0452	.1979	.0710	-.1661	0.
.2570	0.	0.	0.	0.	0.	0.	.0597	.0145	.0458	.2002	.0648	-.1510	0.
.2580	0.	0.	0.	0.	0.	0.	.0527	.0178	.0445	.1947	.0556	-.1303	0.
.2590	0.	0.	0.	0.	0.	0.	.0447	.0214	.0414	.1821	.0438	-.1040	0.
.2600	0.	0.	0.	0.	0.	0.	.0361	.0252	.0367	.1633	.0298	-.0728	0.
.2610	0.	0.	0.	0.	0.	0.	.0272	.0292	.0306	.1386	.0141	-.0384	0.
.2620	0.	0.	0.	0.	0.	0.	.0184	.0333	.0234	.1087	-.0027	-.0029	0.
.2630	0.	0.	0.	0.	0.	0.	.0101	.0373	.0154	.0750	-.0198	.0325	0.
.2640	0.	0.	0.	0.	0.	0.	.0027	.0411	.0070	.0395	-.0366	.0669	0.
.2650	0.	0.	0.	0.	0.	0.	-.0034	.0444	-.0016	.0044	-.0523	.0985	0.

ADLPIPE PAGE 2621

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.45.

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



.2540	0.	0.	0.	0.	0.	0.	0.	0.	.0724	.0069	.0385	.1680	.0736	-.1781	0.
.2550	0.	0.	0.	0.	0.	0.	0.	0.	.0697	.0091	.0428	.1871	.0740	-.1755	0.
.2560	0.	0.	0.	0.	0.	0.	0.	0.	.0654	.0116	.0452	.1979	.0710	-.1661	0.
.2570	0.	0.	0.	0.	0.	0.	0.	0.	.0597	.0145	.0458	.2002	.0648	-.1510	0.
.2580	0.	0.	0.	0.	0.	0.	0.	0.	.0527	.0178	.0445	.1947	.0556	-.1303	0.
.2590	0.	0.	0.	0.	0.	0.	0.	0.	.0447	.0214	.0414	.1821	.0438	-.1040	0.
.2600	0.	0.	0.	0.	0.	0.	0.	0.	.0361	.0252	.0367	.1633	.0298	-.0728	0.
.2610	0.	0.	0.	0.	0.	0.	0.	0.	.0272	.0292	.0306	.1386	.0141	-.0384	0.
.2620	0.	0.	0.	0.	0.	0.	0.	0.	.0184	.0333	.0234	.1087	-.0027	-.0029	0.
.2630	0.	0.	0.	0.	0.	0.	0.	0.	.0101	.0373	.0154	.0750	-.0198	.0325	0.
.2640	0.	0.	0.	0.	0.	0.	0.	0.	.0027	.0411	.0070	.0395	-.0366	.0669	0.
.2650	0.	0.	0.	0.	0.	0.	0.	0.	-.0034	.0444	-.0016	.0044	-.0523	.0985	0.

ADLPIPE PAGE 2621

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.45.

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	66	MEMBER	2	SEQUENCE	832	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)	
.2660	0.	0.	0.	0.	0.	0.	0.	-.0080	.0471	-.0098	-.0285	-.0660	.1255	0.	
.2670	0.	0.	0.	0.	0.	0.	0.	-.0107	.0490	-.0174	-.0574	-.0772	.1462	0.	
.2680	0.	0.	0.	0.	0.	0.	0.	-.0113	.0500	-.0240	-.0807	-.0852	.1598	0.	
.2690	0.	0.	0.	0.	0.	0.	0.	-.0099	.0501	-.0295	-.0973	-.0897	.1659	0.	
.2700	0.	0.	0.	0.	0.	0.	0.	-.0062	.0491	-.0335	-.1071	-.0905	.1643	0.	
.2710	0.	0.	0.	0.	0.	0.	0.	-.0006	.0470	-.0362	-.1100	-.0877	.1546	0.	
.2720	0.	0.	0.	0.	0.	0.	0.	.0070	.0438	-.0373	-.1063	-.0815	.1369	0.	
.2730	0.	0.	0.	0.	0.	0.	0.	.0163	.0396	-.0370	-.0959	-.0723	.1127	0.	
.2740	0.	0.	0.	0.	0.	0.	0.	.0268	.0346	-.0353	-.0790	-.0605	.0834	0.	
.2750	0.	0.	0.	0.	0.	0.	0.	.0383	.0290	-.0323	-.0565	-.0467	.0495	0.	
.2760	0.	0.	0.	0.	0.	0.	0.	.0504	.0229	-.0284	-.0297	-.0316	.0113	0.	
.2770	0.	0.	0.	0.	0.	0.	0.	.0625	.0165	-.0237	-.0003	-.0157	-.0295	0.	
.2780	0.	0.	0.	0.	0.	0.	0.	.0742	.0103	-.0185	.0323	.0002	-.0698	0.	
.2790	0.	0.	0.	0.	0.	0.	0.	.0851	.0043	-.0132	.0646	.0154	-.1071	0.	
.2800	0.	0.	0.	0.	0.	0.	0.	.0946	-.0011	-.0080	.0948	.0295	-.1406	0.	
.2810	0.	0.	0.	0.	0.	0.	0.	.1026	-.0056	-.0032	.1207	.0416	-.1701	0.	
.2820	0.	0.	0.	0.	0.	0.	0.	.1085	-.0092	.0009	.1411	.0512	-.1937	0.	
.2830	0.	0.	0.	0.	0.	0.	0.	.1122	-.0115	.0041	.1558	.0578	-.2093	0.	
.2840	0.	0.	0.	0.	0.	0.	0.	.1135	-.0126	.0064	.1643	.0610	-.2161	0.	
.2850	0.	0.	0.	0.	0.	0.	0.	.1123	-.0123	.0076	.1664	.0605	-.2155	0.	
.2860	0.	0.	0.	0.	0.	0.	0.	.1086	-.0107	.0078	.1620	.0562	-.2081	0.	
.2870	0.	0.	0.	0.	0.	0.	0.	.1025	-.0078	.0069	.1519	.0482	-.1931	0.	
.2880	0.	0.	0.	0.	0.	0.	0.	.0941	-.0038	.0051	.1368	.0373	-.1698	0.	
.2890	0.	0.	0.	0.	0.	0.	0.	.0837	.0011	.0027	.1169	.0242	-.1397	0.	
.2900	0.	0.	0.	0.	0.	0.	0.	.0716	.0067	-.0004	.0924	.0094	-.1051	0.	
.2910	0.	0.	0.	0.	0.	0.	0.	.0582	.0128	-.0037	.0642	-.0059	-.0671	0.	
.2920	0.	0.	0.	0.	0.	0.	0.	.0438	.0190	-.0070	.0345	-.0211	-.0258	0.	
.2930	0.	0.	0.	0.	0.	0.	0.	.0289	.0251	-.0101	.0051	-.0355	.0174	0.	
.2940	0.	0.	0.	0.	0.	0.	0.	.0139	.0309	-.0126	-.0228	-.0489	.0593	0.	
.2950	0.	0.	0.	0.	0.	0.	0.	-.0007	.0360	-.0144	-.0475	-.0609	.0974	0.	
.2960	0.	0.	0.	0.	0.	0.	0.	-.0145	.0404	-.0153	-.0677	-.0714	.1306	0.	
.2970	0.	0.	0.	0.	0.	0.	0.	-.0272	.0439	-.0150	-.0820	-.0800	.1586	0.	
.2980	0.	0.	0.	0.	0.	0.	0.	-.0385	.0462	-.0136	-.0899	-.0866	.1803	0.	
.2990	0.	0.	0.	0.	0.	0.	0.	-.0480	.0474	-.0110	-.0918	-.0906	.1948	0.	
.3000	0.	0.	0.	0.	0.	0.	0.	-.0556	.0475	-.0073	-.0885	-.0917	.2012	0.	
.3010	0.	0.	0.	0.	0.	0.	0.	-.0612	.0465	-.0026	-.0804	-.0895	.1999	0.	
.3020	0.	0.	0.	0.	0.	0.	0.	-.0647	.0445	.0030	-.0676	-.0841	.1916	0.	
.3030	0.	0.	0.	0.	0.	0.	0.	-.0663	.0416	.0093	-.0509	-.0757	.1773	0.	

ADLPIPE PAGE 2622

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.45.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

.2930	0.	0.	0.	0.	0.	0.	0.	0.0289	.0251	-.0101	.0051	-.0355	.0174	0.
.2940	0.	0.	0.	0.	0.	0.	0.	.1139	.0309	-.0126	-.0228	-.0489	.0593	0.
.2950	0.	0.	0.	0.	0.	0.	0.	-.0007	.0360	-.0144	-.0475	-.0609	.0974	0.
.2960	0.	0.	0.	0.	0.	0.	0.	-.0145	.0404	-.0153	-.0677	-.0714	.1306	0.
.2970	0.	0.	0.	0.	0.	0.	0.	-.0272	.0439	-.0150	-.0820	-.0800	.1586	0.
.2980	0.	0.	0.	0.	0.	0.	0.	-.0385	.0462	-.0136	-.0899	-.0866	.1803	0.
.2990	0.	0.	0.	0.	0.	0.	0.	-.0480	.0474	-.0110	-.0918	-.0906	.1948	0.
.3000	0.	0.	0.	0.	0.	0.	0.	-.0556	.0475	-.0073	-.0885	-.0917	.2012	0.
.3010	0.	0.	0.	0.	0.	0.	0.	-.0612	.0465	-.0026	-.0804	-.0895	.1999	0.
.3020	0.	0.	0.	0.	0.	0.	0.	-.0647	.0445	.0030	-.0676	-.0841	.1916	0.
.3030	0.	0.	0.	0.	0.	0.	0.	-.0663	.0416	.0093	-.0509	-.0757	.1773	0.

ADLPIPE PAGE 2622

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.29.45.

S/RV PIPING KEWAUNEE GKWOEF 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	66	MEMBER	2	SEQUENCE	832	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)			
.3040	0.	0.	0.	0.	0.	0.	0.	-.0659	.0379	.0159	-.0310	-.0647	.1574	0.			
.3050	0.	0.	0.	0.	0.	0.	0.	-.0638	.0337	.0226	-.0092	-.0518	.1521	0.			
.3060	0.	0.	0.	0.	0.	0.	0.	-.0601	.0291	.0292	.0132	-.0377	.1023	0.			
.3070	0.	0.	0.	0.	0.	0.	0.	-.0553	.0244	.0352	.0354	-.0231	.0703	0.			
.3080	0.	0.	0.	0.	0.	0.	0.	-.0495	.0197	.0404	.0558	-.0086	.0381	0.			
.3090	0.	0.	0.	0.	0.	0.	0.	-.0430	.0152	.0445	.0727	.0055	.0062	0.			
.3100	0.	0.	0.	0.	0.	0.	0.	-.0363	.0110	.0473	.0846	.0186	-.0251	0.			
.3110	0.	0.	0.	0.	0.	0.	0.	-.0295	.0073	.0486	.0909	.0303	-.0542	0.			
.3120	0.	0.	0.	0.	0.	0.	0.	-.0230	.0040	.0482	.0917	.0403	-.0788	0.			
.3130	0.	0.	0.	0.	0.	0.	0.	-.0171	.0012	.0463	.0870	.0483	-.0981	0.			
.3140	0.	0.	0.	0.	0.	0.	0.	-.0119	-.0010	.0427	.0764	.0538	-.1133	0.			
.3150	0.	0.	0.	0.	0.	0.	0.	-.0075	-.0027	.0375	.0602	.0565	-.1247	0.			
.3160	0.	0.	0.	0.	0.	0.	0.	-.0042	-.0039	.0310	.0394	.0563	-.1312	0.			
.3170	0.	0.	0.	0.	0.	0.	0.	-.0019	-.0049	.0232	.0150	.0535	-.1318	0.			
.3180	0.	0.	0.	0.	0.	0.	0.	-.0006	-.0055	.0145	-.0127	.0481	-.1273	0.			
.3190	0.	0.	0.	0.	0.	0.	0.	-.0004	-.0059	.0052	-.042	.0407	-.1193	0.			
.3200	0.	0.	0.	0.	0.	0.	0.	-.0010	-.0062	-.0045	-.0733	.0317	-.1085	0.			
.3210	0.	0.	0.	0.	0.	0.	0.	-.0024	-.0065	-.0142	-.1042	.0219	-.0950	0.			
.3220	0.	0.	0.	0.	0.	0.	0.	-.0044	-.0067	-.0235	-.1331	.0116	-.0790	0.			
.3230	0.	0.	0.	0.	0.	0.	0.	-.0068	-.0070	-.0322	-.1588	.0014	-.0617	0.			
.3240	0.	0.	0.	0.	0.	0.	0.	-.0095	-.0074	-.0399	-.1803	-.0081	-.0445	0.			
.3250	0.	0.	0.	0.	0.	0.	0.	-.0121	-.0078	-.0464	-.1970	-.0166	-.0284	0.			
.3260	0.	0.	0.	0.	0.	0.	0.	-.0146	-.0082	-.0515	-.2082	-.0237	-.0136	0.			
.3270	0.	0.	0.	0.	0.	0.	0.	-.0168	-.0087	-.0550	-.2132	-.0290	-.0002	0.			
.3280	0.	0.	0.	0.	0.	0.	0.	-.0185	-.0091	-.0569	-.2120	-.0321	.0117	0.			
.3290	0.	0.	0.	0.	0.	0.	0.	-.0197	-.0094	-.0571	-.2049	-.0330	.0211	0.			
.3300	0.	0.	0.	0.	0.	0.	0.	-.0202	-.0096	-.0556	-.1924	-.0316	.0274	0.			
.3310	0.	0.	0.	0.	0.	0.	0.	-.0201	-.0097	-.0527	-.1746	-.0281	.0309	0.			
.3320	0.	0.	0.	0.	0.	0.	0.	-.0194	-.0096	-.0483	-.1517	-.0226	.0325	0.			
.3330	0.	0.	0.	0.	0.	0.	0.	-.0181	-.0093	-.0427	-.1247	-.0154	.0325	0.			
.3340	0.	0.	0.	0.	0.	0.	0.	-.0163	-.0089	-.0361	-.0949	-.0069	.0300	0.			
.3350	0.	0.	0.	0.	0.	0.	0.	-.0142	-.0084	-.0289	-.0636	.0024	.0253	0.			
.3360	0.	0.	0.	0.	0.	0.	0.	-.0119	-.0078	-.0212	-.0317	.0122	.0199	0.			
.3370	0.	0.	0.	0.	0.	0.	0.	-.0095	-.0073	-.0134	-.0001	.0221	.0153	0.			
.3380	0.	0.	0.	0.	0.	0.	0.	-.0074	-.0068	-.0058	.0298	.0315	.0113	0.			
.3390	0.	0.	0.	0.	0.	0.	0.	-.0055	-.0066	.0013	.0568	.0399	.0075	0.			
.3400	0.	0.	0.	0.	0.	0.	0.	-.0041	-.0066	.0078	.0800	.0469	.0044	0.			
.3410	0.	0.	0.	0.	0.	0.	0.	-.0034	-.0071	.0133	.0994	.0522	.0034	0.			

ADLPIPE PAGE 2627

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02. 18.29.45.

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



.3310	0.	0.	0.	0.	0.	0.	0.	-.201	-.0097	-.0527	-.1746	-.0281	.0309	0.
.3320	0.	0.	0.	0.	0.	0.	0.	-.194	-.0096	-.0483	-.1517	-.0226	.0325	0.
.3330	0.	0.	0.	0.	0.	0.	0.	-.0181	-.0093	-.0427	-.1247	-.0154	.0325	0.
.3340	0.	0.	0.	0.	0.	0.	0.	-.0163	-.0089	-.0361	-.0949	-.0069	.0300	0.
.3350	0.	0.	0.	0.	0.	0.	0.	-.0142	-.0084	-.0289	-.0656	.0024	.0253	0.
.3360	0.	0.	0.	0.	0.	0.	0.	-.0119	-.0078	-.0212	-.0317	.0122	.0199	0.
.3370	0.	0.	0.	0.	0.	0.	0.	-.0095	-.0073	-.0134	-.0001	.0221	.0153	0.
.3380	0.	0.	0.	0.	0.	0.	0.	-.0074	-.0068	-.0058	.0298	.0315	.0113	0.
.3390	0.	0.	0.	0.	0.	0.	0.	-.0053	-.0066	.0013	.0568	.0399	.0075	0.
.3400	0.	0.	0.	0.	0.	0.	0.	-.0041	-.0066	.0078	.0800	.0469	.0044	0.
.3410	0.	0.	0.	0.	0.	0.	0.	-.0034	-.0071	.0133	.0994	.0522	.0034	0.

ADLPIPE PAGE 2623

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.45.

S/RV PIPING KEWAUNEE CKW08F 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	06	MEMBER	2	SEQUENCE	832	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)
.3420	0.	0.	0.	0.	0.	0.	0.	-.0033	-.0080	.0178	.1146	.0555	.0049	0.
.3430	0.	0.	0.	0.	0.	0.	0.	-.0040	-.0094	.0211	.1250	.0567	.0085	0.
.3440	0.	0.	0.	0.	0.	0.	0.	-.0055	-.0114	.0230	.1302	.0559	.0137	0.
.3450	0.	0.	0.	0.	0.	0.	0.	-.0077	-.0140	.0237	.1299	.0531	.0209	0.
.3460	0.	0.	0.	0.	0.	0.	0.	-.0107	-.0172	.0230	.1245	.0486	.0303	0.
.3470	0.	0.	0.	0.	0.	0.	0.	-.0142	-.0210	.0211	.1143	.0426	.0417	0.
.3480	0.	0.	0.	0.	0.	0.	0.	-.0181	-.0252	.0180	.0999	.0353	.0545	0.
.3490	0.	0.	0.	0.	0.	0.	0.	-.0223	-.0299	.0140	.0819	.0270	.0678	0.
.3500	0.	0.	0.	0.	0.	0.	0.	-.0265	-.0349	.0092	.0613	.0179	.0811	0.
.3510	0.	0.	0.	0.	0.	0.	0.	-.0306	-.0400	.0038	.0393	.0084	.0940	0.
.3520	0.	0.	0.	0.	0.	0.	0.	-.0344	-.0451	-.0019	.0170	-.0012	.1062	0.
.3530	0.	0.	0.	0.	0.	0.	0.	-.0376	-.0501	-.0078	-.0046	-.0104	.1174	0.
.3540	0.	0.	0.	0.	0.	0.	0.	-.0401	-.0549	-.0135	-.0250	-.0188	.1265	0.
.3550	0.	0.	0.	0.	0.	0.	0.	-.0418	-.0592	-.0189	-.0435	-.0259	.1332	0.
.3560	0.	0.	0.	0.	0.	0.	0.	-.0424	-.0629	-.0238	-.0593	-.0315	.1377	0.
.3570	0.	0.	0.	0.	0.	0.	0.	-.0420	-.0660	-.0280	-.0716	-.0353	.1403	0.
.3580	0.	0.	0.	0.	0.	0.	0.	-.0404	-.0683	-.0313	-.0800	-.0372	.1404	0.
.3590	0.	0.	0.	0.	0.	0.	0.	-.0377	-.0698	-.0337	-.0844	-.0372	.1374	0.
.3600	0.	0.	0.	0.	0.	0.	0.	-.0338	-.0704	-.0350	-.0843	-.0357	.1312	0.
.3610	0.	0.	0.	0.	0.	0.	0.	-.0290	-.0700	-.0353	-.0795	-.0326	.1228	0.
.3620	0.	0.	0.	0.	0.	0.	0.	-.0233	-.0687	-.0346	-.0700	-.0282	.1128	0.
.3630	0.	0.	0.	0.	0.	0.	0.	-.0168	-.0666	-.0329	-.0566	-.0227	.1010	0.
.3640	0.	0.	0.	0.	0.	0.	0.	-.0098	-.0637	-.0304	-.0401	-.0161	.0875	0.
.3650	0.	0.	0.	0.	0.	0.	0.	-.0024	-.0600	-.0271	-.0213	-.0087	.0730	0.
.3660	0.	0.	0.	0.	0.	0.	0.	.0051	-.0558	-.0233	-.0011	-.0007	.0585	0.
.3670	0.	0.	0.	0.	0.	0.	0.	.0124	-.0510	-.0190	.0200	.0077	.0447	0.
.3680	0.	0.	0.	0.	0.	0.	0.	.0194	-.0458	-.0146	.0408	.0160	.0317	0.
.3690	0.	0.	0.	0.	0.	0.	0.	.0259	-.0404	-.0101	.0606	.0238	.0194	0.
.3700	0.	0.	0.	0.	0.	0.	0.	.0315	-.0349	-.0058	.0786	.0307	.0082	0.
.3710	0.	0.	0.	0.	0.	0.	0.	.0363	-.0295	-.0018	.0945	.0362	-.0013	0.
.3720	0.	0.	0.	0.	0.	0.	0.	.0400	-.0242	.0017	.1075	.0400	-.0087	0.
.3730	0.	0.	0.	0.	0.	0.	0.	.0425	-.0192	.0047	.1171	.0422	-.0141	0.
.3740	0.	0.	0.	0.	0.	0.	0.	.0437	-.0146	.0069	.1224	.0426	-.0177	0.
.3750	0.	0.	0.	0.	0.	0.	0.	.0437	-.0105	.0084	.1232	.0415	-.0194	0.
.3760	0.	0.	0.	0.	0.	0.	0.	.0424	-.0071	.0092	.1194	.0391	-.0189	0.
.3770	0.	0.	0.	0.	0.	0.	0.	.0400	-.0043	.0091	.1111	.0355	-.0162	0.
.3780	0.	0.	0.	0.	0.	0.	0.	.0364	-.0023	.0084	.0986	.0311	-.0115	0.
.3790	0.	0.	0.	0.	0.	0.	0.	.0319	-.0010	.0071	.0821	.0260	-.0058	0.

ADLPIPE PAGE 2624

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.46.

S/RV PIPING KEWAUNEE CKW08F 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

.3690	0.	0.	0.	0.	0.	0.	0.	.0259	-.0404	-.0101	.0606	.0238	.0194	0.
.3700	0.	0.	0.	0.	0.	0.	0.	.0315	-.0349	-.0058	.0786	.0307	.0082	0.
.3710	0.	0.	0.	0.	0.	0.	0.	.0363	-.0295	-.0018	.0945	.0362	-.0013	0.
.3720	0.	0.	0.	0.	0.	0.	0.	.0400	-.0242	.0017	.1075	.0400	-.0087	0.
.3730	0.	0.	0.	0.	0.	0.	0.	.0425	-.0192	.0047	.1171	.0422	-.0141	0.
.3740	0.	0.	0.	0.	0.	0.	0.	.0437	-.0146	.0069	.1224	.0426	-.0177	0.
.3750	0.	0.	0.	0.	0.	0.	0.	.0437	-.0105	.0084	.1232	.0415	-.0194	0.
.3760	0.	0.	0.	0.	0.	0.	0.	.0424	-.0071	.0092	.1194	.0391	-.0189	0.
.3770	0.	0.	0.	0.	0.	0.	0.	.0400	-.0043	.0091	.1111	.0355	-.0162	0.
.3780	0.	0.	0.	0.	0.	0.	0.	.0364	-.0023	.0084	.0986	.0311	-.0115	0.
.3790	0.	0.	0.	0.	0.	0.	0.	.0319	-.0010	.0071	.0821	.0260	-.0058	0.

ADLPIPE PAGE 2624

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

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	66	MEMBER	2	SEQUENCE	832	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)		
.3800	0.	0.	0.	0.	0.	0.	.0266	-.0004	.0052	.0624	.0203	.0004	0.		
.3810	0.	0.	0.	0.	0.	0.	.0207	-.0005	.0029	.0404	.0141	.0070	0.		
.3820	0.	0.	0.	0.	0.	0.	.0144	-.0013	.0004	.0170	.0076	.0141	0.		
.3830	0.	0.	0.	0.	0.	0.	.0079	-.0026	-.0022	-.0070	.0008	.0209	0.		
.3840	0.	0.	0.	0.	0.	0.	.0015	-.0043	-.0048	-.0311	-.0060	.0265	0.		
.3850	0.	0.	0.	0.	0.	0.	-.0047	-.0064	-.0072	-.0544	-.0125	.0304	0.		
.3860	0.	0.	0.	0.	0.	0.	-.0104	-.0087	-.0092	-.0761	-.0184	.0329	0.		
.3870	0.	0.	0.	0.	0.	0.	-.0155	-.0111	-.0107	-.0953	-.0233	.0342	0.		
.3880	0.	0.	0.	0.	0.	0.	-.0197	-.0134	-.0117	-.1115	-.0271	.0338	0.		
.3890	0.	0.	0.	0.	0.	0.	-.0231	-.0156	-.0120	-.1246	-.0296	.0312	0.		
.3900	0.	0.	0.	0.	0.	0.	-.0255	-.0175	-.0116	-.1339	-.0307	.0263	0.		
.3910	0.	0.	0.	0.	0.	0.	-.0269	-.0190	-.0106	-.1392	-.0305	.0199	0.		
.3920	0.	0.	0.	0.	0.	0.	-.0272	-.0200	-.0088	-.1402	-.0291	.0123	0.		
.3930	0.	0.	0.	0.	0.	0.	-.0266	-.0205	-.0063	-.1370	-.0267	.0037	0.		
.3940	0.	0.	0.	0.	0.	0.	-.0250	-.0205	-.0033	-.1302	-.0232	-.0062	0.		
.3950	0.	0.	0.	0.	0.	0.	-.0226	-.0198	.0002	-.1204	-.0188	-.0171	0.		
.3960	0.	0.	0.	0.	0.	0.	-.0195	-.0186	.0040	-.1077	-.0137	-.0283	0.		
.3970	0.	0.	0.	0.	0.	0.	-.0159	-.0169	.0082	-.0925	-.0080	-.0388	0.		
.3980	0.	0.	0.	0.	0.	0.	-.0120	-.0148	.0124	-.0757	-.0020	-.0484	0.		
.3990	0.	0.	0.	0.	0.	0.	-.0079	-.0124	.0166	-.0580	.0043	-.0573	0.		
.4000	0.	0.	0.	0.	0.	0.	-.0039	-.0097	.0207	-.0404	.0103	-.0655	0.		

MAXIMUM VALUE OF DISCONTINUITY FORCE OCCURS AT

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

SECTION	66	MEMBER	2	SEQUENCE	832	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)		
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.		

ADLPIPE PAGE 2625

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

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	66	MEMBER	2	SEQUENCE	272	LOCATION	END	TYPE	VA	DZ	RX	RY	RZ	STRESS
TIME	FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	RX	RY	RZ		(PSI)
(SEC)	(LB)	(LB)	(LB)	(FT-LB)	(FT-LB)	(FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)		
0.0000	0.	0.	0.	0.	0.	0.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.
.0010	0.	0.	-0.	0.	0.	-0.	.0000	.0000	-0.0000	-0.0000	.0000	-0.0000	-0.0000	0.
.0020	0.	0.	-0.	0.	0.	-0.	-0.0000	.0000	-0.0000	-0.0000	.0000	-0.0000	-0.0000	0.
.0030	0.	0.	-0.	0.	0.	-0.	-0.0000	.0000	.0000	-0.0000	.0000	-0.0000	-0.0000	0.

ADLPIPE PAGE 2625

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.46.

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

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

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

SECTION	66	MEMBER	2	SEQUENCE	272	LOCATION	END	TYPE	VA	DZ	RX	RY	RZ	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)		
.0040	0.	0.	-0.	0.	0.	-0.	-0.0000	-0.0000	.0000	.0000	-0.0000	-0.0000	-0.0000	0.
.0050	0.	-0.	-0.	0.	0.	-0.	-0.0000	-0.0000	.0000	.0000	-0.0000	-0.0000	-0.0000	0.
.0060	1.	-0.	-0.	0.	0.	-0.	-0.0000	.0000	.0000	.0000	-0.0001	-0.0000	-0.0000	0.
.0070	3.	0.	-1.	0.	0.	-0.	-0.0000	.0000	.0000	.0000	-0.0001	-0.0001	-0.0001	0.
.0080	6.	2.	-2.	0.	0.	-0.	-0.0000	.0000	.0000	.0000	-0.0003	-0.0003	-0.0003	0.
.0090	10.	5.	-3.	0.	0.	-0.	-0.0000	.0000	.0000	.0001	-0.0006	-0.0007	-0.0007	0.
.0100	17.	9.	-5.	0.	-0.	-0.	-0.0000	-0.0000	.0000	.0001	-0.0010	-0.0011	-0.0011	0.
.0110	25.	12.	-6.	0.	-0.	-0.	-0.0001	-0.0000	.0000	.0002	-0.0015	-0.0017	-0.0017	0.
.0120	38.	18.	-9.	0.	-0.	-0.	-0.0001	-0.0000	.0000	.0003	-0.0022	-0.0026	-0.0026	0.
.0130	57.	32.	-12.	0.	-0.	-0.	-0.0002	-0.0001	.0001	.0003	-0.0030	-0.0040	-0.0040	0.
.0140	84.	57.	-17.	0.	-0.	-0.	-0.0003	-0.0001	.0001	.0001	-0.0041	-0.0060	-0.0060	0.
.0150	115.	87.	-22.	0.	-0.	-0.	-0.0005	-0.0002	.0001	.0001	-0.0052	-0.0083	-0.0083	0.
.0160	142.	111.	-24.	0.	-0.	-0.	-0.0008	-0.0004	.0002	.0003	-0.0064	-0.0105	-0.0105	0.
.0170	160.	120.	-23.	0.	-0.	-0.	-0.0012	-0.0006	.0003	.0009	-0.0075	-0.0120	-0.0120	0.
.0180	164.	114.	-17.	-0.	-0.	0.	-0.0017	-0.0009	.0004	.0017	-0.0081	-0.0125	-0.0125	0.
.0190	154.	96.	-10.	-0.	-0.	0.	-0.0023	-0.0013	.0005	.0025	-0.0079	-0.0119	-0.0119	0.
.0200	129.	65.	0.	0.	-0.	0.	-0.0030	-0.0018	.0006	.0030	-0.0067	-0.0102	-0.0102	0.
.0210	86.	15.	13.	0.	-0.	0.	-0.0038	-0.0023	.0007	.0031	-0.0041	-0.0069	-0.0069	0.
.0220	18.	-54.	30.	0.	0.	0.	-0.0047	-0.0028	.0008	.0029	-0.0003	-0.0023	-0.0023	0.
.0230	-65.	-133.	50.	0.	0.	-0.	-0.0055	-0.0033	.0008	.0024	.0044	.0032	.0032	0.
.0240	-138.	-210.	66.	0.	0.	-0.	-0.0063	-0.0036	.0009	.0014	.0091	.0085	.0085	0.
.0250	-189.	-241.	73.	0.	0.	-0.	-0.0070	-0.0039	.0009	.0002	.0129	.0123	.0123	0.
.0260	-234.	-213.	76.	0.	0.	0.	-0.0076	-0.0039	.0008	-0.0004	.0152	.0151	.0151	0.
.0270	-302.	-221.	84.	-0.	0.	0.	-0.0079	-0.0037	.0007	.0008	.0154	.0191	.0191	0.
.0280	-394.	-346.	104.	-0.	0.	0.	-0.0081	-0.0034	.0005	.0041	.0139	.0260	.0260	0.
.0290	-467.	-435.	124.	0.	0.	0.	-0.0079	-0.0029	.0002	.0072	.0113	.0322	.0322	0.
.0300	-490.	-284.	116.	0.	0.	0.	-0.0074	-0.0020	-0.0002	.0078	.0085	.0328	.0328	0.
.0310	-455.	-124.	73.	0.	0.	0.	-0.0065	-0.0010	-0.0006	.0070	.0064	.0309	.0309	0.
.0320	-460.	-163.	56.	0.	0.	0.	-0.0053	.0002	-0.0011	.0070	.0060	.0345	.0345	0.
.0330	-541.	-243.	86.	0.	0.	0.	-0.0038	.0014	-0.0017	.0072	.0076	.0422	.0422	0.
.0340	-543.	-182.	80.	0.	0.	0.	-0.0019	.0028	-0.0023	.0044	.0101	.0442	.0442	0.
.0350	-771.	-1.	-6.	-0.	0.	-0.	.0004	.0044	-0.0029	-0.0016	.0118	.0367	.0367	0.
.0360	-182.	229.	-87.	-0.	0.	-0.	.0030	.0059	-0.0035	-0.0065	.0113	.0270	.0270	0.
.0370	-109.	385.	-98.	-0.	0.	-0.	.0056	.0072	-0.0041	-0.0063	.0076	.0223	.0223	0.
.0380	-54.	355.	-92.	-0.	0.	-0.	.0084	.0082	-0.0046	-0.0019	.0008	.0199	.0199	0.
.0390	93.	329.	-111.	-0.	-0.	-0.	.0111	.0090	-0.0050	.0025	-0.0075	.0126	.0126	0.
.0400	286.	609.	-133.	-0.	-0.	0.	.0137	.0095	-0.0054	.0039	-0.0149	-0.0024	-0.0024	0.
.0410	467.	962.	-156.	0.	-0.	0.	.0161	.0095	-0.0056	.0037	-0.0191	-0.0186	-0.0186	0.

ADLPIPE PAGE 2626

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.46.

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

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

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

.0310	-455.	-124.	5.	0.	0.	0.	-0.0025	-0.0010	-0.0008	.0070	.0064	.0309	0.
.0320	-460.	-163.	56.	0.	0.	0.	-0.0053	.0002	-0.0011	.0070	.0060	.0345	0.
.0330	-541.	-243.	86.	0.	0.	0.	-0.0038	.0014	-0.0017	.0072	.0076	.0422	0.
.0340	-543.	-102.	80.	0.	0.	0.	-0.0019	.0028	-0.0023	.0044	.0101	.0442	0.
.0350	-371.	-1.	-6.	-0.	0.	-0.	.0004	.0044	-0.0029	-0.0016	.0118	.0367	0.
.0360	-182.	229.	-87.	-0.	0.	-0.	.0030	.0059	-0.0035	-0.0065	.0113	.0270	0.
.0370	-109.	385.	-98.	-0.	0.	-0.	.0056	.0072	-0.0041	-0.0063	.0076	.0223	0.
.0380	-54.	355.	-92.	-0.	0.	-0.	.0084	.0082	-0.0046	-0.0019	.0008	.0199	0.
.0390	93.	329.	-111.	-0.	-0.	-0.	.0111	.0090	-0.0050	.0025	-0.0075	.0126	0.
.0400	286.	609.	-123.	-0.	-0.	0.	.0137	.0095	-0.0054	.0039	-0.0149	-0.0024	0.
.0410	467.	962.	-156.	0.	-0.	0.	.0161	.0095	-0.0056	.0037	-0.0191	-0.0186	0.

ADLPIPE PAGE 2626

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.46.

S/RV PIPING KEWAUNEE GKWOLF 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	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)
.0420	592.	880.	-169.	0.	-0.	0.	.0182	.0089	-0.0057	.0047	-0.0186	-0.0258	0.
.0430	598.	501.	-126.	0.	-0.	-0.	.0198	.0076	-0.0057	.0055	-0.0124	-0.0236	0.
.0440	563.	377.	-65.	0.	-0.	-0.	.0210	.0060	-0.0057	.0010	-0.0017	-0.0244	0.
.0450	709.	487.	-112.	0.	-0.	-0.	.0217	.0041	-0.0055	-0.0097	.0100	-0.0375	0.
.0460	949.	465.	-217.	-0.	-0.	-0.	.0219	.0018	-0.0053	-0.0201	.0192	-0.0534	0.
.0470	947.	258.	-195.	-0.	-0.	-0.	.0214	-0.0007	-0.0049	-0.0226	.0235	-0.0578	0.
.0480	752.	-19.	-72.	-0.	-0.	-0.	.0203	-0.0035	-0.0044	-0.0181	.0223	-0.0540	0.
.0490	713.	-280.	-36.	0.	-0.	0.	.0186	-0.0061	-0.0038	-0.0135	.0167	-0.0572	0.
.0500	823.	-338.	-77.	0.	-0.	0.	.0163	-0.0086	-0.0032	-0.0126	.0098	-0.0699	0.
.0510	806.	-201.	-61.	0.	-0.	0.	.0135	-0.0108	-0.0026	-0.0134	.0048	-0.0802	0.
.0520	656.	-279.	-3.	0.	-0.	0.	.0101	-0.0129	-0.0019	-0.0134	.0034	-0.0792	0.
.0530	518.	-605.	13.	0.	-0.	0.	.0063	-0.0147	-0.0012	-0.0143	.0059	-0.0705	0.
.0540	367.	-945.	8.	0.	-0.	0.	.0021	-0.0159	-0.0005	-0.0195	.0118	-0.0617	0.
.0550	190.	-849.	-2.	0.	-0.	-0.	-0.0024	-0.0165	.0001	-0.0289	.0190	-0.0560	0.
.0560	81.	-789.	-63.	-0.	-0.	-0.	-0.0069	-0.0165	.0008	-0.0379	.0241	-0.0499	0.
.0570	-25.	-938.	-129.	-0.	0.	-0.	-0.0115	-0.0159	.0015	-0.0421	.0250	-0.0382	0.
.0580	-257.	-982.	-114.	-0.	0.	-0.	-0.0160	-0.0146	.0023	-0.0413	.0213	-0.0224	0.
.0590	-475.	-784.	-82.	-0.	0.	-0.	-0.0203	-0.0126	.0032	-0.0385	.0140	-0.0106	0.
.0600	-516.	-519.	-121.	-0.	0.	0.	-0.0243	-0.0101	.0042	-0.0355	.0051	-0.0051	0.
.0610	-551.	-284.	-148.	0.	0.	0.	-0.0278	-0.0072	.0052	-0.0309	-0.0023	.0025	0.
.0620	-765.	-119.	-76.	0.	0.	0.	-0.0309	-0.0041	.0063	-0.0245	-0.0054	.0195	0.
.0630	-999.	-82.	6.	0.	0.	0.	-0.0335	-0.0010	.0075	-0.0194	-0.0033	.0406	0.
.0640	-1061.	-20.	2.	0.	0.	0.	-0.0353	.0022	.0087	-0.0192	.0030	.0560	0.
.0650	-1038.	257.	-34.	0.	0.	0.	-0.0363	.0053	.0098	-0.0231	.0116	.0643	0.
.0660	-1056.	559.	-24.	-0.	0.	-0.	-0.0365	.0083	.0110	-0.0255	.0192	.0717	0.
.0670	-1085.	612.	25.	-0.	0.	-0.	-0.0360	.0108	.0122	-0.0215	.0222	.0812	0.
.0680	-1072.	577.	96.	-0.	0.	-0.	-0.0346	.0128	.0134	-0.0113	.0191	.0886	0.
.0690	-1002.	730.	185.	-0.	0.	-0.	-0.0325	.0144	.0144	.0019	.0105	.0877	0.
.0700	-839.	998.	273.	-0.	-0.	-0.	-0.0297	.0155	.0154	.0158	-0.0011	.0776	0.
.0710	-618.	1181.	356.	0.	-0.	0.	-0.0263	.0158	.0161	.0295	-0.0122	.0641	0.
.0720	-451.	1223.	460.	0.	-0.	0.	-0.0225	.0152	.0165	.0428	-0.0195	.0540	0.
.0730	-361.	1098.	577.	0.	-0.	0.	-0.0184	.0138	.0166	.0534	-0.0208	.0488	0.
.0740	-266.	844.	657.	0.	-0.	0.	-0.0140	.0115	.0163	.0581	-0.0160	.0442	0.
.0750	-119.	657.	675.	0.	-0.	0.	-0.0094	.0087	.0155	.0560	-0.0068	.0357	0.
.0760	52.	576.	644.	0.	-0.	0.	-0.0048	.0054	.0142	.0500	.0034	.0244	0.
.0770	191.	375.	604.	-0.	-0.	-0.	-0.0003	.0018	.0124	.0454	.0112	.0152	0.
.0780	253.	0.	595.	-0.	-0.	-0.	.0041	-0.0021	.0102	.0451	.0142	.0099	0.
.0790	272.	-287.	604.	-0.	-0.	-0.	.0083	-0.0060	.0076	.0474	.0119	.0037	0.

ADLPIPE PAGE 2627

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.46.

S/RV PIPING KEWAUNEE GKWOLF 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



.0690	-1002.	730.	185.	-0.	0.	-0.	-0.	-.0325	.0144	.0144	.0019	.0105	.0877	0.
.0700	-839.	998.	273.	-0.	-0.	-0.	-0.	-.0297	.0155	.0154	.0158	-.0011	.0776	0.
.0710	-618.	1181.	356.	0.	-0.	0.	0.	-.0263	.0158	.0161	.0295	-.0122	.0641	0.
.0720	-451.	1223.	460.	0.	-0.	0.	0.	-.0225	.0152	.0165	.0428	-.0195	.0540	0.
.0730	-261.	1098.	577.	0.	-0.	0.	0.	-.0184	.0138	.0166	.0534	-.0208	.0488	0.
.0740	-266.	844.	657.	0.	-0.	0.	0.	-.0140	.0115	.0163	.0581	-.0160	.0442	0.
.0750	-119.	657.	675.	0.	-0.	0.	0.	-.0094	.0087	.0155	.0560	-.0068	.0357	0.
.0760	52.	576.	644.	0.	-0.	0.	0.	-.0048	.0054	.0142	.0500	.0034	.0244	0.
.0770	191.	375.	604.	-0.	-0.	-0.	-0.	-.0003	.0018	.0124	.0454	.0112	.0152	0.
.0780	253.	0.	595.	-0.	-0.	-0.	-0.	.0041	-.0021	.0102	.0451	.0142	.0099	0.
.0799	272.	-287.	604.	-0.	-0.	-0.	-0.	.0083	-.0060	.0076	.0474	.0119	.0037	0.

ADLPIPE PAGE 2627

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.46.

S/RV PIPING KEWAUNEE GKW02F 2 RUP DISK  
2 SAFETY COLD FKW04F--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	DZ	RX	RY	RZ	STRESS		
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)
.0800	362.	-376.	569.	0.	-0.	0.	.0123	-.0097	.0046	.0493	.0055	-.0087	0.
.0810	533.	-414.	473.	0.	-0.	0.	.0160	-.0130	.0011	.0490	-.0025	-.0247	0.
.0820	646.	-492.	376.	0.	-0.	0.	.0192	-.0160	-.0027	.0467	-.0090	-.0370	0.
.0830	651.	-565.	284.	0.	-0.	0.	.0220	-.0187	-.0067	.0417	-.0116	-.0425	0.
.0840	655.	-712.	133.	0.	-0.	0.	.0243	-.0209	-.0109	.0324	-.0099	-.0438	0.
.0850	691.	-800.	-80.	0.	-0.	0.	.0261	-.0226	-.0152	.0187	-.0045	-.0433	0.
.0860	673.	-958.	-292.	-0.	-0.	-0.	.0274	-.0236	-.0194	.0024	.0028	-.0407	0.
.0870	611.	-947.	-489.	-0.	-0.	-0.	.0283	-.0239	-.0233	-.0132	.0093	-.0361	0.
.0880	578.	-1001.	-692.	-0.	-0.	-0.	.0286	-.0236	-.0269	-.0250	.0129	-.0298	0.
.0890	536.	-1049.	-860.	-0.	-0.	-0.	.0286	-.0225	-.0299	-.0323	.0129	-.0226	0.
.0900	442.	-937.	-960.	-0.	-0.	-0.	.0281	-.0206	-.0323	-.0359	.0104	-.0159	0.
.0910	372.	-742.	-1039.	-0.	-0.	-0.	.0274	-.0181	-.0339	-.0375	.0071	-.0112	0.
.0920	358.	-611.	-1122.	0.	0.	0.	.0264	-.0150	-.0348	-.0379	.0047	-.0066	0.
.0930	307.	-509.	-1163.	0.	0.	0.	.0251	-.0116	-.0349	-.0379	.0049	.0005	0.
.0940	219.	-365.	-1158.	0.	0.	0.	.0236	-.0078	-.0341	-.0382	.0075	.0086	0.
.0950	185.	-204.	-1163.	-0.	-0.	-0.	.0220	-.0037	-.0323	-.0392	.0109	.0131	0.
.0960	244.	-18.	-1173.	-0.	-0.	-0.	.0202	.0005	-.0300	-.0386	.0128	.0135	0.
.0970	271.	203.	-1115.	-0.	-0.	-0.	.0183	.0046	-.0267	-.0328	.0113	.0133	0.
.0980	246.	366.	-972.	-0.	-0.	-0.	.0162	.0085	-.0226	-.0201	.0057	.0142	0.
.0990	257.	447.	-790.	-0.	-0.	-0.	.0139	.0122	-.0178	-.0023	-.0033	.0135	0.
.1000	314.	585.	-591.	-0.	-0.	-0.	.0115	.0155	-.0125	.0174	-.0136	.0088	0.
.1010	382.	801.	-377.	-0.	-0.	-0.	.0088	.0183	-.0068	.0363	-.0225	.0014	0.
.1020	431.	924.	-148.	-0.	-0.	-0.	.0058	.0205	-.0008	.0533	-.0282	-.0045	0.
.1030	441.	878.	73.	0.	0.	0.	.0026	.0220	.0052	.0679	-.0301	-.0063	0.
.1040	387.	776.	288.	-0.	-0.	-0.	-.0010	.0229	.0111	.0793	-.0287	-.0043	0.
.1050	292.	674.	482.	0.	-0.	0.	-.0048	.0232	.0168	.0870	-.0254	-.0011	0.
.1060	182.	540.	649.	0.	-0.	0.	-.0087	.0230	.0221	.0917	-.0218	.0024	0.
.1070	26.	396.	808.	0.	-0.	0.	-.0128	.0225	.0268	.0950	-.0191	.0074	0.
.1080	-192.	270.	973.	0.	-0.	0.	-.0169	.0216	.0310	.0974	-.0176	.0143	0.
.1090	-429.	144.	1122.	0.	-0.	0.	-.0208	.0206	.0344	.0980	-.0168	.0215	0.
.1100	-649.	4.	1226.	0.	-0.	0.	-.0243	.0195	.0370	.0953	-.0162	.0271	0.
.1110	-869.	-77.	1311.	0.	-0.	0.	-.0274	.0184	.0387	.0888	-.0151	.0321	0.
.1120	-1076.	-29.	1314.	0.	-0.	0.	-.0298	.0174	.0394	.0783	-.0140	.0368	0.
.1130	-1229.	-145.	1262.	-0.	-0.	-0.	-.0313	.0164	.0392	.0644	-.0139	.0398	0.
.1140	-1354.	-187.	1154.	-0.	-0.	-0.	-.0320	.0155	.0380	.0486	-.0158	.0412	0.
.1150	-1481.	-165.	1025.	-0.	-0.	-0.	-.0316	.0148	.0360	.0333	-.0201	.0428	0.
.1160	-1559.	-155.	868.	0.	-0.	0.	-.0302	.0142	.0333	.0193	-.0266	.0440	0.
.1170	-1550.	-190.	683.	0.	-0.	0.	-.0276	.0138	.0300	.0060	-.0333	.0422	0.

ADLPIPE PAGE 2628

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.46.

S/RV PIPING KEWAUNEE GKW02F 2 RUP DISK  
2 SAFETY COLD FKW04F--2 PSV

CONDITION 24  
LOADS  
SHOCK  
PRESSURE  
ENGLISH UNITS

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

.1070	26.	396.	808.	0.	-0.	0.	-0.087	.0230	.0268	.0950	-.0191	.0024	0.
.1080	-192.	270.	977.	0.	-0.	0.	-.0169	.0216	.0310	.0974	-.0176	.0143	0.
.1090	-429.	144.	1122.	0.	-0.	0.	-.0208	.0206	.0344	.0980	-.0168	.0215	0.
.1100	-647.	4.	1226.	0.	-0.	-0.	-.0243	.0195	.0370	.0953	-.0162	.0271	0.
.1110	-869.	-77.	1292.	0.	-0.	-0.	-.0274	.0184	.0387	.0888	-.0151	.0321	0.
.1120	-1076.	-99.	1314.	0.	-0.	-0.	-.0298	.0174	.0394	.0783	-.0140	.0368	0.
.1130	-1229.	-145.	1262.	-0.	-0.	-0.	-.0313	.0164	.0392	.0644	-.0139	.0398	0.
.1140	-1354.	-187.	1154.	-0.	-0.	-0.	-.0320	.0155	.0380	.0486	-.0158	.0412	0.
.1150	-1481.	-165.	1025.	-0.	-0.	0.	-.0316	.0148	.0360	.0333	-.0201	.0428	0.
.1160	-1559.	-155.	868.	0.	-0.	0.	-.0302	.0142	.0333	.0193	-.0266	.0440	0.
.1170	-1550.	-190.	687.	0.	-0.	0.	-.0276	.0138	.0300	.0060	-.0333	.0422	0.

ADLPIPE PAGE 2629

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.46.

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

SECTION	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)	
.1180	-1503.	-109.	503.	0.	0.	0.	-.0239	.0134	.0262	-.0073	-.0388	.0363	0.	
.1190	-1407.	41.	324.	0.	0.	0.	-.0191	.0132	.0221	-.0201	-.0407	.0291	0.	
.1200	-1246.	60.	132.	0.	0.	0.	-.0133	.0129	.0177	-.0321	-.0379	.0234	0.	
.1210	-1102.	-51.	-43.	-0.	0.	-0.	-.0066	.0125	.0133	-.0434	-.0303	.0197	0.	
.1220	-986.	-176.	-189.	-0.	0.	-0.	.0008	.0122	.0090	-.0548	-.0194	.0161	0.	
.1230	-806.	-198.	-351.	-0.	0.	-0.	.0089	.0121	.0048	-.0658	-.0083	.0086	0.	
.1240	-491.	-207.	-551.	-0.	0.	-0.	.0176	.0120	.0009	-.0742	-.0002	-.0041	0.	
.1250	-163.	-221.	-705.	-0.	0.	-0.	.0266	.0122	-.0026	-.0773	.0035	-.0201	0.	
.1260	70.	-140.	-748.	-0.	0.	-0.	.0356	.0124	-.0055	-.0733	.0027	-.0375	0.	
.1270	325.	-72.	-743.	-0.	0.	0.	.0446	.0128	-.0079	-.0628	-.0013	-.0556	0.	
.1280	647.	-96.	-733.	0.	0.	0.	.0532	.0132	-.0098	-.0482	-.0055	-.0739	0.	
.1290	924.	-185.	-674.	0.	0.	0.	.0614	.0137	-.0111	-.0336	-.0065	-.0905	0.	
.1300	1120.	-224.	-568.	0.	0.	0.	.0688	.0144	-.0119	-.0225	-.0026	-.1058	0.	
.1310	1365.	-188.	-514.	0.	0.	0.	.0753	.0152	-.0123	-.0165	.0049	-.1219	0.	
.1320	1703.	-225.	-541.	0.	0.	-0.	.0808	.0161	-.0123	-.0136	.0132	-.1373	0.	
.1330	1922.	-314.	-534.	-0.	0.	-0.	.0851	.0172	-.0119	-.0105	.0200	-.1473	0.	
.1340	1953.	-392.	-446.	-0.	0.	-0.	.0879	.0185	-.0112	-.0047	.0226	-.1516	0.	
.1350	1981.	-438.	-370.	-0.	0.	-0.	.0892	.0201	-.0101	.0039	.0196	-.1545	0.	
.1360	2077.	-424.	-341.	-0.	0.	-0.	.0892	.0220	-.0088	.0143	.0118	-.1581	0.	
.1370	2105.	-355.	-276.	0.	0.	0.	.0876	.0242	-.0073	.0248	.0025	-.1597	0.	
.1380	1979.	-179.	-148.	0.	0.	0.	.0844	.0266	-.0055	.0336	-.0055	-.1576	0.	
.1390	1831.	4.	-56.	0.	0.	0.	.0799	.0292	-.0037	.0393	-.0106	-.1516	0.	
.1400	1679.	57.	-34.	0.	0.	0.	.0740	.0317	-.0018	.0422	-.0123	-.1387	0.	
.1410	1350.	1.	10.	0.	-0.	-0.	.0670	.0342	.0001	.0424	-.0107	-.1157	0.	
.1420	871.	-68.	82.	0.	-0.	-0.	.0591	.0366	.0020	.0394	-.0075	-.0865	0.	
.1430	468.	20.	76.	-0.	-0.	-0.	.0505	.0391	.0038	.0326	-.0056	-.0606	0.	
.1440	220.	223.	-22.	-0.	0.	-0.	.0417	.0416	.0055	.0249	-.0067	-.0399	0.	
.1450	-84.	375.	-67.	-0.	0.	-0.	.0328	.0438	.0073	.0208	-.0108	-.0175	0.	
.1460	-554.	434.	16.	-0.	0.	-0.	.0240	.0458	.0091	.0223	-.0169	.0096	0.	
.1470	-261.	462.	108.	0.	0.	-0.	.0157	.0474	.0108	.0263	-.0239	.0350	0.	
.1480	-1154.	588.	116.	0.	0.	0.	.0081	.0487	.0125	.0285	-.0299	.0522	0.	
.1490	-1268.	770.	103.	0.	0.	0.	.0013	.0495	.0141	.0270	-.0329	.0638	0.	
.1500	-1440.	909.	136.	0.	0.	0.	-.0044	.0498	.0156	.0229	-.0319	.0756	0.	
.1510	-1591.	974.	158.	0.	0.	0.	-.0091	.0493	.0170	.0173	-.0281	.0873	0.	
.1520	-1601.	921.	116.	-0.	0.	-0.	-.0125	.0482	.0183	.0112	-.0230	.0958	0.	
.1530	-1569.	853.	91.	-0.	0.	-0.	-.0149	.0464	.0194	.0053	-.0176	.0996	0.	
.1540	-1557.	875.	142.	-0.	0.	-0.	-.0160	.0439	.0205	.0008	-.0130	.0973	0.	
.1550	-1438.	979.	203.	-0.	0.	-0.	-.0161	.0408	.0215	-.0011	-.0103	.0869	0.	

ADLPIPE PAGE 2629

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/3/12/02.

18.29.46.

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



.1450	-84.	375.	-67.	-0.	0.	-0.	0.	.0328	.0438	.0073	.0208	-.0108	-.0175	0.
.1460	-554.	434.	16.	-0.	0.	-0.	0.	.0240	.0458	.0091	.0223	-.0169	.0096	0.
.1470	-961.	462.	108.	0.	0.	-0.	0.	.0157	.0474	.0108	.0263	-.0239	.0350	0.
.1480	-1156.	598.	116.	0.	0.	0.	0.	.0081	.0487	.0125	.0285	-.0299	.0522	0.
.1490	-1268.	770.	103.	0.	0.	0.	0.	.0013	.0495	.0141	.0270	-.0329	.0638	0.
.1500	-1440.	909.	136.	0.	0.	0.	0.	-.0044	.0498	.0156	.0229	-.0319	.0756	0.
.1510	-1591.	974.	158.	0.	0.	0.	0.	-.0091	.0493	.0170	.0173	-.0281	.0873	0.
.1520	-1601.	921.	116.	-0.	0.	-0.	0.	-.0125	.0482	.0183	.0112	-.0230	.0958	0.
.1530	-1569.	853.	91.	-0.	0.	-0.	0.	-.0149	.0464	.0194	.0053	-.0176	.0996	0.
.1540	-1557.	875.	142.	-0.	0.	-0.	0.	-.0160	.0439	.0205	.0008	-.0130	.0973	0.
.1550	-1438.	979.	203.	-0.	0.	-0.	0.	-.0161	.0408	.0215	-.0011	-.0103	.0869	0.

ADLPIPE PAGE 2629

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.29.46.

S/RV PIPING KEWAUNEE GKHOOF 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	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)	PY (DEG)	RZ (DEG)	STRESS (PSI)	
.1560	-1163.	1052.	235.	-0.	0.	-0.	-.0151	.0370	.0224	.0006	-.0094	.0696	0.	
.1570	-078.	989.	315.	-0.	0.	-0.	-.0133	.0325	.0230	.0056	-.0088	.0508	0.	
.1580	-690.	923.	476.	0.	0.	-0.	-.0108	.0272	.0234	.0110	-.0066	.0310	0.	
.1590	-442.	912.	600.	0.	0.	0.	-.0079	.0213	.0235	.0133	-.0025	.0063	0.	
.1600	-33.	815.	608.	0.	0.	0.	-.0048	.0147	.0231	.0115	.0033	-.0224	0.	
.1610	235.	608.	602.	0.	0.	0.	-.0016	.0076	.0222	.0070	.0111	-.0489	0.	
.1620	537.	388.	649.	-0.	0.	0.	.0013	.0001	.0209	.0010	.0203	-.0711	0.	
.1630	764.	120.	652.	-0.	0.	-0.	.0037	-.0077	.0192	-.0062	.0291	-.0935	0.	
.1640	1091.	-166.	576.	-0.	0.	-0.	.0056	-.0155	.0170	-.0135	.0365	-.1176	0.	
.1650	1321.	-446.	530.	-0.	0.	-0.	.0066	-.0232	.0143	-.0189	.0421	-.1381	0.	
.1660	1372.	-801.	555.	0.	0.	-0.	.0067	-.0304	.0113	-.0220	.0465	-.1513	0.	
.1670	1383.	-1181.	555.	0.	-0.	-0.	.0057	-.0370	.0079	-.0251	.0491	-.1608	0.	
.1680	1450.	-1483.	457.	0.	-0.	-0.	.0038	-.0428	.0041	-.0304	.0497	-.1696	0.	
.1690	1443.	-1678.	322.	0.	-0.	0.	.0007	-.0474	-.0000	-.0379	.0484	-.1743	0.	
.1700	1271.	-1884.	202.	0.	-0.	0.	-.0033	-.0507	-.0043	-.0459	.0454	-.1703	0.	
.1710	1020.	-2133.	60.	-0.	-0.	0.	-.0082	-.0527	-.0088	-.0533	.0403	-.1583	0.	
.1720	754.	-2272.	-126.	0.	-0.	0.	-.0139	-.0530	-.0132	-.0600	.0331	-.1419	0.	
.1730	462.	-2318.	-314.	0.	-0.	0.	-.0201	-.0518	-.0176	-.0655	.0248	-.1215	0.	
.1740	106.	-2281.	-457.	0.	-0.	0.	-.0265	-.0488	-.0217	-.0694	.0164	-.0971	0.	
.1750	-262.	-2111.	-576.	0.	-0.	0.	-.0330	-.0442	-.0254	-.0718	.0085	-.0703	0.	
.1760	-551.	-1849.	-718.	0.	-0.	-0.	-.0392	-.0381	-.0287	-.0726	.0013	-.0423	0.	
.1770	-814.	-1538.	-852.	0.	-0.	-0.	-.0450	-.0307	-.0314	-.0720	-.0048	-.0122	0.	
.1780	-1112.	-1205.	-938.	-0.	-0.	-0.	-.0502	-.0223	-.0335	-.0700	-.0092	.0208	0.	
.1790	-1394.	-784.	-1002.	0.	-0.	-0.	-.0545	-.0130	-.0349	-.0674	-.0123	.0538	0.	
.1800	-1550.	-297.	-1091.	0.	-0.	0.	-.0577	-.0033	-.0356	-.0642	-.0144	.0834	0.	
.1810	-1595.	184.	-1170.	-0.	-0.	0.	-.0598	.0066	-.0355	-.0596	-.0153	.1093	0.	
.1820	-1636.	726.	-1163.	-0.	0.	0.	-.0608	.0163	-.0345	-.0525	-.0145	.1312	0.	
.1830	-1622.	1297.	-1084.	0.	0.	0.	-.0605	.0254	-.0327	-.0425	-.0121	.1474	0.	
.1840	-1471.	1821.	-979.	0.	0.	0.	-.0591	.0334	-.0301	-.0294	-.0084	.1562	0.	
.1850	-1244.	2265.	-824.	0.	0.	0.	-.0566	.0400	-.0268	-.0137	-.0030	.1590	0.	
.1860	-1025.	2629.	-590.	0.	0.	-0.	-.0533	.0449	-.0229	.0035	.0039	.1570	0.	
.1870	-778.	2932.	-325.	-0.	0.	-0.	-.0492	.0479	-.0187	.0201	.0117	.1483	0.	
.1880	-418.	3120.	-97.	-0.	0.	0.	-.0446	.0486	-.0142	.0350	.0195	.1319	0.	
.1890	-24.	3189.	120.	-0.	0.	0.	-.0397	.0471	-.0097	.0485	.0266	.1102	0.	
.1900	306.	3123.	373.	-0.	0.	-0.	-.0349	.0433	-.0054	.0611	.0329	.0862	0.	
.1910	593.	2882.	633.	-0.	0.	0.	-.0303	.0372	-.0013	.0726	.0383	.0600	0.	
.1920	907.	2521.	858.	-0.	0.	0.	-.0262	.0290	.0022	.0821	.0428	.0305	0.	
.1930	1207.	2085.	1054.	0.	-0.	0.	-.0222	.0191	.0051	.0888	.0469	-.0004	0.	

ADLPIPE PAGE 2630

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02. 18.29.46.

S/RV PIPING KEWAUNEE GKHOOF 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

.1830	-1022.	1297.	184.	0.	0.	0.	-0.0605	.0254	-0.0327	-0.0425	-0.0121	.1474	0.
.1840	-1471.	1821.	-979.	0.	0.	0.	-0.0591	.0334	-0.0301	-0.0294	-0.0084	.1562	0.
.1850	-1244.	2265.	-824.	0.	0.	0.	-0.0566	.0400	-0.0268	-0.0137	-0.0030	.1590	0.
.1860	-1025.	2629.	-590.	0.	0.	-0.	-0.0533	.0449	-0.0229	.0035	.0039	.1570	0.
.1870	-778.	2932.	-325.	-0.	0.	-0.	-0.0492	.0479	-0.0187	.0201	.0117	.1483	0.
.1880	-418.	3120.	-97.	-0.	0.	0.	-0.0446	.0486	-0.0142	.0350	.0195	.1319	0.
.1890	-24.	3189.	120.	-0.	0.	0.	-0.0397	.0471	-0.0097	.0485	.0266	.1102	0.
.1900	300.	3123.	373.	-0.	0.	-0.	-0.0349	.0433	-0.0054	.0611	.0329	.0862	0.
.1910	593.	2882.	633.	-0.	0.	0.	-0.0303	.0372	-0.0013	.0726	.0383	.0600	0.
.1920	907.	2529.	858.	-0.	0.	0.	-0.0262	.0290	.0022	.0821	.0428	.0305	0.
.1930	1207.	2085.	1054.	0.	-0.	0.	-0.0228	.0191	.0051	.0888	.0469	-0.0004	0.

ADLPIPE PAGE 2630

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.46.

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	END	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)							
.1940	1408.	1523.	1242.	0.	-0.	0.	-0.0203	.0077	.0072	.0919	.0514	-0.0295	0.
.1950	1534.	870.	1390.	0.	-0.	0.	-0.0189	-0.0047	.0084	.0900	.0561	-0.0559	0.
.1960	1631.	198.	1445.	0.	-0.	0.	-0.0186	-0.0177	.0086	.0818	.0599	-0.0803	0.
.1970	1678.	-474.	1403.	0.	-0.	0.	-0.0194	-0.0307	.0077	.0677	.0620	-0.1011	0.
.1980	1607.	-1158.	1300.	-0.	-0.	-0.	-0.0215	-0.0432	.0058	.0490	.0612	-0.1154	0.
.1990	1423.	-1808.	1143.	-0.	-0.	-0.	-0.0248	-0.0549	.0029	.0271	.0567	-0.1229	0.
.2000	1197.	-2352.	909.	-0.	-0.	0.	-0.0290	-0.0651	-0.0007	.0029	.0483	-0.1254	0.
.2010	953.	-2758.	609.	-0.	-0.	0.	-0.0341	-0.0736	-0.0050	-0.0230	.0368	-0.1238	0.
.2020	644.	-3031.	293.	0.	-0.	0.	-0.0398	-0.0800	-0.0096	-0.0493	.0238	-0.1165	0.
.2030	261.	-3188.	-20.	0.	-0.	0.	-0.0460	-0.0841	-0.0145	-0.0753	.0109	-0.1023	0.
.2040	-136.	-3248.	-351.	0.	-0.	0.	-0.0522	-0.0859	-0.0193	-0.1010	-0.0005	-0.0819	0.
.2050	-512.	-3201.	-706.	0.	-0.	0.	-0.0584	-0.0853	-0.0238	-0.1267	-0.0100	-0.0569	0.
.2060	-885.	-3018.	-1057.	0.	-0.	0.	-0.0641	-0.0825	-0.0277	-0.1520	-0.0173	-0.0285	0.
.2070	-1242.	-2699.	-1386.	0.	-0.	-0.	-0.0691	-0.0774	-0.0308	-0.1753	-0.0232	.0019	0.
.2080	-1531.	-2290.	-1691.	0.	-0.	-0.	-0.0731	-0.0705	-0.0328	-0.1943	-0.0286	.0326	0.
.2090	-1745.	-1824.	-1942.	-0.	-0.	-0.	-0.0760	-0.0619	-0.0336	-0.2064	-0.0343	.0625	0.
.2100	-1911.	-1299.	-2093.	-0.	-0.	-0.	-0.0776	-0.0521	-0.0330	-0.2100	-0.0402	.0902	0.
.2110	-2009.	-715.	-2129.	-0.	-0.	-0.	-0.0778	-0.0414	-0.0308	-0.2046	-0.0457	.1135	0.
.2120	-1993.	-95.	-2071.	-0.	-0.	0.	-0.0765	-0.0303	-0.0271	-0.1909	-0.0499	.1305	0.
.2130	-1869.	517.	-1921.	0.	-0.	0.	-0.0737	-0.0192	-0.0219	-0.1697	-0.0516	.1416	0.
.2140	-1695.	1064.	-1668.	0.	-0.	0.	-0.0696	-0.0086	-0.0154	-0.1421	-0.0500	.1485	0.
.2150	-1490.	1512.	-1324.	0.	-0.	0.	-0.0643	.0012	-0.0077	-0.1099	-0.0445	.1517	0.
.2160	-1228.	1860.	-929.	-0.	0.	0.	-0.0580	.0098	.0010	-0.0746	-0.0358	.1503	0.
.2170	-910.	2111.	-503.	-0.	0.	0.	-0.0508	.0170	.0102	-0.0373	-0.0248	.1440	0.
.2180	-576.	2254.	-38.	-0.	0.	-0.	-0.0429	.0226	.0198	.0018	-0.0127	.1338	0.
.2190	-245.	2292.	460.	-0.	0.	-0.	-0.0347	.0266	.0292	.0422	-0.0006	.1199	0.
.2200	103.	2254.	964.	-0.	0.	-0.	-0.0264	.0288	.0383	.0831	.0103	.1020	0.
.2210	465.	2151.	1448.	-0.	0.	0.	-0.0182	.0295	.0466	.1229	.0198	.0805	0.
.2220	794.	1962.	1903.	0.	0.	0.	-0.0104	.0285	.0538	.1601	.0278	.0579	0.
.2230	1053.	1680.	2312.	-0.	0.	0.	-0.0032	.0261	.0595	.1923	.0348	.0368	0.
.2240	1258.	1333.	2627.	0.	-0.	0.	.0032	.0226	.0635	.2166	.0409	.0176	0.
.2250	1425.	961.	2911.	0.	-0.	0.	.0086	.0181	.0656	.2308	.0459	.0001	0.
.2260	1529.	587.	2961.	0.	-0.	0.	.0130	.0129	.0656	.2341	.0494	-0.0145	0.
.2270	1541.	213.	2792.	0.	-0.	0.	.0163	.0074	.0635	.2274	.0505	-0.0248	0.
.2280	1465.	-158.	2611.	-0.	-0.	0.	.0184	.0018	.0594	.2124	.0484	-0.0302	0.
.2290	1325.	-502.	2325.	-0.	-0.	0.	.0195	-0.0037	.0534	.1905	.0424	-0.0316	0.
.2300	1123.	-777.	1956.	0.	-0.	-0.	.0196	-0.0088	.0457	.1628	.0328	-0.0298	0.
.2310	864.	-961.	1523.	0.	-0.	-0.	.0189	-0.0133	.0367	.1299	.0202	-0.0255	0.

ADLPIPE PAGE 2631

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.46.

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



.2210	767.	2151.	1440.	-0.	0.	0.	-0.0182	.0295	.0466	.1229	.0198	.0805	0.
.2220	794.	1962.	1903.	0.	0.	0.	-.0104	.0285	.0538	.1601	.0278	.0579	0.
.2230	1053.	1620.	2312.	-0.	0.	0.	-.0032	.0261	.0595	.1923	.0348	.0368	0.
.2240	1258.	1333.	2627.	0.	-0.	0.	.0032	.0226	.0635	.2166	.0409	.0176	0.
.2250	1425.	961.	2011.	0.	-0.	0.	.0086	.0181	.0656	.2308	.0459	.0001	0.
.2260	1529.	587.	2861.	0.	-0.	0.	.0130	.0129	.0656	.2341	.0494	-.0145	0.
.2270	1541.	213.	2792.	0.	-0.	0.	.0163	.0074	.0635	.2274	.0505	-.0248	0.
.2280	1465.	-158.	2611.	-0.	-0.	0.	.0184	.0018	.0594	.2124	.0484	-.0302	0.
.2290	1325.	-502.	2325.	-0.	-0.	0.	.0195	-.0037	.0534	.1905	.0424	-.0316	0.
.2300	1123.	-777.	1956.	0.	-0.	-0.	.0196	-.0088	.0457	.1628	.0328	-.0298	0.
.2310	864.	-961.	1523.	0.	-0.	-0.	.0189	-.0133	.0367	.1299	.0202	-.0255	0.

ADLPIPE PAGE 2631

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.46.

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)	FY (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	(IN)	(IN)	(IN)	(DEG)	(DEG)	(DEG)	(PSI)
.2320	571.	-1066.	1032.	0.	-0.	0.	.0176	-.0170	.0267	.0926	.0058	-.0187	0.
.2330	259.	-1114.	489.	0.	-0.	0.	.0160	-.0200	.0160	.0516	-.0094	-.0095	0.
.2340	-73.	-1117.	-83.	0.	-0.	0.	.0142	-.0221	.0050	.0079	-.0239	.0023	0.
.2350	-420.	-1076.	-658.	0.	-0.	0.	.0125	-.0234	-.0059	-.0371	-.0370	.0159	0.
.2360	-745.	-997.	-1220.	0.	-0.	0.	.0111	-.0239	-.0161	-.0816	-.0478	.0299	0.
.2370	-1021.	-884.	-1744.	0.	-0.	0.	.0103	-.0237	-.0255	-.1232	-.0563	.0428	0.
.2380	-1241.	-750.	-2193.	0.	-0.	0.	.0103	-.0229	-.0334	-.1592	-.0621	.0536	0.
.2390	-1397.	-602.	-2535.	0.	-0.	-0.	.0112	-.0215	-.0397	-.1875	-.0653	.0611	0.
.2400	-1465.	-437.	-2759.	-0.	0.	-0.	.0131	-.0197	-.0442	-.2068	-.0659	.0639	0.
.2410	-1429.	-259.	-2864.	-0.	0.	-0.	.0161	-.0176	-.0466	-.2164	-.0638	.0611	0.
.2420	-1300.	-93.	-2848.	-0.	0.	-0.	.0201	-.0154	-.0468	-.2163	-.0592	.0532	0.
.2430	-1099.	34.	-2710.	0.	0.	-0.	.0251	-.0130	-.0451	-.2070	-.0520	.0411	0.
.2440	-929.	121.	-2469.	-0.	0.	0.	.0308	-.0108	-.0413	-.1896	-.0424	.0250	0.
.2450	-484.	180.	-2145.	0.	0.	-0.	.0371	-.0086	-.0358	-.1654	-.0305	.0047	0.
.2460	-84.	217.	-1746.	-0.	0.	-0.	.0436	-.0065	-.0288	-.1352	-.0170	-.0190	0.
.2470	338.	222.	-1275.	0.	0.	0.	.0502	-.0047	-.0206	-.0998	-.0024	-.0448	0.
.2480	758.	184.	-744.	0.	0.	0.	.0565	-.0029	-.0115	-.0599	.0127	-.0711	0.
.2490	1164.	105.	-178.	-0.	0.	0.	.0621	-.0014	-.0020	-.0168	.0275	-.0968	0.
.2500	1536.	7.	398.	-0.	0.	0.	.0669	.0002	.0076	.0271	.0412	-.1210	0.
.2510	1854.	-87.	954.	-0.	0.	0.	.0705	.0017	.0168	.0695	.0533	-.1427	0.
.2520	2102.	-171.	1450.	0.	0.	-0.	.0727	.0033	.0253	.1081	.0630	-.1606	0.
.2530	2262.	-259.	1881.	0.	0.	0.	.0733	.0050	.0326	.1413	.0699	-.1729	0.
.2540	2309.	-358.	2212.	0.	0.	-0.	.0724	.0069	.0385	.1680	.0736	-.1781	0.
.2550	2232.	-454.	2442.	0.	0.	-0.	.0697	.0091	.0428	.1871	.0740	-.1755	0.
.2560	2048.	-518.	2561.	0.	0.	0.	.0654	.0116	.0452	.1979	.0710	-.1661	0.
.2570	1779.	-521.	2563.	0.	0.	0.	.0597	.0145	.0458	.2002	.0648	-.1510	0.
.2580	1429.	-466.	2457.	0.	0.	-0.	.0527	.0178	.0445	.1947	.0556	-.1303	0.
.2590	994.	-376.	2260.	0.	0.	-0.	.0447	.0214	.0414	.1821	.0438	-.1040	0.
.2600	488.	-260.	1980.	0.	0.	-0.	.0361	.0252	.0367	.1633	.0298	-.0728	0.
.2610	-55.	-106.	1620.	0.	0.	-0.	.0272	.0292	.0306	.1386	.0141	-.0384	0.
.2620	-605.	96.	1187.	0.	0.	-0.	.0184	.0333	.0234	.1087	-.0027	-.0029	0.
.2630	-1147.	331.	702.	0.	0.	-0.	.0101	.0373	.0154	.0750	-.0198	.0325	0.
.2640	-1652.	570.	193.	0.	0.	-0.	.0027	.0411	.0070	.0395	-.0366	.0669	0.
.2650	-2108.	797.	-314.	0.	0.	-0.	-.0034	.0444	-.0016	.0044	-.0523	.0985	0.
.2660	-2482.	1011.	-791.	0.	-0.	-0.	-.0080	.0471	-.0098	-.0285	-.0660	.1255	0.
.2670	-2755.	1210.	-1213.	0.	0.	-0.	-.0107	.0490	-.0174	-.0574	-.0772	.1462	0.
.2680	-2916.	1371.	-1558.	0.	-0.	-0.	-.0113	.0500	-.0240	-.0807	-.0852	.1598	0.
.2690	-2957.	1470.	-1814.	0.	0.	-0.	-.0099	.0501	-.0295	-.0973	-.0897	.1659	0.

ADLPIPE PAGE 2632

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.46.

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



.2590	994.	-376.	2260.	0.	0.	-0.	.0447	.0214	.0414	.1821	.0438	-.1040	0.
.2600	480.	-260.	1980.	0.	0.	-0.	.0361	.0252	.0367	.1633	.0298	-.0728	0.
.2610	-55.	-106.	1620.	0.	0.	-0.	.0272	.0292	.0306	.1386	.0141	-.0384	0.
.2620	-605.	96.	1187.	0.	0.	-0.	.0184	.0233	.0234	.1087	-.0027	-.0029	0.
.2630	-1147.	331.	702.	0.	0.	-0.	.0101	.0273	.0154	.0750	-.0198	.0325	0.
.2640	-1652.	570.	193.	0.	0.	-0.	.0027	.0411	.0070	.0395	-.0366	.0669	0.
.2650	-2108.	797.	-314.	0.	0.	-0.	-.0034	.0444	-.0016	.0044	-.0523	.0985	0.
.2660	-2482.	1011.	-791.	0.	-0.	-0.	-.0080	.0471	-.0098	-.0285	-.0660	.1255	0.
.2670	-2755.	1210.	-1213.	0.	0.	-0.	-.0107	.0490	-.0174	-.0574	-.0772	.1462	0.
.2680	-2916.	1371.	-1558.	0.	-0.	-0.	-.0113	.0500	-.0240	-.0807	-.0852	.1598	0.
.2690	-2957.	1470.	-1814.	0.	0.	-0.	-.0099	.0501	-.0295	-.0973	-.0897	.1659	0.

ADLPIPE PAGE 2637

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.46.

S/RV PIPING KEWAUNEE GKNOBF 2 RUP DISK  
2 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	CG	MEMBER	2	SEQUENCE	832	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)		
.2700	-2571.	1504.	-1974.	-0.	0.	-0.	-.0062	.0491	-.0335	-.1071	-.0905	.1643	0.		
.2710	-2670.	1479.	-2040.	0.	0.	-0.	-.0006	.0470	-.0362	-.1100	-.0877	.1546	0.		
.2720	-2345.	1392.	-2018.	-0.	0.	-0.	.0070	.0438	-.0375	-.1063	-.0815	.1369	0.		
.2730	-1919.	1226.	-1907.	0.	0.	-0.	.0163	.0396	-.0370	-.0959	-.0723	.1127	0.		
.2740	-1417.	976.	-1709.	-0.	0.	-0.	.0268	.0346	-.0353	-.0790	-.0605	.0834	0.		
.2750	-854.	668.	-1430.	-0.	0.	-0.	.0383	.0290	-.0323	-.0565	-.0467	.0495	0.		
.2760	-238.	341.	-1090.	-0.	0.	-0.	.0504	.0229	-.0284	-.0297	-.0316	.0113	0.		
.2770	410.	11.	-700.	-0.	0.	-0.	.0625	.0165	-.0237	.0003	-.0157	-.0295	0.		
.2780	1049.	-342.	-299.	0.	0.	0.	.0742	.0103	-.0185	.0323	.0002	-.0698	0.		
.2790	1638.	-719.	121.	-0.	0.	-0.	.0851	.0043	-.0132	.0646	.0154	-.1071	0.		
.2800	2162.	-1075.	520.	0.	0.	-0.	.0946	-.0011	-.0080	.0948	.0295	-.1406	0.		
.2810	2623.	-1359.	862.	-0.	0.	-0.	.1026	-.0056	-.0032	.1207	.0416	-.1701	0.		
.2820	3004.	-1572.	1127.	0.	0.	0.	.1085	-.0092	.0009	.1411	.0512	-.1937	0.		
.2830	3270.	-1741.	1317.	0.	0.	0.	.1122	-.0115	.0041	.1558	.0578	-.2093	0.		
.2840	3401.	-1852.	1433.	0.	0.	-0.	.1135	-.0126	.0064	.1643	.0610	-.2161	0.		
.2850	3418.	-1857.	1463.	-0.	0.	-0.	.1123	-.0123	.0076	.1664	.0605	-.2155	0.		
.2860	3342.	-1744.	1397.	-0.	0.	-0.	.1086	-.0107	.0078	.1620	.0562	-.2081	0.		
.2870	3158.	-1553.	1250.	-0.	0.	-0.	.1025	-.0078	.0069	.1519	.0482	-.1931	0.		
.2880	2845.	-1316.	1045.	0.	0.	-0.	.0941	-.0038	.0051	.1368	.0373	-.1698	0.		
.2890	2427.	-1025.	781.	0.	0.	-0.	.0837	.0011	.0027	.1169	.0242	-.1397	0.		
.2900	1951.	-671.	454.	0.	0.	-0.	.0716	.0067	-.0004	.0924	.0094	-.1051	0.		
.2910	1429.	-284.	82.	0.	0.	-0.	.0582	.0128	-.0037	.0642	-.0059	-.0671	0.		
.2920	847.	90.	-295.	0.	0.	-0.	.0438	.0190	-.0070	.0345	-.0211	-.0258	0.		
.2930	226.	426.	-653.	0.	0.	-0.	.0289	.0251	-.0101	.0051	-.0355	.0174	0.		
.2940	-380.	732.	-983.	0.	0.	-0.	.0139	.0309	-.0126	-.0228	-.0489	.0593	0.		
.2950	-938.	1016.	-1260.	0.	0.	-0.	-.0007	.0360	-.0144	-.0475	-.0609	.0974	0.		
.2960	-1448.	1265.	-1479.	-0.	-0.	-0.	-.0145	.0404	-.0153	-.0677	-.0714	.1306	0.		
.2970	-1905.	1445.	-1598.	0.	-0.	-0.	-.0272	.0439	-.0150	-.0820	-.0800	.1586	0.		
.2980	-2279.	1538.	-1629.	0.	-0.	-0.	-.0385	.0462	-.0136	-.0899	-.0866	.1803	0.		
.2990	-2552.	1556.	-1577.	0.	-0.	-0.	-.0480	.0474	-.0110	-.0918	-.0906	.1948	0.		
.3000	-2725.	1521.	-1441.	0.	-0.	0.	-.0556	.0475	-.0073	-.0885	-.0917	.2012	0.		
.3010	-2796.	1432.	-1225.	0.	-0.	0.	-.0612	.0465	-.0026	-.0804	-.0895	.1999	0.		
.3020	-2761.	1273.	-945.	0.	-0.	0.	-.0647	.0445	.0030	-.0676	-.0841	.1916	0.		
.3030	-2630.	1045.	-606.	0.	-0.	-0.	-.0663	.0416	.0093	-.0509	-.0757	.1773	0.		
.3040	-2419.	780.	-214.	0.	-0.	-0.	-.0659	.0379	.0159	-.0310	-.0647	.1574	0.		
.3050	-2132.	518.	207.	-0.	-0.	0.	-.0638	.0337	.0226	-.0092	-.0518	.1321	0.		
.3060	-1769.	271.	631.	0.	-0.	-0.	-.0601	.0291	.0292	.0132	-.0377	.1023	0.		
.3070	-1358.	24.	1041.	-0.	-0.	-0.	-.0553	.0244	.0352	.0354	-.0231	.0703	0.		

ADLPIPE PAGE 2637

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

8/12/02.

18.29.46.

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

CONDITION 24

LOADS

SHOCK

PRESSURE

ENGLISH UNITS

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



.2970	-1905.	1445.	-1598.	0.	-0.	-0.	-0.	-.0272	.0439	-.0150	-.0820	-.0800	.1586	0.
.2980	-2279.	1538.	-1629.	0.	-0.	-0.	-0.	-.0385	.0462	-.0136	-.0899	-.0866	.1803	0.
.2990	-2552.	1556.	-1577.	0.	-0.	-0.	-0.	-.0480	.0474	-.0110	-.0918	-.0906	.1948	0.
.3000	-2725.	1521.	-1441.	0.	-0.	-0.	-0.	-.0556	.0475	-.0075	-.0885	-.0917	.2012	0.
.3010	-2796.	1432.	-1325.	0.	-0.	-0.	-0.	-.0612	.0465	-.0026	-.0804	-.0895	.1999	0.
.3020	-2761.	1273.	-945.	0.	-0.	-0.	-0.	-.0647	.0445	.0030	-.0676	-.0841	.1916	0.
.3030	-2630.	1045.	-606.	0.	-0.	-0.	-0.	-.0663	.0416	.0093	-.0509	-.0757	.1773	0.
.3040	-2419.	780.	-214.	0.	-0.	-0.	-0.	-.0659	.0379	.0159	-.0310	-.0647	.1574	0.
.3050	-2132.	518.	207.	-0.	-0.	-0.	-0.	-.0638	.0337	.0226	-.0092	-.0518	.1321	0.
.3060	-1769.	271.	631.	-0.	-0.	-0.	-0.	-.0601	.0291	.0292	.0132	-.0377	.1023	0.
.3070	-1358.	24.	1041.	-0.	-0.	-0.	-0.	-.0553	.0244	.0352	.0354	-.0231	.0703	0.

ADLPIPE PAGE 2633

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.46.

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	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)	FX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)		
.3080	-938.	-218.	1426.	-0.	-0.	-0.	-.0495	.0197	.0404	.0558	-.0086	.0381	0.		
.3090	-520.	-420.	1762.	-0.	-0.	-0.	-.0430	.0152	.0445	.0727	.0055	.0062	0.		
.3100	-96.	-552.	2017.	0.	0.	-0.	-.0363	.0110	.0473	.0846	.0186	-.0251	0.		
.3110	313.	-632.	2179.	0.	0.	-0.	-.0295	.0073	.0486	.0909	.0303	-.0542	0.		
.3120	664.	-688.	2260.	0.	0.	0.	-.0230	.0040	.0482	.0917	.0403	-.0788	0.		
.3130	938.	-718.	2260.	0.	0.	0.	-.0171	.0012	.0463	.0870	.0483	-.0981	0.		
.3140	1157.	-692.	2166.	0.	0.	0.	-.0119	-.0010	.0427	.0764	.0538	-.1133	0.		
.3150	1329.	-607.	1973.	0.	0.	0.	-.0075	-.0027	.0375	.0602	.0565	-.1247	0.		
.3160	1427.	-493.	1703.	0.	0.	-0.	-.0042	-.0039	.0310	.0394	.0563	-.1312	0.		
.3170	1429.	-383.	1375.	0.	0.	-0.	-.0019	-.0049	.0232	.0150	.0535	-.1318	0.		
.3180	1356.	-284.	992.	0.	0.	0.	-.0006	-.0055	.0145	-.0124	.0481	-.1273	0.		
.3190	1236.	-182.	556.	0.	-0.	-0.	-.0004	-.0059	.0052	-.0422	.0407	-.1193	0.		
.3200	1071.	-76.	90.	0.	-0.	0.	-.0010	-.0062	-.0045	-.0733	.0317	-.1085	0.		
.3210	853.	13.	-374.	0.	-0.	0.	-.0024	-.0065	-.0142	-.1042	.0219	-.0950	0.		
.3220	601.	62.	-820.	0.	-0.	0.	-.0044	-.0067	-.0235	-.1331	.0116	-.0790	0.		
.3230	336.	70.	-1233.	0.	-0.	0.	-.0068	-.0070	-.0322	-.1588	.0014	-.0617	0.		
.3240	72.	60.	-1592.	0.	-0.	0.	-.0095	-.0074	-.0399	-.1803	-.0081	-.0445	0.		
.3250	-182.	49.	-1883.	-0.	-0.	0.	-.0121	-.0078	-.0464	-.1970	-.0166	-.0284	0.		
.3260	-409.	25.	-2100.	-0.	-0.	0.	-.0146	-.0082	-.0515	-.2082	-.0237	-.0136	0.		
.3270	-597.	-27.	-2239.	0.	-0.	0.	-.0168	-.0087	-.0550	-.2132	-.0290	-.0002	0.		
.3280	-749.	-98.	-2290.	-0.	-0.	0.	-.0185	-.0091	-.0569	-.2120	-.0321	.0117	0.		
.3290	-856.	-159.	-2254.	0.	-0.	0.	-.0197	-.0094	-.0571	-.2049	-.0330	.0211	0.		
.3300	-897.	-194.	-2142.	-0.	-0.	0.	-.0202	-.0096	-.0556	-.1924	-.0316	.0274	0.		
.3310	-869.	-210.	-1961.	-0.	-0.	0.	-.0201	-.0097	-.0527	-.1746	-.0281	.0309	0.		
.3320	-793.	-222.	-1705.	-0.	-0.	0.	-.0194	-.0096	-.0483	-.1517	-.0226	.0325	0.		
.3330	-678.	-217.	-1383.	0.	-0.	0.	-.0181	-.0093	-.0427	-.1247	-.0154	.0325	0.		
.3340	-517.	-170.	-1019.	0.	-0.	0.	-.0163	-.0089	-.0361	-.0949	-.0069	.0300	0.		
.3350	-294.	-78.	-636.	-0.	-0.	0.	-.0142	-.0084	-.0289	-.0636	.0024	.0253	0.		
.3360	-53.	33.	-240.	0.	-0.	0.	-.0119	-.0078	-.0212	-.0317	.0122	.0199	0.		
.3370	177.	139.	161.	-0.	-0.	0.	-.0095	-.0073	-.0134	-.0001	.0221	.0153	0.		
.3380	397.	251.	545.	0.	-0.	0.	-.0074	-.0068	-.0058	.0298	.0315	.0111	0.		
.3390	614.	382.	887.	-0.	-0.	0.	-.0055	-.0066	.0013	.0568	.0399	.0075	0.		
.3400	810.	522.	1181.	0.	-0.	0.	-.0041	-.0066	.0078	.0800	.0469	.0044	0.		
.3410	953.	643.	1429.	-0.	-0.	0.	-.0034	-.0071	.0133	.0994	.0522	.0034	0.		
.3420	1034.	732.	1626.	0.	-0.	0.	-.0033	-.0080	.0178	.1146	.0555	.0049	0.		
.3430	1065.	792.	1755.	-0.	-0.	0.	-.0040	-.0094	.0211	.1250	.0567	.0085	0.		
.3440	1045.	830.	1812.	-0.	-0.	0.	-.0055	-.0114	.0230	.1302	.0559	.0137	0.		
.3450	964.	839.	1803.	0.	-0.	0.	-.0077	-.0140	.0237	.1299	.0531	.0209	0.		

ADLPIPE PAGE 2634

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.46.

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



.3340	-51.	-170.	-17.	0.	-0.	0.	-0.163	-0.0089	-0.0361	-0.0949	-0.0069	.0300	0.
.3350	-294.	-78.	-636.	-0.	-0.	0.	-0.142	-0.0084	-0.0289	-0.0656	.0024	.0253	0.
.3360	-53.	33.	-240.	0.	-0.	0.	-0.119	-0.0078	-0.0212	-0.0317	.0122	.0199	0.
.3370	177.	139.	161.	-0.	-0.	0.	-0.0095	-0.0073	-0.0134	-0.0001	.0221	.0153	0.
.3380	397.	251.	545.	0.	-0.	0.	-0.0074	-0.0068	-0.0058	.0298	.0315	.0113	0.
.3390	614.	382.	887.	-0.	-0.	0.	-0.0055	-0.0066	.0013	.0568	.0399	.0075	0.
.3400	810.	522.	1181.	0.	-0.	0.	-0.0041	-0.0066	.0078	.0800	.0469	.0044	0.
.3410	957.	643.	1429.	-0.	-0.	0.	-0.0034	-0.0071	.0133	.0994	.0522	.0034	0.
.3420	1034.	732.	1626.	0.	-0.	0.	-0.0033	-0.0080	.0178	.1146	.0555	.0049	0.
.3430	1065.	792.	1755.	-0.	-0.	0.	-0.0040	-0.0094	.0211	.1250	.0567	.0085	0.
.3440	1045.	830.	1812.	-0.	-0.	0.	-0.0055	-0.0114	.0230	.1302	.0559	.0137	0.
.3450	964.	839.	1803.	0.	-0.	0.	-0.0077	-0.0140	.0237	.1299	.0531	.0209	0.

ADLPIPE PAGE 2634

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.46.

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	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)	
.3460	821.	806.	1728.	0.	-0.	0.	-0.0107	-0.0172	.0230	.1245	.0486	.0303	0.	
.3470	629.	721.	1586.	-0.	-0.	0.	-0.0142	-0.0210	.0211	.1143	.0426	.0417	0.	
.3480	399.	595.	1384.	0.	-0.	0.	-0.0181	-0.0252	.0180	.0999	.0353	.0545	0.	
.3490	137.	444.	1136.	-0.	-0.	0.	-0.0223	-0.0299	.0140	.0819	.0270	.0678	0.	
.3500	-142.	277.	852.	-0.	-0.	0.	-0.0265	-0.0349	.0092	.0613	.0179	.0811	0.	
.3510	-421.	89.	542.	0.	-0.	0.	-0.0306	-0.0400	.0038	.0393	.0084	.0940	0.	
.3520	-691.	-118.	222.	-0.	-0.	0.	-0.0344	-0.0451	-0.0019	.0170	-0.0012	.1062	0.	
.3530	-948.	-330.	-92.	-0.	-0.	0.	-0.0376	-0.0501	-0.0078	-0.0046	-0.0104	.1174	0.	
.3540	-1174.	-529.	-391.	0.	-0.	0.	-0.0401	-0.0549	-0.0135	-0.0250	-0.0188	.1265	0.	
.3550	-1350.	-707.	-672.	0.	-0.	0.	-0.0418	-0.0592	-0.0189	-0.0435	-0.0259	.1332	0.	
.3560	-1475.	-868.	-921.	0.	-0.	0.	-0.0424	-0.0629	-0.0238	-0.0593	-0.0315	.1377	0.	
.3570	-1554.	-1016.	-1125.	0.	-0.	0.	-0.0420	-0.0660	-0.0280	-0.0716	-0.0353	.1403	0.	
.3580	-1582.	-1138.	-1275.	0.	-0.	0.	-0.0404	-0.0683	-0.0313	-0.0800	-0.0372	.1404	0.	
.3590	-1540.	-1213.	-1376.	0.	-0.	0.	-0.0377	-0.0698	-0.0337	-0.0844	-0.0372	.1374	0.	
.3600	-1430.	-1238.	-1422.	-0.	-0.	0.	-0.0338	-0.0704	-0.0350	-0.0843	-0.0357	.1312	0.	
.3610	-1267.	-1229.	-1406.	0.	-0.	0.	-0.0290	-0.0700	-0.0353	-0.0795	-0.0326	.1228	0.	
.3620	-1065.	-1193.	-1326.	0.	-0.	0.	-0.0233	-0.0687	-0.0346	-0.0700	-0.0282	.1128	0.	
.3630	-820.	-1124.	-1194.	-0.	-0.	0.	-0.0168	-0.0666	-0.0329	-0.0566	-0.0227	.1010	0.	
.3640	-533.	-1013.	-1023.	-0.	-0.	0.	-0.0098	-0.0637	-0.0304	-0.0401	-0.0161	.0875	0.	
.3650	-222.	-868.	-817.	-0.	-0.	0.	-0.0024	-0.0600	-0.0271	-0.0213	-0.0087	.0730	0.	
.3660	92.	-709.	-583.	-0.	-0.	0.	.0051	-0.0558	-0.0233	-0.0011	-0.0007	.0585	0.	
.3670	401.	-544.	-333.	0.	-0.	0.	.0124	-0.0510	-0.0190	.0200	.0077	.0447	0.	
.3680	699.	-372.	-81.	0.	-0.	0.	.0194	-0.0458	-0.0146	.0408	.0160	.0317	0.	
.3690	978.	-186.	164.	0.	-0.	0.	.0259	-0.0404	-0.0101	.0606	.0238	.0194	0.	
.3700	1227.	10.	396.	-0.	-0.	0.	.0315	-0.0349	-0.0058	.0786	.0307	.0082	0.	
.3710	1427.	201.	604.	0.	-0.	-0.	.0363	-0.0295	-0.0018	.0945	.0362	-0.0013	0.	
.3720	1587.	377.	779.	0.	-0.	-0.	.0400	-0.0242	.0017	.1075	.0400	-0.0087	0.	
.3730	1685.	537.	917.	-0.	-0.	0.	.0425	-0.0192	.0047	.1171	.0422	-0.0141	0.	
.3740	1729.	687.	1009.	-0.	-0.	0.	.0437	-0.0146	.0069	.1224	.0426	-0.0177	0.	
.3750	1719.	821.	1051.	0.	0.	0.	.0437	-0.0105	.0084	.1232	.0415	-0.0194	0.	
.3760	1657.	924.	1041.	0.	0.	0.	.0424	-0.0071	.0092	.1194	.0391	-0.0189	0.	
.3770	1527.	984.	983.	-0.	0.	0.	.0400	-0.0043	.0091	.1111	.0353	-0.0162	0.	
.3780	1346.	1003.	884.	-0.	0.	0.	.0364	-0.0023	.0084	.0986	.0311	-0.0115	0.	
.3790	1125.	993.	746.	-0.	0.	0.	.0319	-0.0010	.0071	.0821	.0260	-0.0058	0.	
.3800	876.	959.	573.	-0.	0.	0.	.0266	-0.0004	.0052	.0624	.0203	.0004	0.	
.3810	602.	891.	377.	-0.	-0.	-0.	.0207	-0.0005	.0029	.0404	.0141	.0070	0.	
.3820	304.	779.	172.	-0.	0.	0.	.0144	-0.0013	.0004	.0170	.0076	.0141	0.	
.3830	-2.	637.	-36.	-0.	-0.	0.	.0079	-0.0026	-0.0022	-0.0070	.0008	.0209	0.	

ADLPIPE PAGE 2635

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.46.

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



.3730	1685.	537.	917.	-0.	-0.	0.	.0425	-.0192	.0047	.1171	.0422	-.0141	0.
.3740	1729.	687.	1009.	-0.	-0.	0.	.0437	-.0146	.0069	.1224	.0426	-.0177	0.
.3750	1719.	821.	1051.	0.	0.	0.	.0437	-.0105	.0084	.1232	.0415	-.0194	0.
.3760	1657.	924.	1041.	0.	0.	0.	.0424	-.0071	.0092	.1194	.0391	-.0189	0.
.3770	1527.	984.	983.	-0.	0.	0.	.0400	-.0043	.0091	.1111	.0355	-.0162	0.
.3780	1346.	1003.	884.	-0.	0.	0.	.0364	-.0023	.0084	.0986	.0311	-.0115	0.
.3790	1125.	993.	746.	-0.	0.	0.	.0319	-.0010	.0071	.0821	.0260	-.0058	0.
.3800	876.	959.	573.	-0.	0.	0.	.0266	-.0004	.0052	.0624	.0205	.0004	0.
.3810	602.	891.	377.	-0.	-0.	-0.	.0207	-.0005	.0029	.0404	.0141	.0070	0.
.3820	304.	779.	172.	-0.	0.	0.	.0144	-.0013	.0004	.0170	.0076	.0141	0.
.3830	-2.	637.	-36.	-0.	-0.	0.	.0079	-.0026	-.0022	-.0070	.0008	.0209	0.

ADLPIPE PAGE 2635

DIS/ADLPIPE

ADLPIPE STRESS ANALYSIS

83/12/02.

18.29.46.

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	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)
.3840	-295.	486.	-243.	-0.	-0.	0.	.0015	-.0043	-.0048	-.0311	-.0060	.0265	0.
.3850	-565.	330.	-441.	-0.	-0.	0.	-.0047	-.0064	-.0072	-.0544	-.0125	.0304	0.
.3860	-812.	160.	-617.	-0.	-0.	0.	-.0104	-.0087	-.0092	-.0761	-.0184	.0329	0.
.3870	-1031.	-25.	-761.	-0.	-0.	0.	-.0155	-.0111	-.0107	-.0953	-.0233	.0342	0.
.3880	-1208.	-208.	-870.	-0.	-0.	0.	-.0197	-.0134	-.0117	-.1115	-.0271	.0338	0.
.3890	-1331.	-371.	-943.	-0.	-0.	-0.	-.0231	-.0156	-.0120	-.1246	-.0296	.0312	0.
.3900	-1398.	-506.	-976.	-0.	-0.	0.	-.0255	-.0175	-.0116	-.1339	-.0307	.0263	0.
.3910	-1414.	-617.	-965.	-0.	-0.	0.	-.0269	-.0190	-.0106	-.1392	-.0305	.0199	0.
.3920	-1378.	-709.	-912.	-0.	-0.	-0.	-.0272	-.0200	-.0088	-.1402	-.0291	.0123	0.
.3930	-1290.	-777.	-821.	-0.	-0.	-0.	-.0266	-.0205	-.0065	-.1370	-.0267	.0037	0.
.3940	-1151.	-798.	-698.	-0.	-0.	0.	-.0250	-.0205	-.0033	-.1302	-.0232	-.0062	0.
.3950	-966.	-766.	-549.	-0.	-0.	-0.	-.0226	-.0198	.0002	-.1204	-.0188	-.0171	0.
.3960	-741.	-697.	-380.	-0.	-0.	0.	-.0195	-.0186	.0040	-.1077	-.0137	-.0283	0.
.3970	-492.	-612.	-195.	-0.	0.	0.	-.0159	-.0169	.0082	-.0925	-.0080	-.0388	0.
.3980	-237.	-502.	1.	-0.	0.	0.	-.0120	-.0148	.0124	-.0757	-.0020	-.0484	0.
.3990	34.	-355.	196.	-0.	0.	0.	-.0079	-.0124	.0166	-.0580	.0043	-.0573	0.
.4000	307.	-176.	378.	-0.	0.	0.	-.0039	-.0097	.0207	-.0404	.0103	-.0655	0.

MAXIMUM VALUE OF STRESS OCCURS AT

TIME (SEC)	FX (LB)	FY (LB)	FZ (LB)	MX (FT-LB)	MY (FT-LB)	MZ (FT-LB)	DX (IN)	DY (IN)	DZ (IN)	RX (DEG)	RY (DEG)	RZ (DEG)	STRESS (PSI)
.0300	-490.	-284.	116.	0.	0.	0.	-.0074	-.0020	-.0002	.0078	.0085	.0328	0.

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)
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	1.
.0060	2.	0.	-1.	-0.	1.	-0.	-.0000	.0000	-.0000	.0000	-.0001	-.0000	3.
.0070	4.	1.	-1.	-2.	2.	-1.	-.0000	.0000	-.0000	.0000	-.0001	-.0001	9.

ADLPIPE PAGE 2636

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