00040224 VERSION=HPPA 8000 17:27:23 OCT 13, 2001 CP= 2281.620

Robinson 2 RPV -- Oper. Temp & Press - 1.75 mil intf - 7.8 alpha - noz 9 no pr

***** POST1 ELEMENT TABLE LISTING *****

ELEM	GAPSTAT	GAPFORC	GAPSTRCH	
101	3.0000	0.0000	0.68186E-03	
102	3.0000	0.0000	0.69807E-03	
103	3.0000	0.0000	0.71212E-03	<
121	3.0000	0.0000	0.52359E-03	
122	3.0000	0.0000	0.52807E-03	
123	3.0000	0.0000	0.53172E-03	<
141	3.0000	0.0000	0.34862E-03	
142	3.0000	0.0000	0.35711E-03	
143	3.0000	-0.29104E-10	0.36217E-03	<
161	3.0000	0.0000	0.36092E-03	
162	3.0000	0.0000	0.36744E-03	
163	3.0000	0.0000	0.37060E-03	<
181	3.0000	0.29104E-10	0.31367E-03	
182	3.0000	0.0000	0.32180E-03	
183	3.0000	0.0000	0.32549E-03	< Limiting
201	3.0000	0.0000	0.90619E-03	<
202	3.0000	0.0000	0.86815E-03	
203	3.0000	0.0000	0.79032E-03	
204	3.0000	0.0000	0.72301E-03	
205	3.0000	0.0000	0.65376E-03	
206	3.0000	0.0000	0.56824E-03	
207	3.0000	0.0000	0.49598E-03	
208	3.0000	0.0000	0.47929E-03	
209	3.0000	0.0000	0.48117E-03	
221	3.0000	0.0000	0.92870E-03	<
222	3.0000	0.0000	0.88852E-03	
223	3.0000	0.0000	0.78531E-03	
224	3.0000	0.0000	0.65534E-03	
225	3.0000	0.0000	0.51496E-03	
226	3.0000	0.0000	0.38528E-03	
227	3.0000	0.0000	0.29226E-03	
228	3.0000	0.0000	0.23697E-03	
229	3.0000	0.0000	0.22352E-03	
241	3.0000	0.0000	0.84020E-03	<
242	3.0000	0.0000	0.79033E-03	
243	3.0000	0.0000	0.65812E-03	
244	3.0000	-0.29104E-10	0.48923E-03	
245	3.0000	0.0000	0.29977E-03	
246	3.0000	0.0000	0.12333E-03	
247	3.0000	0.0000	0.15009E-06	
248	1.0000	-309.75	-0.61950E-06	
249	1.0000	-154.50	-0.30899E-06	
261	3.0000	0.0000	0.86124E-03	<
262	3.0000	0.0000	0.81103E-03	
263	3.0000	0.0000	0.67302E-03	
264	3.0000	0.0000	0.49053E-03	
265	3.0000	0.0000	0.29026E-03	

266	3.0000	0.0000	0.11880E-03	
267	3.0000	0.0000	0.27124E-06	
268	1.0000	-183.97	-0.36795E-06	
269	1.0000	-8757.3	-0.17515E-04	
281	3.0000	0.0000	0.82859E-03	< Limiting
282	3.0000	0.0000	0.78021E-03	
283	3.0000	0.0000	0.64541E-03	
284	3.0000	0.0000	0.46554E-03	
285	3.0000	0.0000	0.26155E-03	
286	3.0000	0.0000	0.82023E-04	
287	1.0000	-184.88	-0.36976E-06	
288	1.0000	-444.88	-0.88977E-06	
289	1.0000	-220.98	-0.44195E-06	
301	3.0000	0.0000	0.41826E-03	
302	3.0000	0.0000	0.44256E-03	
303	3.0000	0.0000	0.48092E-03	
304	3.0000	0.0000	0.52189E-03	
305	3.0000	0.0000	0.59214E-03	
306	3.0000	0.0000	0.71347E-03	
307	3.0000	0.0000	0.82714E-03	
308	3.0000	0.0000	0.88253E-03	
309	3.0000	0.58208E-10	0.89286E-03	<
321	3.0000	0.0000	0.19199E-03	
322	3.0000	0.0000	0.20877E-03	
323	3.0000	0.0000	0.26557E-03	
324	3.0000	0.0000	0.35631E-03	
325	3.0000	0.0000	0.49057E-03	
326	3.0000	0.0000	0.65998E-03	
327	3.0000	0.0000	0.81819E-03	
328	3.0000	0.0000	0.92107E-03	
329	3.0000	0.0000	0.95250E-03	<
341	1.0000	-319.76	-0.63951E-06	
342	1.0000	-516.71	-0.10334E-05	
343	1.0000	-115.58	-0.23117E-06	
344	3.0000	0.0000	0.83161E-04	
345	3.0000	0.0000	0.25104E-03	
346	3.0000	0.0000	0.47184E-03	
347	3.0000	0.0000	0.67399E-03	
348	3.0000	0.0000	0.80518E-03	
349	3.0000	0.0000	0.84501E-03	<
361	1.0000	-128.07	-0.25613E-06	
362	1.0000	-208.39	-0.41678E-06	
363	3.0000	0.0000	0.14375E-06	
364	3.0000	0.0000	0.90294E-04	
365	3.0000	0.0000	0.24456E-03	
366	3.0000	0.0000	0.45811E-03	
367	3.0000	0.0000	0.66210E-03	
368	3.0000	0.0000	0.80257E-03	
369	3.0000	0.0000	0.84782E-03	<
381	1.0000	-335.80	-0.67161E-06	
382	1.0000	-535.05	-0.10701E-05	
383	1.0000	-162.69	-0.32538E-06	
384	3.0000	0.0000	0.72302E-04	
385	3.0000	0.0000	0.22467E-03	
386	3.0000	0.0000	0.42531E-03	

387	3.0000	0.0000	0.61489E-03	
388	3.0000	0.0000	0.74578E-03	
389	3.0000	0.0000	0.78755E-03	< Limiting
401	3.0000	0.0000	0.94001E-03	<
402	3.0000	-0.58208E-10	0.88786E-03	
403	3.0000	0.0000	0.77794E-03	
404	3.0000	0.0000	0.67032E-03	
405	3.0000	0.0000	0.57044E-03	
406	3.0000	0.0000	0.47253E-03	
407	3.0000	0.0000	0.40998E-03	
408	3.0000	0.0000	0.41520E-03	
409	3.0000	0.0000	0.42816E-03	
421	3.0000	0.0000	0.99119E-03	<
422	3.0000	0.0000	0.93700E-03	
423	3.0000	0.0000	0.80016E-03	
424	3.0000	0.0000	0.63241E-03	
425	3.0000	0.0000	0.46632E-03	
426	3.0000	0.0000	0.33077E-03	
427	3.0000	0.0000	0.22756E-03	
428	3.0000	0.0000	0.16930E-03	
429	3.0000	0.0000	0.15356E-03	
441	3.0000	0.0000	0.83532E-03	<
442	3.0000	0.0000	0.77748E-03	
443	3.0000	0.0000	0.62451E-03	
444	3.0000	0.0000	0.42686E-03	
445	3.0000	0.0000	0.21523E-03	
446	3.0000	0.0000	0.41575E-04	
447	1.0000	-569.87	-0.11397E-05	
448	1.0000	-857.10	-0.17142E-05	
449	1.0000	-454.20	-0.90840E-06	
461	3.0000	0.0000	0.78364E-03	<
462	3.0000	0.0000	0.73322E-03	
463	3.0000	0.0000	0.59451E-03	
464	3.0000	0.0000	0.41038E-03	
465	3.0000	0.0000	0.21507E-03	
466	3.0000	0.0000	0.68026E-04	
467	1.0000	-185.01	-0.37003E-06	
468	1.0000	-303.55	-0.60711E-06	
469	1.0000	-131.24	-0.26248E-06	
481	3.0000	0.0000	0.66209E-03	< Limiting
482	3.0000	0.0000	0.62674E-03	
483	3.0000	0.0000	0.52528E-03	
484	3.0000	0.0000	0.38379E-03	
485	3.0000	0.0000	0.21243E-03	
486	3.0000	0.0000	0.54927E-04	
487	1.0000	-371.07	-0.74214E-06	
488	1.0000	-657.00	-0.13140E-05	
489	1.0000	-360.81	-0.72163E-06	
501	3.0000	0.0000	0.36530E-03	
502	3.0000	0.0000	0.39108E-03	
503	3.0000	0.0000	0.39038E-03	
504	3.0000	0.0000	0.40166E-03	
505	3.0000	-0.29104E-10	0.45345E-03	
506	3.0000	0.0000	0.57772E-03	
507	3.0000	0.58208E-10	0.71031E-03	

508	3.0000	0.0000	0.80667E-03	
509	3.0000	0.0000	0.87423E-03	
510	3.0000	0.0000	0.91727E-03	<
511	3.0000	-0.58208E-10	0.89557E-03	
512	3.0000	0.0000	0.78382E-03	
513	3.0000	0.0000	0.64040E-03	
514	3.0000	0.0000	0.53157E-03	
515	3.0000	0.0000	0.45377E-03	
516	3.0000	0.0000	0.39673E-03	
521	3.0000	0.0000	0.98900E-04	
522	3.0000	0.0000	0.12632E-05	
523	3.0000	0.0000	0.11650E-03	
524	3.0000	0.0000	0.22166E-03	
525	3.0000	0.0000	0.35266E-03	
526	3.0000	0.0000	0.50487E-03	
527	3.0000	0.0000	0.67398E-03	
528	3.0000	0.0000	0.82413E-03	
529	3.0000	0.0000	0.92762E-03	
530	3.0000	0.0000	0.97546E-03	<
531	3.0000	0.0000	0.93481E-03	
532	3.0000	0.0000	0.80071E-03	
533	3.0000	0.0000	0.61663E-03	
534	3.0000	0.0000	0.44332E-03	
535	3.0000	0.0000	0.30817E-03	
536	3.0000	0.0000	0.18721E-03	
541	1.0000	-1274.9	-0.25498E-05	
542	1.0000	-1179.9	-0.23597E-05	
543	1.0000	-1064.5	-0.21290E-05	
544	1.0000	-552.81	-0.11056E-05	
545	3.0000	0.0000	0.44662E-04	
546	3.0000	0.0000	0.23225E-03	
547	3.0000	0.0000	0.44851E-03	
548	3.0000	0.0000	0.63134E-03	
549	3.0000	0.0000	0.74861E-03	
550	3.0000	0.0000	0.79973E-03	<
551	3.0000	0.0000	0.75423E-03	
552	3.0000	0.0000	0.60438E-03	
553	3.0000	0.0000	0.38573E-03	
554	3.0000	0.0000	0.17004E-03	
555	3.0000	0.0000	0.10493E-06	
556	1.0000	-822.89	-0.16458E-05	
561	1.0000	-447.81	-0.89563E-06	
562	1.0000	-346.99	-0.69398E-06	
563	1.0000	-313.80	-0.62761E-06	
564	1.0000	-123.26	-0.24653E-06	
565	3.0000	0.0000	0.61507E-04	
566	3.0000	0.0000	0.21333E-03	
567	3.0000	0.0000	0.40710E-03	
568	3.0000	0.0000	0.58137E-03	
569	3.0000	0.0000	0.69311E-03	
570	3.0000	0.0000	0.73766E-03	<
571	3.0000	0.0000	0.69237E-03	
572	3.0000	0.0000	0.55899E-03	
573	3.0000	0.0000	0.36746E-03	
574	3.0000	0.0000	0.18288E-03	

575	3.0000	0.0000	0.52586E-04	
576	1.0000	-235.62	-0.47125E-06	
581	1.0000	-878.12	-0.17562E-05	
582	1.0000	-874.65	-0.17493E-05	
583	1.0000	-630.07	-0.12601E-05	
584	1.0000	-213.42	-0.42684E-06	
585	3.0000	0.0000	0.56428E-04	
586	3.0000	0.0000	0.19771E-03	
587	3.0000	0.0000	0.35515E-03	
588	3.0000	0.0000	0.48696E-03	
589	3.0000	0.0000	0.56522E-03	
590	3.0000	0.0000	0.59654E-03	< Limiting
591	3.0000	0.0000	0.56669E-03	
592	3.0000	0.0000	0.47810E-03	
593	3.0000	0.0000	0.34456E-03	
594	3.0000	0.0000	0.20216E-03	
595	3.0000	0.0000	0.60416E-04	
596	1.0000	-385.99	-0.77197E-06	
601	3.0000	0.0000	0.43119E-03	
602	3.0000	0.0000	0.41933E-03	
603	3.0000	0.0000	0.38839E-03	
604	3.0000	0.0000	0.39629E-03	
605	3.0000	0.0000	0.48189E-03	
606	3.0000	0.0000	0.63636E-03	
607	3.0000	0.0000	0.77867E-03	
608	3.0000	0.0000	0.84989E-03	
609	3.0000	0.0000	0.86631E-03	<
621	3.0000	0.0000	0.78361E-04	
622	3.0000	-0.72760E-11	0.10163E-03	
623	3.0000	0.0000	0.18086E-03	
624	3.0000	0.0000	0.30426E-03	
625	3.0000	0.0000	0.44940E-03	
626	3.0000	0.0000	0.62825E-03	
627	3.0000	0.0000	0.78764E-03	
628	3.0000	0.0000	0.87856E-03	
629	3.0000	0.0000	0.90054E-03	<
641	1.0000	-881.14	-0.17623E-05	
642	1.0000	-1505.9	-0.30118E-05	
643	1.0000	-962.30	-0.19246E-05	
644	1.0000	-21.587	-0.43174E-07	
645	3.0000	0.0000	0.16240E-03	
646	3.0000	0.0000	0.37621E-03	
647	3.0000	0.0000	0.54824E-03	
648	3.0000	0.0000	0.63619E-03	
649	3.0000	0.0000	0.65498E-03	<
661	1.0000	-323.54	-0.64707E-06	
662	1.0000	-516.13	-0.10323E-05	
663	1.0000	-182.17	-0.36435E-06	
664	3.0000	0.0000	0.56556E-04	
665	3.0000	0.0000	0.17873E-03	
666	3.0000	0.0000	0.34081E-03	
667	3.0000	0.0000	0.47116E-03	
668	3.0000	0.0000	0.53909E-03	
669	3.0000	0.0000	0.55318E-03	<

681	1.0000	-643.15	-0.12863E-05	
682	1.0000	-927.33	-0.18547E-05	
683	1.0000	-149.98	-0.29995E-06	
684	3.0000	0.0000	0.95330E-04	
685	3.0000	0.0000	0.19926E-03	
686	3.0000	0.0000	0.29109E-03	
687	3.0000	0.0000	0.34379E-03	
688	3.0000	0.0000	0.35888E-03	< Limiting
689	3.0000	0.0000	0.35565E-03	
701	3.0000	0.0000	0.87651E-03	<
702	3.0000	0.0000	0.82669E-03	
703	3.0000	0.0000	0.72279E-03	
704	3.0000	0.0000	0.60809E-03	
705	3.0000	0.0000	0.49096E-03	
706	3.0000	0.0000	0.39182E-03	
707	3.0000	0.0000	0.37395E-03	
708	3.0000	0.0000	0.45465E-03	
709	3.0000	0.0000	0.50618E-03	
721	3.0000	0.0000	0.90714E-03	<
722	3.0000	0.0000	0.86192E-03	
723	3.0000	0.0000	0.74498E-03	
724	3.0000	0.0000	0.59323E-03	
725	3.0000	0.0000	0.43601E-03	
726	3.0000	0.0000	0.30080E-03	
727	3.0000	0.0000	0.17674E-03	
728	3.0000	0.0000	0.93828E-04	
729	3.0000	0.0000	0.67793E-04	
741	3.0000	0.0000	0.64889E-03	<
742	3.0000	0.0000	0.61016E-03	
743	3.0000	0.0000	0.50112E-03	
744	3.0000	0.0000	0.34181E-03	
745	3.0000	0.0000	0.14934E-03	
746	1.0000	-138.87	-0.27774E-06	
747	1.0000	-1166.3	-0.23327E-05	
748	1.0000	-1567.5	-0.31349E-05	
749	1.0000	-859.58	-0.17192E-05	
761	3.0000	0.0000	0.53063E-03	<
762	3.0000	0.29104E-10	0.50614E-03	
763	3.0000	0.0000	0.43169E-03	
764	3.0000	0.0000	0.31550E-03	
765	3.0000	-0.14552E-10	0.16648E-03	
766	3.0000	0.0000	0.43163E-04	
767	1.0000	-373.58	-0.74715E-06	
768	1.0000	-536.27	-0.10725E-05	
769	1.0000	-273.94	-0.54788E-06	
781	3.0000	0.0000	0.30931E-03	
782	3.0000	0.0000	0.31232E-03	< Limiting
783	3.0000	0.29104E-10	0.30871E-03	
784	3.0000	0.0000	0.27914E-03	
785	3.0000	0.0000	0.19149E-03	
786	3.0000	0.0000	0.71048E-04	
787	1.0000	-369.43	-0.73886E-06	
788	1.0000	-933.73	-0.18675E-05	
789	1.0000	-577.80	-0.11556E-05	

801	3.0000	0.0000	0.42975E-03	
802	3.0000	0.0000	0.51319E-03	
803	3.0000	0.0000	0.48965E-03	
804	3.0000	0.0000	0.39332E-03	
805	3.0000	0.0000	0.35396E-03	
806	3.0000	0.29104E-10	0.45115E-03	
807	3.0000	0.0000	0.59341E-03	
808	3.0000	0.0000	0.70295E-03	
809	3.0000	0.0000	0.78072E-03	
810	3.0000	0.0000	0.84108E-03	
811	3.0000	0.0000	0.85035E-03	<
812	3.0000	0.0000	0.76541E-03	
813	3.0000	0.0000	0.63064E-03	
814	3.0000	0.0000	0.49735E-03	
815	3.0000	0.0000	0.39537E-03	
816	3.0000	0.0000	0.36930E-03	
821	3.0000	0.72760E-11	0.90324E-04	
822	3.0000	0.0000	0.44204E-04	
823	3.0000	0.72760E-11	0.71100E-04	
824	3.0000	0.0000	0.15030E-03	
825	3.0000	0.0000	0.27754E-03	
826	3.0000	0.0000	0.42157E-03	
827	3.0000	0.0000	0.56699E-03	
828	3.0000	0.0000	0.69913E-03	
829	3.0000	0.0000	0.79557E-03	
830	3.0000	0.0000	0.86331E-03	
831	3.0000	0.0000	0.87518E-03	<
832	3.0000	0.0000	0.79865E-03	
833	3.0000	0.58208E-10	0.64900E-03	
834	3.0000	0.0000	0.47830E-03	
835	3.0000	0.0000	0.32600E-03	
836	3.0000	0.0000	0.18626E-03	
841	1.0000	-1809.8	-0.36195E-05	
842	1.0000	-1951.5	-0.39030E-05	
843	1.0000	-1746.0	-0.34920E-05	
844	1.0000	-1258.5	-0.25171E-05	
845	1.0000	-411.09	-0.82218E-06	
846	3.0000	0.0000	0.10705E-03	
847	3.0000	0.0000	0.28508E-03	
848	3.0000	0.0000	0.43074E-03	
849	3.0000	0.0000	0.51987E-03	
850	3.0000	0.0000	0.58184E-03	
851	3.0000	0.0000	0.60221E-03	<
852	3.0000	0.0000	0.54428E-03	
853	3.0000	0.0000	0.39820E-03	
854	3.0000	0.0000	0.20411E-03	
855	3.0000	0.0000	0.18564E-04	
856	1.0000	-1048.0	-0.20960E-05	
861	1.0000	-710.72	-0.14214E-05	
862	1.0000	-681.53	-0.13631E-05	
863	1.0000	-551.45	-0.11029E-05	
864	1.0000	-371.18	-0.74237E-06	
865	3.0000	0.0000	0.11625E-04	
866	3.0000	-0.72760E-11	0.11888E-03	
867	3.0000	0.0000	0.24848E-03	

868	3.0000	-0.29104E-10	0.35340E-03	
869	3.0000	0.0000	0.41204E-03	
870	3.0000	0.0000	0.45692E-03	
871	3.0000	0.0000	0.48208E-03	<
872	3.0000	0.0000	0.45983E-03	
873	3.0000	0.0000	0.36936E-03	
874	3.0000	0.0000	0.23185E-03	
875	3.0000	0.0000	0.87619E-04	
876	1.0000	-150.76	-0.30152E-06	
881	1.0000	-1028.2	-0.20564E-05	
882	1.0000	-1332.0	-0.26640E-05	
883	1.0000	-1009.9	-0.20199E-05	
884	1.0000	-364.90	-0.72981E-06	
885	3.0000	0.0000	0.43363E-04	
886	3.0000	0.0000	0.13690E-03	
887	3.0000	0.0000	0.20617E-03	
888	3.0000	0.0000	0.22844E-03	
889	3.0000	0.0000	0.21557E-03	
890	3.0000	0.0000	0.22256E-03	
891	3.0000	0.0000	0.25951E-03	
892	3.0000	0.0000	0.30504E-03	
893	3.0000	0.0000	0.31678E-03	< Limiting
894	3.0000	0.0000	0.27098E-03	
895	3.0000	0.0000	0.14952E-03	
896	1.0000	-17.531	-0.35061E-07	
901	3.0000	0.0000	0.58319E-03	
902	3.0000	0.0000	0.59915E-03	
903	3.0000	0.0000	0.46199E-03	
904	3.0000	0.0000	0.34702E-03	
905	3.0000	0.0000	0.37138E-03	
906	3.0000	0.0000	0.52812E-03	
907	3.0000	0.0000	0.67486E-03	
908	3.0000	0.0000	0.73833E-03	
909	3.0000	0.0000	0.75375E-03	
910	3.0000	0.0000	0.77614E-03	<
911	3.0000	0.0000	0.77222E-03	
912	3.0000	0.0000	0.67797E-03	
913	3.0000	0.0000	0.52677E-03	
914	3.0000	0.0000	0.39404E-03	
915	3.0000	0.0000	0.35413E-03	
916	3.0000	0.0000	0.44930E-03	
921	1.0000	-0.14903	-0.29805E-09	
922	1.0000	-20.590	-0.41181E-07	
923	3.0000	0.72760E-11	0.91284E-04	
924	3.0000	0.0000	0.23470E-03	
925	3.0000	0.0000	0.39814E-03	
926	3.0000	0.0000	0.55295E-03	
927	3.0000	0.0000	0.67503E-03	
928	3.0000	0.0000	0.72480E-03	
929	3.0000	0.0000	0.72954E-03	
930	3.0000	0.0000	0.76452E-03	
931	3.0000	0.0000	0.78520E-03	<
932	3.0000	0.0000	0.71726E-03	
933	3.0000	0.0000	0.57148E-03	
934	3.0000	0.0000	0.40612E-03	

935	3.0000	0.0000	0.23397E-03	
936	3.0000	0.0000	0.79991E-04	
941	1.0000	-2603.2	-0.52064E-05	
942	1.0000	-2444.4	-0.48889E-05	
943	1.0000	-1749.7	-0.34994E-05	
944	1.0000	-732.78	-0.14656E-05	
945	3.0000	0.0000	0.60135E-04	
946	3.0000	0.0000	0.24043E-03	
947	3.0000	0.0000	0.36827E-03	
948	3.0000	0.0000	0.39794E-03	
949	3.0000	0.0000	0.38693E-03	
950	3.0000	-0.29104E-10	0.42475E-03	
951	3.0000	0.0000	0.47276E-03	<
952	3.0000	-0.29104E-10	0.43544E-03	
953	3.0000	0.0000	0.28743E-03	
954	3.0000	0.0000	0.97608E-04	
955	1.0000	-663.71	-0.13274E-05	
956	1.0000	-1900.9	-0.38017E-05	
961	1.0000	-1056.5	-0.21129E-05	
962	1.0000	-921.65	-0.18433E-05	
963	1.0000	-447.73	-0.89546E-06	
964	3.0000	0.0000	0.17054E-04	
965	3.0000	0.0000	0.11591E-03	
966	3.0000	0.0000	0.22842E-03	
967	3.0000	0.0000	0.28631E-03	
968	3.0000	0.0000	0.27404E-03	
969	3.0000	0.0000	0.24284E-03	
970	3.0000	0.0000	0.27922E-03	
971	3.0000	0.0000	0.34654E-03	
972	3.0000	0.0000	0.36964E-03	<
973	3.0000	0.0000	0.30260E-03	
974	3.0000	0.0000	0.17954E-03	
975	3.0000	0.0000	0.47455E-04	
976	1.0000	-475.69	-0.95139E-06	
981	1.0000	-1665.0	-0.33301E-05	
982	1.0000	-1554.3	-0.31086E-05	
983	1.0000	-461.19	-0.92237E-06	
984	3.0000	0.0000	0.95267E-04	
985	3.0000	0.0000	0.18589E-03	
986	3.0000	0.0000	0.21436E-03	
987	3.0000	0.0000	0.15832E-03	
988	3.0000	0.0000	0.55904E-04	
989	1.0000	-176.90	-0.35381E-06	
990	3.0000	0.0000	0.60310E-05	
991	3.0000	0.0000	0.12010E-03	
992	3.0000	0.0000	0.25113E-03	
993	3.0000	0.0000	0.31576E-03	< Limiting
994	3.0000	0.0000	0.28101E-03	
995	3.0000	0.0000	0.14009E-03	
996	1.0000	-474.91	-0.94982E-06	
1001	3.0000	0.0000	0.67137E-03	
1002	3.0000	0.0000	0.66193E-03	
1003	3.0000	0.0000	0.63799E-03	
1004	3.0000	0.0000	0.56972E-03	
1005	3.0000	0.0000	0.43073E-03	

1006	3.0000	0.0000	0.32465E-03	
1007	3.0000	0.0000	0.41534E-03	
1008	3.0000	0.0000	0.68048E-03	
1009	3.0000	0.0000	0.82589E-03	<
1021	3.0000	0.0000	0.66016E-03	
1022	3.0000	0.0000	0.66593E-03	<
1023	3.0000	0.0000	0.65167E-03	
1024	3.0000	0.0000	0.58926E-03	
1025	3.0000	0.0000	0.46648E-03	
1026	3.0000	0.0000	0.31305E-03	
1027	3.0000	0.0000	0.13389E-03	
1028	3.0000	0.0000	0.74622E-05	
1029	1.0000	-175.19	-0.35037E-06	
1041	3.0000	0.0000	0.31771E-03	
1042	3.0000	0.0000	0.33306E-03	
1043	3.0000	0.0000	0.34052E-03	<
1044	3.0000	0.0000	0.28210E-03	
1045	3.0000	0.0000	0.12937E-03	
1046	1.0000	-346.72	-0.69344E-06	
1047	1.0000	-1700.7	-0.34014E-05	
1048	1.0000	-2373.8	-0.47476E-05	
1049	1.0000	-1379.1	-0.27582E-05	
1061	3.0000	0.0000	0.20336E-03	
1062	3.0000	0.0000	0.22943E-03	
1063	3.0000	0.0000	0.26372E-03	<
1064	3.0000	0.0000	0.25779E-03	
1065	3.0000	0.0000	0.16580E-03	
1066	3.0000	0.0000	0.46503E-04	
1067	1.0000	-506.75	-0.10135E-05	
1068	1.0000	-989.53	-0.19791E-05	
1069	1.0000	-574.45	-0.11489E-05	
1081	1.0000	-259.17	-0.51834E-06	
1082	1.0000	-79.247	-0.15849E-06	
1083	3.0000	0.0000	0.10622E-03	
1084	3.0000	0.0000	0.21858E-03	
1085	3.0000	0.0000	0.22762E-03	< Limiting
1086	3.0000	0.0000	0.13511E-03	
1087	1.0000	-149.49	-0.29898E-06	
1088	1.0000	-1284.0	-0.25681E-05	
1089	1.0000	-904.69	-0.18094E-05	
1101	3.0000	0.0000	0.60884E-03	
1102	3.0000	0.0000	0.86367E-03	<
1103	3.0000	0.0000	0.81700E-03	
1104	3.0000	0.0000	0.52676E-03	
1105	3.0000	-0.29104E-10	0.31439E-03	
1106	3.0000	0.0000	0.35956E-03	
1107	3.0000	0.0000	0.52705E-03	
1108	3.0000	0.0000	0.62907E-03	
1109	3.0000	0.0000	0.63038E-03	
1110	3.0000	0.0000	0.63377E-03	
1111	3.0000	0.58208E-10	0.67584E-03	
1112	3.0000	0.0000	0.68756E-03	
1113	3.0000	0.0000	0.63560E-03	
1114	3.0000	0.0000	0.50365E-03	
1115	3.0000	0.0000	0.35324E-03	

1116	3.0000	0.0000	0.36075E-03	
1121	3.0000	0.0000	0.46328E-04	
1122	1.0000	-397.18	-0.79436E-06	
1123	1.0000	-184.78	-0.36956E-06	
1124	3.0000	0.0000	0.81726E-04	
1125	3.0000	0.0000	0.25629E-03	
1126	3.0000	0.0000	0.44063E-03	
1127	3.0000	0.0000	0.56253E-03	
1128	3.0000	0.0000	0.62054E-03	
1129	3.0000	0.0000	0.60523E-03	
1130	3.0000	0.0000	0.60757E-03	
1131	3.0000	0.0000	0.67029E-03	
1132	3.0000	0.0000	0.72699E-03	<
1133	3.0000	0.0000	0.69569E-03	
1134	3.0000	0.0000	0.57930E-03	
1135	3.0000	0.0000	0.40725E-03	
1136	3.0000	0.0000	0.20901E-03	
1141	1.0000	-2535.7	-0.50715E-05	
1142	1.0000	-3004.0	-0.60080E-05	
1143	1.0000	-2704.9	-0.54098E-05	
1144	1.0000	-1898.1	-0.37963E-05	
1145	1.0000	-830.52	-0.16610E-05	
1146	3.0000	0.0000	0.63624E-04	
1147	3.0000	0.0000	0.20789E-03	
1148	3.0000	0.0000	0.27870E-03	
1149	3.0000	0.0000	0.25761E-03	
1150	3.0000	0.0000	0.25423E-03	
1151	3.0000	0.0000	0.32226E-03	
1152	3.0000	0.0000	0.40670E-03	<
1153	3.0000	0.0000	0.40345E-03	
1154	3.0000	0.0000	0.27721E-03	
1155	3.0000	0.0000	0.69450E-04	
1156	1.0000	-1134.3	-0.22686E-05	
1161	1.0000	-1008.5	-0.20170E-05	
1162	1.0000	-1378.9	-0.27579E-05	
1163	1.0000	-1139.8	-0.22795E-05	
1164	1.0000	-638.87	-0.12777E-05	
1165	1.0000	-48.239	-0.96478E-07	
1166	3.0000	0.0000	0.96911E-04	
1167	3.0000	0.0000	0.18144E-03	
1168	3.0000	0.0000	0.20830E-03	
1169	3.0000	0.0000	0.17244E-03	
1170	3.0000	0.0000	0.16106E-03	
1171	3.0000	0.0000	0.22505E-03	
1172	3.0000	0.0000	0.31884E-03	
1173	3.0000	0.0000	0.36734E-03	< Limiting
1174	3.0000	0.0000	0.31816E-03	
1175	3.0000	0.0000	0.17185E-03	
1176	3.0000	0.0000	0.15878E-04	
1181	1.0000	-952.77	-0.19055E-05	
1182	1.0000	-2055.9	-0.41119E-05	
1183	1.0000	-1684.2	-0.33684E-05	
1184	1.0000	-422.32	-0.84465E-06	
1185	3.0000	0.0000	0.84995E-04	
1186	3.0000	-0.14552E-10	0.16089E-03	

1187	3.0000	0.0000	0.15872E-03	
1188	3.0000	0.0000	0.79159E-04	
1189	1.0000	-282.21	-0.56442E-06	
1190	1.0000	-751.65	-0.15033E-05	
1191	1.0000	-271.88	-0.54375E-06	
1192	3.0000	0.0000	0.11525E-03	
1193	3.0000	0.0000	0.28609E-03	
1194	3.0000	0.0000	0.37824E-03	<
1195	3.0000	0.0000	0.31016E-03	
1196	3.0000	0.0000	0.12574E-03	
1201	3.0000	0.0000	0.91871E-03	<
1202	3.0000	0.0000	0.74488E-03	
1203	3.0000	0.0000	0.43518E-03	
1204	3.0000	0.0000	0.31879E-03	
1205	3.0000	0.0000	0.41832E-03	
1206	3.0000	0.0000	0.60082E-03	
1207	3.0000	0.0000	0.70409E-03	
1208	3.0000	0.0000	0.68100E-03	
1209	3.0000	0.0000	0.63779E-03	
1221	1.0000	-278.98	-0.55795E-06	
1222	1.0000	-43.744	-0.87488E-07	
1223	3.0000	0.0000	0.14872E-03	
1224	3.0000	0.0000	0.35604E-03	
1225	3.0000	0.0000	0.53614E-03	
1226	3.0000	0.0000	0.68601E-03	
1227	3.0000	0.0000	0.73365E-03	<
1228	3.0000	0.0000	0.65376E-03	
1229	3.0000	0.0000	0.57877E-03	
1241	1.0000	-1818.6	-0.36371E-05	
1242	1.0000	-2878.2	-0.57563E-05	
1243	1.0000	-1589.4	-0.31788E-05	
1244	1.0000	-48.748	-0.97495E-07	
1245	3.0000	0.0000	0.18471E-03	
1246	3.0000	0.0000	0.35715E-03	
1247	3.0000	0.0000	0.38656E-03	<
1248	3.0000	0.29104E-10	0.28265E-03	
1249	3.0000	0.0000	0.20643E-03	
1261	1.0000	-822.63	-0.16453E-05	
1262	1.0000	-1117.2	-0.22344E-05	
1263	1.0000	-128.99	-0.25797E-06	
1264	3.0000	0.0000	0.10543E-03	
1265	3.0000	0.0000	0.23364E-03	
1266	3.0000	0.0000	0.32130E-03	<
1267	3.0000	0.0000	0.29572E-03	
1268	3.0000	0.0000	0.19158E-03	
1269	3.0000	0.0000	0.12542E-03	
1281	1.0000	-1259.5	-0.25190E-05	
1282	1.0000	-1480.4	-0.29609E-05	
1283	3.0000	0.0000	0.66146E-04	
1284	3.0000	0.0000	0.24504E-03	
1285	3.0000	0.0000	0.31102E-03	< Limiting
1286	3.0000	0.0000	0.25670E-03	
1287	3.0000	0.0000	0.10809E-03	
1288	1.0000	-405.78	-0.81155E-06	
1289	1.0000	-526.67	-0.10533E-05	

1301	3.0000	0.0000	0.99389E-03	
1302	3.0000	0.0000	0.11405E-02	<
1303	3.0000	0.0000	0.83182E-03	
1304	3.0000	0.0000	0.44984E-03	
1305	3.0000	0.0000	0.32391E-03	
1306	3.0000	0.0000	0.48255E-03	
1307	3.0000	0.0000	0.66756E-03	
1308	3.0000	0.0000	0.69477E-03	
1309	3.0000	0.0000	0.58269E-03	
1310	3.0000	0.0000	0.55730E-03	
1311	3.0000	0.0000	0.65063E-03	
1312	3.0000	0.0000	0.68137E-03	
1313	3.0000	0.0000	0.59609E-03	
1314	3.0000	0.0000	0.42588E-03	
1315	3.0000	0.0000	0.34308E-03	
1316	3.0000	0.0000	0.56251E-03	
1321	1.0000	-233.63	-0.46727E-06	
1322	1.0000	-768.59	-0.15372E-05	
1323	3.0000	0.0000	0.28122E-04	
1324	3.0000	0.0000	0.22224E-03	
1325	3.0000	0.0000	0.46591E-03	
1326	3.0000	0.0000	0.67272E-03	
1327	3.0000	0.0000	0.76879E-03	<
1328	3.0000	0.0000	0.69829E-03	
1329	3.0000	0.0000	0.52344E-03	
1330	3.0000	0.0000	0.50109E-03	
1331	3.0000	0.0000	0.64753E-03	
1332	3.0000	0.0000	0.75437E-03	
1333	3.0000	0.0000	0.72329E-03	
1334	3.0000	0.0000	0.58560E-03	
1335	3.0000	0.0000	0.38118E-03	
1336	3.0000	0.0000	0.13792E-03	
1341	1.0000	-3595.5	-0.71911E-05	
1342	1.0000	-3839.7	-0.76795E-05	
1343	1.0000	-2670.5	-0.53410E-05	
1344	1.0000	-1020.5	-0.20410E-05	
1345	3.0000	0.0000	0.90904E-04	
1346	3.0000	0.0000	0.31663E-03	
1347	3.0000	-0.29104E-10	0.41856E-03	<
1348	3.0000	0.29104E-10	0.32623E-03	
1349	3.0000	0.0000	0.15046E-03	
1350	3.0000	0.0000	0.12638E-03	
1351	3.0000	0.0000	0.27342E-03	
1352	3.0000	0.0000	0.41104E-03	
1353	3.0000	0.0000	0.39931E-03	
1354	3.0000	0.0000	0.23831E-03	
1355	3.0000	0.0000	0.12850E-04	
1356	1.0000	-1930.7	-0.38614E-05	
1361	1.0000	-1733.2	-0.34664E-05	
1362	1.0000	-1981.2	-0.39624E-05	
1363	1.0000	-945.97	-0.18919E-05	
1364	3.0000	0.0000	0.43929E-04	
1365	3.0000	0.0000	0.20446E-03	
1366	3.0000	0.0000	0.34928E-03	
1367	3.0000	0.0000	0.36617E-03	

1368	3.0000	0.0000	0.25221E-03	
1369	3.0000	0.0000	0.10165E-03	
1370	3.0000	0.0000	0.79911E-04	
1371	3.0000	0.0000	0.19877E-03	
1372	3.0000	0.0000	0.33542E-03	
1373	3.0000	0.0000	0.38683E-03	< Limiting
1374	3.0000	0.0000	0.31770E-03	
1375	3.0000	0.0000	0.15988E-03	
1376	1.0000	-107.05	-0.21410E-06	
1381	1.0000	-2156.6	-0.43133E-05	
1382	1.0000	-2845.0	-0.56899E-05	
1383	1.0000	-977.07	-0.19541E-05	
1384	3.0000	0.0000	0.18836E-03	
1385	3.0000	0.0000	0.37173E-03	
1386	3.0000	0.0000	0.40821E-03	
1387	3.0000	0.0000	0.27830E-03	
1388	3.0000	0.0000	0.69468E-04	
1389	1.0000	-987.16	-0.19743E-05	
1390	1.0000	-1333.9	-0.26677E-05	
1391	1.0000	-293.66	-0.58732E-06	
1392	3.0000	0.0000	0.16668E-03	
1393	3.0000	0.0000	0.36137E-03	
1394	3.0000	0.0000	0.43975E-03	<
1395	3.0000	0.0000	0.32398E-03	
1396	3.0000	0.0000	0.63349E-04	

00040224 VERSION=HPPA 8000 17:18:54 OCT 13, 2001 CP= 1802.210

Robinson 2 RPV -- Oper. Temp & Press - 2.00 mil intf - 7.8 alpha - noz 9 no pr

***** POST1 ELEMENT TABLE LISTING *****

ELEM	GAPSTAT	GAPFORC	GAPSTRCH	
101	3.0000	0.0000	0.55689E-03	
102	3.0000	0.0000	0.57309E-03	
103	3.0000	0.0000	0.58712E-03	<
121	3.0000	0.0000	0.39864E-03	
122	3.0000	0.0000	0.40312E-03	
123	3.0000	0.0000	0.40677E-03	<
141	3.0000	0.0000	0.22368E-03	
142	3.0000	0.0000	0.23218E-03	
143	3.0000	0.0000	0.23725E-03	<
161	3.0000	0.0000	0.23599E-03	
162	3.0000	0.0000	0.24251E-03	
163	3.0000	0.0000	0.24568E-03	<
181	3.0000	0.0000	0.18875E-03	
182	3.0000	0.0000	0.19689E-03	
183	3.0000	0.0000	0.20060E-03	< Limiting
201	3.0000	0.0000	0.74367E-03	<
202	3.0000	0.0000	0.70794E-03	
203	3.0000	0.0000	0.63700E-03	
204	3.0000	0.0000	0.58083E-03	
205	3.0000	0.0000	0.52507E-03	
206	3.0000	0.0000	0.45265E-03	
207	3.0000	0.0000	0.39246E-03	
208	3.0000	0.0000	0.38329E-03	
209	3.0000	0.0000	0.38819E-03	
221	3.0000	0.0000	0.72587E-03	<
222	3.0000	0.0000	0.69027E-03	
223	3.0000	0.0000	0.60095E-03	
224	3.0000	0.29104E-10	0.49449E-03	
225	3.0000	0.0000	0.38566E-03	
226	3.0000	0.0000	0.29035E-03	
227	3.0000	0.0000	0.22079E-03	
228	3.0000	0.0000	0.18547E-03	
229	3.0000	0.0000	0.17752E-03	
241	3.0000	0.0000	0.60127E-03	<
242	3.0000	0.0000	0.55871E-03	
243	3.0000	0.0000	0.44816E-03	
244	3.0000	0.0000	0.31524E-03	
245	3.0000	0.0000	0.17413E-03	
246	3.0000	0.0000	0.53254E-04	
247	1.0000	-189.58	-0.37916E-06	
248	1.0000	-363.29	-0.72657E-06	
249	1.0000	-183.38	-0.36677E-06	
261	3.0000	0.0000	0.59044E-03	<
262	3.0000	0.0000	0.55093E-03	
263	3.0000	0.0000	0.44402E-03	
264	3.0000	0.0000	0.31072E-03	
265	3.0000	0.0000	0.17196E-03	

266	3.0000	0.0000	0.63960E-04	
267	1.0000	-22.598	-0.45197E-07	
268	1.0000	-111.54	-0.22307E-06	
269	1.0000	-36.958	-0.73916E-07	
281	3.0000	0.0000	0.53104E-03	< Limiting
282	3.0000	0.0000	0.49663E-03	
283	3.0000	0.0000	0.40172E-03	
284	3.0000	0.0000	0.28187E-03	
285	3.0000	0.0000	0.14744E-03	
286	3.0000	0.0000	0.32505E-04	
287	1.0000	-244.70	-0.48940E-06	
288	1.0000	-350.12	-0.70023E-06	
289	1.0000	-175.34	-0.35067E-06	
301	3.0000	0.0000	0.32384E-03	
302	3.0000	0.0000	0.34500E-03	
303	3.0000	0.0000	0.37566E-03	
304	3.0000	0.0000	0.40425E-03	
305	3.0000	0.0000	0.46173E-03	
306	3.0000	0.0000	0.56990E-03	
307	3.0000	0.0000	0.67334E-03	
308	3.0000	0.0000	0.72277E-03	
309	3.0000	0.0000	0.73118E-03	<
321	3.0000	0.0000	0.14585E-03	
322	3.0000	0.0000	0.15611E-03	
323	3.0000	0.0000	0.19054E-03	
324	3.0000	0.0000	0.25817E-03	
325	3.0000	0.0000	0.35689E-03	
326	3.0000	0.0000	0.49704E-03	
327	3.0000	0.0000	0.63436E-03	
328	3.0000	0.0000	0.72506E-03	
329	3.0000	0.0000	0.75248E-03	<
341	1.0000	-343.64	-0.68727E-06	
342	1.0000	-585.37	-0.11707E-05	
343	1.0000	-407.70	-0.81541E-06	
344	3.0000	0.0000	0.13394E-06	
345	3.0000	0.0000	0.12041E-03	
346	3.0000	0.0000	0.29633E-03	
347	3.0000	0.0000	0.46552E-03	
348	3.0000	0.0000	0.57683E-03	
349	3.0000	0.0000	0.60991E-03	<
361	1.0000	-106.89	-0.21379E-06	
362	1.0000	-169.33	-0.33867E-06	
363	1.0000	-99.025	-0.19805E-06	
364	3.0000	0.0000	0.34809E-04	
365	3.0000	0.0000	0.12401E-03	
366	3.0000	0.0000	0.27768E-03	
367	3.0000	0.0000	0.43481E-03	
368	3.0000	0.0000	0.54590E-03	
369	3.0000	0.0000	0.58105E-03	<
381	1.0000	-288.32	-0.57664E-06	
382	1.0000	-457.62	-0.91524E-06	
383	1.0000	-226.75	-0.45349E-06	
384	3.0000	0.0000	0.22305E-04	
385	3.0000	0.0000	0.11009E-03	
386	3.0000	0.0000	0.24165E-03	

387	3.0000	0.0000	0.37267E-03	
388	3.0000	0.0000	0.46518E-03	
389	3.0000	0.0000	0.49358E-03	< Limiting
401	3.0000	0.0000	0.76881E-03	<
402	3.0000	0.0000	0.72006E-03	
403	3.0000	0.0000	0.61973E-03	
404	3.0000	0.0000	0.52635E-03	
405	3.0000	0.0000	0.44103E-03	
406	3.0000	0.0000	0.35609E-03	
407	3.0000	0.0000	0.30381E-03	
408	3.0000	0.0000	0.31542E-03	
409	3.0000	0.0000	0.33081E-03	
421	3.0000	0.0000	0.77584E-03	<
422	3.0000	0.0000	0.72786E-03	
423	3.0000	0.0000	0.60937E-03	
424	3.0000	0.0000	0.47163E-03	
425	3.0000	0.0000	0.34241E-03	
426	3.0000	0.0000	0.23791E-03	
427	3.0000	0.0000	0.15724E-03	
428	3.0000	0.0000	0.11348E-03	
429	3.0000	0.0000	0.10169E-03	
441	3.0000	0.0000	0.58343E-03	<
442	3.0000	0.0000	0.53483E-03	
443	3.0000	0.0000	0.40894E-03	
444	3.0000	0.0000	0.25519E-03	
445	3.0000	0.0000	0.10019E-03	
446	1.0000	-149.37	-0.29875E-06	
447	1.0000	-789.04	-0.15781E-05	
448	1.0000	-946.82	-0.18936E-05	
449	1.0000	-497.07	-0.99414E-06	
461	3.0000	0.0000	0.50337E-03	<
462	3.0000	0.0000	0.46541E-03	
463	3.0000	0.0000	0.36247E-03	
464	3.0000	0.0000	0.23353E-03	
465	3.0000	0.0000	0.10414E-03	
466	3.0000	0.0000	0.17205E-04	
467	1.0000	-310.05	-0.62009E-06	
468	1.0000	-274.20	-0.54841E-06	
469	1.0000	-119.88	-0.23976E-06	
481	3.0000	0.0000	0.35903E-03	< Limiting
482	3.0000	0.0000	0.33876E-03	
483	3.0000	0.0000	0.27997E-03	
484	3.0000	0.0000	0.20134E-03	
485	3.0000	0.0000	0.10079E-03	
486	3.0000	0.0000	0.79230E-05	
487	1.0000	-424.44	-0.84887E-06	
488	1.0000	-576.16	-0.11523E-05	
489	1.0000	-313.35	-0.62671E-06	
501	3.0000	0.0000	0.29167E-03	
502	3.0000	0.0000	0.31491E-03	
503	3.0000	0.0000	0.31512E-03	
504	3.0000	0.0000	0.30085E-03	
505	3.0000	0.0000	0.32627E-03	
506	3.0000	0.0000	0.43148E-03	
507	3.0000	0.0000	0.55170E-03	

508	3.0000	0.0000	0.63847E-03	
509	3.0000	0.0000	0.69981E-03	
510	3.0000	0.0000	0.74132E-03	<
511	3.0000	0.0000	0.72307E-03	
512	3.0000	0.0000	0.61957E-03	
513	3.0000	0.0000	0.48714E-03	
514	3.0000	0.29104E-10	0.39043E-03	
515	3.0000	0.0000	0.33137E-03	
516	3.0000	0.0000	0.29878E-03	
521	3.0000	0.0000	0.89309E-04	
522	3.0000	0.0000	0.77591E-04	
523	3.0000	-0.72760E-11	0.10285E-03	
524	3.0000	0.0000	0.15535E-03	
525	3.0000	0.0000	0.24509E-03	
526	3.0000	0.0000	0.36213E-03	
527	3.0000	0.0000	0.49625E-03	
528	3.0000	0.0000	0.61958E-03	
529	3.0000	0.0000	0.70713E-03	
530	3.0000	0.0000	0.75083E-03	<
531	3.0000	0.0000	0.71794E-03	
532	3.0000	0.0000	0.60379E-03	
533	3.0000	0.0000	0.45121E-03	
534	3.0000	0.0000	0.31668E-03	
535	3.0000	0.0000	0.21012E-03	
536	3.0000	0.0000	0.13102E-03	
541	1.0000	-1253.0	-0.25060E-05	
542	1.0000	-1222.7	-0.24455E-05	
543	1.0000	-1047.0	-0.20940E-05	
544	1.0000	-758.59	-0.15172E-05	
545	1.0000	-170.01	-0.34002E-06	
546	3.0000	0.0000	0.10713E-03	
547	3.0000	0.0000	0.26417E-03	
548	3.0000	0.0000	0.40211E-03	
549	3.0000	0.0000	0.49238E-03	
550	3.0000	0.0000	0.53637E-03	<
551	3.0000	0.0000	0.50378E-03	
552	3.0000	0.0000	0.38653E-03	
553	3.0000	0.0000	0.21862E-03	
554	3.0000	0.0000	0.68734E-04	
555	1.0000	-328.29	-0.65658E-06	
556	1.0000	-932.63	-0.18653E-05	
561	1.0000	-426.38	-0.85277E-06	
562	1.0000	-339.22	-0.67843E-06	
563	1.0000	-283.36	-0.56671E-06	
564	1.0000	-245.08	-0.49016E-06	
565	3.0000	0.0000	0.93158E-05	
566	3.0000	0.0000	0.97594E-04	
567	3.0000	0.0000	0.22106E-03	
568	3.0000	0.0000	0.33715E-03	
569	3.0000	0.0000	0.41241E-03	
570	3.0000	0.0000	0.44713E-03	<
571	3.0000	0.0000	0.41977E-03	
572	3.0000	0.29104E-10	0.32981E-03	
573	3.0000	0.0000	0.20104E-03	
574	3.0000	0.0000	0.87260E-04	

575	3.0000	0.0000	0.98701E-05	
576	1.0000	-296.50	-0.59299E-06	
581	1.0000	-792.32	-0.15846E-05	
582	1.0000	-778.14	-0.15563E-05	
583	1.0000	-545.37	-0.10907E-05	
584	1.0000	-268.31	-0.53662E-06	
585	3.0000	0.0000	0.72503E-05	
586	3.0000	0.0000	0.80669E-04	
587	3.0000	0.0000	0.16401E-03	
588	3.0000	0.0000	0.23093E-03	
589	3.0000	0.0000	0.26692E-03	
590	3.0000	0.0000	0.28648E-03	< Limiting
591	3.0000	0.0000	0.27756E-03	
592	3.0000	-0.14552E-10	0.23845E-03	
593	3.0000	0.0000	0.17281E-03	
594	3.0000	0.0000	0.10168E-03	
595	3.0000	0.0000	0.21518E-04	
596	1.0000	-412.84	-0.82567E-06	
601	3.0000	0.0000	0.33010E-03	
602	3.0000	0.0000	0.31608E-03	
603	3.0000	0.0000	0.27931E-03	
604	3.0000	0.0000	0.27912E-03	
605	3.0000	0.0000	0.35242E-03	
606	3.0000	0.0000	0.49231E-03	
607	3.0000	0.0000	0.61633E-03	
608	3.0000	0.0000	0.67258E-03	
609	3.0000	0.58208E-10	0.68323E-03	<
621	3.0000	0.0000	0.19678E-04	
622	3.0000	0.0000	0.40891E-04	
623	3.0000	0.0000	0.11187E-03	
624	3.0000	0.0000	0.21383E-03	
625	3.0000	0.0000	0.33513E-03	
626	3.0000	0.0000	0.47066E-03	
627	3.0000	0.0000	0.59077E-03	
628	3.0000	0.0000	0.65527E-03	
629	3.0000	0.0000	0.66793E-03	<
641	1.0000	-947.62	-0.18952E-05	
642	1.0000	-1622.2	-0.32444E-05	
643	1.0000	-1110.8	-0.22216E-05	
644	1.0000	-395.75	-0.79149E-06	
645	3.0000	0.0000	0.62951E-04	
646	3.0000	0.0000	0.20918E-03	
647	3.0000	0.0000	0.32668E-03	
648	3.0000	0.0000	0.37906E-03	
649	3.0000	0.0000	0.38546E-03	<
661	1.0000	-324.23	-0.64847E-06	
662	1.0000	-498.41	-0.99683E-06	
663	1.0000	-261.40	-0.52279E-06	
664	3.0000	0.0000	0.99814E-05	
665	3.0000	0.0000	0.77078E-04	
666	3.0000	0.0000	0.16783E-03	
667	3.0000	0.0000	0.23524E-03	
668	3.0000	0.0000	0.26061E-03	<
669	3.0000	0.0000	0.25965E-03	
681	1.0000	-593.48	-0.11870E-05	

682	1.0000	-842.16	-0.16843E-05	
683	1.0000	-195.00	-0.39000E-06	
684	3.0000	0.0000	0.51209E-04	
685	3.0000	0.0000	0.90315E-04	
686	3.0000	0.0000	0.10951E-03	< Limiting
687	3.0000	0.0000	0.95384E-04	
688	3.0000	0.0000	0.64025E-04	
689	3.0000	0.0000	0.44198E-04	
701	3.0000	-0.58208E-10	0.69219E-03	<
702	3.0000	0.0000	0.64792E-03	
703	3.0000	0.0000	0.55852E-03	
704	3.0000	0.0000	0.46307E-03	
705	3.0000	0.0000	0.36106E-03	
706	3.0000	0.0000	0.27431E-03	
707	3.0000	0.0000	0.26451E-03	
708	3.0000	0.0000	0.35059E-03	
709	3.0000	0.0000	0.40409E-03	
721	3.0000	0.0000	0.67349E-03	<
722	3.0000	0.0000	0.63722E-03	
723	3.0000	0.0000	0.54563E-03	
724	3.0000	0.0000	0.43416E-03	
725	3.0000	0.0000	0.32130E-03	
726	3.0000	0.0000	0.21010E-03	
727	3.0000	0.0000	0.10701E-03	
728	3.0000	0.0000	0.32016E-04	
729	3.0000	0.0000	0.80106E-05	
741	3.0000	0.0000	0.37870E-03	<
742	3.0000	0.0000	0.35197E-03	
743	3.0000	0.0000	0.27756E-03	
744	3.0000	0.0000	0.17357E-03	
745	3.0000	0.0000	0.49791E-04	
746	1.0000	-516.01	-0.10320E-05	
747	1.0000	-1315.6	-0.26313E-05	
748	1.0000	-1684.8	-0.33696E-05	
749	1.0000	-925.76	-0.18515E-05	
761	3.0000	0.0000	0.23709E-03	<
762	3.0000	0.0000	0.22744E-03	
763	3.0000	0.0000	0.19474E-03	
764	3.0000	0.0000	0.14202E-03	
765	3.0000	0.0000	0.65365E-04	
766	1.0000	-20.577	-0.41155E-07	
767	1.0000	-447.09	-0.89418E-06	
768	1.0000	-520.59	-0.10412E-05	
769	1.0000	-276.06	-0.55212E-06	
781	1.0000	-5.3767	-0.10753E-07	
782	3.0000	0.0000	0.18017E-04	
783	3.0000	0.0000	0.60460E-04	
784	3.0000	0.0000	0.97677E-04	< Limiting
785	3.0000	0.0000	0.82831E-04	
786	3.0000	0.0000	0.26742E-04	
787	1.0000	-412.59	-0.82519E-06	
788	1.0000	-850.19	-0.17004E-05	
789	1.0000	-530.84	-0.10617E-05	

801	3.0000	0.29104E-10	0.32729E-03
802	3.0000	0.0000	0.41269E-03
803	3.0000	0.0000	0.38829E-03
804	3.0000	0.0000	0.28483E-03
805	3.0000	0.0000	0.23636E-03
806	3.0000	0.0000	0.32144E-03
807	3.0000	0.0000	0.45093E-03
808	3.0000	0.0000	0.54399E-03
809	3.0000	0.0000	0.60687E-03
810	3.0000	0.0000	0.65989E-03
811	3.0000	0.0000	0.67086E-03 <
812	3.0000	0.0000	0.59710E-03
813	3.0000	0.0000	0.47865E-03
814	3.0000	0.0000	0.36071E-03
815	3.0000	0.0000	0.27261E-03
816	3.0000	0.0000	0.25794E-03
821	3.0000	0.0000	0.31552E-04
822	1.0000	-81.025	-0.16205E-06
823	3.0000	0.0000	0.14534E-04
824	3.0000	0.0000	0.80791E-04
825	3.0000	0.0000	0.18645E-03
826	3.0000	0.0000	0.30913E-03
827	3.0000	0.0000	0.41601E-03
828	3.0000	0.0000	0.51191E-03
829	3.0000	0.0000	0.58245E-03
830	3.0000	0.0000	0.63790E-03
831	3.0000	0.58208E-10	0.65126E-03 <
832	3.0000	0.0000	0.59224E-03
833	3.0000	0.0000	0.47598E-03
834	3.0000	0.0000	0.34933E-03
835	3.0000	0.0000	0.22524E-03
836	3.0000	0.0000	0.11076E-03
841	1.0000	-1923.4	-0.38469E-05
842	1.0000	-2083.8	-0.41676E-05
843	1.0000	-1858.5	-0.37171E-05
844	1.0000	-1390.7	-0.27814E-05
845	1.0000	-781.34	-0.15627E-05
846	3.0000	0.0000	0.17933E-04
847	3.0000	0.0000	0.13163E-03
848	3.0000	0.0000	0.22712E-03
849	3.0000	0.0000	0.28397E-03
850	3.0000	0.0000	0.33013E-03
851	3.0000	0.0000	0.34951E-03 <
852	3.0000	-0.29104E-10	0.31086E-03
853	3.0000	0.0000	0.20783E-03
854	3.0000	0.0000	0.80887E-04
855	1.0000	-346.57	-0.69314E-06
856	1.0000	-1263.0	-0.25259E-05
861	1.0000	-695.60	-0.13912E-05
862	1.0000	-699.80	-0.13996E-05
863	1.0000	-559.45	-0.11189E-05
864	1.0000	-410.91	-0.82182E-06
865	1.0000	-215.29	-0.43058E-06
866	3.0000	0.0000	0.31827E-04
867	3.0000	0.0000	0.94055E-04

868	3.0000	0.0000	0.14886E-03	
869	3.0000	0.0000	0.17543E-03	
870	3.0000	0.0000	0.20108E-03	
871	3.0000	0.0000	0.22183E-03	<
872	3.0000	0.14552E-10	0.21305E-03	
873	3.0000	0.0000	0.16545E-03	
874	3.0000	0.0000	0.96945E-04	
875	3.0000	0.0000	0.21328E-04	
876	1.0000	-319.46	-0.63893E-06	
881	1.0000	-980.10	-0.19602E-05	
882	1.0000	-1268.1	-0.25361E-05	
883	1.0000	-961.70	-0.19234E-05	
884	1.0000	-417.03	-0.83406E-06	
885	1.0000	-20.119	-0.40237E-07	
886	3.0000	0.0000	0.38462E-04	
887	3.0000	0.0000	0.48149E-04	
888	3.0000	0.0000	0.24874E-04	
889	1.0000	-124.24	-0.24849E-06	
890	1.0000	-226.19	-0.45237E-06	
891	1.0000	-32.425	-0.64850E-07	
892	3.0000	0.0000	0.49126E-04	
893	3.0000	0.0000	0.10113E-03	
894	3.0000	0.0000	0.12104E-03	< Limiting
895	3.0000	0.0000	0.74819E-04	
896	1.0000	-182.97	-0.36593E-06	
901	3.0000	0.0000	0.49067E-03	
902	3.0000	-0.29104E-10	0.50717E-03	
903	3.0000	0.0000	0.36301E-03	
904	3.0000	0.0000	0.22924E-03	
905	3.0000	0.0000	0.23602E-03	
906	3.0000	0.0000	0.38109E-03	
907	3.0000	0.0000	0.51915E-03	
908	3.0000	0.0000	0.57547E-03	
909	3.0000	0.0000	0.58716E-03	
910	3.0000	0.0000	0.60623E-03	<
911	3.0000	0.0000	0.60098E-03	
912	3.0000	0.0000	0.51269E-03	
913	3.0000	0.0000	0.37186E-03	
914	3.0000	0.0000	0.25224E-03	
915	3.0000	0.0000	0.23233E-03	
916	3.0000	0.0000	0.34826E-03	
921	1.0000	-252.94	-0.50587E-06	
922	1.0000	-267.03	-0.53407E-06	
923	3.0000	0.0000	0.36804E-04	
924	3.0000	0.0000	0.14249E-03	
925	3.0000	0.0000	0.28017E-03	
926	3.0000	0.0000	0.40839E-03	
927	3.0000	0.0000	0.50281E-03	
928	3.0000	0.0000	0.54018E-03	
929	3.0000	0.0000	0.54215E-03	
930	3.0000	0.0000	0.57036E-03	
931	3.0000	0.0000	0.58338E-03	<
932	3.0000	0.0000	0.52255E-03	
933	3.0000	0.0000	0.40475E-03	
934	3.0000	0.0000	0.27560E-03	

935	3.0000	0.0000	0.13263E-03	
936	3.0000	0.0000	0.22254E-04	
941	1.0000	-2696.5	-0.53930E-05	
942	1.0000	-2541.5	-0.50831E-05	
943	1.0000	-1880.5	-0.37609E-05	
944	1.0000	-1109.4	-0.22188E-05	
945	1.0000	-208.30	-0.41660E-06	
946	3.0000	0.0000	0.96329E-04	
947	3.0000	0.0000	0.18923E-03	
948	3.0000	0.14552E-10	0.21687E-03	
949	3.0000	0.0000	0.21202E-03	
950	3.0000	0.0000	0.23945E-03	
951	3.0000	0.0000	0.26438E-03	<
952	3.0000	0.0000	0.22114E-03	
953	3.0000	0.0000	0.10625E-03	
954	1.0000	-121.92	-0.24384E-06	
955	1.0000	-1137.2	-0.22744E-05	
956	1.0000	-2053.7	-0.41075E-05	
961	1.0000	-1059.7	-0.21194E-05	
962	1.0000	-936.02	-0.18720E-05	
963	1.0000	-585.80	-0.11716E-05	
964	1.0000	-301.60	-0.60320E-06	
965	3.0000	0.0000	0.47459E-05	
966	3.0000	0.0000	0.68125E-04	
967	3.0000	0.0000	0.11935E-03	
968	3.0000	0.0000	0.13238E-03	
969	3.0000	0.0000	0.12741E-03	
970	3.0000	0.0000	0.14644E-03	
971	3.0000	0.0000	0.16813E-03	<
972	3.0000	0.0000	0.15305E-03	
973	3.0000	-0.72760E-11	0.94241E-04	
974	3.0000	0.0000	0.32101E-04	
975	1.0000	-219.39	-0.43879E-06	
976	1.0000	-675.93	-0.13519E-05	
981	1.0000	-1694.1	-0.33882E-05	
982	1.0000	-1577.4	-0.31548E-05	
983	1.0000	-712.91	-0.14258E-05	
984	3.0000	0.22737E-12	0.34256E-05	
985	3.0000	0.0000	0.42788E-04	
986	3.0000	0.0000	0.44422E-04	
987	3.0000	0.0000	0.11232E-04	
988	1.0000	-312.24	-0.62448E-06	
989	1.0000	-632.29	-0.12646E-05	
990	1.0000	-560.00	-0.11200E-05	
991	1.0000	-170.19	-0.34037E-06	
992	3.0000	0.0000	0.42191E-04	
993	3.0000	0.0000	0.88057E-04	
994	3.0000	0.0000	0.93284E-04	< Limiting
995	3.0000	0.0000	0.25284E-04	
996	1.0000	-804.94	-0.16099E-05	
1001	3.0000	0.0000	0.49370E-03	
1002	3.0000	0.0000	0.48549E-03	
1003	3.0000	0.0000	0.46748E-03	
1004	3.0000	0.0000	0.41132E-03	
1005	3.0000	0.29104E-10	0.28349E-03	

1006	3.0000	0.0000	0.19643E-03	
1007	3.0000	-0.29104E-10	0.30912E-03	
1008	3.0000	0.0000	0.58368E-03	
1009	3.0000	0.0000	0.73540E-03	<
1021	3.0000	-0.29104E-10	0.45713E-03	
1022	3.0000	0.0000	0.46154E-03	<
1023	3.0000	0.0000	0.45269E-03	
1024	3.0000	0.0000	0.41664E-03	
1025	3.0000	0.0000	0.33316E-03	
1026	3.0000	0.0000	0.20331E-03	
1027	3.0000	0.0000	0.66431E-04	
1028	1.0000	-257.28	-0.51455E-06	
1029	1.0000	-256.73	-0.51346E-06	
1041	3.0000	0.0000	0.12969E-03	
1042	3.0000	0.0000	0.13665E-03	<
1043	3.0000	0.0000	0.13505E-03	
1044	3.0000	0.0000	0.99455E-04	
1045	3.0000	0.0000	0.12114E-04	
1046	1.0000	-877.17	-0.17543E-05	
1047	1.0000	-1889.7	-0.37794E-05	
1048	1.0000	-2503.6	-0.50072E-05	
1049	1.0000	-1423.0	-0.28459E-05	
1061	3.0000	0.72760E-11	0.89046E-04	<
1062	3.0000	0.0000	0.88933E-04	
1063	3.0000	0.0000	0.87244E-04	
1064	3.0000	0.0000	0.70201E-04	
1065	3.0000	0.0000	0.22249E-04	
1066	1.0000	-273.69	-0.54738E-06	
1067	1.0000	-756.51	-0.15130E-05	
1068	1.0000	-1043.9	-0.20877E-05	
1069	1.0000	-612.25	-0.12245E-05	
1081	1.0000	-446.50	-0.89300E-06	
1082	1.0000	-708.41	-0.14168E-05	
1083	1.0000	-240.28	-0.48055E-06	
1084	3.0000	0.0000	0.33101E-04	
1085	3.0000	0.0000	0.47027E-04	< Limiting
1086	3.0000	0.0000	0.10202E-04	
1087	1.0000	-598.17	-0.11963E-05	
1088	1.0000	-1393.2	-0.27864E-05	
1089	1.0000	-933.31	-0.18666E-05	
1101	3.0000	0.0000	0.50776E-03	
1102	3.0000	0.0000	0.76871E-03	<
1103	3.0000	0.0000	0.72093E-03	
1104	3.0000	0.0000	0.42500E-03	
1105	3.0000	0.0000	0.19441E-03	
1106	3.0000	0.0000	0.22060E-03	
1107	3.0000	0.0000	0.37770E-03	
1108	3.0000	0.0000	0.47157E-03	
1109	3.0000	0.0000	0.46475E-03	
1110	3.0000	0.0000	0.46264E-03	
1111	3.0000	0.0000	0.49861E-03	
1112	3.0000	0.0000	0.50990E-03	
1113	3.0000	0.0000	0.46629E-03	
1114	3.0000	0.0000	0.34698E-03	
1115	3.0000	0.0000	0.21189E-03	

1116	3.0000	0.0000	0.24093E-03	
1121	1.0000	-67.836	-0.13567E-06	
1122	1.0000	-633.67	-0.12673E-05	
1123	1.0000	-455.96	-0.91191E-06	
1124	3.0000	0.0000	0.23496E-04	
1125	3.0000	0.0000	0.15991E-03	
1126	3.0000	0.0000	0.32067E-03	
1127	3.0000	0.0000	0.41725E-03	
1128	3.0000	0.0000	0.44900E-03	
1129	3.0000	0.0000	0.42090E-03	
1130	3.0000	0.0000	0.41671E-03	
1131	3.0000	0.0000	0.46638E-03	
1132	3.0000	0.0000	0.51413E-03	<
1133	3.0000	0.0000	0.49464E-03	
1134	3.0000	0.0000	0.41529E-03	
1135	3.0000	0.0000	0.27715E-03	
1136	3.0000	0.0000	0.11177E-03	
1141	1.0000	-2675.1	-0.53502E-05	
1142	1.0000	-3102.2	-0.62045E-05	
1143	1.0000	-2823.6	-0.56473E-05	
1144	1.0000	-2033.7	-0.40674E-05	
1145	1.0000	-1227.9	-0.24558E-05	
1146	1.0000	-151.71	-0.30341E-06	
1147	3.0000	0.0000	0.69404E-04	
1148	3.0000	0.0000	0.10857E-03	
1149	3.0000	0.0000	0.85844E-04	
1150	3.0000	0.0000	0.81296E-04	
1151	3.0000	0.0000	0.12851E-03	
1152	3.0000	0.0000	0.18433E-03	<
1153	3.0000	-0.14552E-10	0.17844E-03	
1154	3.0000	0.0000	0.99704E-04	
1155	1.0000	-259.23	-0.51845E-06	
1156	1.0000	-1569.3	-0.31385E-05	
1161	1.0000	-1164.1	-0.23282E-05	
1162	1.0000	-1412.6	-0.28251E-05	
1163	1.0000	-1188.2	-0.23764E-05	
1164	1.0000	-764.85	-0.15297E-05	
1165	1.0000	-459.91	-0.91982E-06	
1166	3.0000	0.0000	0.79850E-09	
1167	3.0000	0.0000	0.41887E-04	
1168	3.0000	0.0000	0.66349E-04	
1169	3.0000	0.0000	0.53696E-04	
1170	3.0000	0.0000	0.58301E-04	
1171	3.0000	0.0000	0.87727E-04	
1172	3.0000	0.0000	0.12681E-03	
1173	3.0000	0.0000	0.13694E-03	<
1174	3.0000	0.0000	0.10216E-03	
1175	3.0000	0.0000	0.27775E-04	
1176	1.0000	-421.53	-0.84305E-06	
1181	1.0000	-1326.9	-0.26538E-05	
1182	1.0000	-2115.3	-0.42305E-05	
1183	1.0000	-1740.2	-0.34805E-05	
1184	1.0000	-697.41	-0.13948E-05	
1185	1.0000	-29.249	-0.58499E-07	
1186	3.0000	0.0000	0.35563E-04	

1187	3.0000	0.0000	0.24830E-04	
1188	1.0000	-178.36	-0.35672E-06	
1189	1.0000	-772.76	-0.15455E-05	
1190	1.0000	-1063.7	-0.21275E-05	
1191	1.0000	-900.66	-0.18013E-05	
1192	1.0000	-280.21	-0.56042E-06	
1193	3.0000	-0.36380E-11	0.61802E-04	
1194	3.0000	0.0000	0.13010E-03	< Limiting
1195	3.0000	0.0000	0.10591E-03	
1196	1.0000	-28.376	-0.56752E-07	
1201	3.0000	0.0000	0.82786E-03	<
1202	3.0000	0.0000	0.64576E-03	
1203	3.0000	0.0000	0.32657E-03	
1204	3.0000	0.0000	0.18775E-03	
1205	3.0000	0.0000	0.26779E-03	
1206	3.0000	0.0000	0.44067E-03	
1207	3.0000	0.0000	0.53398E-03	
1208	3.0000	0.0000	0.50646E-03	
1209	3.0000	0.0000	0.46359E-03	
1221	1.0000	-349.66	-0.69931E-06	
1222	1.0000	-384.12	-0.76824E-06	
1223	3.0000	0.0000	0.78098E-04	
1224	3.0000	0.0000	0.24157E-03	
1225	3.0000	0.0000	0.40033E-03	
1226	3.0000	0.0000	0.51240E-03	
1227	3.0000	0.0000	0.53745E-03	<
1228	3.0000	0.0000	0.45602E-03	
1229	3.0000	0.0000	0.38549E-03	
1241	1.0000	-1848.8	-0.36975E-05	
1242	1.0000	-3012.5	-0.60250E-05	
1243	1.0000	-1819.5	-0.36390E-05	
1244	1.0000	-595.97	-0.11919E-05	
1245	3.0000	0.0000	0.58164E-04	
1246	3.0000	0.0000	0.17194E-03	
1247	3.0000	0.0000	0.18623E-03	<
1248	3.0000	0.0000	0.97950E-04	
1249	3.0000	0.0000	0.33796E-04	
1261	1.0000	-830.84	-0.16617E-05	
1262	1.0000	-1190.3	-0.23806E-05	
1263	1.0000	-489.74	-0.97949E-06	
1264	3.0000	0.0000	0.14840E-05	
1265	3.0000	0.0000	0.69800E-04	
1266	3.0000	0.0000	0.13063E-03	<
1267	3.0000	0.0000	0.12579E-03	
1268	3.0000	0.0000	0.62573E-04	
1269	3.0000	0.0000	0.24947E-04	
1281	1.0000	-1278.7	-0.25574E-05	
1282	1.0000	-1679.5	-0.33590E-05	
1283	1.0000	-166.05	-0.33210E-06	
1284	3.0000	0.0000	0.98241E-04	
1285	3.0000	0.72760E-11	0.11721E-03	< Limiting
1286	3.0000	0.0000	0.71575E-04	
1287	1.0000	-164.90	-0.32979E-06	
1288	1.0000	-978.02	-0.19560E-05	
1289	1.0000	-678.48	-0.13570E-05	

1301	3.0000	0.0000	0.89345E-03	
1302	3.0000	0.0000	0.10433E-02	<
1303	3.0000	0.0000	0.72741E-03	
1304	3.0000	0.0000	0.33340E-03	
1305	3.0000	0.0000	0.18577E-03	
1306	3.0000	0.0000	0.32812E-03	
1307	3.0000	0.0000	0.50251E-03	
1308	3.0000	0.0000	0.52668E-03	
1309	3.0000	0.0000	0.42128E-03	
1310	3.0000	0.0000	0.39856E-03	
1311	3.0000	0.0000	0.48568E-03	
1312	3.0000	0.0000	0.51554E-03	
1313	3.0000	0.0000	0.43697E-03	
1314	3.0000	0.0000	0.27628E-03	
1315	3.0000	0.0000	0.21306E-03	
1316	3.0000	0.0000	0.45485E-03	
1321	1.0000	-558.11	-0.11162E-05	
1322	1.0000	-966.14	-0.19323E-05	
1323	1.0000	-205.54	-0.41107E-06	
1324	3.0000	0.0000	0.12873E-03	
1325	3.0000	-0.29104E-10	0.33931E-03	
1326	3.0000	0.0000	0.51017E-03	
1327	3.0000	0.0000	0.58063E-03	<
1328	3.0000	0.0000	0.50908E-03	
1329	3.0000	0.0000	0.35262E-03	
1330	3.0000	0.0000	0.33549E-03	
1331	3.0000	0.0000	0.46878E-03	
1332	3.0000	0.0000	0.56649E-03	
1333	3.0000	0.0000	0.54947E-03	
1334	3.0000	0.0000	0.44684E-03	
1335	3.0000	0.0000	0.26572E-03	
1336	3.0000	0.0000	0.66871E-04	
1341	1.0000	-3698.0	-0.73960E-05	
1342	1.0000	-3875.4	-0.77508E-05	
1343	1.0000	-2827.8	-0.56556E-05	
1344	1.0000	-1487.9	-0.29758E-05	
1345	1.0000	-98.518	-0.19704E-06	
1346	3.0000	0.0000	0.14755E-03	
1347	3.0000	0.0000	0.21875E-03	<
1348	3.0000	0.0000	0.14028E-03	
1349	1.0000	-3.6521	-0.73042E-08	
1350	1.0000	-104.36	-0.20871E-06	
1351	3.0000	0.0000	0.10908E-03	
1352	3.0000	0.0000	0.21879E-03	
1353	3.0000	0.0000	0.21285E-03	
1354	3.0000	0.0000	0.10578E-03	
1355	1.0000	-490.75	-0.98149E-06	
1356	1.0000	-2192.0	-0.43840E-05	
1361	1.0000	-1758.1	-0.35163E-05	
1362	1.0000	-1940.7	-0.38815E-05	
1363	1.0000	-1150.0	-0.23000E-05	
1364	1.0000	-238.94	-0.47789E-06	
1365	3.0000	0.0000	0.68742E-04	
1366	3.0000	0.0000	0.15904E-03	
1367	3.0000	0.0000	0.17393E-03	

1368	3.0000	0.0000	0.10044E-03	
1369	3.0000	0.0000	0.40471E-05	
1370	1.0000	-2.4244	-0.48488E-08	
1371	3.0000	0.0000	0.78173E-04	
1372	3.0000	0.0000	0.16755E-03	
1373	3.0000	0.0000	0.19137E-03	< Limiting
1374	3.0000	0.0000	0.14884E-03	
1375	3.0000	0.0000	0.54795E-04	
1376	1.0000	-479.87	-0.95974E-06	
1381	1.0000	-2328.9	-0.46577E-05	
1382	1.0000	-2873.3	-0.57466E-05	
1383	1.0000	-1319.5	-0.26389E-05	
1384	3.0000	0.0000	0.79113E-04	
1385	3.0000	0.0000	0.19773E-03	
1386	3.0000	0.0000	0.20695E-03	
1387	3.0000	0.0000	0.10724E-03	
1388	1.0000	-324.43	-0.64887E-06	
1389	1.0000	-1412.4	-0.28248E-05	
1390	1.0000	-1570.2	-0.31404E-05	
1391	1.0000	-909.21	-0.18184E-05	
1392	3.0000	0.0000	0.31766E-04	
1393	3.0000	0.0000	0.16746E-03	
1394	3.0000	0.0000	0.24356E-03	<
1395	3.0000	0.0000	0.17863E-03	
1396	1.0000	-169.47	-0.33894E-06	

00040224 VERSION=HPPA 8000 17:09:37 OCT 13, 2001 CP= 1268.420

Robinson 2 RPV -- Oper. Temp & Press - 2.25 mil intf - 7.8 alpha - noz 9 no pr

***** POST1 ELEMENT TABLE LISTING *****

ELEM	GAPSTAT	GAPFORC	GAPSTRCH	
101	3.0000	0.0000	0.43263E-03	
102	3.0000	0.0000	0.44885E-03	
103	3.0000	0.0000	0.46291E-03	<
121	3.0000	0.0000	0.27405E-03	
122	3.0000	0.0000	0.27855E-03	
123	3.0000	-0.29104E-10	0.28221E-03	<
141	3.0000	0.0000	0.98469E-04	
142	3.0000	0.0000	0.10698E-03	
143	3.0000	0.0000	0.11206E-03	<
161	3.0000	0.0000	0.11028E-03	
162	3.0000	0.0000	0.11680E-03	
163	3.0000	0.0000	0.11998E-03	<
181	3.0000	0.0000	0.62584E-04	
182	3.0000	0.0000	0.70716E-04	
183	3.0000	0.0000	0.74415E-04	< Limiting
201	3.0000	0.0000	0.63077E-03	<
202	3.0000	0.0000	0.59592E-03	
203	3.0000	0.0000	0.52326E-03	
204	3.0000	0.0000	0.45429E-03	
205	3.0000	0.0000	0.37426E-03	
206	3.0000	0.0000	0.30413E-03	
207	3.0000	0.0000	0.23808E-03	
208	3.0000	0.0000	0.24098E-03	
209	3.0000	0.0000	0.25320E-03	
221	3.0000	0.0000	0.59230E-03	<
222	3.0000	0.0000	0.55805E-03	
223	3.0000	0.0000	0.46902E-03	
224	3.0000	0.0000	0.35447E-03	
225	3.0000	0.0000	0.21985E-03	
226	3.0000	0.0000	0.18132E-05	
227	3.0000	0.0000	0.79552E-06	
228	3.0000	0.0000	0.80358E-06	
229	3.0000	0.0000	0.45010E-06	
241	3.0000	0.0000	0.41762E-03	<
242	3.0000	0.0000	0.37684E-03	
243	3.0000	0.0000	0.27151E-03	
244	3.0000	0.0000	0.14934E-03	
245	3.0000	0.0000	0.31655E-04	
246	1.0000	-268.60	-0.53720E-06	
247	1.0000	-696.97	-0.13939E-05	
248	1.0000	-632.02	-0.12640E-05	
249	1.0000	-294.75	-0.58950E-06	
261	3.0000	0.0000	0.34876E-03	<
262	3.0000	0.0000	0.31521E-03	
263	3.0000	0.0000	0.22809E-03	
264	3.0000	0.0000	0.13354E-03	
265	3.0000	0.0000	0.54272E-04	

266	3.0000	0.0000	0.46996E-07	
267	1.0000	-180.91	-0.36182E-06	
268	1.0000	-86.080	-0.17216E-06	
269	1.0000	-26.525	-0.53050E-07	
281	3.0000	0.0000	0.24052E-03	< Limiting
282	3.0000	0.0000	0.21820E-03	
283	3.0000	0.0000	0.15936E-03	
284	3.0000	0.0000	0.97044E-04	
285	3.0000	0.0000	0.32262E-04	
286	1.0000	-100.32	-0.20065E-06	
287	1.0000	-314.43	-0.62886E-06	
288	1.0000	-295.18	-0.59036E-06	
289	1.0000	-142.44	-0.28489E-06	
301	3.0000	0.0000	0.22943E-03	
302	3.0000	0.0000	0.24857E-03	
303	3.0000	0.0000	0.27340E-03	
304	3.0000	0.0000	0.29329E-03	
305	3.0000	0.0000	0.33710E-03	
306	3.0000	0.0000	0.42949E-03	
307	3.0000	0.0000	0.51566E-03	
308	3.0000	0.0000	0.55184E-03	
309	3.0000	0.0000	0.55530E-03	<
321	3.0000	0.72760E-11	0.93541E-04	
322	3.0000	0.0000	0.10272E-03	
323	3.0000	0.72760E-11	0.13026E-03	
324	3.0000	0.0000	0.17523E-03	
325	3.0000	0.0000	0.24661E-03	
326	3.0000	0.0000	0.34297E-03	
327	3.0000	0.0000	0.44096E-03	
328	3.0000	0.0000	0.50538E-03	
329	3.0000	0.0000	0.52366E-03	<
341	1.0000	-404.12	-0.80824E-06	
342	1.0000	-687.94	-0.13759E-05	
343	1.0000	-528.12	-0.10562E-05	
344	1.0000	-274.59	-0.54917E-06	
345	3.0000	0.0000	0.25554E-04	
346	3.0000	0.0000	0.13225E-03	
347	3.0000	0.0000	0.24393E-03	
348	3.0000	0.0000	0.31770E-03	
349	3.0000	0.0000	0.33786E-03	<
361	1.0000	-111.62	-0.22325E-06	
362	1.0000	-155.74	-0.31148E-06	
363	1.0000	-133.67	-0.26734E-06	
364	1.0000	-44.181	-0.88363E-07	
365	3.0000	0.0000	0.31115E-04	
366	3.0000	0.0000	0.10725E-03	
367	3.0000	0.0000	0.19478E-03	
368	3.0000	0.0000	0.25886E-03	
369	3.0000	0.0000	0.27755E-03	<
381	1.0000	-244.03	-0.48805E-06	
382	1.0000	-374.23	-0.74847E-06	
383	1.0000	-224.53	-0.44907E-06	
384	1.0000	-81.912	-0.16382E-06	
385	3.0000	0.0000	0.10301E-04	
386	3.0000	0.36380E-11	0.61730E-04	

387	3.0000	0.0000	0.11782E-03	
388	3.0000	0.14552E-10	0.15803E-03	
389	3.0000	0.0000	0.16782E-03	< Limiting
401	3.0000	0.0000	0.58840E-03	<
402	3.0000	0.0000	0.54509E-03	
403	3.0000	0.0000	0.45911E-03	
404	3.0000	0.29104E-10	0.38437E-03	
405	3.0000	0.0000	0.31520E-03	
406	3.0000	0.0000	0.24364E-03	
407	3.0000	0.0000	0.19989E-03	
408	3.0000	0.0000	0.21704E-03	
409	3.0000	0.0000	0.23438E-03	
421	3.0000	0.0000	0.54074E-03	<
422	3.0000	0.0000	0.50274E-03	
423	3.0000	0.0000	0.41237E-03	
424	3.0000	0.0000	0.31633E-03	
425	3.0000	0.0000	0.23162E-03	
426	3.0000	0.0000	0.15392E-03	
427	3.0000	0.0000	0.94903E-04	
428	3.0000	0.0000	0.58227E-04	
429	3.0000	0.0000	0.47831E-04	
441	3.0000	0.0000	0.30314E-03	<
442	3.0000	0.0000	0.26880E-03	
443	3.0000	0.0000	0.18380E-03	
444	3.0000	0.0000	0.91999E-04	
445	3.0000	0.0000	0.86513E-05	
446	1.0000	-483.60	-0.96720E-06	
447	1.0000	-901.60	-0.18032E-05	
448	1.0000	-1055.4	-0.21107E-05	
449	1.0000	-560.78	-0.11216E-05	
461	3.0000	0.0000	0.19031E-03	<
462	3.0000	0.14552E-10	0.17032E-03	
463	3.0000	0.0000	0.11873E-03	
464	3.0000	0.0000	0.65836E-04	
465	3.0000	-0.18190E-11	0.20012E-04	
466	1.0000	-130.40	-0.26080E-06	
467	1.0000	-301.72	-0.60344E-06	
468	1.0000	-270.75	-0.54150E-06	
469	1.0000	-133.82	-0.26764E-06	
481	3.0000	0.0000	0.23087E-04	
482	3.0000	0.0000	0.23093E-04	
483	3.0000	-0.18190E-11	0.21365E-04	
484	3.0000	0.0000	0.24249E-04	< Limiting
485	3.0000	0.0000	0.98080E-05	
486	1.0000	-133.29	-0.26657E-06	
487	1.0000	-383.05	-0.76609E-06	
488	1.0000	-494.25	-0.98850E-06	
489	1.0000	-275.55	-0.55110E-06	
501	3.0000	0.14552E-10	0.19262E-03	
502	3.0000	0.0000	0.21719E-03	
503	3.0000	0.14552E-10	0.21488E-03	
504	3.0000	0.0000	0.19486E-03	
505	3.0000	0.0000	0.21220E-03	
506	3.0000	-0.29104E-10	0.30440E-03	
507	3.0000	0.0000	0.40866E-03	

508	3.0000	0.0000	0.47643E-03	
509	3.0000	0.0000	0.52262E-03	
510	3.0000	0.0000	0.55941E-03	<
511	3.0000	0.0000	0.54825E-03	
512	3.0000	0.0000	0.46080E-03	
513	3.0000	0.0000	0.34656E-03	
514	3.0000	0.0000	0.26566E-03	
515	3.0000	0.0000	0.21894E-03	
516	3.0000	0.0000	0.19451E-03	
521	3.0000	0.0000	0.31983E-04	
522	3.0000	0.0000	0.21288E-04	
523	3.0000	0.0000	0.44774E-04	
524	3.0000	0.0000	0.90073E-04	
525	3.0000	0.0000	0.15881E-03	
526	3.0000	0.0000	0.24994E-03	
527	3.0000	0.0000	0.33970E-03	
528	3.0000	0.0000	0.42119E-03	
529	3.0000	0.0000	0.48072E-03	
530	3.0000	0.0000	0.51565E-03	<
531	3.0000	0.0000	0.49448E-03	
532	3.0000	0.0000	0.41127E-03	
533	3.0000	0.0000	0.30223E-03	
534	3.0000	0.0000	0.20843E-03	
535	3.0000	0.0000	0.12826E-03	
536	3.0000	0.0000	0.67648E-04	
541	1.0000	-1384.4	-0.27687E-05	
542	1.0000	-1368.8	-0.27376E-05	
543	1.0000	-1168.8	-0.23375E-05	
544	1.0000	-878.23	-0.17565E-05	
545	1.0000	-533.13	-0.10663E-05	
546	3.0000	0.0000	0.14043E-04	
547	3.0000	0.0000	0.97774E-04	
548	3.0000	0.0000	0.17751E-03	
549	3.0000	0.14552E-10	0.23058E-03	
550	3.0000	0.0000	0.26218E-03	<
551	3.0000	0.0000	0.24352E-03	
552	3.0000	0.0000	0.16693E-03	
553	3.0000	0.0000	0.62733E-04	
554	1.0000	-125.29	-0.25059E-06	
555	1.0000	-638.73	-0.12775E-05	
556	1.0000	-1053.8	-0.21076E-05	
561	1.0000	-446.48	-0.89296E-06	
562	1.0000	-389.47	-0.77893E-06	
563	1.0000	-296.00	-0.59201E-06	
564	1.0000	-239.82	-0.47965E-06	
565	1.0000	-222.20	-0.44439E-06	
566	3.0000	0.0000	0.15633E-06	
567	3.0000	0.0000	0.53370E-04	
568	3.0000	0.0000	0.10369E-03	
569	3.0000	0.0000	0.13541E-03	
570	3.0000	0.0000	0.15555E-03	<
571	3.0000	0.14552E-10	0.14191E-03	
572	3.0000	0.0000	0.95506E-04	
573	3.0000	0.0000	0.35309E-04	
574	3.0000	0.0000	0.13632E-07	

575	1.0000	-192.87	-0.38575E-06
576	1.0000	-307.84	-0.61567E-06
581	1.0000	-749.50	-0.14990E-05
582	1.0000	-738.30	-0.14766E-05
583	1.0000	-499.25	-0.99851E-06
584	1.0000	-257.40	-0.51480E-06
585	1.0000	-177.35	-0.35470E-06
586	1.0000	-56.550	-0.11310E-06
587	1.0000	-32.610	-0.65219E-07
588	1.0000	-40.916	-0.81832E-07
589	1.0000	-106.58	-0.21315E-06
590	1.0000	-89.400	-0.17880E-06
591	1.0000	-65.780	-0.13156E-06
592	1.0000	-41.883	-0.83765E-07
593	1.0000	-37.051	-0.74103E-07
594	3.0000	0.0000	0.11215E-07 < Limiting
595	1.0000	-134.50	-0.26901E-06
596	1.0000	-430.09	-0.86019E-06
601	3.0000	0.0000	0.23846E-03
602	3.0000	0.0000	0.22199E-03
603	3.0000	0.0000	0.17395E-03
604	3.0000	0.0000	0.15943E-03
605	3.0000	0.0000	0.21898E-03
606	3.0000	0.0000	0.34548E-03
607	3.0000	0.0000	0.45413E-03
608	3.0000	0.0000	0.49601E-03
609	3.0000	0.0000	0.50075E-03
621	1.0000	-89.129	-0.17826E-06
622	1.0000	-55.918	-0.11184E-06
623	3.0000	0.0000	0.44732E-04
624	3.0000	0.0000	0.12174E-03
625	3.0000	0.0000	0.21793E-03
626	3.0000	0.0000	0.31866E-03
627	3.0000	0.0000	0.39895E-03
628	3.0000	0.0000	0.43714E-03
629	3.0000	0.0000	0.44120E-03
641	1.0000	-1041.3	-0.20825E-05
642	1.0000	-1785.3	-0.35705E-05
643	1.0000	-1286.8	-0.25736E-05
644	1.0000	-760.78	-0.15216E-05
645	1.0000	-212.65	-0.42530E-06
646	3.0000	0.0000	0.56486E-04
647	3.0000	0.0000	0.12105E-03
648	3.0000	-0.14552E-10	0.14821E-03
649	3.0000	0.0000	0.14853E-03
661	1.0000	-404.60	-0.80920E-06
662	1.0000	-628.15	-0.12563E-05
663	1.0000	-412.65	-0.82529E-06
664	1.0000	-279.47	-0.55894E-06
665	1.0000	-133.50	-0.26699E-06
666	3.0000	0.0000	0.21231E-04
667	3.0000	0.0000	0.55466E-04
668	3.0000	0.0000	0.74495E-04
669	3.0000	0.0000	0.74362E-04
681	1.0000	-673.08	**-0.13462E-05**

682	1.0000	-1015.4	**-0.20307E-05**
683	1.0000	-483.78	**-0.96755E-06**
684	1.0000	-184.48	**-0.36895E-06**
685	1.0000	-176.43	**-0.35287E-06**
686	1.0000	-213.50	**-0.42700E-06**
687	1.0000	-333.18	**-0.66636E-06**
688	1.0000	-469.59	**-0.93919E-06**
689	1.0000	-283.86	**-0.56772E-06**
701	3.0000	0.0000	0.50662E-03
702	3.0000	0.0000	0.46844E-03
703	3.0000	0.0000	0.39359E-03
704	3.0000	-0.29104E-10	0.31394E-03
705	3.0000	0.0000	0.22572E-03
706	3.0000	0.0000	0.15383E-03
707	3.0000	0.0000	0.16100E-03
708	3.0000	0.0000	0.25881E-03
709	3.0000	-0.29104E-10	0.31480E-03
721	3.0000	-0.29104E-10	0.44249E-03
722	3.0000	0.0000	0.41539E-03
723	3.0000	0.0000	0.35073E-03
724	3.0000	0.0000	0.28254E-03
725	3.0000	0.0000	0.20335E-03
726	3.0000	0.0000	0.11847E-03
727	3.0000	0.0000	0.42088E-04
728	1.0000	-86.462	-0.17292E-06
729	1.0000	-108.48	-0.21697E-06
741	3.0000	0.0000	0.14091E-03
742	3.0000	0.0000	0.11820E-03
743	3.0000	0.0000	0.70512E-04
744	3.0000	0.0000	0.21858E-04
745	1.0000	-286.38	-0.57277E-06
746	1.0000	-859.62	-0.17192E-05
747	1.0000	-1490.0	-0.29801E-05
748	1.0000	-1850.4	-0.37009E-05
749	1.0000	-1017.7	-0.20355E-05
761	3.0000	0.0000	0.68303E-04
762	3.0000	0.0000	0.51281E-04
763	3.0000	0.0000	0.27225E-06
764	1.0000	-9.5468	-0.19094E-07
765	1.0000	-168.37	-0.33675E-06
766	1.0000	-346.31	-0.69262E-06
767	1.0000	-581.72	-0.11634E-05
768	1.0000	-680.80	-0.13616E-05
769	1.0000	-373.73	-0.74746E-06
781	1.0000	-331.55	**-0.66310E-06**
782	1.0000	-610.34	**-0.12207E-05**
783	1.0000	-452.33	**-0.90465E-06**
784	1.0000	-245.00	**-0.49001E-06**
785	1.0000	-192.53	**-0.38507E-06**
786	1.0000	-344.05	**-0.68809E-06**
787	1.0000	-713.73	**-0.14275E-05**
788	1.0000	-1074.4	**-0.21487E-05**
789	1.0000	-638.05	**-0.12761E-05**
801	3.0000	0.0000	0.23535E-03
802	3.0000	0.0000	0.32566E-03

803	3.0000	0.0000	0.29878E-03
804	3.0000	0.0000	0.18496E-03
805	3.0000	-0.72760E-11	0.11852E-03
806	3.0000	0.0000	0.18799E-03
807	3.0000	0.0000	0.30471E-03
808	3.0000	-0.29104E-10	0.38443E-03
809	3.0000	0.0000	0.43055E-03
810	3.0000	0.0000	0.47383E-03
811	3.0000	0.0000	0.48683E-03
812	3.0000	0.0000	0.42569E-03
813	3.0000	0.0000	0.32217E-03
814	3.0000	0.0000	0.21807E-03
815	3.0000	0.0000	0.14595E-03
816	3.0000	0.0000	0.15024E-03
821	1.0000	-92.247	-0.18449E-06
822	1.0000	-312.57	-0.62514E-06
823	1.0000	-171.48	-0.34297E-06
824	3.0000	0.0000	0.22344E-04
825	3.0000	0.0000	0.10071E-03
826	3.0000	0.0000	0.19739E-03
827	3.0000	0.0000	0.27854E-03
828	3.0000	0.0000	0.33135E-03
829	3.0000	0.0000	0.36775E-03
830	3.0000	0.0000	0.40738E-03
831	3.0000	0.0000	0.42238E-03
832	3.0000	0.0000	0.38519E-03
833	3.0000	0.0000	0.30780E-03
834	3.0000	0.0000	0.22040E-03
835	3.0000	0.0000	0.12297E-03
836	3.0000	0.0000	0.39646E-04
841	1.0000	-2090.7	-0.41813E-05
842	1.0000	-2258.2	-0.45164E-05
843	1.0000	-2035.0	-0.40699E-05
844	1.0000	-1562.5	-0.31249E-05
845	1.0000	-1046.7	-0.20935E-05
846	1.0000	-400.69	-0.80137E-06
847	3.0000	0.0000	0.83233E-05
848	3.0000	0.0000	0.42254E-04
849	3.0000	0.0000	0.63299E-04
850	3.0000	0.0000	0.93694E-04
851	3.0000	0.0000	0.11255E-03
852	3.0000	0.0000	0.90130E-04
853	3.0000	0.0000	0.34937E-04
854	1.0000	-194.22	-0.38844E-06
855	1.0000	-784.28	-0.15686E-05
856	1.0000	-1467.5	-0.29349E-05
861	1.0000	-855.58	-0.17112E-05
862	1.0000	-904.45	-0.18089E-05
863	1.0000	-755.98	-0.15120E-05
864	1.0000	-558.77	-0.11175E-05
865	1.0000	-443.80	-0.88760E-06
866	1.0000	-224.94	-0.44989E-06
867	1.0000	-65.819	-0.13164E-06
868	3.0000	0.0000	0.47703E-07
869	3.0000	0.0000	0.19241E-06

870	3.0000	0.0000	0.36753E-04
871	3.0000	0.0000	0.48991E-04
872	3.0000	0.0000	0.33450E-04
873	3.0000	0.0000	0.46939E-07
874	1.0000	-128.98	-0.25796E-06
875	1.0000	-315.42	-0.63085E-06
876	1.0000	-542.08	-0.10842E-05
881	1.0000	-1252.2	**-0.25044E-05**
882	1.0000	-1508.3	**-0.30167E-05**
883	1.0000	-1207.7	**-0.24155E-05**
884	1.0000	-689.24	**-0.13785E-05**
885	1.0000	-405.83	**-0.81167E-06**
886	1.0000	-257.97	**-0.51593E-06**
887	1.0000	-298.27	**-0.59653E-06**
888	1.0000	-484.99	**-0.96999E-06**
889	1.0000	-742.32	**-0.14846E-05**
890	1.0000	-822.45	**-0.16449E-05**
891	1.0000	-727.78	**-0.14556E-05**
892	1.0000	-537.02	**-0.10740E-05**
893	1.0000	-327.51	**-0.65503E-06**
894	1.0000	-151.46	**-0.30292E-06**
895	1.0000	-231.85	**-0.46369E-06**
896	1.0000	-633.27	**-0.12665E-05**
901	3.0000	0.0000	0.40388E-03
902	3.0000	-0.29104E-10	0.41818E-03
903	3.0000	0.0000	0.26431E-03
904	3.0000	0.0000	0.11401E-03
905	3.0000	0.0000	0.10280E-03
906	3.0000	0.0000	0.23371E-03
907	3.0000	0.0000	0.36125E-03
908	3.0000	0.0000	0.40246E-03
909	3.0000	0.0000	0.40070E-03
910	3.0000	0.0000	0.41752E-03
911	3.0000	0.0000	0.42245E-03
912	3.0000	0.0000	0.34916E-03
913	3.0000	0.0000	0.22097E-03
914	3.0000	0.0000	0.11892E-03
915	3.0000	0.0000	0.12032E-03
916	3.0000	0.0000	0.25177E-03
921	1.0000	-449.04	-0.89808E-06
922	1.0000	-498.36	-0.99672E-06
923	1.0000	-118.44	-0.23688E-06
924	3.0000	0.0000	0.61516E-04
925	3.0000	0.0000	0.16909E-03
926	3.0000	0.0000	0.27680E-03
927	3.0000	0.0000	0.33343E-03
928	3.0000	0.0000	0.33622E-03
929	3.0000	0.0000	0.31673E-03
930	3.0000	0.0000	0.33995E-03
931	3.0000	0.0000	0.36672E-03
932	3.0000	0.0000	0.34146E-03
933	3.0000	0.0000	0.26538E-03
934	3.0000	0.0000	0.16259E-03
935	3.0000	0.0000	0.56109E-04
936	1.0000	-198.92	-0.39783E-06

941	1.0000	-2866.9	-0.57337E-05
942	1.0000	-2728.6	-0.54571E-05
943	1.0000	-2073.3	-0.41465E-05
944	1.0000	-1331.0	-0.26620E-05
945	1.0000	-688.78	-0.13776E-05
946	1.0000	-58.260	-0.11652E-06
947	3.0000	0.0000	0.26300E-04
948	3.0000	0.0000	0.16509E-04
949	1.0000	-47.291	-0.94582E-07
950	3.0000	0.0000	0.11737E-04
951	3.0000	-0.36380E-11	0.41913E-04
952	3.0000	0.0000	0.36603E-04
953	1.0000	-102.03	-0.20405E-06
954	1.0000	-628.85	-0.12577E-05
955	1.0000	-1365.7	-0.27315E-05
956	1.0000	-2243.8	-0.44877E-05
961	1.0000	-1300.8	-0.26017E-05
962	1.0000	-1181.3	-0.23626E-05
963	1.0000	-784.59	-0.15692E-05
964	1.0000	-504.30	-0.10086E-05
965	1.0000	-374.13	-0.74826E-06
966	1.0000	-126.23	-0.25245E-06
967	1.0000	-37.092	-0.74184E-07
968	1.0000	-49.335	-0.98669E-07
969	1.0000	-128.02	-0.25604E-06
970	1.0000	-49.398	-0.98796E-07
971	3.0000	-0.35527E-14	0.47187E-07
972	1.0000	-6.5956	-0.13191E-07
973	1.0000	-159.34	-0.31868E-06
974	1.0000	-288.40	-0.57681E-06
975	1.0000	-498.24	-0.99647E-06
976	1.0000	-882.76	-0.17655E-05
981	1.0000	-1993.4	**-0.39868E-05**
982	1.0000	-1866.8	**-0.37335E-05**
983	1.0000	-1032.6	**-0.20652E-05**
984	1.0000	-395.58	**-0.79115E-06**
985	1.0000	-256.76	**-0.51351E-06**
986	1.0000	-292.57	**-0.58514E-06**
987	1.0000	-527.16	**-0.10543E-05**
988	1.0000	-879.50	**-0.17590E-05**
989	1.0000	-1192.7	**-0.23854E-05**
990	1.0000	-1140.9	**-0.22818E-05**
991	1.0000	-858.39	**-0.17168E-05**
992	1.0000	-518.14	**-0.10363E-05**
993	1.0000	-278.28	**-0.55655E-06**
994	1.0000	-142.72	**-0.28544E-06**
995	1.0000	-415.70	**-0.83140E-06**
996	1.0000	-1181.7	**-0.23633E-05**
1001	3.0000	0.0000	0.31520E-03
1002	3.0000	0.0000	0.31115E-03
1003	3.0000	0.0000	0.30221E-03
1004	3.0000	0.0000	0.25392E-03
1005	3.0000	0.0000	0.13600E-03
1006	3.0000	0.0000	0.67190E-04
1007	3.0000	0.0000	0.20354E-03

1008	3.0000	0.0000	0.48697E-03
1009	3.0000	0.0000	0.64666E-03
1021	3.0000	0.0000	0.26341E-03
1022	3.0000	0.0000	0.27127E-03
1023	3.0000	0.0000	0.27771E-03
1024	3.0000	0.0000	0.27104E-03
1025	3.0000	0.0000	0.20408E-03
1026	3.0000	0.0000	0.97703E-04
1027	1.0000	-21.601	-0.43202E-07
1028	1.0000	-595.20	-0.11904E-05
1029	1.0000	-334.60	-0.66921E-06
1041	1.0000	-138.95	**-0.27791E-06**
1042	1.0000	-223.98	**-0.44796E-06**
1043	1.0000	-157.86	**-0.31573E-06**
1044	1.0000	-137.66	**-0.27532E-06**
1045	1.0000	-523.36	**-0.10467E-05**
1046	1.0000	-1264.0	**-0.25280E-05**
1047	1.0000	-2176.5	**-0.43530E-05**
1048	1.0000	-2778.4	**-0.55569E-05**
1049	1.0000	-1525.1	**-0.30501E-05**
1061	1.0000	-75.826	**-0.15165E-06**
1062	1.0000	-158.55	**-0.31709E-06**
1063	1.0000	-177.80	**-0.35559E-06**
1064	1.0000	-160.58	**-0.32116E-06**
1065	1.0000	-348.58	**-0.69716E-06**
1066	1.0000	-616.77	**-0.12335E-05**
1067	1.0000	-1046.3	**-0.20926E-05**
1068	1.0000	-1369.3	**-0.27385E-05**
1069	1.0000	-789.77	**-0.15795E-05**
1081	1.0000	-707.36	**-0.14147E-05**
1082	1.0000	-1241.1	**-0.24821E-05**
1083	1.0000	-846.90	**-0.16938E-05**
1084	1.0000	-394.43	**-0.78887E-06**
1085	1.0000	-290.27	**-0.58055E-06**
1086	1.0000	-484.33	**-0.96865E-06**
1087	1.0000	-1043.6	**-0.20871E-05**
1088	1.0000	-1782.8	**-0.35657E-05**
1089	1.0000	-1121.3	**-0.22425E-05**
1101	3.0000	0.29104E-10	0.40656E-03
1102	3.0000	0.0000	0.67821E-03
1103	3.0000	0.0000	0.62759E-03
1104	3.0000	0.0000	0.32148E-03
1105	3.0000	0.0000	0.78844E-04
1106	3.0000	0.0000	0.83403E-04
1107	3.0000	0.0000	0.22692E-03
1108	3.0000	0.0000	0.31627E-03
1109	3.0000	0.0000	0.30368E-03
1110	3.0000	0.0000	0.29326E-03
1111	3.0000	0.0000	0.31978E-03
1112	3.0000	0.0000	0.33035E-03
1113	3.0000	0.0000	0.29428E-03
1114	3.0000	0.0000	0.18648E-03
1115	3.0000	0.0000	0.72446E-04
1116	3.0000	0.0000	0.12817E-03
1121	1.0000	-468.76	-0.93752E-06

1122	1.0000	-797.50	-0.15950E-05
1123	1.0000	-688.59	-0.13772E-05
1124	1.0000	-269.27	-0.53854E-06
1125	3.0000	0.0000	0.74310E-04
1126	3.0000	0.0000	0.20295E-03
1127	3.0000	0.0000	0.28646E-03
1128	3.0000	0.0000	0.30052E-03
1129	3.0000	0.0000	0.26029E-03
1130	3.0000	0.0000	0.24688E-03
1131	3.0000	0.0000	0.27337E-03
1132	3.0000	0.0000	0.30831E-03
1133	3.0000	0.0000	0.30625E-03
1134	3.0000	0.0000	0.26202E-03
1135	3.0000	0.0000	0.15046E-03
1136	3.0000	0.0000	0.30357E-04
1141	1.0000	-2942.8	**-0.58856E-05**
1142	1.0000	-3290.3	**-0.65806E-05**
1143	1.0000	-3047.3	**-0.60945E-05**
1144	1.0000	-2311.9	**-0.46237E-05**
1145	1.0000	-1537.9	**-0.30757E-05**
1146	1.0000	-676.07	**-0.13521E-05**
1147	1.0000	-181.64	**-0.36327E-06**
1148	1.0000	-89.047	**-0.17809E-06**
1149	1.0000	-309.55	**-0.61910E-06**
1150	1.0000	-385.23	**-0.77046E-06**
1151	1.0000	-270.08	**-0.54016E-06**
1152	1.0000	-82.895	**-0.16579E-06**
1153	1.0000	-56.735	**-0.11347E-06**
1154	1.0000	-220.89	**-0.44177E-06**
1155	1.0000	-867.71	**-0.17354E-05**
1156	1.0000	-1869.3	**-0.37386E-05**
1161	1.0000	-1419.0	**-0.28380E-05**
1162	1.0000	-1721.8	**-0.34435E-05**
1163	1.0000	-1513.3	**-0.30266E-05**
1164	1.0000	-1050.9	**-0.21018E-05**
1165	1.0000	-748.27	**-0.14965E-05**
1166	1.0000	-415.67	**-0.83134E-06**
1167	1.0000	-216.83	**-0.43365E-06**
1168	1.0000	-117.01	**-0.23402E-06**
1169	1.0000	-202.29	**-0.40458E-06**
1170	1.0000	-187.46	**-0.37492E-06**
1171	1.0000	-129.66	**-0.25932E-06**
1172	1.0000	-104.39	**-0.20878E-06**
1173	1.0000	-147.82	**-0.29565E-06**
1174	1.0000	-186.45	**-0.37289E-06**
1175	1.0000	-421.09	**-0.84218E-06**
1176	1.0000	-791.67	**-0.15833E-05**
1181	1.0000	-1711.6	**-0.34232E-05**
1182	1.0000	-2445.4	**-0.48907E-05**
1183	1.0000	-2080.4	**-0.41607E-05**
1184	1.0000	-1071.5	**-0.21430E-05**
1185	1.0000	-485.79	**-0.97158E-06**
1186	1.0000	-266.69	**-0.53338E-06**
1187	1.0000	-342.82	**-0.68564E-06**
1188	1.0000	-667.05	**-0.13341E-05**

1189	1.0000	-1218.4	**-0.24367E-05**
1190	1.0000	-1499.1	**-0.29982E-05**
1191	1.0000	-1391.8	**-0.27836E-05**
1192	1.0000	-987.41	**-0.19748E-05**
1193	1.0000	-506.21	**-0.10124E-05**
1194	1.0000	-120.89	**-0.24178E-06**
1195	1.0000	-171.52	**-0.34305E-06**
1196	1.0000	-683.56	**-0.13671E-05**
1201	3.0000	0.0000	0.73716E-03
1202	3.0000	0.0000	0.54614E-03
1203	3.0000	0.0000	0.21715E-03
1204	3.0000	0.0000	0.53903E-04
1205	3.0000	0.0000	0.11543E-03
1206	3.0000	0.0000	0.27980E-03
1207	3.0000	0.0000	0.36914E-03
1208	3.0000	0.0000	0.34140E-03
1209	3.0000	0.0000	0.30173E-03
1221	1.0000	-424.31	-0.84862E-06
1222	1.0000	-755.24	-0.15105E-05
1223	3.0000	0.0000	0.37378E-07
1224	3.0000	0.0000	0.12310E-03
1225	3.0000	0.0000	0.25810E-03
1226	3.0000	0.0000	0.34997E-03
1227	3.0000	0.0000	0.35682E-03
1228	3.0000	0.0000	0.28718E-03
1229	3.0000	0.0000	0.23319E-03
1241	1.0000	-1935.2	-0.38704E-05
1242	1.0000	-3265.1	-0.65302E-05
1243	1.0000	-2072.2	-0.41445E-05
1244	1.0000	-1095.7	-0.21914E-05
1245	1.0000	-380.93	-0.76185E-06
1246	3.0000	0.0000	0.15184E-04
1247	3.0000	0.0000	0.14016E-04
1248	1.0000	-289.58	-0.57915E-06
1249	1.0000	-280.90	-0.56181E-06
1261	1.0000	-976.24	**-0.19525E-05**
1262	1.0000	-1441.4	**-0.28828E-05**
1263	1.0000	-785.75	**-0.15715E-05**
1264	1.0000	-475.60	**-0.95120E-06**
1265	1.0000	-313.87	**-0.62774E-06**
1266	1.0000	-70.030	**-0.14006E-06**
1267	1.0000	-16.832	**-0.33665E-07**
1268	1.0000	-144.78	**-0.28955E-06**
1269	1.0000	-139.28	**-0.27857E-06**
1281	1.0000	-1420.9	**-0.28418E-05**
1282	1.0000	-1999.2	**-0.39984E-05**
1283	1.0000	-719.81	**-0.14396E-05**
1284	1.0000	-121.61	**-0.24323E-06**
1285	1.0000	-136.76	**-0.27353E-06**
1286	1.0000	-343.74	**-0.68749E-06**
1287	1.0000	-815.26	**-0.16305E-05**
1288	1.0000	-1387.5	**-0.27751E-05**
1289	1.0000	-857.80	**-0.17156E-05**
1301	3.0000	0.0000	0.79201E-03
1302	3.0000	0.0000	0.94915E-03 <

1303	3.0000	0.0000	0.62506E-03	
1304	3.0000	0.0000	0.22345E-03	
1305	3.0000	0.0000	0.53221E-04	
1306	3.0000	0.0000	0.17389E-03	
1307	3.0000	0.29104E-10	0.34117E-03	
1308	3.0000	0.0000	0.36379E-03	
1309	3.0000	0.0000	0.27208E-03	
1310	3.0000	0.0000	0.25198E-03	
1311	3.0000	0.0000	0.32294E-03	
1312	3.0000	0.0000	0.34597E-03	
1313	3.0000	0.0000	0.27140E-03	
1314	3.0000	0.0000	0.12095E-03	
1315	3.0000	0.0000	0.79279E-04	
1316	3.0000	0.0000	0.34315E-03	
1321	1.0000	-906.66	-0.18133E-05	
1322	1.0000	-1115.1	-0.22303E-05	
1323	1.0000	-594.09	-0.11882E-05	
1324	3.0000	0.0000	0.50445E-04	
1325	3.0000	0.0000	0.21329E-03	
1326	3.0000	0.0000	0.36497E-03	
1327	3.0000	0.0000	0.40280E-03	<
1328	3.0000	0.0000	0.34024E-03	
1329	3.0000	0.14552E-10	0.22633E-03	
1330	3.0000	0.0000	0.21850E-03	
1331	3.0000	0.0000	0.30512E-03	
1332	3.0000	0.0000	0.37301E-03	
1333	3.0000	0.0000	0.36855E-03	
1334	3.0000	0.0000	0.29746E-03	
1335	3.0000	0.0000	0.14343E-03	
1336	1.0000	-78.558	-0.15712E-06	
1341	1.0000	-3894.1	-0.77882E-05	
1342	1.0000	-3992.6	-0.79852E-05	
1343	1.0000	-3026.7	-0.60533E-05	
1344	1.0000	-1770.1	-0.35401E-05	
1345	1.0000	-809.53	-0.16191E-05	
1346	3.0000	0.0000	0.10657E-06	
1347	3.0000	0.0000	0.32812E-04	<
1348	1.0000	-46.260	-0.92520E-07	
1349	1.0000	-567.92	-0.11358E-05	
1350	1.0000	-583.09	-0.11662E-05	
1351	1.0000	-176.48	-0.35296E-06	
1352	3.0000	0.0000	0.22536E-04	
1353	3.0000	0.0000	0.15865E-04	
1354	1.0000	-225.58	-0.45117E-06	
1355	1.0000	-1109.2	-0.22184E-05	
1356	1.0000	-2469.3	-0.49386E-05	
1361	1.0000	-1880.8	-0.37617E-05	
1362	1.0000	-2079.7	-0.41594E-05	
1363	1.0000	-1346.7	-0.26934E-05	
1364	1.0000	-655.68	-0.13114E-05	
1365	1.0000	-395.97	-0.79194E-06	
1366	1.0000	-35.311	-0.70622E-07	
1367	3.0000	0.0000	0.49430E-05	< Limiting
1368	1.0000	-21.865	-0.43730E-07	
1369	1.0000	-224.51	-0.44902E-06	

1370	1.0000	-180.93	-0.36186E-06
1371	1.0000	-24.277	-0.48554E-07
1372	3.0000	0.0000	0.34443E-07
1373	1.0000	-27.168	-0.54336E-07
1374	1.0000	-122.91	-0.24581E-06
1375	1.0000	-324.93	-0.64986E-06
1376	1.0000	-858.89	-0.17178E-05
1381	1.0000	-2509.7	-0.50194E-05
1382	1.0000	-3017.1	-0.60342E-05
1383	1.0000	-1693.8	-0.33877E-05
1384	1.0000	-251.89	-0.50379E-06
1385	3.0000	0.18190E-11	0.29548E-04
1386	3.0000	0.0000	0.27936E-04
1387	1.0000	-214.19	-0.42838E-06
1388	1.0000	-928.16	-0.18563E-05
1389	1.0000	-1632.7	-0.32654E-05
1390	1.0000	-1739.3	-0.34786E-05
1391	1.0000	-1301.8	-0.26036E-05
1392	1.0000	-660.74	-0.13215E-05
1393	1.0000	-16.767	-0.33535E-07
1394	3.0000	0.0000	0.51568E-04 <
1395	3.0000	0.0000	0.35529E-04
1396	1.0000	-775.00	-0.15500E-05

00040224 VERSION=HPPA 8000 17:01:30 OCT 13, 2001 CP= 804.370

Robinson 2 RPV -- Oper. Temp & Press - 2.50 mil intf - 7.8 alpha - noz 9 press

***** POST1 ELEMENT TABLE LISTING *****

ELEM	GAPSTAT	GAPFORC	GAPSTRCH	
901	3.0000	0.0000	0.10202E-02	
902	3.0000	0.0000	0.10326E-02	<
903	3.0000	0.0000	0.83220E-03	
904	3.0000	0.0000	0.63024E-03	
905	3.0000	0.0000	0.58058E-03	
906	3.0000	0.0000	0.67968E-03	
907	3.0000	0.0000	0.78305E-03	
908	3.0000	0.0000	0.79032E-03	
909	3.0000	0.0000	0.75531E-03	
910	3.0000	0.0000	0.78324E-03	
911	3.0000	-0.58208E-10	0.83295E-03	
912	3.0000	0.0000	0.79797E-03	
913	3.0000	0.0000	0.69545E-03	
914	3.0000	0.0000	0.62175E-03	
915	3.0000	0.0000	0.65716E-03	
916	3.0000	0.0000	0.83155E-03	
921	3.0000	0.0000	0.40063E-03	
922	3.0000	0.0000	0.38867E-03	
923	3.0000	0.0000	0.45290E-03	
924	3.0000	0.0000	0.57442E-03	
925	3.0000	0.0000	0.69999E-03	
926	3.0000	0.0000	0.86130E-03	
927	3.0000	0.0000	0.94775E-03	
928	3.0000	0.0000	0.92196E-03	
929	3.0000	0.0000	0.86685E-03	
930	3.0000	0.0000	0.90848E-03	
931	3.0000	0.0000	0.99620E-03	
932	3.0000	0.0000	0.10146E-02	<
933	3.0000	0.0000	0.92731E-03	
934	3.0000	0.0000	0.77651E-03	
935	3.0000	0.0000	0.61458E-03	
936	3.0000	0.0000	0.48032E-03	
941	1.0000	-1935.7	-0.38714E-05	
942	1.0000	-1901.7	-0.38034E-05	
943	1.0000	-977.23	-0.19545E-05	
944	3.0000	0.0000	0.11690E-05	
945	3.0000	0.0000	0.31562E-03	
946	3.0000	0.0000	0.57231E-03	
947	3.0000	0.0000	0.68697E-03	
948	3.0000	0.0000	0.65965E-03	
949	3.0000	0.0000	0.60478E-03	
950	3.0000	0.0000	0.65170E-03	
951	3.0000	0.0000	0.75635E-03	
952	3.0000	0.0000	0.79153E-03	<
953	3.0000	0.0000	0.68676E-03	
954	3.0000	0.0000	0.46162E-03	
955	3.0000	0.0000	0.17194E-03	

Case 0.0025" – Nozzle #9 OD Pressure

956	1.0000	-661.88	-0.13238E-05	
961	1.0000	-447.46	-0.89492E-06	
962	1.0000	-549.30	-0.10986E-05	
963	3.0000	0.0000	0.58729E-06	
964	3.0000	0.0000	0.19375E-03	
965	3.0000	0.0000	0.34953E-03	
966	3.0000	0.0000	0.50402E-03	
967	3.0000	0.0000	0.55904E-03	
968	3.0000	0.0000	0.51713E-03	
969	3.0000	0.0000	0.46154E-03	
970	3.0000	-0.29104E-10	0.51238E-03	
971	3.0000	0.0000	0.62062E-03	
972	3.0000	0.0000	0.69485E-03	<
973	3.0000	0.0000	0.65549E-03	
974	3.0000	0.0000	0.51250E-03	
975	3.0000	0.0000	0.30845E-03	
976	3.0000	0.0000	0.10277E-03	
981	1.0000	-1898.7	-0.37973E-05	
982	1.0000	-1879.5	-0.37590E-05	
983	1.0000	-849.98	-0.17000E-05	
984	3.0000	0.0000	0.84380E-05	
985	3.0000	0.0000	0.11037E-03	
986	3.0000	0.0000	0.16379E-03	
987	3.0000	0.0000	0.13412E-03	
988	3.0000	0.0000	0.47534E-04	
989	1.0000	-190.08	-0.38016E-06	
990	3.0000	0.0000	0.30373E-06	
991	3.0000	0.0000	0.15074E-03	
992	3.0000	0.0000	0.29498E-03	
993	3.0000	0.0000	0.35322E-03	< Limiting
994	3.0000	0.29104E-10	0.29587E-03	
995	3.0000	0.0000	0.12366E-03	
996	1.0000	-683.56	-0.13671E-05	

00040224 VERSION=HPPA 8000 14:20:46 OCT 17, 2001 CP= 3778.340

Robinson 2 RPV - Oper. T & P - 2.75 mil intf - 7.8 alpha - noz 1 pressure

***** POST1 ELEMENT TABLE LISTING *****

STAT ELEM	MIXED GAPSTAT	MIXED GAPFORC	MIXED GAPSTRCH	
101	3.0000	0.0000	0.75584E-03	
102	3.0000	0.0000	0.77440E-03	
103	3.0000	0.0000	0.79028E-03	<
121	3.0000	0.58208E-10	0.65861E-03	
122	3.0000	0.0000	0.66579E-03	
123	3.0000	0.0000	0.67149E-03	<
141	3.0000	-0.29104E-10	0.46443E-03	
142	3.0000	0.0000	0.47551E-03	
143	3.0000	0.0000	0.48254E-03	<
161	3.0000	0.0000	0.48775E-03	
162	3.0000	0.0000	0.49704E-03	
163	3.0000	0.0000	0.50230E-03	<
181	3.0000	0.0000	0.20206E-03	
182	3.0000	0.0000	0.21254E-03	
183	3.0000	0.0000	0.21793E-03	< Limiting

00040224 VERSION=HPPA 8000 14:20:50 OCT 17, 2001 CP= 3782.130

Robinson 2 RPV - Oper. T & P - 2.75 mil intf - 7.8 alpha - noz 2 pressure

***** POST1 ELEMENT TABLE LISTING *****

STAT ELEM	MIXED GAPSTAT	MIXED GAPFORC	MIXED GAPSTRCH	
201	3.0000	0.0000	0.93828E-03	<
202	3.0000	0.0000	0.90643E-03	
203	3.0000	0.0000	0.84856E-03	
204	3.0000	0.0000	0.81232E-03	
205	3.0000	0.0000	0.76615E-03	
206	3.0000	0.0000	0.67735E-03	
207	3.0000	0.0000	0.56838E-03	
208	3.0000	0.0000	0.50797E-03	
209	3.0000	0.0000	0.52060E-03	
221	3.0000	0.0000	0.10736E-02	<
222	3.0000	0.0000	0.10388E-02	
223	3.0000	0.0000	0.95189E-03	
224	3.0000	0.0000	0.84589E-03	
225	3.0000	0.0000	0.71964E-03	
226	3.0000	0.0000	0.56444E-03	
227	3.0000	0.0000	0.41086E-03	
228	3.0000	0.0000	0.24460E-03	
229	3.0000	0.0000	0.16612E-05	
241	3.0000	0.0000	0.10211E-02	<
242	3.0000	0.0000	0.97137E-03	
243	3.0000	0.0000	0.83684E-03	
244	3.0000	0.0000	0.65485E-03	
245	3.0000	0.0000	0.42690E-03	
246	3.0000	0.0000	0.21927E-03	
247	3.0000	0.0000	0.56862E-06	
248	1.0000	-405.38	-0.81076E-06	
249	1.0000	-128.14	-0.25629E-06	
261	3.0000	0.0000	0.10439E-02	<
262	3.0000	0.0000	0.98849E-03	
263	3.0000	0.0000	0.83296E-03	
264	3.0000	0.0000	0.61793E-03	
265	3.0000	0.0000	0.35823E-03	
266	3.0000	0.0000	0.24250E-05	
267	3.0000	0.0000	0.61028E-06	
268	3.0000	0.0000	0.62615E-06	
269	3.0000	0.0000	0.43077E-06	
281	3.0000	0.0000	0.72932E-03	< Limiting
282	3.0000	0.0000	0.67134E-03	
283	3.0000	0.29104E-10	0.51141E-03	
284	3.0000	0.0000	0.30411E-03	
285	3.0000	0.0000	0.85661E-04	
286	1.0000	-251.06	-0.50212E-06	
287	1.0000	-853.27	-0.17065E-05	
288	1.0000	-786.29	-0.15726E-05	
289	1.0000	-363.40	-0.72681E-06	

00040224 VERSION=HPPA 8000 14:20:54 OCT 17, 2001 CP= 3785.920

Robinson 2 RPV - Oper. T & P - 2.75 mil intf - 7.8 alpha - noz 3 pressure

***** POST1 ELEMENT TABLE LISTING *****

STAT ELEM	MIXED GAPSTAT	MIXED GAPFORC	MIXED GAPSTRCH	
301	3.0000	0.0000	0.56195E-03	
302	3.0000	0.0000	0.58383E-03	
303	3.0000	0.0000	0.60863E-03	
304	3.0000	0.0000	0.62777E-03	
305	3.0000	0.0000	0.66789E-03	
306	3.0000	0.0000	0.76011E-03	
307	3.0000	0.0000	0.84036E-03	
308	3.0000	0.0000	0.86317E-03	<
309	3.0000	0.0000	0.85872E-03	
321	3.0000	0.0000	0.34717E-03	
322	3.0000	0.0000	0.37067E-03	
323	3.0000	0.0000	0.44582E-03	
324	3.0000	0.0000	0.53326E-03	
325	3.0000	0.0000	0.66764E-03	
326	3.0000	0.0000	0.81299E-03	
327	3.0000	0.0000	0.92458E-03	
328	3.0000	0.0000	0.97985E-03	
329	3.0000	0.0000	0.99029E-03	<
341	1.0000	-166.57	-0.33314E-06	
342	1.0000	-119.20	-0.23841E-06	
343	3.0000	0.0000	0.12669E-05	
344	3.0000	0.0000	0.22716E-03	
345	3.0000	0.0000	0.42564E-03	
346	3.0000	0.0000	0.62748E-03	
347	3.0000	0.0000	0.78202E-03	
348	3.0000	0.0000	0.86560E-03	
349	3.0000	0.0000	0.88492E-03	<
361	3.0000	0.0000	0.56118E-04	
362	3.0000	0.0000	0.84145E-04	
363	3.0000	0.0000	0.15905E-03	
364	3.0000	0.0000	0.25666E-03	
365	3.0000	0.0000	0.40015E-03	
366	3.0000	0.0000	0.58032E-03	
367	3.0000	0.0000	0.73925E-03	
368	3.0000	0.0000	0.83956E-03	
369	3.0000	0.0000	0.86761E-03	<
381	1.0000	-429.21	-0.85843E-06	
382	1.0000	-705.80	-0.14116E-05	
383	1.0000	-452.57	-0.90513E-06	
384	1.0000	-15.593	-0.31186E-07	
385	3.0000	0.0000	0.10052E-03	
386	3.0000	0.0000	0.25713E-03	
387	3.0000	0.0000	0.41018E-03	
388	3.0000	0.0000	0.51458E-03	
389	3.0000	0.0000	0.54563E-03	< Limiting

00040224 VERSION=HPPA 8000 14:20:59 OCT 17, 2001 CP= 3789.710

Robinson 2 RPV - Oper. T & P - 2.75 mil intf - 7.8 alpha - noz 4 pressure

***** POST1 ELEMENT TABLE LISTING *****

STAT ELEM	MIXED GAPSTAT	MIXED GAPFORC	MIXED GAPSTRCH	
401	3.0000	0.0000	0.87027E-03	<
402	3.0000	0.0000	0.83169E-03	
403	3.0000	0.0000	0.75785E-03	
404	3.0000	0.0000	0.69839E-03	
405	3.0000	0.0000	0.64382E-03	
406	3.0000	0.0000	0.58652E-03	
407	3.0000	0.0000	0.55674E-03	
408	3.0000	0.0000	0.59134E-03	
409	3.0000	0.0000	0.61548E-03	
421	3.0000	0.0000	0.99967E-03	<
422	3.0000	0.0000	0.96672E-03	
423	3.0000	0.0000	0.88485E-03	
424	3.0000	0.0000	0.78304E-03	
425	3.0000	0.0000	0.65749E-03	
426	3.0000	0.0000	0.52686E-03	
427	3.0000	0.0000	0.43208E-03	
428	3.0000	0.0000	0.36764E-03	
429	3.0000	0.0000	0.35287E-03	
441	3.0000	0.0000	0.85939E-03	<
442	3.0000	0.58208E-10	0.82300E-03	
443	3.0000	0.0000	0.72674E-03	
444	3.0000	0.0000	0.59598E-03	
445	3.0000	0.0000	0.41306E-03	
446	3.0000	0.0000	0.19727E-03	
447	3.0000	0.0000	0.35926E-06	
448	1.0000	-482.13	-0.96427E-06	
449	1.0000	-329.65	-0.65930E-06	
461	3.0000	0.0000	0.78621E-03	<
462	3.0000	0.0000	0.75402E-03	
463	3.0000	0.0000	0.66501E-03	
464	3.0000	0.0000	0.54595E-03	
465	3.0000	0.0000	0.39410E-03	
466	3.0000	0.0000	0.23586E-03	
467	3.0000	0.0000	0.10015E-03	
468	3.0000	0.0000	0.51107E-06	
469	3.0000	0.0000	0.72638E-07	
481	3.0000	0.0000	0.40776E-03	< Limiting
482	3.0000	0.0000	0.38434E-03	
483	3.0000	0.0000	0.31611E-03	
484	3.0000	0.0000	0.22262E-03	
485	3.0000	0.0000	0.99853E-04	
486	1.0000	-129.48	-0.25896E-06	
487	1.0000	-729.16	-0.14583E-05	
488	1.0000	-902.04	-0.18041E-05	
489	1.0000	-505.45	-0.10109E-05	

00040224 VERSION=HPPA 8000 14:21:03 OCT 17, 2001 CP= 3793.510

Robinson 2 RPV - Oper. T & P - 2.75 mil intf - 7.8 alpha - noz 5 pressure

***** POST1 ELEMENT TABLE LISTING *****

STAT ELEM	MIXED GAPSTAT	MIXED GAPFORC	MIXED GAPSTRCH	
501	3.0000	0.0000	0.58989E-03	
502	3.0000	0.0000	0.62181E-03	
503	3.0000	0.0000	0.60852E-03	
504	3.0000	0.0000	0.56331E-03	
505	3.0000	0.0000	0.55297E-03	
506	3.0000	0.0000	0.62570E-03	
507	3.0000	0.0000	0.71283E-03	
508	3.0000	0.0000	0.76043E-03	
509	3.0000	0.0000	0.78858E-03	
510	3.0000	0.0000	0.82483E-03	
511	3.0000	0.0000	0.82799E-03	<
512	3.0000	0.0000	0.75616E-03	
513	3.0000	0.0000	0.65531E-03	
514	3.0000	0.0000	0.59436E-03	
515	3.0000	0.0000	0.57318E-03	
516	3.0000	0.0000	0.57303E-03	
521	3.0000	0.0000	0.36073E-03	
522	3.0000	0.0000	0.35014E-03	
523	3.0000	0.0000	0.38511E-03	
524	3.0000	0.0000	0.44849E-03	
525	3.0000	0.0000	0.54571E-03	
526	3.0000	0.0000	0.67676E-03	
527	3.0000	0.0000	0.79828E-03	
528	3.0000	0.0000	0.87863E-03	
529	3.0000	0.0000	0.92429E-03	
530	3.0000	0.0000	0.96018E-03	<
531	3.0000	0.0000	0.95379E-03	
532	3.0000	0.0000	0.88065E-03	
533	3.0000	0.0000	0.75767E-03	
534	3.0000	0.0000	0.62664E-03	
535	3.0000	0.0000	0.50759E-03	
536	3.0000	0.0000	0.42012E-03	
541	1.0000	-750.97	-0.15019E-05	
542	1.0000	-772.68	-0.15454E-05	
543	1.0000	-361.70	-0.72340E-06	
544	3.0000	0.0000	0.60454E-04	
545	3.0000	0.0000	0.21816E-03	
546	3.0000	0.0000	0.42267E-03	
547	3.0000	-0.58208E-10	0.59675E-03	
548	3.0000	0.0000	0.70875E-03	
549	3.0000	0.0000	0.76818E-03	
550	3.0000	0.0000	0.80685E-03	<
551	3.0000	0.0000	0.79384E-03	
552	3.0000	0.0000	0.70507E-03	
553	3.0000	0.0000	0.54907E-03	
554	3.0000	0.0000	0.36504E-03	

555	3.0000	0.14552E-10	0.16487E-03
556	3.0000	0.0000	0.41187E-05
561	3.0000	0.0000	0.23027E-04
562	3.0000	0.0000	0.28622E-04
563	3.0000	0.0000	0.73232E-04
564	3.0000	0.0000	0.13932E-03
565	3.0000	0.0000	0.24064E-03
566	3.0000	0.0000	0.37969E-03
567	3.0000	0.0000	0.52368E-03
568	3.0000	-0.58208E-10	0.63346E-03
569	3.0000	0.0000	0.69554E-03
570	3.0000	0.58208E-10	0.72941E-03 <
571	3.0000	0.0000	0.71069E-03
572	3.0000	0.0000	0.62891E-03
573	3.0000	0.0000	0.49558E-03
574	3.0000	0.29104E-10	0.35340E-03
575	3.0000	0.0000	0.21865E-03
576	3.0000	-0.72760E-11	0.98381E-04
581	1.0000	-1101.1	-0.22021E-05
582	1.0000	-1062.0	-0.21241E-05
583	1.0000	-811.90	-0.16238E-05
584	1.0000	-531.88	-0.10638E-05
585	1.0000	-13756.	-0.27513E-04
586	3.0000	0.0000	0.68657E-04
587	3.0000	0.0000	0.18113E-03
588	3.0000	0.0000	0.27082E-03
589	3.0000	0.0000	0.31880E-03
590	3.0000	0.0000	0.34239E-03 < Limiting
591	3.0000	0.0000	0.32654E-03
592	3.0000	0.0000	0.26788E-03
593	3.0000	0.0000	0.17357E-03
594	3.0000	0.0000	0.74604E-04
595	1.0000	-12697.	-0.25394E-04
596	1.0000	-749.06	-0.14981E-05

00040224 VERSION=HPPA 8000 14:21:07 OCT 17, 2001 CP= 3797.290

Robinson 2 RPV - Oper. T & P - 2.75 mil intf - 7.8 alpha - noz 6 pressure

***** POST1 ELEMENT TABLE LISTING *****

STAT ELEM	MIXED GAPSTAT	MIXED GAPFORC	MIXED GAPSTRCH	
601	3.0000	0.0000	0.68951E-03	
602	3.0000	0.0000	0.65911E-03	
603	3.0000	0.0000	0.57627E-03	
604	3.0000	0.0000	0.52254E-03	
605	3.0000	0.0000	0.54564E-03	
606	3.0000	0.0000	0.64675E-03	
607	3.0000	0.0000	0.72846E-03	
608	3.0000	0.0000	0.73642E-03	<
609	3.0000	0.0000	0.72303E-03	
621	3.0000	0.0000	0.34220E-03	
622	3.0000	0.0000	0.36220E-03	
623	3.0000	0.0000	0.43703E-03	
624	3.0000	0.0000	0.52818E-03	
625	3.0000	0.0000	0.65443E-03	
626	3.0000	0.0000	0.78084E-03	
627	3.0000	0.0000	0.84934E-03	<
628	3.0000	0.0000	0.84862E-03	
629	3.0000	0.0000	0.83070E-03	
641	1.0000	-679.95	-0.13599E-05	
642	1.0000	-992.98	-0.19860E-05	
643	3.0000	0.0000	0.11396E-06	
644	3.0000	0.0000	0.18712E-03	
645	3.0000	0.0000	0.38783E-03	
646	3.0000	0.0000	0.55266E-03	
647	3.0000	0.0000	0.62921E-03	<
648	3.0000	-0.58208E-10	0.62616E-03	
649	3.0000	0.0000	0.60740E-03	
661	1.0000	-11295.	-0.22589E-04	
662	3.0000	0.0000	0.28236E-04	
663	3.0000	0.0000	0.14862E-03	
664	3.0000	0.0000	0.26107E-03	
665	3.0000	0.0000	0.36135E-03	
666	3.0000	0.0000	0.45310E-03	
667	3.0000	0.0000	0.48437E-03	<
668	3.0000	0.0000	0.48001E-03	
669	3.0000	0.0000	0.46657E-03	
681	1.0000	-681.75	-0.13635E-05	
682	1.0000	-978.70	-0.19574E-05	
683	1.0000	-278.66	-0.55732E-06	
684	3.0000	0.0000	0.41260E-04	
685	3.0000	0.0000	0.64602E-04	< Limiting
686	3.0000	0.0000	0.90066E-06	
687	3.0000	0.0000	0.60651E-06	
688	3.0000	0.0000	0.31580E-06	
689	3.0000	0.0000	0.57329E-07	

00040224 VERSION=HPPA 8000 14:21:11 OCT 17, 2001 CP= 3801.080

Robinson 2 RPV - Oper. T & P - 2.75 mil intf - 7.8 alpha - noz 7 pressure

***** POST1 ELEMENT TABLE LISTING *****

STAT ELEM	MIXED GAPSTAT	MIXED GAPFORC	MIXED GAPSTRCH	
701	3.0000	0.0000	0.73913E-03	
702	3.0000	0.0000	0.71090E-03	
703	3.0000	0.0000	0.65968E-03	
704	3.0000	0.0000	0.60990E-03	
705	3.0000	0.0000	0.55416E-03	
706	3.0000	0.0000	0.51961E-03	
707	3.0000	0.0000	0.56726E-03	
708	3.0000	0.0000	0.70683E-03	
709	3.0000	0.0000	0.78224E-03	<
721	3.0000	0.0000	0.85447E-03	<
722	3.0000	0.0000	0.84014E-03	
723	3.0000	0.0000	0.80065E-03	
724	3.0000	0.0000	0.73998E-03	
725	3.0000	0.0000	0.63944E-03	
726	3.0000	0.0000	0.52668E-03	
727	3.0000	0.0000	0.43411E-03	
728	3.0000	0.0000	0.36688E-03	
729	3.0000	0.0000	0.35104E-03	
741	3.0000	0.0000	0.63042E-03	<
742	3.0000	0.0000	0.61974E-03	
743	3.0000	0.0000	0.58556E-03	
744	3.0000	0.0000	0.51576E-03	
745	3.0000	0.0000	0.36614E-03	
746	3.0000	0.0000	0.15783E-03	
747	1.0000	-229.80	-0.45960E-06	
748	1.0000	-1052.3	-0.21047E-05	
749	1.0000	-640.09	-0.12802E-05	
761	3.0000	0.0000	0.48240E-03	<
762	3.0000	0.0000	0.47582E-03	
763	3.0000	0.0000	0.45634E-03	
764	3.0000	0.0000	0.42879E-03	
765	3.0000	0.0000	0.33957E-03	
766	3.0000	0.0000	0.22404E-03	
767	3.0000	0.0000	0.96983E-04	
768	3.0000	0.0000	0.19001E-04	
769	1.0000	-1870.6	-0.37412E-05	
781	3.0000	0.0000	0.36183E-07	
782	3.0000	0.0000	0.18418E-06	
783	3.0000	0.0000	0.44735E-06	
784	3.0000	0.0000	0.84600E-06	
785	3.0000	0.0000	0.47103E-04	< Limiting
786	1.0000	-37.704	-0.75407E-07	
787	1.0000	-609.69	-0.12194E-05	
788	1.0000	-1034.9	-0.20698E-05	
789	1.0000	-619.42	-0.12388E-05	

00040224 VERSION=HPPA 8000 14:21:15 OCT 17, 2001 CP= 3805.010

Robinson 2 RPV - Oper. T & P - 2.75 mil intf - 7.8 alpha - noz 8 pressure

***** POST1 ELEMENT TABLE LISTING *****

STAT ELEM	MIXED GAPSTAT	MIXED GAPFORC	MIXED GAPSTRCH	
801	3.0000	0.0000	0.68543E-03	
802	3.0000	0.0000	0.80454E-03	<
803	3.0000	0.0000	0.76465E-03	
804	3.0000	0.0000	0.60790E-03	
805	3.0000	0.0000	0.49469E-03	
806	3.0000	0.0000	0.52407E-03	
807	3.0000	0.0000	0.60687E-03	
808	3.0000	0.0000	0.65368E-03	
809	3.0000	0.0000	0.66826E-03	
810	3.0000	0.0000	0.70052E-03	
811	3.0000	0.0000	0.72937E-03	
812	3.0000	0.0000	0.69436E-03	
813	3.0000	0.0000	0.61508E-03	
814	3.0000	0.0000	0.54169E-03	
815	3.0000	0.0000	0.50962E-03	
816	3.0000	0.0000	0.55657E-03	
821	3.0000	0.0000	0.36915E-03	
822	3.0000	0.0000	0.34160E-03	
823	3.0000	0.0000	0.36325E-03	
824	3.0000	0.0000	0.41985E-03	
825	3.0000	0.0000	0.51079E-03	
826	3.0000	0.0000	0.62671E-03	
827	3.0000	0.0000	0.73108E-03	
828	3.0000	0.0000	0.78191E-03	
829	3.0000	0.0000	0.79028E-03	
830	3.0000	0.0000	0.81759E-03	
831	3.0000	0.0000	0.85184E-03	<
832	3.0000	0.0000	0.84543E-03	
833	3.0000	0.0000	0.77741E-03	
834	3.0000	0.0000	0.66846E-03	
835	3.0000	0.0000	0.54329E-03	
836	3.0000	0.0000	0.44502E-03	
841	1.0000	-1260.9	-0.25219E-05	
842	1.0000	-1541.5	-0.30830E-05	
843	1.0000	-1226.1	-0.24522E-05	
844	1.0000	-435.68	-0.87136E-06	
845	3.0000	0.0000	0.10426E-03	
846	3.0000	0.0000	0.31501E-03	
847	3.0000	0.0000	0.48115E-03	
848	3.0000	0.0000	0.55289E-03	
849	3.0000	0.0000	0.56016E-03	
850	3.0000	0.58208E-10	0.58381E-03	
851	3.0000	0.58208E-10	0.61990E-03	
852	3.0000	0.0000	0.62366E-03	<
853	3.0000	0.0000	0.55520E-03	
854	3.0000	0.29104E-10	0.41176E-03	

855	3.0000	0.0000	0.19623E-03	
856	1.0000	-79.915	-0.15983E-06	
861	1.0000	-47.232	-0.94464E-07	
862	1.0000	-290.58	-0.58115E-06	
863	3.0000	0.0000	0.78208E-07	
864	3.0000	0.0000	0.77215E-04	
865	3.0000	0.0000	0.18115E-03	
866	3.0000	0.0000	0.30746E-03	
867	3.0000	0.0000	0.40347E-03	
868	3.0000	0.0000	0.44245E-03	
869	3.0000	0.0000	0.43645E-03	
870	3.0000	0.0000	0.44675E-03	
871	3.0000	0.0000	0.48057E-03	
872	3.0000	0.0000	0.49874E-03	<
873	3.0000	0.0000	0.47278E-03	
874	3.0000	0.0000	0.39522E-03	
875	3.0000	0.0000	0.26435E-03	
876	3.0000	0.0000	0.11887E-03	
881	1.0000	-1275.9	-0.25518E-05	
882	1.0000	-1585.5	-0.31711E-05	
883	1.0000	-1221.6	-0.24433E-05	
884	1.0000	-690.98	-0.13820E-05	
885	1.0000	-235.75	-0.47150E-06	
886	3.0000	0.0000	0.26680E-04	
887	3.0000	0.0000	0.55063E-04	
888	3.0000	0.0000	0.38930E-04	
889	1.0000	-42.564	-0.85129E-07	
890	1.0000	-160.88	-0.32177E-06	
891	3.0000	0.0000	0.12770E-06	
892	3.0000	0.0000	0.65027E-04	
893	3.0000	0.0000	0.11194E-03	< Limiting
894	3.0000	0.0000	0.11604E-03	
895	3.0000	0.0000	0.47356E-04	
896	1.0000	-489.34	-0.97868E-06	

00040224 VERSION=HPPA 8000 14:21:19 OCT 17, 2001 CP= 3808.940

Robinson 2 RPV - Oper. T & P - 2.75 mil intf - 7.8 alpha - noz 9 pressure

***** POST1 ELEMENT TABLE LISTING *****

STAT ELEM	MIXED GAPSTAT	MIXED GAPFORC	MIXED GAPSTRCH	
901	3.0000	0.0000	0.90970E-03	
902	3.0000	0.0000	0.92727E-03	<
903	3.0000	0.0000	0.72660E-03	
904	3.0000	0.0000	0.52120E-03	
905	3.0000	0.0000	0.46226E-03	
906	3.0000	0.0000	0.55323E-03	
907	3.0000	0.0000	0.64472E-03	
908	3.0000	0.0000	0.64494E-03	
909	3.0000	0.0000	0.60936E-03	
910	3.0000	0.0000	0.63392E-03	
911	3.0000	0.0000	0.67537E-03	
912	3.0000	0.0000	0.63619E-03	
913	3.0000	0.0000	0.53932E-03	
914	3.0000	0.0000	0.47825E-03	
915	3.0000	0.0000	0.52517E-03	
916	3.0000	0.0000	0.71241E-03	
921	3.0000	0.0000	0.32955E-03	
922	3.0000	0.0000	0.32908E-03	
923	3.0000	0.0000	0.39333E-03	
924	3.0000	0.0000	0.49506E-03	
925	3.0000	0.0000	0.61214E-03	
926	3.0000	0.0000	0.73837E-03	
927	3.0000	0.0000	0.79947E-03	
928	3.0000	0.0000	0.76720E-03	
929	3.0000	0.0000	0.71334E-03	
930	3.0000	0.0000	0.74639E-03	
931	3.0000	0.0000	0.81547E-03	
932	3.0000	0.0000	0.81914E-03	<
933	3.0000	0.0000	0.73431E-03	
934	3.0000	0.0000	0.61009E-03	
935	3.0000	0.0000	0.49026E-03	
936	3.0000	0.0000	0.38020E-03	
941	1.0000	-2138.7	-0.42775E-05	
942	1.0000	-1936.8	-0.38736E-05	
943	1.0000	-1031.6	-0.20633E-05	
944	3.0000	0.36380E-11	0.44520E-04	
945	3.0000	0.0000	0.24547E-03	
946	3.0000	0.0000	0.44601E-03	
947	3.0000	0.0000	0.53685E-03	
948	3.0000	0.0000	0.51351E-03	
949	3.0000	0.0000	0.46552E-03	
950	3.0000	0.0000	0.49750E-03	
951	3.0000	0.0000	0.56604E-03	
952	3.0000	0.0000	0.57042E-03	<
953	3.0000	0.0000	0.46002E-03	
954	3.0000	0.0000	0.26483E-03	

955	3.0000	0.0000	0.42145E-04	
956	1.0000	-1193.2	-0.23864E-05	
961	1.0000	-632.42	-0.12648E-05	
962	1.0000	-382.20	-0.76440E-06	
963	3.0000	0.0000	0.40427E-04	
964	3.0000	0.0000	0.15306E-03	
965	3.0000	0.0000	0.26420E-03	
966	3.0000	0.0000	0.37368E-03	
967	3.0000	0.0000	0.42337E-03	
968	3.0000	0.0000	0.40522E-03	
969	3.0000	0.0000	0.37113E-03	
970	3.0000	0.0000	0.39431E-03	
971	3.0000	0.29104E-10	0.44536E-03	
972	3.0000	0.0000	0.45840E-03	<
973	3.0000	0.0000	0.40042E-03	
974	3.0000	0.0000	0.29289E-03	
975	3.0000	0.0000	0.15600E-03	
976	3.0000	0.0000	0.27977E-06	
981	1.0000	-2029.3	-0.40586E-05	
982	1.0000	-1837.6	-0.36753E-05	
983	1.0000	-963.15	-0.19263E-05	
984	1.0000	-244.91	-0.48982E-06	
985	3.0000	0.0000	0.17231E-04	
986	3.0000	0.0000	0.38357E-04	
987	3.0000	0.0000	0.19050E-04	
988	1.0000	-225.83	-0.45167E-06	
989	1.0000	-569.75	-0.11395E-05	
990	1.0000	-485.00	-0.97000E-06	
991	1.0000	-76.526	-0.15305E-06	
992	3.0000	0.0000	0.49355E-04	
993	3.0000	0.0000	0.79376E-04	< Limiting
994	3.0000	0.0000	0.62588E-04	
995	1.0000	-177.35	-0.35470E-06	
996	1.0000	-1105.2	-0.22104E-05	

00040224 VERSION=HPPA 8000 14:21:23 OCT 17, 2001 CP= 3812.670

Robinson 2 RPV - Oper. T & P - 2.75 mil intf - 7.8 alpha - noz 10 pressure

***** POST1 ELEMENT TABLE LISTING *****

STAT ELEM	MIXED GAPSTAT	MIXED GAPFORC	MIXED GAPSTRCH	
1001	3.0000	0.0000	0.51740E-03	
1002	3.0000	0.0000	0.53061E-03	
1003	3.0000	0.0000	0.56000E-03	
1004	3.0000	0.0000	0.55862E-03	
1005	3.0000	0.0000	0.48800E-03	
1006	3.0000	0.0000	0.46422E-03	
1007	3.0000	0.0000	0.65365E-03	
1008	3.0000	0.0000	0.10108E-02	
1009	3.0000	0.0000	0.12037E-02	<
1021	3.0000	-0.58208E-10	0.64307E-03	
1022	3.0000	0.0000	0.67283E-03	
1023	3.0000	0.0000	0.72340E-03	
1024	3.0000	0.0000	0.74401E-03	<
1025	3.0000	0.0000	0.67758E-03	
1026	3.0000	0.0000	0.56594E-03	
1027	3.0000	0.0000	0.43581E-03	
1028	3.0000	0.0000	0.33871E-03	
1029	3.0000	0.0000	0.31338E-03	
1041	3.0000	0.0000	0.40709E-03	
1042	3.0000	-0.29104E-10	0.43304E-03	
1043	3.0000	0.0000	0.47461E-03	<
1044	3.0000	0.0000	0.46667E-03	
1045	3.0000	0.0000	0.32683E-03	
1046	3.0000	0.0000	0.10756E-03	
1047	1.0000	-805.51	-0.16110E-05	
1048	1.0000	-1875.6	-0.37512E-05	
1049	1.0000	-1123.1	-0.22463E-05	
1061	3.0000	0.0000	0.34776E-03	
1062	3.0000	0.0000	0.35999E-03	
1063	3.0000	0.0000	0.38493E-03	<
1064	3.0000	0.0000	0.38433E-03	
1065	3.0000	0.0000	0.29994E-03	
1066	3.0000	0.0000	0.15998E-03	
1067	3.0000	0.0000	0.35477E-06	
1068	1.0000	-514.18	-0.10284E-05	
1069	1.0000	-325.27	-0.65054E-06	
1081	1.0000	-400.61	-0.80123E-06	
1082	1.0000	-618.61	-0.12372E-05	
1083	1.0000	-174.60	-0.34920E-06	
1084	3.0000	0.0000	0.32377E-04	< Limiting
1085	3.0000	-0.18190E-11	0.26973E-04	
1086	1.0000	-257.45	-0.51489E-06	
1087	1.0000	-916.70	-0.18334E-05	
1088	1.0000	-1713.3	-0.34266E-05	
1089	1.0000	-1052.0	-0.21041E-05	

00040224 VERSION=HPPA 8000 14:21:27 OCT 17, 2001 CP= 3816.420

Robinson 2 RPV - Oper. T & P - 2.75 mil intf - 7.8 alpha - noz 11 pressure

***** POST1 ELEMENT TABLE LISTING *****

STAT ELEM	MIXED GAPSTAT	MIXED GAPFORC	MIXED GAPSTRCH	
1101	3.0000	0.0000	0.91634E-03	
1102	3.0000	0.0000	0.12480E-02	<
1103	3.0000	0.0000	0.11854E-02	
1104	3.0000	0.0000	0.80869E-03	
1105	3.0000	0.0000	0.49628E-03	
1106	3.0000	0.0000	0.45373E-03	
1107	3.0000	0.0000	0.55001E-03	
1108	3.0000	0.0000	0.58600E-03	
1109	3.0000	0.0000	0.51226E-03	
1110	3.0000	0.0000	0.47209E-03	
1111	3.0000	-0.29104E-10	0.52396E-03	
1112	3.0000	0.0000	0.58763E-03	
1113	3.0000	0.0000	0.59746E-03	
1114	3.0000	0.0000	0.53259E-03	
1115	3.0000	0.0000	0.46256E-03	
1116	3.0000	0.0000	0.56317E-03	
1121	3.0000	0.0000	0.36345E-03	
1122	3.0000	0.0000	0.30211E-03	
1123	3.0000	0.0000	0.32298E-03	
1124	3.0000	0.0000	0.40195E-03	
1125	3.0000	0.0000	0.54176E-03	
1126	3.0000	0.0000	0.67729E-03	
1127	3.0000	0.0000	0.76310E-03	
1128	3.0000	0.0000	0.74316E-03	
1129	3.0000	0.0000	0.63525E-03	
1130	3.0000	0.0000	0.58658E-03	
1131	3.0000	0.0000	0.65092E-03	
1132	3.0000	0.0000	0.76182E-03	
1133	3.0000	0.0000	0.81359E-03	<
1134	3.0000	0.0000	0.77377E-03	
1135	3.0000	0.0000	0.64129E-03	
1136	3.0000	0.0000	0.49932E-03	
1141	1.0000	-1915.2	-0.38304E-05	
1142	1.0000	-2519.5	-0.50390E-05	
1143	1.0000	-2225.7	-0.44514E-05	
1144	1.0000	-1148.5	-0.22969E-05	
1145	3.0000	0.0000	0.39757E-04	
1146	3.0000	0.0000	0.26678E-03	
1147	3.0000	0.0000	0.43392E-03	
1148	3.0000	0.0000	0.45955E-03	
1149	3.0000	-0.29104E-10	0.38063E-03	
1150	3.0000	0.0000	0.34344E-03	
1151	3.0000	0.0000	0.40144E-03	
1152	3.0000	-0.29104E-10	0.50388E-03	
1153	3.0000	0.0000	0.54876E-03	<
1154	3.0000	0.0000	0.47214E-03	

1155	3.0000	0.0000	0.24737E-03	
1156	1.0000	-74.758	-0.14952E-06	
1161	1.0000	-390.37	-0.78074E-06	
1162	1.0000	-898.85	-0.17977E-05	
1163	1.0000	-669.28	-0.13386E-05	
1164	3.0000	0.0000	0.10495E-06	
1165	3.0000	0.0000	0.11706E-03	
1166	3.0000	0.0000	0.25634E-03	
1167	3.0000	0.0000	0.35071E-03	
1168	3.0000	0.0000	0.36871E-03	
1169	3.0000	0.0000	0.32194E-03	
1170	3.0000	0.0000	0.30699E-03	
1171	3.0000	0.0000	0.34318E-03	
1172	3.0000	0.0000	0.41162E-03	
1173	3.0000	0.0000	0.45063E-03	<
1174	3.0000	0.0000	0.41967E-03	
1175	3.0000	0.0000	0.29189E-03	
1176	3.0000	0.0000	0.12936E-03	
1181	1.0000	-1599.1	-0.31982E-05	
1182	1.0000	-2382.2	-0.47643E-05	
1183	1.0000	-2010.8	-0.40216E-05	
1184	1.0000	-986.38	-0.19728E-05	
1185	1.0000	-392.72	-0.78545E-06	
1186	1.0000	-200.69	-0.40137E-06	
1187	3.0000	0.0000	0.10407E-04	
1188	1.0000	-165.10	-0.33020E-06	
1189	1.0000	-717.99	-0.14360E-05	
1190	1.0000	-992.08	-0.19842E-05	
1191	1.0000	-825.04	-0.16501E-05	
1192	1.0000	-204.42	-0.40884E-06	
1193	3.0000	0.0000	0.65050E-04	
1194	3.0000	0.0000	0.12177E-03	< Limiting
1195	3.0000	0.0000	0.78507E-04	
1196	1.0000	-351.07	-0.70213E-06	

00040224 VERSION=HPPA 8000 14:21:31 OCT 17, 2001 CP= 3820.150

Robinson 2 RPV - Oper. T & P - 2.75 mil intf - 7.8 alpha - noz 12 pressure

***** POST1 ELEMENT TABLE LISTING *****

STAT ELEM	MIXED GAPSTAT	MIXED GAPFORC	MIXED GAPSTRCH	
1201	3.0000	0.0000	0.13273E-02	<
1202	3.0000	0.0000	0.10968E-02	
1203	3.0000	0.0000	0.68306E-03	
1204	3.0000	0.0000	0.46710E-03	
1205	3.0000	0.0000	0.48055E-03	
1206	3.0000	0.0000	0.59961E-03	
1207	3.0000	0.0000	0.63371E-03	
1208	3.0000	0.0000	0.52947E-03	
1209	3.0000	0.0000	0.44355E-03	
1221	3.0000	0.0000	0.29447E-03	
1222	3.0000	0.0000	0.33428E-03	
1223	3.0000	0.0000	0.47366E-03	
1224	3.0000	0.0000	0.62827E-03	
1225	3.0000	0.0000	0.77541E-03	
1226	3.0000	0.0000	0.86198E-03	<
1227	3.0000	0.0000	0.80863E-03	
1228	3.0000	0.0000	0.63416E-03	
1229	3.0000	0.0000	0.52109E-03	
1241	1.0000	-1600.9	-0.32018E-05	
1242	1.0000	-2309.9	-0.46197E-05	
1243	1.0000	-460.29	-0.92058E-06	
1244	3.0000	0.0000	0.18906E-03	
1245	3.0000	0.0000	0.41973E-03	
1246	3.0000	0.0000	0.55556E-03	<
1247	3.0000	0.0000	0.51665E-03	
1248	3.0000	0.0000	0.36004E-03	
1249	3.0000	0.0000	0.26461E-03	
1261	1.0000	-615.74	-0.12315E-05	
1262	1.0000	-463.52	-0.92704E-06	
1263	3.0000	0.0000	0.10786E-03	
1264	3.0000	0.0000	0.25432E-03	
1265	3.0000	-0.29104E-10	0.37763E-03	
1266	3.0000	0.0000	0.44926E-03	<
1267	3.0000	0.0000	0.41481E-03	
1268	3.0000	0.0000	0.31085E-03	
1269	3.0000	0.0000	0.25296E-03	
1281	1.0000	-1422.6	-0.28452E-05	
1282	1.0000	-1915.5	-0.38311E-05	
1283	1.0000	-490.57	-0.98114E-06	
1284	3.0000	0.0000	0.55656E-04	
1285	3.0000	0.0000	0.90349E-04	< Limiting
1286	3.0000	0.0000	0.63308E-04	
1287	1.0000	-137.91	-0.27581E-06	
1288	1.0000	-929.96	-0.18599E-05	
1289	1.0000	-661.33	-0.13227E-05	

00040224 VERSION=HPPA 8000 14:21:36 OCT 17, 2001 CP= 3823.930

Robinson 2 RPV - Oper. T & P - 2.75 mil intf - 7.8 alpha - noz 13 pressure

***** POST1 ELEMENT TABLE LISTING *****

STAT ELEM	MIXED GAPSTAT	MIXED GAPFORC	MIXED GAPSTRCH	
1301	3.0000	0.0000	0.13929E-02	
1302	3.0000	0.0000	0.15789E-02	<
1303	3.0000	0.0000	0.11811E-02	
1304	3.0000	0.0000	0.68717E-03	
1305	3.0000	0.0000	0.46298E-03	
1306	3.0000	0.0000	0.53881E-03	
1307	3.0000	0.0000	0.65696E-03	
1308	3.0000	0.0000	0.59753E-03	
1309	3.0000	0.0000	0.39467E-03	
1310	3.0000	0.0000	0.35399E-03	
1311	3.0000	0.0000	0.50869E-03	
1312	3.0000	0.0000	0.62476E-03	
1313	3.0000	0.0000	0.61224E-03	
1314	3.0000	0.0000	0.51333E-03	
1315	3.0000	0.0000	0.52156E-03	
1316	3.0000	0.0000	0.84811E-03	
1321	3.0000	0.0000	0.32458E-03	
1322	3.0000	0.0000	0.27551E-03	
1323	3.0000	0.0000	0.36678E-03	
1324	3.0000	0.0000	0.54959E-03	
1325	3.0000	0.0000	0.74299E-03	
1326	3.0000	0.0000	0.91671E-03	
1327	3.0000	0.0000	0.93121E-03	
1328	3.0000	0.0000	0.73990E-03	
1329	3.0000	0.0000	0.47374E-03	
1330	3.0000	0.0000	0.43709E-03	
1331	3.0000	0.0000	0.63855E-03	
1332	3.0000	0.0000	0.85234E-03	
1333	3.0000	0.0000	0.93334E-03	<
1334	3.0000	0.0000	0.87173E-03	
1335	3.0000	0.0000	0.69200E-03	
1336	3.0000	0.0000	0.48914E-03	
1341	1.0000	-3066.7	-0.61333E-05	
1342	1.0000	-3440.8	-0.68815E-05	
1343	1.0000	-2027.3	-0.40545E-05	
1344	3.0000	0.0000	0.23403E-04	
1345	3.0000	0.0000	0.29793E-03	
1346	3.0000	0.0000	0.55390E-03	
1347	3.0000	0.58208E-10	0.60245E-03	
1348	3.0000	0.0000	0.43514E-03	
1349	3.0000	0.0000	0.21374E-03	
1350	3.0000	0.0000	0.18515E-03	
1351	3.0000	0.0000	0.35965E-03	
1352	3.0000	0.0000	0.55983E-03	
1353	3.0000	0.0000	0.63033E-03	<
1354	3.0000	0.0000	0.52047E-03	

1355	3.0000	0.0000	0.24336E-03	
1356	1.0000	-650.86	-0.13017E-05	
1361	1.0000	-1025.2	-0.20505E-05	
1362	1.0000	-1554.3	-0.31087E-05	
1363	1.0000	-323.73	-0.64745E-06	
1364	3.0000	0.0000	0.16613E-03	
1365	3.0000	0.0000	0.33490E-03	
1366	3.0000	0.0000	0.47850E-03	
1367	3.0000	0.0000	0.48645E-03	
1368	3.0000	0.0000	0.36558E-03	
1369	3.0000	0.0000	0.22195E-03	
1370	3.0000	0.0000	0.21096E-03	
1371	3.0000	0.0000	0.32067E-03	
1372	3.0000	-0.29104E-10	0.46561E-03	
1373	3.0000	0.0000	0.53558E-03	<
1374	3.0000	0.0000	0.49728E-03	
1375	3.0000	0.0000	0.34086E-03	
1376	3.0000	0.0000	0.13100E-03	
1381	1.0000	-2514.3	-0.50286E-05	
1382	1.0000	-3135.2	-0.62705E-05	
1383	1.0000	-1671.5	-0.33431E-05	
1384	1.0000	-9.2115	-0.18423E-07	
1385	3.0000	0.0000	0.12246E-03	
1386	3.0000	0.0000	0.16033E-03	
1387	3.0000	0.0000	0.90322E-04	
1388	1.0000	-342.39	-0.68479E-06	
1389	1.0000	-1408.1	-0.28163E-05	
1390	1.0000	-1550.1	-0.31001E-05	
1391	1.0000	-848.57	-0.16971E-05	
1392	3.0000	0.0000	0.42116E-04	
1393	3.0000	0.0000	0.17493E-03	
1394	3.0000	0.14552E-10	0.23887E-03	< Limiting
1395	3.0000	0.0000	0.15431E-03	
1396	1.0000	-427.86	-0.85572E-06	

00040224 VERSION=HPPA 8000 15:38:54 OCT 17, 2001 CP= 7895.430

Robinson 2 RPV - Oper. T & P - 3.00 mil intf - 7.8 alpha - noz 1 pressure

***** POST1 ELEMENT TABLE LISTING *****

STAT ELEM	MIXED GAPSTAT	MIXED GAPFORC	MIXED GAPSTRCH	
101	3.0000	0.0000	0.63610E-03	
102	3.0000	0.0000	0.65462E-03	
103	3.0000	0.0000	0.67043E-03	<
121	3.0000	0.0000	0.53844E-03	
122	3.0000	0.0000	0.54552E-03	
123	3.0000	0.0000	0.55110E-03	<
141	3.0000	0.0000	0.34232E-03	
142	3.0000	0.0000	0.35326E-03	
143	3.0000	0.0000	0.36013E-03	<
161	3.0000	0.29104E-10	0.36427E-03	
162	3.0000	0.0000	0.37340E-03	
163	3.0000	0.0000	0.37848E-03	<
181	3.0000	0.0000	0.77184E-04	
182	3.0000	0.0000	0.87497E-04	
183	3.0000	0.72760E-11	0.92694E-04	<Limiting

00040224 VERSION=HPPA 8000 15:38:59 OCT 17, 2001 CP= 7899.480

Robinson 2 RPV - Oper. T & P - 3.00 mil intf - 7.8 alpha - noz 2 pressure

***** POST1 ELEMENT TABLE LISTING *****

STAT ELEM	MIXED GAPSTAT	MIXED GAPFORC	MIXED GAPSTRCH	
201	3.0000	0.0000	0.73533E-03	<
202	3.0000	0.0000	0.70695E-03	
203	3.0000	0.0000	0.65818E-03	
204	3.0000	0.0000	0.63586E-03	
205	3.0000	0.0000	0.61154E-03	
206	3.0000	0.0000	0.56012E-03	
207	3.0000	0.0000	0.51203E-03	
208	3.0000	0.0000	0.51295E-03	
209	3.0000	0.0000	0.52217E-03	
221	3.0000	0.0000	0.77437E-03	<
222	3.0000	0.0000	0.75124E-03	
223	3.0000	0.0000	0.69708E-03	
224	3.0000	0.0000	0.63933E-03	
225	3.0000	0.0000	0.56775E-03	
226	3.0000	0.29104E-10	0.48192E-03	
227	3.0000	0.0000	0.40274E-03	
228	3.0000	0.0000	0.35586E-03	
229	3.0000	0.0000	0.34200E-03	
241	3.0000	0.0000	0.63554E-03	<
242	3.0000	0.0000	0.60657E-03	
243	3.0000	0.0000	0.53414E-03	
244	3.0000	0.0000	0.45304E-03	
245	3.0000	0.0000	0.34829E-03	
246	3.0000	0.0000	0.22380E-03	
247	3.0000	0.0000	0.11048E-03	
248	3.0000	0.0000	0.49231E-04	
249	3.0000	0.0000	0.30473E-04	
261	3.0000	0.0000	0.60582E-03	<
262	3.0000	0.0000	0.57888E-03	
263	3.0000	0.0000	0.50782E-03	
264	3.0000	0.0000	0.42636E-03	
265	3.0000	0.0000	0.33200E-03	
266	3.0000	0.0000	0.24223E-03	
267	3.0000	0.0000	0.16150E-03	
268	3.0000	0.0000	0.13760E-03	
269	3.0000	0.0000	0.13185E-03	
281	3.0000	0.0000	0.28097E-03	< Limiting
282	3.0000	0.0000	0.25710E-03	
283	3.0000	0.0000	0.19216E-03	
284	3.0000	0.0000	0.11765E-03	
285	3.0000	-0.18190E-11	0.32659E-04	
286	1.0000	-18286.	-0.36572E-04	
287	1.0000	-476.84	-0.95368E-06	
288	1.0000	-450.99	-0.90198E-06	
289	1.0000	-214.77	-0.42954E-06	

00040224 VERSION=HPPA 8000 15:39:05 OCT 17, 2001 CP= 7903.630

Robinson 2 RPV - Oper. T & P - 3.00 mil intf - 7.8 alpha - noz 3 pressure

***** POST1 ELEMENT TABLE LISTING *****

STAT ELEM	MIXED GAPSTAT	MIXED GAPFORC	MIXED GAPSTRCH	
301	3.0000	0.0000	0.47520E-03	
302	3.0000	0.0000	0.49306E-03	
303	3.0000	0.0000	0.51131E-03	
304	3.0000	0.0000	0.51763E-03	
305	3.0000	0.0000	0.54437E-03	
306	3.0000	0.0000	0.61949E-03	
307	3.0000	0.0000	0.68381E-03	
308	3.0000	0.0000	0.69626E-03	<
309	3.0000	0.0000	0.68828E-03	
321	3.0000	0.0000	0.30764E-03	
322	3.0000	0.0000	0.33247E-03	
323	3.0000	0.0000	0.38579E-03	
324	3.0000	0.0000	0.45892E-03	
325	3.0000	0.0000	0.54985E-03	
326	3.0000	0.0000	0.65208E-03	
327	3.0000	0.0000	0.73092E-03	
328	3.0000	0.0000	0.76646E-03	
329	3.0000	0.0000	0.77026E-03	<
341	1.0000	-190.88	-0.38176E-06	
342	1.0000	-70.019	-0.14004E-06	
343	3.0000	0.0000	0.73040E-04	
344	3.0000	0.0000	0.18663E-03	
345	3.0000	0.0000	0.31373E-03	
346	3.0000	0.0000	0.45351E-03	
347	3.0000	0.0000	0.55967E-03	
348	3.0000	0.0000	0.61302E-03	
349	3.0000	0.0000	0.62189E-03	<
361	3.0000	0.0000	0.67027E-04	
362	3.0000	-0.72760E-11	0.99025E-04	
363	3.0000	0.0000	0.15191E-03	
364	3.0000	0.0000	0.21809E-03	
365	3.0000	0.0000	0.30068E-03	
366	3.0000	0.0000	0.40397E-03	
367	3.0000	0.0000	0.49808E-03	
368	3.0000	0.0000	0.55615E-03	
369	3.0000	0.0000	0.56961E-03	<
381	1.0000	-375.46	-0.75093E-06	
382	1.0000	-617.48	-0.12350E-05	
383	1.0000	-407.81	-0.81562E-06	
384	1.0000	-211.36	-0.42272E-06	
385	3.0000	0.0000	0.54739E-07	
386	3.0000	0.0000	0.76448E-04	
387	3.0000	0.0000	0.15371E-03	
388	3.0000	0.0000	0.20706E-03	
389	3.0000	0.0000	0.22040E-03	< Limiting

00040224 VERSION=HPPA 8000 15:39:09 OCT 17, 2001 CP= 7907.520

Robinson 2 RPV - Oper. T & P - 3.00 mil intf - 7.8 alpha - noz 4 pressure

***** POST1 ELEMENT TABLE LISTING *****

STAT ELEM	MIXED GAPSTAT	MIXED GAPFORC	MIXED GAPSTRCH	
401	3.0000	0.0000	0.70917E-03	<
402	3.0000	0.0000	0.67277E-03	
403	3.0000	0.0000	0.60545E-03	
404	3.0000	0.0000	0.55711E-03	
405	3.0000	0.0000	0.51614E-03	
406	3.0000	0.0000	0.47165E-03	
407	3.0000	0.0000	0.45341E-03	
408	3.0000	0.0000	0.49472E-03	
409	3.0000	0.0000	0.52141E-03	
421	3.0000	0.0000	0.79793E-03	<
422	3.0000	0.0000	0.77005E-03	
423	3.0000	-0.58208E-10	0.70256E-03	
424	3.0000	0.0000	0.62404E-03	
425	3.0000	0.0000	0.52945E-03	
426	3.0000	0.0000	0.43300E-03	
427	3.0000	0.0000	0.36068E-03	
428	3.0000	0.0000	0.31566E-03	
429	3.0000	0.0000	0.30646E-03	
441	3.0000	0.0000	0.61786E-03	<
442	3.0000	0.0000	0.59057E-03	
443	3.0000	-0.29104E-10	0.51958E-03	
444	3.0000	0.0000	0.42683E-03	
445	3.0000	0.0000	0.28980E-03	
446	3.0000	0.0000	0.12637E-03	
447	1.0000	-87.338	-0.17468E-06	
448	1.0000	-567.65	-0.11353E-05	
449	1.0000	-356.03	-0.71207E-06	
461	3.0000	0.0000	0.50771E-03	<
462	3.0000	0.0000	0.48884E-03	
463	3.0000	0.0000	0.43753E-03	
464	3.0000	0.0000	0.37491E-03	
465	3.0000	0.0000	0.28766E-03	
466	3.0000	0.0000	0.18043E-03	
467	3.0000	0.0000	0.81352E-04	
468	3.0000	0.0000	0.50896E-06	
469	3.0000	0.0000	0.10109E-06	
481	3.0000	0.0000	0.97233E-04	< Limiting
482	3.0000	0.0000	0.90574E-04	
483	3.0000	0.0000	0.70112E-04	
484	3.0000	0.0000	0.47090E-04	
485	3.0000	0.0000	0.34219E-05	
486	1.0000	-349.33	-0.69867E-06	
487	1.0000	-719.87	-0.14397E-05	
488	1.0000	-842.55	-0.16851E-05	
489	1.0000	-469.98	-0.93995E-06	

00040224 VERSION=HPPA 8000 15:39:14 OCT 17, 2001 CP= 7911.500

Robinson 2 RPV - Oper. T & P - 3.00 mil intf - 7.8 alpha - noz 5 pressure

***** POST1 ELEMENT TABLE LISTING *****

STAT ELEM	MIXED GAPSTAT	MIXED GAPFORC	MIXED GAPSTRCH	
501	3.0000	0.0000	0.49140E-03	
502	3.0000	0.0000	0.52380E-03	
503	3.0000	0.0000	0.50650E-03	
504	3.0000	0.0000	0.45278E-03	
505	3.0000	0.0000	0.43274E-03	
506	3.0000	0.0000	0.49451E-03	
507	3.0000	0.0000	0.57202E-03	
508	3.0000	0.0000	0.61198E-03	
509	3.0000	0.0000	0.63399E-03	
510	3.0000	0.0000	0.66688E-03	
511	3.0000	0.0000	0.67111E-03	<
512	3.0000	0.0000	0.60551E-03	
513	3.0000	0.0000	0.51508E-03	
514	3.0000	0.0000	0.46705E-03	
515	3.0000	0.0000	0.45814E-03	
516	3.0000	0.0000	0.46887E-03	
521	3.0000	0.0000	0.30938E-03	
522	3.0000	0.0000	0.30056E-03	
523	3.0000	0.0000	0.32018E-03	
524	3.0000	0.0000	0.36569E-03	
525	3.0000	0.29104E-10	0.43557E-03	
526	3.0000	0.0000	0.54269E-03	
527	3.0000	0.0000	0.64425E-03	
528	3.0000	0.0000	0.70619E-03	
529	3.0000	0.0000	0.73576E-03	
530	3.0000	0.0000	0.76325E-03	<
531	3.0000	0.0000	0.76005E-03	
532	3.0000	0.0000	0.70148E-03	
533	3.0000	0.0000	0.60172E-03	
534	3.0000	0.0000	0.50094E-03	
535	3.0000	0.0000	0.41456E-03	
536	3.0000	0.0000	0.35019E-03	
541	1.0000	-844.29	-0.16886E-05	
542	1.0000	-903.57	-0.18071E-05	
543	1.0000	-607.63	-0.12153E-05	
544	1.0000	-21.062	-0.42123E-07	
545	3.0000	0.0000	0.12482E-03	
546	3.0000	0.0000	0.29818E-03	
547	3.0000	0.0000	0.43897E-03	
548	3.0000	0.0000	0.51490E-03	
549	3.0000	0.0000	0.54391E-03	
550	3.0000	0.0000	0.56833E-03	<
551	3.0000	0.0000	0.56243E-03	
552	3.0000	0.29104E-10	0.50083E-03	
553	3.0000	0.0000	0.38551E-03	
554	3.0000	0.0000	0.24826E-03	

555	3.0000	0.0000	0.98167E-04	
556	1.0000	-232.88	-0.46575E-06	
561	3.0000	0.0000	0.20543E-06	
562	3.0000	0.0000	0.12321E-07	
563	3.0000	0.0000	0.59934E-06	
564	3.0000	0.0000	0.97537E-04	
565	3.0000	0.0000	0.17834E-03	
566	3.0000	0.0000	0.28388E-03	
567	3.0000	0.0000	0.36891E-03	
568	3.0000	0.0000	0.41781E-03	
569	3.0000	0.0000	0.43488E-03	
570	3.0000	0.0000	0.44991E-03	<
571	3.0000	0.0000	0.44286E-03	
572	3.0000	0.0000	0.40212E-03	
573	3.0000	0.0000	0.33133E-03	
574	3.0000	0.0000	0.25901E-03	
575	3.0000	0.0000	0.17167E-03	
576	3.0000	0.0000	0.82652E-04	
581	1.0000	-1072.3	-0.21446E-05	
582	1.0000	-1094.4	-0.21887E-05	
583	1.0000	-789.71	-0.15794E-05	
584	1.0000	-545.70	-0.10914E-05	
585	1.0000	-324.27	-0.64854E-06	
586	1.0000	-61.640	-0.12328E-06	
587	3.0000	0.0000	0.20514E-04	
588	3.0000	0.0000	0.32085E-04	< Limiting
589	3.0000	0.0000	0.25352E-04	
590	3.0000	0.0000	0.27345E-04	
591	3.0000	0.0000	0.26731E-04	
592	3.0000	0.0000	0.19132E-04	
593	3.0000	0.0000	0.24435E-05	
594	1.0000	-5092.3	-0.10185E-04	
595	1.0000	-314.10	-0.62821E-06	
596	1.0000	-718.24	-0.14365E-05	

00040224 VERSION=HPPA 8000 15:39:18 OCT 17, 2001 CP= 7915.500

Robinson 2 RPV - Oper. T & P - 3.00 mil intf - 7.8 alpha - noz 6 pressure

***** POST1 ELEMENT TABLE LISTING *****

STAT ELEM	MIXED GAPSTAT	MIXED GAPFORC	MIXED GAPSTRCH
601	3.0000	0.0000	0.58844E-03
602	3.0000	0.0000	0.55471E-03
603	3.0000	0.0000	0.46403E-03
604	3.0000	-0.29104E-10	0.39812E-03
605	3.0000	0.0000	0.41047E-03
606	3.0000	0.0000	0.50192E-03
607	3.0000	0.58208E-10	0.58095E-03
608	3.0000	0.0000	0.59302E-03
609	3.0000	0.0000	0.58263E-03
621	3.0000	0.0000	0.28788E-03
622	3.0000	0.0000	0.30000E-03
623	3.0000	0.0000	0.34885E-03
624	3.0000	0.0000	0.41748E-03
625	3.0000	0.0000	0.50827E-03
626	3.0000	0.0000	0.61509E-03
627	3.0000	0.0000	0.68357E-03
628	3.0000	0.0000	0.69217E-03
629	3.0000	0.58208E-10	0.67949E-03
641	1.0000	-754.36	-0.15087E-05
642	1.0000	-1156.7	-0.23135E-05
643	1.0000	-435.48	-0.87096E-06
644	3.0000	0.0000	0.75935E-04
645	3.0000	0.0000	0.22757E-03
646	3.0000	0.0000	0.37706E-03
647	3.0000	0.0000	0.45990E-03
648	3.0000	0.0000	0.47138E-03
649	3.0000	0.0000	0.45934E-03
661	1.0000	-161.84	-0.32369E-06
662	1.0000	-3.7829	-0.75658E-08
663	3.0000	0.0000	0.66391E-04
664	3.0000	0.0000	0.14757E-03
665	3.0000	0.0000	0.22605E-03
666	3.0000	0.0000	0.31060E-03
667	3.0000	0.0000	0.35941E-03
668	3.0000	0.0000	0.36812E-03
669	3.0000	0.0000	0.35907E-03
681	1.0000	-841.12	**-0.16822E-05**
682	1.0000	-1300.0	**-0.25999E-05**
683	1.0000	-754.55	**-0.15091E-05**
684	1.0000	-373.55	**-0.74710E-06**
685	1.0000	-254.38	**-0.50876E-06**
686	1.0000	-186.27	**-0.37255E-06**
687	1.0000	-225.28	**-0.45056E-06**
688	1.0000	-332.88	**-0.66577E-06**
689	1.0000	-215.57	**-0.43114E-06**

00040224 VERSION=HPPA 8000 15:39:24 OCT 17, 2001 CP= 7919.570

Robinson 2 RPV - Oper. T & P - 3.00 mil intf - 7.8 alpha - noz 7 pressure

***** POST1 ELEMENT TABLE LISTING *****

STAT ELEM	MIXED GAPSTAT	MIXED GAPFORC	MIXED GAPSTRCH
701	3.0000	0.0000	0.59832E-03
702	3.0000	0.0000	0.56686E-03
703	3.0000	0.0000	0.51075E-03
704	3.0000	0.0000	0.46323E-03
705	3.0000	0.0000	0.41799E-03
706	3.0000	0.0000	0.39529E-03
707	3.0000	0.0000	0.45561E-03
708	3.0000	0.0000	0.60219E-03
709	3.0000	0.0000	0.68037E-03
721	3.0000	0.0000	0.70100E-03
722	3.0000	0.0000	0.68181E-03
723	3.0000	0.0000	0.63327E-03
724	3.0000	0.0000	0.57235E-03
725	3.0000	0.0000	0.49217E-03
726	3.0000	0.0000	0.41619E-03
727	3.0000	0.0000	0.34691E-03
728	3.0000	0.0000	0.30476E-03
729	3.0000	0.0000	0.29660E-03
741	3.0000	0.0000	0.47786E-03
742	3.0000	0.0000	0.46151E-03
743	3.0000	0.0000	0.41495E-03
744	3.0000	0.0000	0.33981E-03
745	3.0000	0.0000	0.20603E-03
746	3.0000	0.0000	0.48149E-04
747	1.0000	-709.32	-0.14186E-05
748	1.0000	-1227.1	-0.24541E-05
749	1.0000	-700.54	-0.14011E-05
761	3.0000	0.0000	0.37031E-03
762	3.0000	0.0000	0.35971E-03
763	3.0000	0.0000	0.32951E-03
764	3.0000	0.0000	0.28977E-03
765	3.0000	0.0000	0.21177E-03
766	3.0000	0.0000	0.11540E-03
767	3.0000	0.0000	0.23102E-04
768	1.0000	-104.67	-0.20935E-06
769	1.0000	-87.129	-0.17426E-06
781	1.0000	-244.46	**-0.48891E-06**
782	1.0000	-436.43	**-0.87285E-06**
783	1.0000	-332.08	**-0.66415E-06**
784	1.0000	-191.30	**-0.38260E-06**
785	1.0000	-282.80	**-0.56560E-06**
786	1.0000	-599.82	**-0.11996E-05**
787	1.0000	-1037.2	**-0.20745E-05**
788	1.0000	-1384.4	**-0.27687E-05**
789	1.0000	-776.99	**-0.15540E-05**

00040224 VERSION=HPPA 8000 15:39:30 OCT 17, 2001 CP= 7923.930

Robinson 2 RPV - Oper. T & P - 3.00 mil intf - 7.8 alpha - noz 8 pressure

***** POST1 ELEMENT TABLE LISTING *****

STAT ELEM	MIXED GAPSTAT	MIXED GAPFORC	MIXED GAPSTRCH
801	3.0000	0.0000	0.57959E-03
802	3.0000	0.0000	0.70158E-03
803	3.0000	0.0000	0.65899E-03
804	3.0000	0.29104E-10	0.49592E-03
805	3.0000	0.0000	0.37204E-03
806	3.0000	0.0000	0.39102E-03
807	3.0000	0.0000	0.46351E-03
808	3.0000	0.0000	0.50644E-03
809	3.0000	-0.29104E-10	0.52379E-03
810	3.0000	0.0000	0.55733E-03
811	3.0000	0.0000	0.58128E-03
812	3.0000	0.0000	0.54118E-03
813	3.0000	0.0000	0.46466E-03
814	3.0000	0.0000	0.40259E-03
815	3.0000	0.0000	0.38272E-03
816	3.0000	0.0000	0.44280E-03
821	3.0000	0.29104E-10	0.30484E-03
822	3.0000	0.0000	0.28542E-03
823	3.0000	0.0000	0.29991E-03
824	3.0000	0.0000	0.33317E-03
825	3.0000	0.0000	0.40424E-03
826	3.0000	0.0000	0.48608E-03
827	3.0000	0.0000	0.57001E-03
828	3.0000	0.0000	0.61879E-03
829	3.0000	0.0000	0.63368E-03
830	3.0000	0.0000	0.66208E-03
831	3.0000	0.0000	0.68690E-03
832	3.0000	0.0000	0.66884E-03
833	3.0000	0.0000	0.60074E-03
834	3.0000	0.0000	0.51424E-03
835	3.0000	0.0000	0.42828E-03
836	3.0000	0.0000	0.35428E-03
841	1.0000	-1440.3	-0.28807E-05
842	1.0000	-1620.8	-0.32415E-05
843	1.0000	-1392.3	-0.27847E-05
844	1.0000	-870.18	-0.17404E-05
845	3.0000	0.0000	0.35964E-05
846	3.0000	0.0000	0.16448E-03
847	3.0000	0.0000	0.31183E-03
848	3.0000	0.0000	0.38801E-03
849	3.0000	0.0000	0.40707E-03
850	3.0000	0.0000	0.43233E-03
851	3.0000	0.0000	0.45472E-03
852	3.0000	0.0000	0.43766E-03
853	3.0000	0.0000	0.36123E-03
854	3.0000	0.0000	0.23845E-03

855	3.0000	0.0000	0.80090E-04
856	1.0000	-563.62	-0.11272E-05
861	1.0000	-244.76	-0.48952E-06
862	1.0000	-321.00	-0.64199E-06
863	1.0000	-147.19	-0.29438E-06
864	3.0000	0.0000	0.18064E-04
865	3.0000	0.0000	0.84394E-04
866	3.0000	0.0000	0.17968E-03
867	3.0000	0.0000	0.26578E-03
868	3.0000	0.0000	0.31267E-03
869	3.0000	0.0000	0.32249E-03
870	3.0000	0.0000	0.34118E-03
871	3.0000	0.0000	0.35411E-03
872	3.0000	0.0000	0.34187E-03
873	3.0000	0.0000	0.29501E-03
874	3.0000	0.0000	0.23101E-03
875	3.0000	0.0000	0.14128E-03
876	3.0000	0.0000	0.46058E-04
881	1.0000	-1577.6	**-0.31553E-05**
882	1.0000	-1792.0	**-0.35840E-05**
883	1.0000	-1488.2	**-0.29765E-05**
884	1.0000	-1002.7	**-0.20053E-05**
885	1.0000	-695.31	**-0.13906E-05**
886	1.0000	-418.50	**-0.83700E-06**
887	1.0000	-299.94	**-0.59988E-06**
888	1.0000	-367.24	**-0.73448E-06**
889	1.0000	-579.74	**-0.11595E-05**
890	1.0000	-634.01	**-0.12680E-05**
891	1.0000	-560.13	**-0.11203E-05**
892	1.0000	-410.19	**-0.82038E-06**
893	1.0000	-289.57	**-0.57914E-06**
894	1.0000	-214.48	**-0.42897E-06**
895	1.0000	-437.08	**-0.87415E-06**
896	1.0000	-936.88	**-0.18738E-05**

00040224 VERSION=HPPA 8000 15:39:35 OCT 17, 2001 CP= 7927.910

Robinson 2 RPV - Oper. T & P - 3.00 mil intf - 7.8 alpha - noz 9 pressure

***** POST1 ELEMENT TABLE LISTING *****

STAT ELEM	MIXED GAPSTAT	MIXED GAPFORC	MIXED GAPSTRCH
901	3.0000	0.0000	0.80305E-03
902	3.0000	0.0000	0.82054E-03
903	3.0000	0.0000	0.61523E-03
904	3.0000	0.0000	0.40132E-03
905	3.0000	-0.29104E-10	0.33199E-03
906	3.0000	0.0000	0.41257E-03
907	3.0000	0.0000	0.49563E-03
908	3.0000	0.0000	0.49478E-03
909	3.0000	0.0000	0.46195E-03
910	3.0000	0.0000	0.48502E-03
911	3.0000	0.0000	0.52215E-03
912	3.0000	0.0000	0.48434E-03
913	3.0000	0.0000	0.39619E-03
914	3.0000	0.0000	0.34611E-03
915	3.0000	0.0000	0.40442E-03
916	3.0000	0.0000	0.60093E-03
921	3.0000	0.0000	0.26646E-03
922	3.0000	0.0000	0.26623E-03
923	3.0000	0.0000	0.31550E-03
924	3.0000	0.0000	0.39563E-03
925	3.0000	0.0000	0.48749E-03
926	3.0000	0.0000	0.58366E-03
927	3.0000	0.0000	0.63115E-03
928	3.0000	0.0000	0.60078E-03
929	3.0000	0.0000	0.55186E-03
930	3.0000	0.0000	0.58144E-03
931	3.0000	0.0000	0.64116E-03
932	3.0000	0.0000	0.64269E-03
933	3.0000	0.58208E-10	0.57303E-03
934	3.0000	0.0000	0.48118E-03
935	3.0000	0.0000	0.38824E-03
936	3.0000	0.0000	0.30153E-03
941	1.0000	-2250.2	-0.45003E-05
942	1.0000	-2084.7	-0.41694E-05
943	1.0000	-1346.5	-0.26929E-05
944	1.0000	-286.40	-0.57280E-06
945	3.0000	0.0000	0.11675E-03
946	3.0000	0.0000	0.28074E-03
947	3.0000	0.0000	0.36395E-03
948	3.0000	0.0000	0.34892E-03
949	3.0000	0.0000	0.30912E-03
950	3.0000	0.0000	0.33597E-03
951	3.0000	0.0000	0.38874E-03
952	3.0000	0.0000	0.38192E-03
953	3.0000	0.0000	0.28247E-03
954	3.0000	0.0000	0.13077E-03

955	1.0000	-277.15	-0.55429E-06
956	1.0000	-1507.4	-0.30149E-05
961	1.0000	-693.51	-0.13870E-05
962	1.0000	-551.01	-0.11020E-05
963	1.0000	-72.338	-0.14468E-06
964	3.0000	0.0000	0.64480E-04
965	3.0000	0.0000	0.14642E-03
966	3.0000	0.0000	0.24014E-03
967	3.0000	0.0000	0.28957E-03
968	3.0000	0.0000	0.28413E-03
969	3.0000	-0.14552E-10	0.26126E-03
970	3.0000	0.0000	0.28059E-03
971	3.0000	0.0000	0.30951E-03
972	3.0000	0.0000	0.30233E-03
973	3.0000	0.0000	0.24280E-03
974	3.0000	0.0000	0.16495E-03
975	3.0000	0.0000	0.73422E-04
976	1.0000	-165.38	-0.33075E-06
981	1.0000	-2294.3	**-0.45887E-05**
982	1.0000	-2138.5	**-0.42770E-05**
983	1.0000	-1317.0	**-0.26339E-05**
984	1.0000	-702.96	**-0.14059E-05**
985	1.0000	-468.10	**-0.93620E-06**
986	1.0000	-373.23	**-0.74645E-06**
987	1.0000	-491.98	**-0.98396E-06**
988	1.0000	-786.50	**-0.15730E-05**
989	1.0000	-1076.4	**-0.21528E-05**
990	1.0000	-1005.4	**-0.20108E-05**
991	1.0000	-731.72	**-0.14634E-05**
992	1.0000	-457.84	**-0.91569E-06**
993	1.0000	-331.41	**-0.66283E-06**
994	1.0000	-329.14	**-0.65828E-06**
995	1.0000	-704.56	**-0.14091E-05**
996	1.0000	-1479.7	**-0.29595E-05**

00040224 VERSION=HPPA 8000 15:39:39 OCT 17, 2001 CP= 7931.980

Robinson 2 RPV - Oper. T & P - 3.00 mil intf - 7.8 alpha - noz 10 pressure

***** POST1 ELEMENT TABLE LISTING *****

STAT ELEM	MIXED GAPSTAT	MIXED GAPFORC	MIXED GAPSTRCH
1001	3.0000	0.0000	0.36578E-03
1002	3.0000	0.0000	0.37604E-03
1003	3.0000	0.0000	0.40222E-03
1004	3.0000	0.0000	0.40685E-03
1005	3.0000	0.0000	0.34923E-03
1006	3.0000	0.0000	0.33726E-03
1007	3.0000	0.0000	0.53832E-03
1008	3.0000	0.0000	0.90101E-03
1009	3.0000	0.0000	0.10960E-02
1021	3.0000	0.0000	0.47298E-03
1022	3.0000	0.0000	0.49818E-03
1023	3.0000	0.0000	0.54198E-03
1024	3.0000	0.0000	0.56857E-03
1025	3.0000	0.0000	0.52838E-03
1026	3.0000	0.0000	0.45345E-03
1027	3.0000	0.0000	0.34483E-03
1028	3.0000	0.0000	0.27003E-03
1029	3.0000	0.0000	0.25211E-03
1041	3.0000	0.0000	0.23972E-03
1042	3.0000	0.0000	0.25912E-03
1043	3.0000	0.0000	0.28910E-03
1044	3.0000	0.0000	0.28056E-03
1045	3.0000	0.0000	0.16954E-03
1046	3.0000	0.0000	0.11095E-04
1047	1.0000	-1270.8	-0.25416E-05
1048	1.0000	-2009.6	-0.40192E-05
1049	1.0000	-1169.5	-0.23391E-05
1061	3.0000	0.0000	0.22850E-03
1062	3.0000	0.0000	0.23442E-03
1063	3.0000	0.0000	0.24358E-03
1064	3.0000	0.0000	0.23828E-03
1065	3.0000	0.0000	0.17048E-03
1066	3.0000	0.0000	0.75372E-04
1067	1.0000	-254.52	-0.50904E-06
1068	1.0000	-630.43	-0.12609E-05
1069	1.0000	-374.97	-0.74995E-06
1081	1.0000	-685.09	**-0.13702E-05**
1082	1.0000	-1203.8	**-0.24075E-05**
1083	1.0000	-842.94	**-0.16859E-05**
1084	1.0000	-451.32	**-0.90263E-06**
1085	1.0000	-448.31	**-0.89662E-06**
1086	1.0000	-770.42	**-0.15408E-05**
1087	1.0000	-1358.3	**-0.27167E-05**
1088	1.0000	-2036.6	**-0.40732E-05**
1089	1.0000	-1205.1	**-0.24103E-05**

00040224 VERSION=HPPA 8000 15:39:44 OCT 17, 2001 CP= 7936.270

Robinson 2 RPV - Oper. T & P - 3.00 mil intf - 7.8 alpha - noz 11 pressure

***** POST1 ELEMENT TABLE LISTING *****

STAT ELEM	MIXED GAPSTAT	MIXED GAPFORC	MIXED GAPSTRCH
1101	3.0000	0.0000	0.80384E-03
1102	3.0000	0.0000	0.11386E-02
1103	3.0000	0.0000	0.10750E-02
1104	3.0000	0.0000	0.69379E-03
1105	3.0000	0.0000	0.37372E-03
1106	3.0000	0.29104E-10	0.32110E-03
1107	3.0000	0.0000	0.40699E-03
1108	3.0000	-0.29104E-10	0.43345E-03
1109	3.0000	0.0000	0.35795E-03
1110	3.0000	0.0000	0.31920E-03
1111	3.0000	0.0000	0.36676E-03
1112	3.0000	0.0000	0.42548E-03
1113	3.0000	0.0000	0.43916E-03
1114	3.0000	0.0000	0.38803E-03
1115	3.0000	0.0000	0.32993E-03
1116	3.0000	0.0000	0.44300E-03
1121	3.0000	0.0000	0.28799E-03
1122	3.0000	0.0000	0.23573E-03
1123	3.0000	0.0000	0.25363E-03
1124	3.0000	-0.29104E-10	0.31813E-03
1125	3.0000	0.0000	0.43957E-03
1126	3.0000	0.0000	0.55143E-03
1127	3.0000	0.0000	0.60634E-03
1128	3.0000	0.0000	0.57120E-03
1129	3.0000	0.0000	0.46441E-03
1130	3.0000	0.0000	0.41798E-03
1131	3.0000	0.0000	0.47460E-03
1132	3.0000	0.0000	0.57423E-03
1133	3.0000	0.0000	0.62613E-03
1134	3.0000	0.0000	0.61131E-03
1135	3.0000	0.0000	0.52085E-03
1136	3.0000	-0.29104E-10	0.39968E-03
1141	1.0000	-2147.0	-0.42940E-05
1142	1.0000	-2634.2	-0.52684E-05
1143	1.0000	-2355.3	-0.47106E-05
1144	1.0000	-1473.0	-0.29459E-05
1145	1.0000	-262.86	-0.52573E-06
1146	3.0000	0.0000	0.14200E-03
1147	3.0000	0.0000	0.26962E-03
1148	3.0000	0.0000	0.28648E-03
1149	3.0000	0.0000	0.21505E-03
1150	3.0000	0.0000	0.18231E-03
1151	3.0000	0.0000	0.23003E-03
1152	3.0000	0.0000	0.31293E-03
1153	3.0000	0.0000	0.34749E-03
1154	3.0000	0.0000	0.28941E-03

1155	3.0000	0.0000	0.12335E-03
1156	1.0000	-620.71	-0.12414E-05
1161	1.0000	-691.34	-0.13827E-05
1162	1.0000	-963.26	-0.19265E-05
1163	1.0000	-752.18	-0.15044E-05
1164	1.0000	-277.30	-0.55460E-06
1165	3.0000	0.0000	0.46875E-04
1166	3.0000	0.0000	0.14887E-03
1167	3.0000	0.14552E-10	0.22521E-03
1168	3.0000	0.0000	0.24162E-03
1169	3.0000	0.0000	0.20481E-03
1170	3.0000	0.14552E-10	0.19559E-03
1171	3.0000	0.0000	0.22437E-03
1172	3.0000	0.0000	0.26443E-03
1173	3.0000	0.0000	0.27880E-03
1174	3.0000	0.0000	0.25053E-03
1175	3.0000	0.0000	0.15643E-03
1176	3.0000	0.0000	0.40166E-04
1181	1.0000	-2008.5	**-0.40170E-05**
1182	1.0000	-2645.8	**-0.52917E-05**
1183	1.0000	-2282.9	**-0.45657E-05**
1184	1.0000	-1360.4	**-0.27207E-05**
1185	1.0000	-792.01	**-0.15840E-05**
1186	1.0000	-493.39	**-0.98678E-06**
1187	1.0000	-446.35	**-0.89270E-06**
1188	1.0000	-711.87	**-0.14237E-05**
1189	1.0000	-1246.1	**-0.24922E-05**
1190	1.0000	-1503.8	**-0.30076E-05**
1191	1.0000	-1369.0	**-0.27379E-05**
1192	1.0000	-946.98	**-0.18940E-05**
1193	1.0000	-494.74	**-0.98949E-06**
1194	1.0000	-187.23	**-0.37446E-06**
1195	1.0000	-362.89	**-0.72578E-06**
1196	1.0000	-962.08	**-0.19242E-05**

00040224 VERSION=HPPA 8000 15:39:49 OCT 17, 2001 CP= 7940.310

Robinson 2 RPV - Oper. T & P - 3.00 mil intf - 7.8 alpha - noz 12 pressure

***** POST1 ELEMENT TABLE LISTING *****

STAT ELEM	MIXED GAPSTAT	MIXED GAPFORC	MIXED GAPSTRCH
1201	3.0000	0.0000	0.12165E-02
1202	3.0000	0.0000	0.98370E-03
1203	3.0000	0.0000	0.56412E-03
1204	3.0000	0.0000	0.33762E-03
1205	3.0000	0.0000	0.34174E-03
1206	3.0000	0.0000	0.44946E-03
1207	3.0000	0.0000	0.47868E-03
1208	3.0000	0.0000	0.37977E-03
1209	3.0000	0.0000	0.29879E-03
1221	3.0000	0.0000	0.22677E-03
1222	3.0000	0.0000	0.25952E-03
1223	3.0000	0.0000	0.37669E-03
1224	3.0000	0.0000	0.51397E-03
1225	3.0000	0.0000	0.62513E-03
1226	3.0000	0.0000	0.68881E-03
1227	3.0000	0.0000	0.63393E-03
1228	3.0000	0.0000	0.47142E-03
1229	3.0000	0.0000	0.36624E-03
1241	1.0000	-1645.1	-0.32903E-05
1242	1.0000	-2506.0	-0.50120E-05
1243	1.0000	-962.59	-0.19252E-05
1244	3.0000	0.0000	0.77435E-04
1245	3.0000	0.0000	0.25362E-03
1246	3.0000	0.0000	0.37037E-03
1247	3.0000	0.0000	0.34070E-03
1248	3.0000	0.0000	0.20445E-03
1249	3.0000	0.0000	0.12018E-03
1261	1.0000	-620.89	-0.12418E-05
1262	1.0000	-703.44	-0.14069E-05
1263	3.0000	0.0000	0.29678E-04
1264	3.0000	0.0000	0.13337E-03
1265	3.0000	0.0000	0.22537E-03
1266	3.0000	0.0000	0.29376E-03
1267	3.0000	0.0000	0.27863E-03
1268	3.0000	0.0000	0.20367E-03
1269	3.0000	0.0000	0.15566E-03
1281	1.0000	-1537.7	**-0.30754E-05**
1282	1.0000	-2252.9	**-0.45057E-05**
1283	1.0000	-990.32	**-0.19806E-05**
1284	1.0000	-365.50	**-0.73101E-06**
1285	1.0000	-251.57	**-0.50315E-06**
1286	1.0000	-365.70	**-0.73141E-06**
1287	1.0000	-808.44	**-0.16169E-05**
1288	1.0000	-1417.1	**-0.28341E-05**
1289	1.0000	-888.84	**-0.17777E-05**

00040224 VERSION=HPPA 8000 15:39:53 OCT 17, 2001 CP= 7944.120

Robinson 2 RPV - Oper. T & P - 3.00 mil intf - 7.8 alpha - noz 13 pressure

***** POST1 ELEMENT TABLE LISTING *****

STAT ELEM	MIXED GAPSTAT	MIXED GAPFORC	MIXED GAPSTRCH	
1301	3.0000	0.0000	0.12783E-02	
1302	3.0000	0.0000	0.14657E-02	<
1303	3.0000	0.0000	0.10658E-02	
1304	3.0000	0.0000	0.56639E-03	
1305	3.0000	0.0000	0.33375E-03	
1306	3.0000	0.0000	0.40089E-03	
1307	3.0000	0.0000	0.50887E-03	
1308	3.0000	0.0000	0.44730E-03	
1309	3.0000	0.0000	0.25207E-03	
1310	3.0000	0.0000	0.21303E-03	
1311	3.0000	0.0000	0.35792E-03	
1312	3.0000	0.0000	0.46722E-03	
1313	3.0000	0.0000	0.45944E-03	
1314	3.0000	0.0000	0.37369E-03	
1315	3.0000	-0.29104E-10	0.39202E-03	
1316	3.0000	0.0000	0.72872E-03	
1321	3.0000	0.14552E-10	0.24712E-03	
1322	3.0000	0.0000	0.20265E-03	
1323	3.0000	0.0000	0.28432E-03	
1324	3.0000	0.0000	0.44898E-03	
1325	3.0000	0.0000	0.62519E-03	
1326	3.0000	0.0000	0.76719E-03	<
1327	3.0000	0.0000	0.76412E-03	
1328	3.0000	0.0000	0.57685E-03	
1329	3.0000	0.0000	0.32705E-03	
1330	3.0000	0.0000	0.29335E-03	
1331	3.0000	0.0000	0.47722E-03	
1332	3.0000	0.0000	0.67303E-03	
1333	3.0000	0.0000	0.75290E-03	
1334	3.0000	0.0000	0.71562E-03	
1335	3.0000	0.0000	0.57519E-03	
1336	3.0000	0.0000	0.39029E-03	
1341	1.0000	-3252.1	-0.65041E-05	
1342	1.0000	-3515.4	-0.70307E-05	
1343	1.0000	-2285.5	-0.45710E-05	
1344	1.0000	-349.08	-0.69815E-06	
1345	3.0000	0.0000	0.18177E-03	
1346	3.0000	0.29104E-10	0.39036E-03	
1347	3.0000	0.0000	0.42620E-03	
1348	3.0000	0.0000	0.27684E-03	
1349	3.0000	0.0000	0.83387E-04	
1350	3.0000	0.36380E-11	0.60407E-04	
1351	3.0000	0.0000	0.20860E-03	
1352	3.0000	0.0000	0.37492E-03	
1353	3.0000	-0.29104E-10	0.42946E-03	<
1354	3.0000	0.0000	0.34096E-03	

1355	3.0000	0.0000	0.12374E-03	
1356	1.0000	-1179.8	-0.23596E-05	
1361	1.0000	-1228.9	-0.24579E-05	
1362	1.0000	-1477.5	-0.29551E-05	
1363	1.0000	-556.39	-0.11128E-05	
1364	3.0000	0.0000	0.82873E-04	
1365	3.0000	0.0000	0.20768E-03	
1366	3.0000	0.0000	0.31543E-03	
1367	3.0000	0.0000	0.32798E-03	
1368	3.0000	0.0000	0.24295E-03	
1369	3.0000	0.0000	0.14070E-03	
1370	3.0000	0.0000	0.13658E-03	
1371	3.0000	0.0000	0.21658E-03	
1372	3.0000	0.29104E-10	0.30475E-03	
1373	3.0000	0.0000	0.33839E-03	<
1374	3.0000	0.0000	0.30006E-03	
1375	3.0000	0.0000	0.19454E-03	
1376	3.0000	0.0000	0.38177E-04	
1381	1.0000	-2765.0	-0.55301E-05	
1382	1.0000	-3215.5	-0.64310E-05	
1383	1.0000	-1908.1	-0.38161E-05	
1384	1.0000	-570.96	-0.11419E-05	
1385	1.0000	-35.102	-0.70204E-07	
1386	3.0000	0.0000	0.87197E-05	
1387	1.0000	-251.44	-0.50289E-06	
1388	1.0000	-967.06	-0.19341E-05	
1389	1.0000	-1734.4	-0.34688E-05	
1390	1.0000	-1836.1	-0.36723E-05	
1391	1.0000	-1331.7	-0.26635E-05	
1392	1.0000	-629.62	-0.12592E-05	
1393	1.0000	-42.483	-0.84966E-07	
1394	3.0000	0.0000	0.31209E-04	< Limiting
1395	1.0000	-38.520	-0.77040E-07	
1396	1.0000	-1079.6	-0.21592E-05	

United States Nuclear Regulatory Commission
Enclosure III to Serial: RNP-RA/01-0166
13 Pages

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2

"IMPROVED FEM GAP ANALYSIS OF CRDM PENETRATIONS (ROBINSON 2)"

PERFORMED BY
STRUCTURAL INTEGRITY ASSOCIATES, INC.

STRUCTURAL INTEGRITY Associates, Inc.	CALCULATION PACKAGE	FILE No: W-CPL-62Q-303 PROJECT No: W-CPL-62Q

PROJECT NAME: Robinson CRDM Response to the NRC Bulletin

CLIENT: Carolina Power & Light

CALCULATION TITLE: Improved FEM Gap Analysis of CRDM Penetrations (Robinson 2)

PROBLEM STATEMENT OR OBJECTIVE OF THE CALCULATION:

Develop an improved, more accurate finite element model for evaluation of CRDM penetrations for Robinson 2.

Document Revision	Affected Pages	Revision Description	Project Mgr. Approval Signature & Date	Preparer(s) & Checker(s) Signatures & Date
0	1 – 12 Project CD-Rom	Original Issue	10/31/01	RLB 10-31-01 10/31/01

1.0 Problem

A series of finite element models were previously developed to evaluate the CRDM penetrations for potential leak paths for H. B. Robinson, Unit 2 [1]. Several interference conditions were evaluated as well the effects of annular pressure between the CRDM tube and closure head. The results of these evaluations indicated that for all interference and loading conditions, the bottom edge of the interference zone (nearest the CRDM-to-closure head J-groove weld) remained closed for all modeled tubes.

As a result, most of these finite element models were re-evaluated in an attempt to remove some inherent conservatism in the previous analyses, with particular emphasis on the CRDM-to-closure head weld and the applied interference fit.

2.0 Finite Element Model Improvements

The original finite element models were developed in Reference 1 using the ANSYS finite element software package [2]. The following sections detail those changes made to the finite element models, and discuss the potential improvements. Only the following changes were made. All other aspects of the finite element models developed in Reference 1 were left unchanged.

The effects of the un-modeled bolt holes were also evaluated via the ANSYS input file CRDM25-E.INP and the resulting Excel spreadsheet CRDM25-E.XLS. The study reduced the modulus of elasticity in the applied bolt load region by the ratio of the sum of the bolt hole areas to the total area. The results of the study indicate that the as modeled condition is very slightly conservative and thus any affects of the un-modeled bolt holes can be ignored.

2.1 Revised Bolt Loads

During the evaluation process in Reference 1 it was determined that the modeled bolt load of 52,929 kips [3] was out of date and the correct bolt load was 59,900 kips [4]. Though subsequent investigation indicated the larger bolt load had minimal effect on gap opening, the corrected bolt load was included for these evaluations.

2.2 CRDM Tube Through-Wall Elements

The Reference 1 finite element models utilized only one element through the thickness. The original reason for using one element was that it was conservative and reduced analysis time. However, the use of only one element through the thickness tends to create an overly conservative stiffness through the thickness of the tube, resulting in reduced response to the interference loads, the applied normal operating loads, and the annular pressure conditions described in Reference 1. As a result, the number of elements for this evaluation through the thickness of the CRDM tube was increased from 1 element to 4.

2.3 Two-Part Loading

The original evaluations in Reference 1 treated the interference load as an applied load that occurred at the same time as the rest of the normal operating loads. The weld was assumed to be in place before the application of the interference load. As a result, the J-groove weld influenced the interference load such that it produced conservative gap (or interference) results in the area local to the weld. In reality, the interference load is applied prior to the existence of the weld. It was therefore deemed necessary to recreate this effect in the finite element model.

To reproduce this series of events in ANSYS, it was necessary to break the original CRDM interference conditions [1] into two separate evaluation steps. Both steps of this new analysis format were included in a single ANSYS input file for each interference condition. The new input files for the 2.5 mil, 2.75 mil and 3.0 mil interference cases are named CRDM25-4.INP, CRDM27-4.INP and CRDM30-4.INP, respectively (included on the Project CD-Rom). The specifics of these two evaluation steps are described below:

2.3.1 Interference Only Step

The first step of the revised evaluation was used to simulate the interference fit that occurred during construction. By that, it is meant that only the interference load is considered without the existence of the weld.

To simulate this condition, all of the normal operating loads were removed from the model. In addition, the CRDM-to-closure head couples (used to simulate the CRDM-to-closure head J-groove weld) were removed. Only the interference load was retained (simulated by the CONTAC52 contact elements).

To prevent rigid body motion, all of the nodes at the free end of each CRDM tube, furthest from the head, were fixed in all degrees-of-freedom. In addition, the nodes at the compression surface at the base of the closure flange were held in all degrees-of-freedom. See Figure 1 for the applied boundary conditions.

An analysis was then performed to determine the resulting interference load and pattern.

2.3.2 Normal Operating Condition Step

The second step makes use of a "Restart" option within the ANSYS software package. Essentially, the "Restart" allows the existing model (complete with displacements, stresses and loads) from a previous evaluation to be modified with additional loads and boundary conditions.

Thus, the interference only step analysis was "restarted" and the following changes made:

- The couples used to simulate the CRDM-to-closure head J-groove weld were applied. The nodal positions of these couples were based on the position of the nodes as a result of the interference loading evaluation.
- The extra displacement constraints discussed in Section 2.3.1 were deleted.
- The normal operating condition loads were applied per Reference 1, and Section 2.1.

3.0 Annular Pressure Evaluation

Similar to Reference 1, additional evaluations were performed to evaluate the effects of annular pressure between the CRDM tubes and closure head (see Reference 1 for more details) for the updated solution process. Only the changes described above were implemented into the original evaluations described in Reference 1.

One other change was made, involving the saturation pressure used. In Reference 1, the approximate saturation pressure of 1550 psig was used [1]. This value was revised to 1505 psig [5] to more closely align with predictions of saturation pressure for the corresponding normal operating temperature.

The ANSYS input files for these evaluations were named CRDM25-4P.INP, CRDM27-4P.INP and CRDM30-4P.INP (also included with the Project CD-Rom).

4.0 Results

Evaluations were performed for the normal operating and annulus pressurized conditions for initial interference values of 2.5 mils, 2.75 mils and 3.0 mils (6 total evaluations). The results indicate that for the normal operating condition evaluations, all nozzles except the center nozzle have gaps above the J-groove weld, and some of the nozzles have leakage paths all the way to the surface of the head, depending on the particular interference fit being considered. For the pressurized cases, all nozzles except the center nozzle exhibit leakage paths to the surface of the head for the initial interference fits evaluated, including 3 mils. For the center nozzle, the minimum interference on the one ring that does not open is 0.0000222 inches for the 3 mil, no annular pressure case. The corresponding average load is 3278.1 pounds per inch of circumference.

For each evaluation, a series of gap results were determined via post-processing within the analysis input file. The post-processing captured the contact element number, the gap opening (or interference) and the contact element's position relative to its specific tube and wrote them to files with the extension of *.RES.

All of the resulting contact element data was collected into a series of Excel spreadsheets. For the non-pressurized evaluation the Excel file names are CPL25-4.XLS, CPL27-4.XLS and CPL30-

4.XLS (included in the project CD-Rom). For the pressurized evaluations the Excel file names are CPL25-4P.XLS, CPL27-4P.XLS and CPL30-4P.XLS (also included on the project CD-Rom). Interpretation of the specific evaluation results is included in the following sections.

2.5 Mil Interference Analysis

Examination of the contact elements revealed that 4 of the 13 tubes have open paths for potential leakage (this includes an open path at the lowest ring of contact, which is near the J-groove weld). The CRDM tubes that have open paths are 10, 14, 26 and 46.

Tubes 2, 6, 22, 30, 38, 50, 58 and 62 have 4 of the 5 vertical sets of contact element rings with leakage paths. However, in all cases, the top ring of contact elements for each tube (nearest the OD side of the closure head) remained closed.

Tube 1 had the top and bottom rings of contact elements closed, thus providing a leakage path consisting of only the middle three rings of contact elements.

Table 1 lists the resulting minimum interference or maximum gap opening at the bottom ring (nearest the J-groove weld) of contact elements for each CRDM tube during normal operating conditions.

Table 1
Results for Bottom Rings of Contact Elements
For 2.5 mil Interference During Normal Operating Conditions

Tube #	Minimum Interference/Maximum Gap (inches) [Negative Value Indicates Interference]
1	-0.0000129*
2	0.0002924
6	0.0004205
10	0.0009203
14	0.0007832
22	0.0010304
26	0.0012657
30	0.0010517
38	0.0012691
46	0.0013739
50	0.0014582
58	0.0015487
62	0.0016998

* Average radial load is 1976.4 lbs per inch of circumference.

4.1 2.5 Mil Interference Analysis with Annular Pressure

Examination of the contact elements for the annular pressure case concluded that all of the CRDM tubes, with the exception of tube 1, have open paths for potential leakage (this includes an open path at the lowest ring of contact, which is near the J-groove weld).

Tube 1 has 4 of the 5 vertical sets of contact element rings with leakage paths. The single closed ring of contact elements occurs at the bottom (nearest the J-groove weld).

Table 2 lists the resulting minimum interference or maximum gap opening at the bottom ring (nearest the J-groove weld) of contact elements for each CRDM tube during normal operating conditions.

Table 2
Results for Bottom Rings of Contact Elements For 2.5 mil Interference During Normal Operating Conditions Plus Annular Pressure

Tube #	Minimum Interference/Maximum Gap (inches) [Negative Value Indicates Interference]
1	-0.0000029*
2	0.0004306
6	0.0005619
10	0.0010085
14	0.0008624
22	0.0010697
26	0.0013097
30	0.0012312
38	0.0014527
46	0.0013793
50	0.0016438
58	0.0017531
62	0.0019001

* Average radial load is 565.9 lbs per inch of circumference.

4.2 2.75 Mil Interference Analysis

Examination of the contact elements for the 2.75 mil interference case revealed that 3 of the 13 tubes have open paths for potential leakage (this includes an open path at the lowest ring of contact, which is near the J-groove weld). The CRDM tubes that have open paths are 14, 26 and 46.

Tubes 2, 6, 10, 22, 30, 38, 50, 58 and 62 have 4 of the 5 vertical sets of contact element rings with leakage paths. However, in all cases, the top ring of contact elements for each tube (nearest the OD side of the closure head) remained closed.

Tube 1 had the top and bottom rings of contact elements closed, thus providing a leakage path consisting of only the middle three rings of contact elements.

Table 3 lists the resulting minimum interference or maximum gap opening at the bottom ring (nearest the J-groove weld) of contact elements for each CRDM tube during normal operating conditions.

Table 3
Results for Bottom Rings of Contact Elements
For 2.75 mil Interference During Normal Operating Conditions

Tube #	Minimum Interference/Maximum Gap (inches) [Negative Value Indicates Interference]
1	-0.0000173*
2	0.0002730
6	0.0004154
10	0.0009638
14	0.0008123
22	0.0010810
26	0.0013394
30	0.0011137
38	0.0013517
46	0.0014533
50	0.0015595
58	0.0016524
62	0.0018175

* Average radial load is 2617.0 lbs per inch of circumference.

4.3 2.75 Mil Interference Analysis with Annular Pressure

Examination of the contact elements for the annular pressure case concluded that all of the CRDM tubes, with the exception of tube 1, have open paths for potential leakage (this includes an open path at the lowest ring of contact, which is near the J-groove weld).

Tube 1 has 4 of the 5 vertical sets of contact element rings with leakage paths. The single closed ring of contact elements occurs at the bottom (nearest the J-groove weld).

Table 4 lists the resulting minimum interference or maximum gap opening at the bottom ring (nearest the J-groove weld) of contact elements for each CRDM tube during normal operating conditions.

Table 4
Results for Bottom Rings of Contact Elements for 2.75 Mil Interference During Normal Operating Conditions Plus Annular Pressure

Tube #	Minimum Interference/Maximum Gap (inches) [Negative Value Indicates Interference]
1	-0.0000075*
2	0.0004081
6	0.0005580
10	0.0010508
14	0.0008914
22	0.0011219
26	0.0013814
30	0.0012925
38	0.0015349
46	0.0014564
50	0.0017447
58	0.0018557
62	0.0020167

* Average radial load is 1207.4 lbs per inch of circumference.

4.4 3.0 Mil Interference Analysis

Examination of the contact elements for the 3 mil interference case revealed that 3 of the 13 tubes have open paths for potential leakage (this includes an open path at the lowest ring of contact, which is near the J-groove weld). The CRDM tubes that have open paths are 14, 26 and 46.

Tubes 2, 6, 10, 22, 30, 38, 50, 58 and 62 have 4 of the 5 vertical sets of contact element rings with leakage paths. However, in all cases, the top ring of contact elements for each tube (nearest the OD side of the closure head) remained closed.

Tube 1 had only 1 of the 5 rings of contact elements open, with the remaining being fully closed to leakage.

Table 5 lists the resulting minimum interference or maximum gap opening at the bottom ring (nearest the J-groove weld) of contact elements for each CRDM tube during normal operating conditions.

Table 5
Results for Bottom Rings of Contact Elements
For 3 Mill Interference During Normal Operating Conditions

Tube #	Minimum Interference/Maximum Gap (inches) [Negative Value Indicates Interference]
1	-0.0000222*
2	0.0002533
6	0.0004112
10	0.0010079
14	0.0008418
22	0.0011314
26	0.0014143
30	0.0011757
38	0.0014344
46	0.0015339
50	0.0016610
58	0.0017560
62	0.0019351

* Average radial load is 3278.1 lb's per inch of circumference.

4.5 3.0 Mil Interference Analysis with Annular Pressure

Examination of the contact elements for this annular pressure case concluded that all of the CRDM tubes, with the exception of tube 1, have open paths for potential leakage (this includes an open path at the lowest ring of contact, which is near the J-groove weld).

Tube 1 has 4 of the 5 vertical sets of contact element rings with leakage paths. The single closed ring of contact elements occurs at the bottom (nearest the J-groove weld).

Table 6 lists the resulting minimum interference or maximum gap opening at the bottom ring (nearest the J-groove weld) of contact elements for each CRDM tube during normal operating conditions.

Table 6
Results for Bottom Rings of Contact Elements For 3 Mil Interference During Normal Operating Conditions Plus Annular Pressure

Tube #	Minimum Interference/Maximum Gap (inches) [Negative Value Indicates Interference]
1	-0.0000119*
2	0.0003853
6	0.0005551
10	0.0010936
14	0.0009205
22	0.0011742
26	0.0014533
30	0.0013538
38	0.0016171
46	0.0015350
50	0.0018454
58	0.0019582
62	0.0021333

* Average radial load is 1841.0 lb's per inch of circumference.

5.0 References

1) SI Calculation W-CPL-62Q-302, Rev. 1, "Finite Element Gap Analysis of CRDM Penetrations (Robinson 2)"

2) ANSYS Mechanical, Revision 5.7, ANSYS Inc., December 2000

3) FAX from Ted Huminski (CP&L) to Richard Bax (SI) dated 09/29/01 at 4:21 PM, referencing CE Document CENC-1111, "Analytical Report for Carolina Power and Light Reactor Vessel," SI File W-CPL-62Q-201P

4) FAX from Ronald Knott (CP&L) to Richard Bax (SI) dated 10/16/01 at 5:10 PM, referencing Stress Report Pages 7 of 74 and 27 of 74 from CE Document CENC-1111, "Analytical Report for Carolina Power and Light Reactor Vessel," SI File W-CPL-62Q-201P

5) J. H. Keenan and F. G. Keyes, "Thermodynamic Properties of Steam," 1st Edition, 1936, John Wiley & Sons, Inc., New York (Thirty Sixth Printing, 1964)

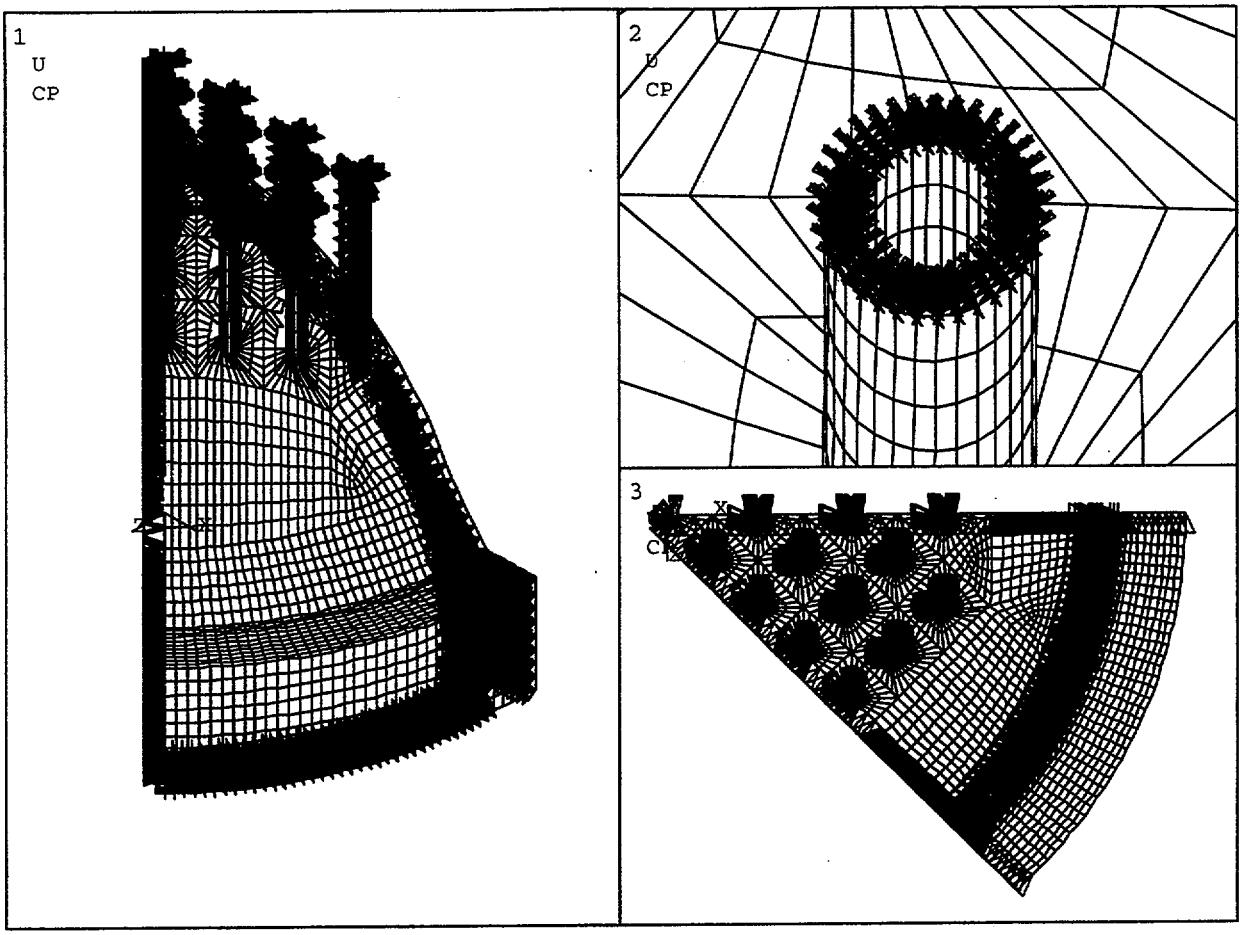

Figure 1 – Preload Boundary Conditions for Step 1 Evaluation

United States Nuclear Regulatory Commission
Enclosure IV to Serial: RNP-RA/01-0166
13 Pages

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2

"ROBINSON CRDM NOZZLE DEFLECTION ANALYSIS"

PERFORMED BY
DOMINION ENGINEERING, INC.

Robinson CRDM Nozzle Deflection Analysis

Record of Revisions				
Rev.	**Description**	**Prepared by Date**	**Checked by Date**	**Reviewed by Date**
0	Original Issue	J.E. Broussard 10/29/01	D. Arguelles 10/29/01	S Hunt 10/29/01

The last revision number to reflect any changes for each section of the calculation is shown in the Table of Contents. The last revision numbers to reflect any changes for tables and figures are shown in the List of Tables and the List of Figures. Changes made in the latest revision, except for Rev. 0 and revisions which change the calculation in its entirety, are indicated by a double line in the right hand margin as shown here.

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1.0 Purpose

The purpose of this calculation is to document the results of elastic-plastic finite element analyses of the Robinson CRDM penetrations. The analyses were performed to confirm the assumed modeling of weld distortions in report R-3513-00-1, Revision 0. A number of nozzle geometries spanning the range of penetration angles in the Robinson head are investigated. For this set of analyses, the displacement of the nozzle outer diameter after the completion of welding is examined in detail.

2.0 Summary of Results

CRDM penetration angles of 0°, 9.3°, 27.1°, and 46.0° were analyzed at a nozzle yield strength of 53.0 ksi. These cases support the following conclusions:

1. Nozzle OD radial displacements in the J-groove weld region tend to be larger in the second (lower) weld pass.

2. Nozzle OD radial displacements immediately above the J-groove weld region tend to be approximately 1 mil inward (negative radial displacement).

3.0 Input Requirements

The following values are used in this calculation:

1. The local configuration of the J-groove weld attaching the CRDM nozzles to the RPV head for each model are taken from C.E. drawings (References 2a and 2b).

2. Detailed dimensions of the RPV head and CRDM nozzles are taken from C.E. drawings and design analyses and are as follows:
   - CRDM Nozzle OD = 4.00 inches – Ref. (3) p. A-2
   - CRDM Nozzle ID = 2.75 inches – Ref. (3) p. A-2
   - Cladding thickness = 7/32 inch – Ref. (2c)
   - RPV Head Inner Radius (to cladding) = 74-14/32 inches – Ref. (2c)
   - RPV Head Thickness (excluding cladding) = 7.75 inches – Ref. (2c)

3. CRDM nozzle yield strength. The CRDM nozzles at Robinson are reported to have yield strengths ranging from 35.5 to 57.5 ksi, with the largest grouping of nozzles having a 53.0 ksi yield strength. In addition, the mean yield strength of all the nozzles is 48.5 ksi. Therefore, a yield strength of 53.0 ksi was selected as the single yield strength used for this analysis.

4. Operating pressure and temperature. These have been assumed to be 2,235 psi and 600 °F.

4.0 Assumptions

The following assumptions were used for the CRDM nozzle modeling described in this calculation:

1. Operating conditions were assumed to be 2,235 psig and 600 °F.
2. Based on client information, the Robinson CRDM penetrations have no lower counterbore.
3. The CRDM nozzles were assumed to be flush with the penetration. No clearance or interference fit was assumed for this analysis, since it is intended to assess weld distortion.
4. A nozzle yield strength of 53.0 was assumed for all cases.
5. Two passes of welding were performed on the CRDM penetrations: an inner pass and an outer pass. The model geometry was designed such that each weld pass is approximately the same volume.
6. The following room-temperature yield strengths were used in association with the elastic-perfectly plastic hardening laws used for the weld and weld buttering, head shell, and stainless steel cladding materials:
   - Inco 182 Welds: 75.0 ksi
   - Low-Alloy Steel Shell: 70.0 ksi
   - Stainless Steel Cladding: 40.0 ksi

5.0 Analysis

5.1 Finite Element Analyses

Finite element analyses of the Robinson CRDM nozzles were performed for a total of four cases (four penetration angles at a single yield strength). Figure 5-1 shows the element geometry and node numbering scheme for the 27.1 degree CRDM nozzle model. The numbering scheme used is identical for all cases considered in this calculation.

ANSYS finite element analyses were performed using a model developed for commercial customers and described in a 1994 EPRI report on the subject of PWSCC of Alloy 600 components in PWR primary system service (Ref. 1). The analyses were performed on an HP B2000 workstation, under the HP-UX 10.20 operating system and ANSYS Revision 5.7, which is maintained in accordance with the provisions for control of software described in Dominion Engineering, Inc.'s QA Manual for Safety-Related Nuclear Work, DEI-002. The finite element model has been improved and refined since it was described in Reference (1). Basic modeling assumptions are reported in Reference (1). All work described in this calculation was performed using the file cirse.base, version 1.1.3. One of the standard outputs from this version of cirse.base is the radial displacement of the nozzle OD nodes at the welding residual stress state.

5.2 Analytical Results Summary

Summaries of the analytical results for each of the models analyzed are contained in Attachment 1 to this calculation. These summaries show the maximum hoop and axial stresses at the ID of the nozzle, at the "uphill" (closest to the top of the head) and "downhill" circumferential planes, as well as "above" the weld (axial portion of the nozzle including the weld region and extending through the head shell) and "below" the weld (axial portion of the nozzle extending into the RPV).

The nozzle OD radial displacement results are presented in Table 5-1. For each penetration geometry, the radial displacement of the nozzle OD nodes along the length of the J-groove weld is reported at the downhill, midplane, and uphill locations. The radial displacement results at the midplane location are summarized in Figure 5-2.

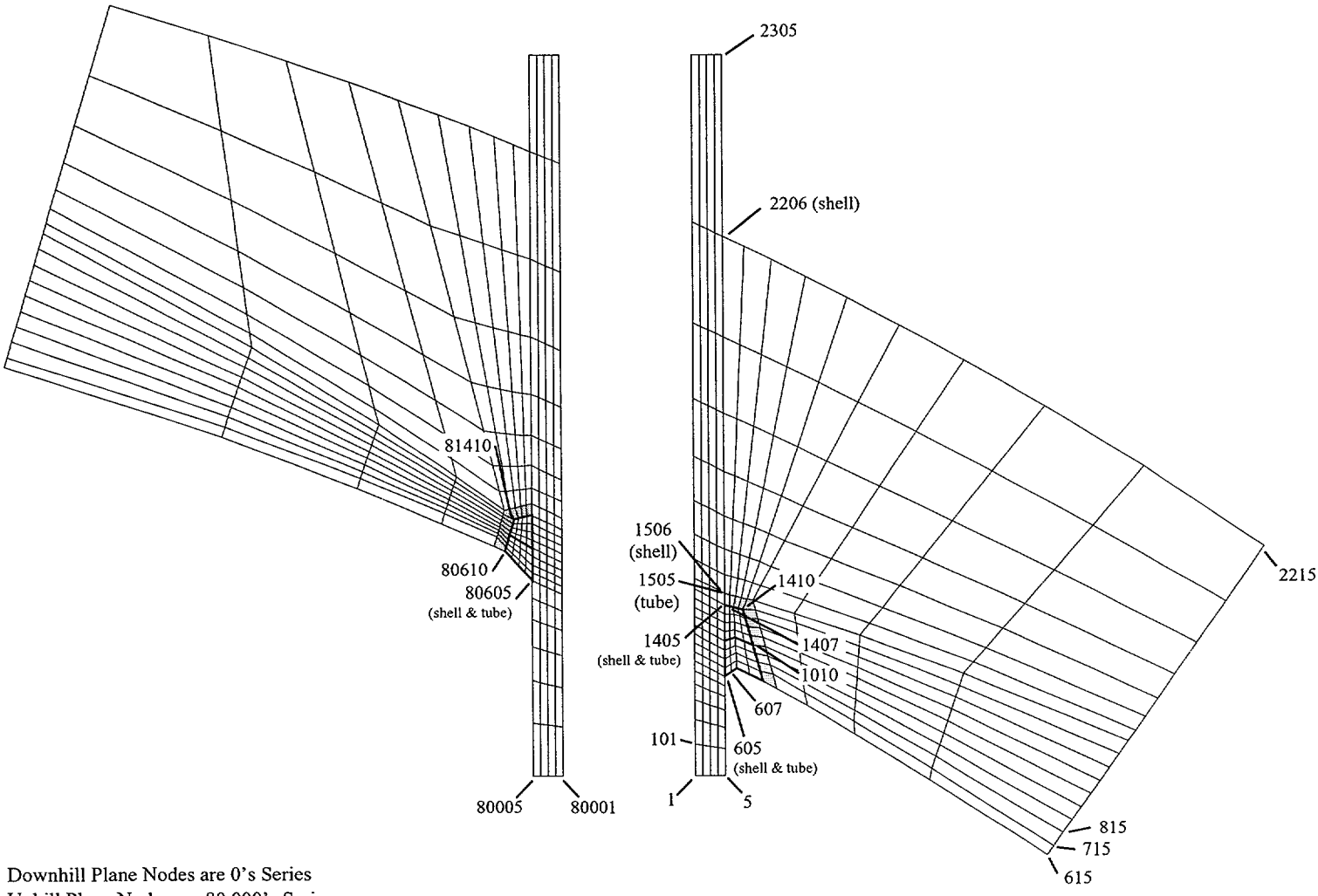
6.0 References

1. PWSCC of Alloy 600 Materials in PWR Primary System Penetrations, EPRI TR-103696, July 1994.
2. Combustion Engineering Drawings
   a. C.E. Drawing No. 232-285, Revision 3
   b. C.E. Drawing No. 232-279, Revision 7, Closure Head Assembly
   c. C.E. Drawing No. 232-271, Revision 4, General Arrangement – Elevation
3. "Analytical Report for Carolina Power and Light Reactor Vessel," Combustion Engineering Report No. CENC-1111.

Table 5-1

CRDM Nozzle OD Radial Displacements After Welding

	Node	Radial Displacement (mils)												Node	
		0° Nozzle			9.3° Nozzle			27.1° Nozzle			46.0° Nozzle				
		Downhill	Midplane	Uphill	Downhill	Midplane	Uphill	Downhill	Midplane	Uphill	Downhill	Midplane	Uphill		
	5	-1.1	-1.1	-1.1	7.1	-0.7	-8.3	22.4	-0.7	-22.0	33.1	-1.5	-30.5	5	
	105	-0.3	-0.3	-0.3	7.1	-0.3	-7.6	21.1	-0.3	-20.1	30.9	-0.8	-26.5	105	
	205	0.7	0.7	0.7	7.4	0.4	-6.5	20.3	0.4	-18.2	29.5	0.6	-23.5	205	
	305	2.0	2.0	2.0	8.0	1.6	-4.8	19.9	1.9	-15.5	28.6	3.1	-19.7	305	
	405	3.6	3.6	3.6	9.0	3.3	-2.5	19.9	4.0	-11.4	28.2	6.5	-14.1	405	
	505	5.4	5.4	5.4	10.2	5.2	0.3	20.2	6.5	-6.3	28.2	9.6	-6.8	505	
Weld Bottom	605	7.8	7.8	7.8	12.1	8.0	4.0	21.1	9.8	-0.9	29.9	13.0	-1.0	605	Weld Bottom
	705	11.7	11.7	11.7	15.3	11.8	8.2	23.4	13.2	3.2	30.0	14.9	2.1	705	
	805	13.6	13.6	13.6	17.7	13.8	9.9	24.4	14.7	4.6	29.6	15.0	3.3	805	
	905	15.9	15.9	15.9	19.6	16.0	12.4	25.4	15.6	6.8	26.8	14.2	4.0	905	
	1005	14.3	14.3	14.3	16.8	14.4	12.1	20.7	13.8	7.9	20.2	12.4	5.1	1005	
	1105	12.9	12.9	12.9	14.5	12.8	11.1	16.8	12.4	7.6	17.4	10.9	4.9	1105	
	1205	11.8	11.8	11.8	12.8	11.7	10.6	14.6	11.1	7.8	15.4	9.4	4.4	1205	
	1305	10.5	10.5	10.5	11.4	10.4	9.4	12.7	9.7	7.0	12.5	8.1	3.8	1305	
Weld Top	1405	3.3	3.3	3.3	4.0	3.4	2.6	5.3	3.3	0.8	6.3	3.2	-0.8	1405	Weld Top
	1505	-0.4	-0.4	-0.4	-0.2	-0.4	-0.6	0.7	-0.3	-1.3	1.7	-0.2	-1.9	1505	
	1605	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.3	-1.0	-1.4	0.1	-1.1	-1.6	1605	
	1705	-0.8	-0.8	-0.8	-0.9	-0.9	-0.7	-0.7	-1.0	-0.9	-0.9	-1.2	-0.9	1705	
	1805	-0.5	-0.5	-0.5	-0.6	-0.5	-0.3	-0.4	-0.6	-0.3	-0.3	-0.8	-0.2	1805	
	1905	-0.2	-0.2	-0.2	-0.4	-0.2	0.0	-0.1	-0.3	0.1	0.6	-0.4	0.2	1905	
	2005	-0.1	-0.1	-0.1	-0.3	-0.1	0.1	0.0	-0.1	0.2	0.6	-0.2	0.5	2005	
	2105	0.0	0.0	0.0	-0.2	0.0	0.2	0.0	0.0	0.1	0.0	-0.1	0.9	2105	
	2205	0.0	0.0	0.0	-0.1	0.0	0.1	-0.2	0.0	0.1	-0.8	0.0	1.6	2205	
	2305	0.0	0.0	0.0	-0.1	0.0	0.1	-0.2	0.0	0.2	-2.0	0.0	2.0	2305	



Downhill Plane Nodes are 0's Series
Uphill Plane Nodes are 80,000's Series

Tube Node Series: 1's at Nozzle ID, 5's at Nozzle OD
Shell Node Series: 5's at Shell ID (merged w/tube OD) in weld region
6's at Shell ID above weld region
15's at edge of shell section

Node Numbers Increase by 100 up the length of the tube and shell
Node Numbers Increase by 1 along the tube and shell radius

CRDM Nozzle Node Numbering Scheme

Figure 5-1

Attachment 1: Model Results Summaries for Robinson CRDM Nozzles

```
DESCRIPTION:  FEA of Robinson CRDM NOZZLES (0 DEG)
              REVISION A: 53.0 ksi TUBE STRENGTH

ANALYSIS DATE (YYMMDD): 20011027.     ANSYS VERSION:  5.7
cirse.base MODEL VERSION: 1.1.3
TITLE:  Rob CRDM(  0.0d, 53.0k, 4.00/2.75, 0.000,A)

                       Max. Hoop Stress (psi)      Max. Axial Stress (psi)
                         Uphill    Downhill          Uphill     Downhill
I.S. Above Weld          48783.      48783.          23302.       23302.
I.S. Below Weld          48602.      48602.          38138.       38138.
Midwall Above Weld       47143.      47143.
Midwall Below Weld       39444.      39444.
 ---------------
Max. Lateral Deflection:  0.0000"           Max. Ovality:  0.0000"

 ************ INSIDE SURFACE STRESSES (psi) *************

 ** Downhill side, below weld **
Max Hoop  @ Node    501.  Hoop :  48602.  Axial:  13706.   Ratio:  3.55
Max Axial @ Node    301.  Axial:  38138.  Hoop :  33519.   Ratio:  0.88
 ** Downhill side, above weld **
Max Hoop  @ Node   1401.  Hoop :  48783.  Axial:   6560.   Ratio:  7.44
Max Axial @ Node   1601.  Axial:  23302.  Hoop :  39585.   Ratio:  1.70
 ** Uphill side, below weld **
Max Hoop  @ Node  80501.  Hoop :  48602.  Axial:  13706.   Ratio:  3.55
Max Axial @ Node  80301.  Axial:  38138.  Hoop :  33519.   Ratio:  0.88
 ** Uphill side, above weld **
Max Hoop  @ Node  81401.  Hoop :  48783.  Axial:   6560.   Ratio:  7.44
Max Axial @ Node  81601.  Axial:  23302.  Hoop :  39585.   Ratio:  1.70

 ************ INPUT PARAMETERS *********************

SYD=53000.    HDALLOY=302.    HPRESS=3110.    OPRESS=2235.
CTHK=0.2188   STHK=7.9688    SA=78.4219      THETA= 0.00     TOR=2.0000
TIR=1.3750    HCBORE=0.000   HCBOTZ=75.484   LTIP=2.4688
HGRATE= 79.   TRIMFLAG=0.    OTEMP=600.      BUTTFIX=0.
BOTZAUTO=1.   HCBOTINC= 0.000 PARATRIM=0.     TRIMANG=  0.00
FOURPASS=0.   PRESSFLG=0.

DD1= 1.0733     DD2= 1.3120     DD3= 0.9920     DD4= 1.1874     DD5= 0.3839
DD6= 0.5879     DD7= 0.6505     DD8= 0.9070     DD9= 0.8484    DD10= 0.3536
DD11= 0.0000    DDRF= 0.3567

UU1= 1.0733     UU2= 1.3120     UU3= 0.9920     UU4= 1.1874     UU5= 0.3839
UU6= 0.5879     UU7= 0.6505     UU8= 0.9070     UU9= 0.8484    UU10= 0.3536
UU11= 0.0000    UURF= 0.3567

NRTUBE= 4.    NRWELD= 4.    NRBUTT= 1.    NRBASE= 4.
NATTIP= 6.    NACLAD= 1.    NAWELD= 8.    NAHOLE= 7.
NAEXTN= 1.    GRAD1= 6.0    GRAD2= 4.0    GRAD3= 4.0
GRAD4= 5.0    GRAD5= 5.5    GRAD6= 7.9

Counterbore Unselect Flags (0-8 in order): 0. 0. 0. 0. 0. 0. 0. 0. 0.

HGTARG=3250.0    PASS1MXT=3123.0    PASS2MXT=3327.1
```

```
DESCRIPTION:  FEA of Robinson CRDM NOZZLES (9.3 DEG)
              REVISION A: 53.0 ksi TUBE STRENGTH

ANALYSIS DATE (YYMMDD): 20011027.     ANSYS VERSION:  5.7
cirse.base MODEL VERSION: 1.1.3
TITLE:  Rob CRDM(  9.3d, 53.0k, 4.00/2.75, 0.000,A)

                        Max. Hoop Stress (psi)     Max. Axial Stress (psi)
                          Uphill    Downhill         Uphill     Downhill
I.S. Above Weld           50045.      50481.         21954.       26354.
I.S. Below Weld           50045.      46492.         41318.       34725.
Midwall Above Weld        46582.      48843.
Midwall Below Weld        40226.      39452.
 ---------------
Max. Lateral Deflection:  0.0077"           Max. Ovality:  0.0034"

 ************ INSIDE SURFACE STRESSES (psi) *************

 ** Downhill side, below weld **
Max Hoop  @ Node    501.  Hoop :  46492.  Axial:   3130.   Ratio: 14.85
Max Axial @ Node    301.  Axial:  34725.  Hoop :  29873.   Ratio:  0.86
 ** Downhill side, above weld **
Max Hoop  @ Node   1301.  Hoop :  50481.  Axial:   2345.   Ratio: 21.53
Max Axial @ Node   1501.  Axial:  26354.  Hoop :  47365.   Ratio:  1.80
 ** Uphill side, below weld **
Max Hoop  @ Node  80601.  Hoop :  50045.  Axial:   7558.   Ratio:  6.62
Max Axial @ Node  80401.  Axial:  41318.  Hoop :  41572.   Ratio:  1.01
 ** Uphill side, above weld **
Max Hoop  @ Node  80601.  Hoop :  50045.  Axial:   7558.   Ratio:  6.62
Max Axial @ Node  81601.  Axial:  21954.  Hoop :  41591.   Ratio:  1.89

 ************ INPUT PARAMETERS **********************

SYD=53000.     HDALLOY=302.     HPRESS=3110.     OPRESS=2235.
CTHK=0.2188    STHK=7.9688      SA=78.4219       THETA= 9.30      TOR=2.0000
TIR=1.3750     HCBORE=0.000     HCBOTZ=74.819    LTIP=2.7958
HGRATE= 79.    TRIMFLAG=0.      OTEMP=600.       BUTTFIX=0.
BOTZAUTO=1.    HCBOTINC= 0.000  PARATRIM=0.      TRIMANG=  0.00
FOURPASS=0.    PRESSFLG=0.

DD1= 1.0896      DD2= 1.3144      DD3= 1.0710      DD4= 1.2857      DD5= 0.3832
DD6= 0.5923      DD7= 0.6912      DD8= 0.9619      DD9= 0.8993     DD10= 0.3115
DD11= 0.0000     DDRF= 0.3581

UU1= 1.0503      UU2= 1.2811      UU3= 0.9151      UU4= 1.0717      UU5= 0.3760
UU6= 0.5827      UU7= 0.6174      UU8= 0.8653      UU9= 0.8078     UU10= 0.4228
UU11= 0.0000     UURF= 0.3489

NRTUBE= 4.     NRWELD= 4.     NRBUTT= 1.     NRBASE= 4.
NATTIP= 6.     NACLAD= 1.     NAWELD= 8.     NAHOLE= 7.
NAEXTN= 1.     GRAD1= 6.0     GRAD2= 4.0     GRAD3= 4.0
GRAD4= 5.0     GRAD5= 5.5     GRAD6= 7.9

Counterbore Unselect Flags (0-8 in order): 0. 0. 0. 0. 0. 0. 0. 0. 0.

HGTARG=3250.0     PASS1MXT=3130.1     PASS2MXT=3326.1
```

```
DESCRIPTION:  FEA of Robinson CRDM NOZZLES (27.1 DEG)
              REVISION A: 53.0 ksi TUBE STRENGTH

ANALYSIS DATE (YYMMDD): 20011028.     ANSYS VERSION:  5.7
cirse.base MODEL VERSION: 1.1.3
TITLE:  Rob CRDM( 27.1d, 53.0k, 4.00/2.75, 0.000,A)

                        Max. Hoop Stress (psi)     Max. Axial Stress (psi)
                          Uphill    Downhill         Uphill     Downhill
I.S. Above Weld           52845.      54818.         30311.       34171.
I.S. Below Weld           52845.      39920.         45633.       24601.
Midwall Above Weld        48803.      52178.
Midwall Below Weld        40258.      44449.
 ---------------
Max. Lateral Deflection:  0.0222"           Max. Ovality:  0.0226"

 ************ INSIDE SURFACE STRESSES (psi) *************

 ** Downhill side, below weld **
Max Hoop  @ Node    401.  Hoop :  39920.  Axial:   4398.   Ratio:  9.08
Max Axial @ Node    301.  Axial:  24601.  Hoop :  20612.   Ratio:  0.84
 ** Downhill side, above weld **
Max Hoop  @ Node   1201.  Hoop :  54818.  Axial:  15757.   Ratio:  3.48
Max Axial @ Node   1501.  Axial:  34171.  Hoop :  45773.   Ratio:  1.34
 ** Uphill side, below weld **
Max Hoop  @ Node  80601.  Hoop :  52845.  Axial:  30311.   Ratio:  1.74
Max Axial @ Node  80401.  Axial:  45633.  Hoop :  39886.   Ratio:  0.87
 ** Uphill side, above weld **
Max Hoop  @ Node  80601.  Hoop :  52845.  Axial:  30311.   Ratio:  1.74
Max Axial @ Node  80601.  Axial:  30311.  Hoop :  52845.   Ratio:  1.74

 ************ INPUT PARAMETERS **********************

SYD=53000.     HDALLOY=302.     HPRESS=3110.     OPRESS=2235.
CTHK=0.2188    STHK=7.9688      SA=78.4219       THETA=27.10      TOR=2.0000
TIR=1.3750     HCBORE=0.000     HCBOTZ=68.277    LTIP=3.4919
HGRATE= 78.    TRIMFLAG=0.      OTEMP=600.       BUTTFIX=1.
BOTZAUTO=1.    HCBOTINC= 0.000  PARATRIM=0.      TRIMANG=  0.00
FOURPASS=0.    PRESSFLG=0.

DD1= 1.0302      DD2= 1.2384      DD3= 1.1293      DD4= 1.3917      DD5= 0.3804
DD6= 0.5889      DD7= 0.7753      DD8= 1.0757      DD9= 0.9994     DD10= 0.2485
DD11=-0.0337     DDRF= 0.3147

UU1= 0.9283      UU2= 1.1454      UU3= 0.6932      UU4= 0.7827      UU5= 0.3741
UU6= 0.5772      UU7= 0.5641      UU8= 0.7917      UU9= 0.7319     UU10= 0.2804
UU11=-0.1583     UURF= 0.3147

NRTUBE= 4.     NRWELD= 4.     NRBUTT= 1.     NRBASE= 4.
NATTIP= 6.     NACLAD= 1.     NAWELD= 8.     NAHOLE= 7.
NAEXTN= 1.     GRAD1= 6.0     GRAD2= 4.0     GRAD3= 4.0
GRAD4= 5.0     GRAD5= 5.5     GRAD6= 7.9

Counterbore Unselect Flags (0-8 in order): 0. 0. 0. 0. 0. 0. 0. 0. 0.

HGTARG=3250.0     PASS1MXT=3150.4     PASS2MXT=3309.1
```

```
DESCRIPTION:  FEA of Robinson CRDM NOZZLES (46.0 DEG)
              REVISION A: 53.0 ksi TUBE STRENGTH

ANALYSIS DATE (YYMMDD): 20011028.     ANSYS VERSION:  5.7
cirse.base MODEL VERSION: 1.1.3
TITLE:  Rob CRDM( 46.0d, 53.0k, 4.00/2.75, 0.000,A)

                        Max. Hoop Stress (psi)      Max. Axial Stress (psi)
                          Uphill    Downhill          Uphill     Downhill
I.S. Above Weld           54774.      58101.          44045.       39387.
I.S. Below Weld           52019.      31817.          45406.       24592.
Midwall Above Weld        61624.      54760.
Midwall Below Weld        42040.      54165.
 ---------------
Max. Lateral Deflection:  0.0317"           Max. Ovality:  0.0380"

 ************ INSIDE SURFACE STRESSES (psi) *************

 ** Downhill side, below weld **
Max Hoop  @ Node    401.  Hoop :  31817.  Axial: -29008.   Ratio: -1.10
Max Axial @ Node    201.  Axial:  24592.  Hoop :   5096.   Ratio:  0.21
 ** Downhill side, above weld **
Max Hoop  @ Node    901.  Hoop :  58101.  Axial:  22903.   Ratio:  2.54
Max Axial @ Node   1501.  Axial:  39387.  Hoop :  41872.   Ratio:  1.06
 ** Uphill side, below weld **
Max Hoop  @ Node  80601.  Hoop :  52019.  Axial:  44045.   Ratio:  1.18
Max Axial @ Node  80501.  Axial:  45406.  Hoop :  48948.   Ratio:  1.08
 ** Uphill side, above weld **
Max Hoop  @ Node  80801.  Hoop :  54774.  Axial:  35052.   Ratio:  1.56
Max Axial @ Node  80601.  Axial:  44045.  Hoop :  52019.   Ratio:  1.18

 ************ INPUT PARAMETERS **********************

SYD=53000.     HDALLOY=302.     HPRESS=3110.     OPRESS=2235.
CTHK=0.2188    STHK=7.9688      SA=78.4219       THETA=46.00      TOR=2.0000
TIR=1.3750     HCBORE=0.000     HCBOTZ=54.732    LTIP=4.5400
HGRATE= 76.    TRIMFLAG=0.      OTEMP=600.       BUTTFIX=1.
BOTZAUTO=1.    HCBOTINC= 0.000  PARATRIM=0.      TRIMANG=  0.00
FOURPASS=0.    PRESSFLG=0.

DD1= 0.8979      DD2= 1.0723      DD3= 1.1036      DD4= 1.3836      DD5= 0.3923
DD6= 0.5937      DD7= 0.9718      DD8= 1.3300      DD9= 1.2140     DD10= 0.4366
DD11= 0.0000     DDRF= 0.1439

UU1= 0.7460      UU2= 0.9046      UU3= 0.4223      UU4= 0.4009      UU5= 0.3732
UU6= 0.5808      UU7= 0.5053      UU8= 0.7066      UU9= 0.6376     UU10= 0.2580
UU11=-0.1202     UURF= 0.2456

NRTUBE= 4.     NRWELD= 4.     NRBUTT= 1.     NRBASE= 4.
NATTIP= 6.     NACLAD= 1.     NAWELD= 8.     NAHOLE= 7.
NAEXTN= 1.     GRAD1= 6.0     GRAD2= 4.0     GRAD3= 4.0
GRAD4= 5.0     GRAD5= 5.5     GRAD6= 7.9

Counterbore Unselect Flags (0-8 in order): 0. 0. 0. 0. 0. 0. 0. 0. 0.

HGTARG=3250.0     PASS1MXT=3153.7     PASS2MXT=3334.2
```

United States Nuclear Regulatory Commission
Enclosure V to Serial: RNP-RA/01-0166
4 Pages

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2

COVER LETTER TRANSMITTING ORIGINAL "FINITE ELEMENT GAP ANALYSIS OF CRDM PENETRATIONS," DATED OCTOBER 18, 2001, PERFORMED BY STRUCTURAL INTEGRITY ASSOCIATES, INC.

Structural Integrity Associates, Inc.

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October 18, 2001
RAM-01-105

Mr. Erdal Caba
H. B. Robinson Nuclear Plant
3581 West Entrance Rd.
Hartsville, SC 29550

Subject: Evaluation of the Gaps Between the Reactor Pressure Vessel Top Head and CRDM Nozzles at the H. B. Robinson Nuclear Plant

Dear Erdal:

Over the past couple of weeks, Structural Integrity Associates (SI) has been performing analyses to determine gaps between the RPV top head and CRDM nozzles at the H. B. Robinson nuclear plant. The analyses performed are documented in the attached calculation. However, a couple of points are of interest when reviewing these results.

Evaluation of Interference Values

Analyses were performed for various values of shrink-fit between the top head and CRDM nozzles. These analyses considered diametric shrink-fit values which ranged from 0.003 inches to 0.002 inches. In the ANSYS mathematical model developed for these analyses, there are six rows of elements along the axis of the nozzle from the top of the J-groove weld to the top of the interference zone (see Figure 7 of the attached calculation). The nozzle elements closest to the J-groove weld, attaching the nozzles to the top head, have their bottom nodes rigidly connected to the top head (this is the top of the J-groove weld). There are two rows of elements coincident with the butter on the head. The top nodes of the top row of these elements are located at the top of the butter on the head, the butter being 0.25 inches thick, and the connection between the head and nozzles is with "gap" elements, which allow the transfer of compressive forces but not tensile forces. The gap elements at these locations, and the other gap elements between the top head and nozzles, have the applied shrink-fit. For all shrink-fit cases examined, the gap elements at the bottom row of nodes in the nozzles, i.e., the gap elements located at the top of the butter, remain closed. However, the minimum closure of these gap elements, for any of the shrink-fit cases examined, is less than 0.0002 inches of interference. That is to say that if the 0.0002 inch interference is overcome, there will be leakage in the annulus region.

Application of Annulus Pressure

In the analyses for Robinson, we have applied pressure in the region around the CRDM nozzles for some cases. Leakage from the inside of a CRDM nozzle though a crack near the nozzle to top head weld requires the existence of a though-wall flaw and a gap between the CRDM nozzle and the top head. For plants with significant shrink-fit between the top head and the nozzles, there may or may not be enough gap opening to support leakage under normal operating conditions.

Experience gained with several analyses of this area for other plants shows that there is a significant crack opening displacement for large through-wall circumferential flaws in the nozzles. Thus, in the case of plants with extremely tight interference fits such that a flow path does not appear to open, the interface between the nozzle and the top head will be exposed to reactor pressure. If this pressure exceeds the interference fit compressive stress, the resulting radial displacement for the nozzles will reduce due to the excess applied pressure on the outside of the nozzle. This will tend to open up gaps for regions where the interference stress does not exceed the pressure in the interface region.

If there is a leakage path from the nozzle crack out through the annulus between the nozzle and the top head, this leakage path will experience the reactor pressure at the nozzle through-wall crack end. Near the exit of the leak to atmospheric pressure, there will be flashing of the leaking fluid to a two-phase flow mixture. Experience shows that the pressure along almost all of the flow path length will exceed the saturation pressure (associated with reactor temperature) and the flashing occurs at the flow path exit or just slightly upstream from this point.

Thus, for purposes of leakage path analysis, it is conservative to assume that a pressure equal to the saturation pressure exists along the complete length of the flow path. In the finite element model, the pressure can be applied around the entire circumference of the nozzle that is above the weld and below the exit from the top head. This pressure will slightly reduce the radial displacement of the nozzle in regions where the pressure exceeds the interface stress. The pressure will also contribute to a slight increase in the diameter of the holes in the top head, tending to offset the effect of the shrink-fit and allowing for calculation of larger leakage gaps. In the region of the finite element model where opening of the gaps is not predicted, the resultant gap element forces will be reduced, as compared to the results of a non-pressure analysis, by an amount equal to the pressure times the area associated with each gap element.

Analyses documented in the attached calculation considered this pressure between the outside of the nozzles and the surface of the bored holes in the top head. It is seen upon reviewing the results presented that indeed gaps do open, and lead to leakage paths for all shrink-fit scenarios evaluated.

Conclusions

Based upon the analyses documented in the attached calculation and the above discussion, it is clear that there are predicted leakage paths for all nozzles without the benefit of annulus pressure for a 0.002 inch shrink-fit, and no leakage paths for most of the nozzles with a shrink-fit of 0.003 inches. If the benefit of annulus pressurization is taken into account, leakage paths exist for all nozzles for all shrink-fit cases examined, i.e., even up to the maximum shrink-fit of 0.003 inches.

If you require any further information on this subject, please contact me.

Very truly yours,

Richard A. Mattson, P. E.
Technical Director

Attachment
rp