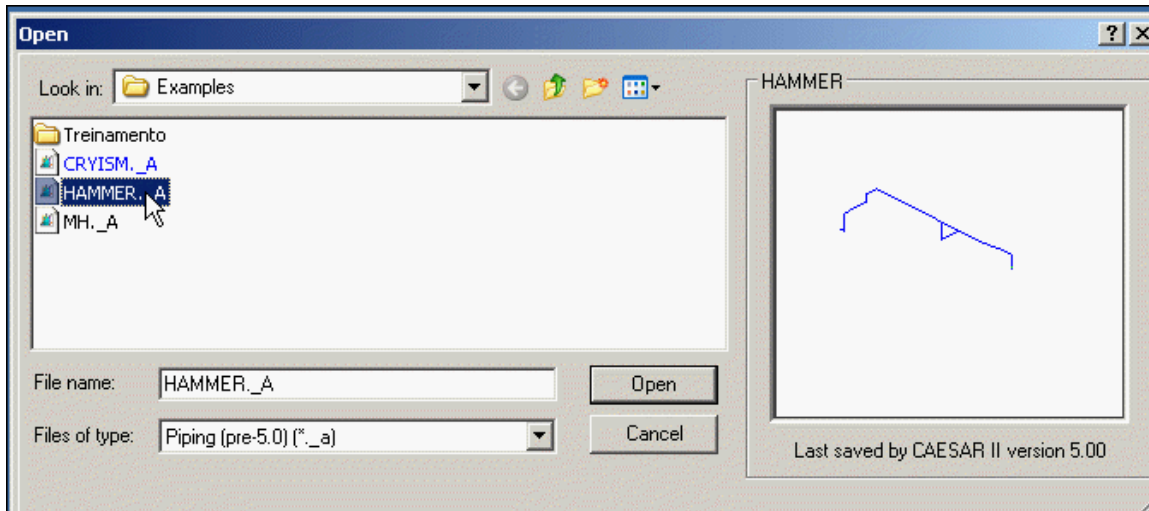
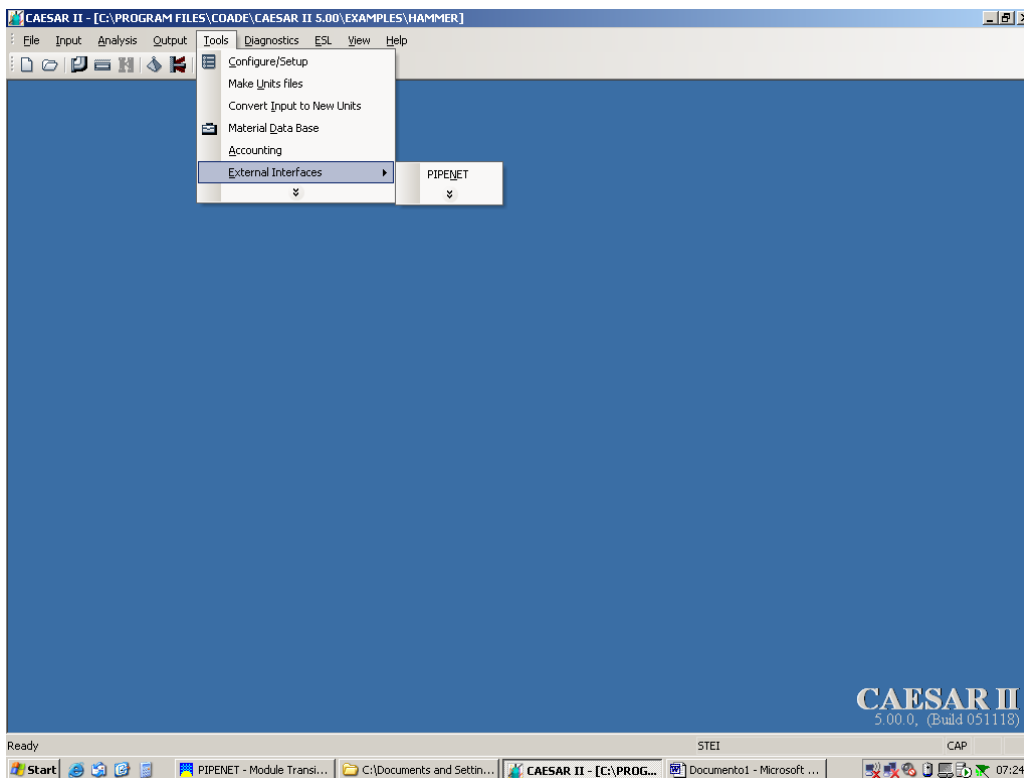


PIPENET - CAESAR INTERFACE AND HOW TO USE IT

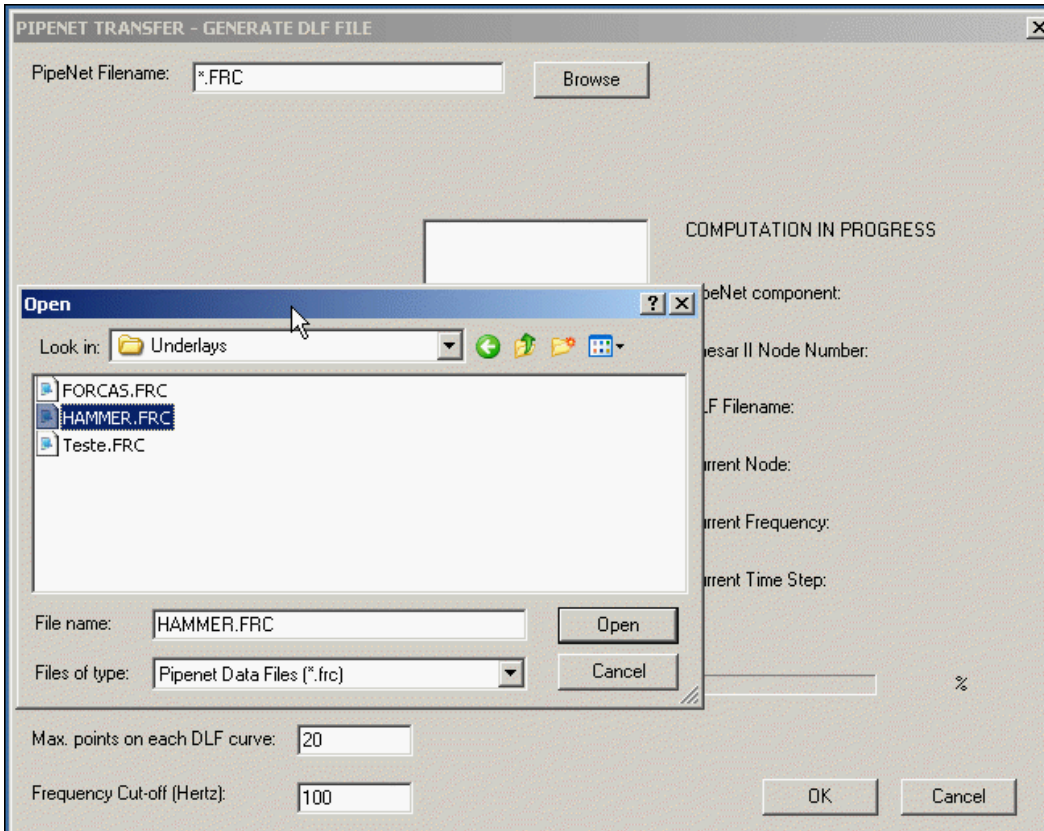
1. Open Caesar and open a file where the forces generated by PIPENET will be included



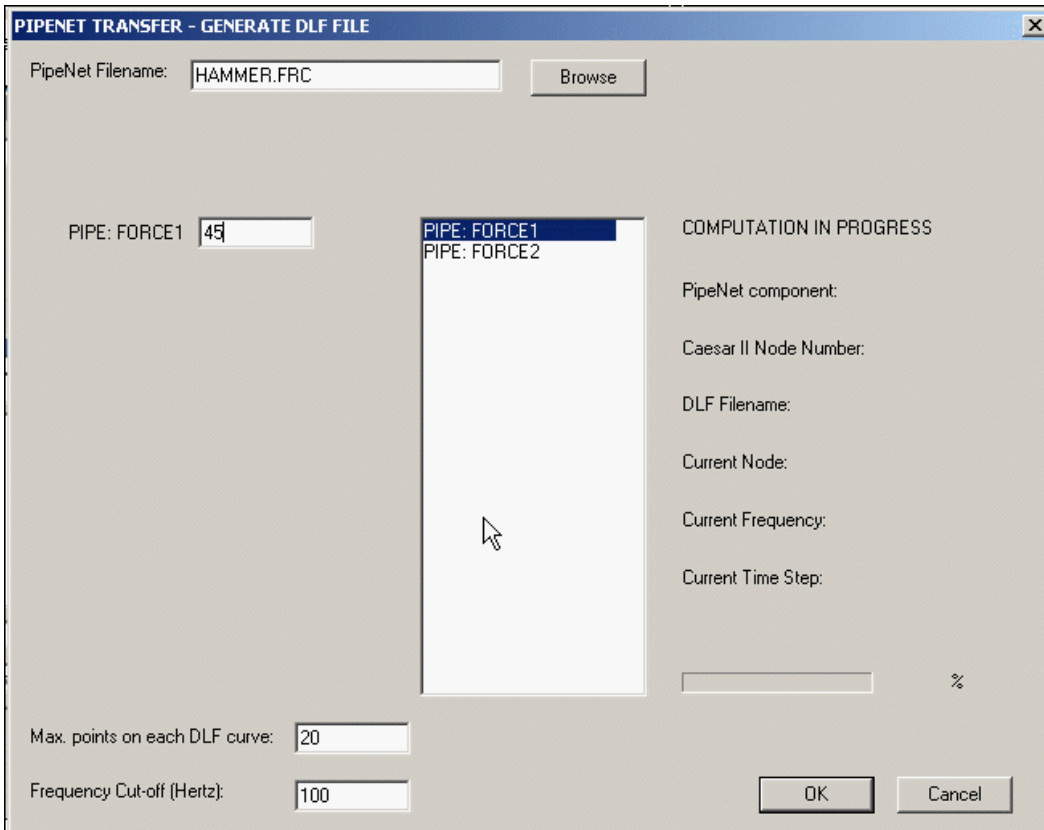
2. Menu → Tools → External Interfaces → PIPENET



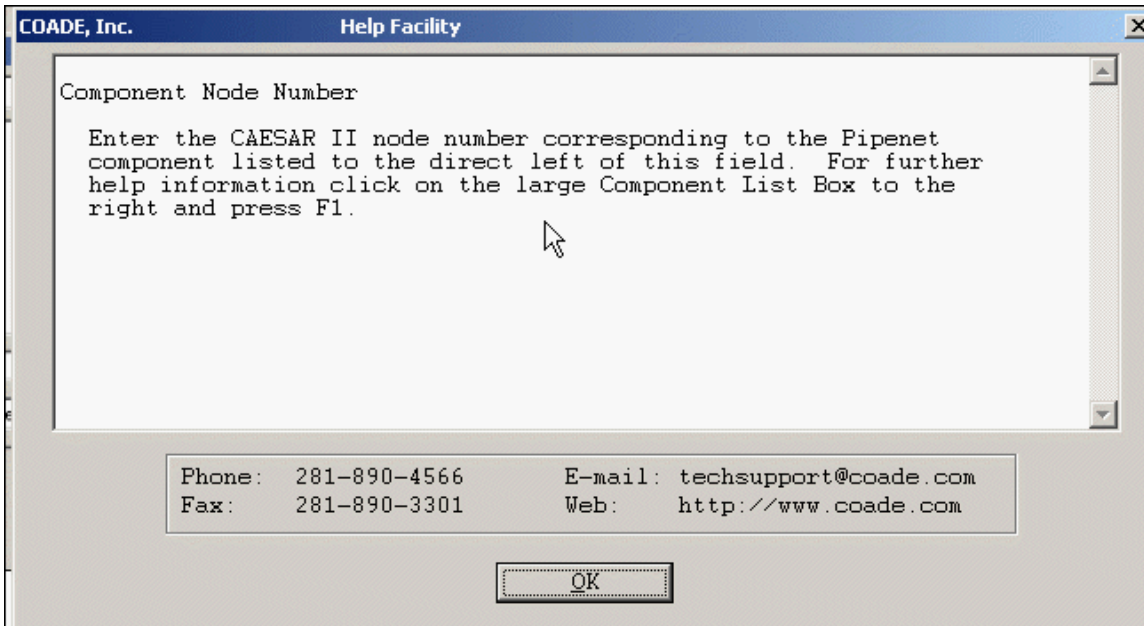
3. Menu → Tools → External Interfaces → PIPENET



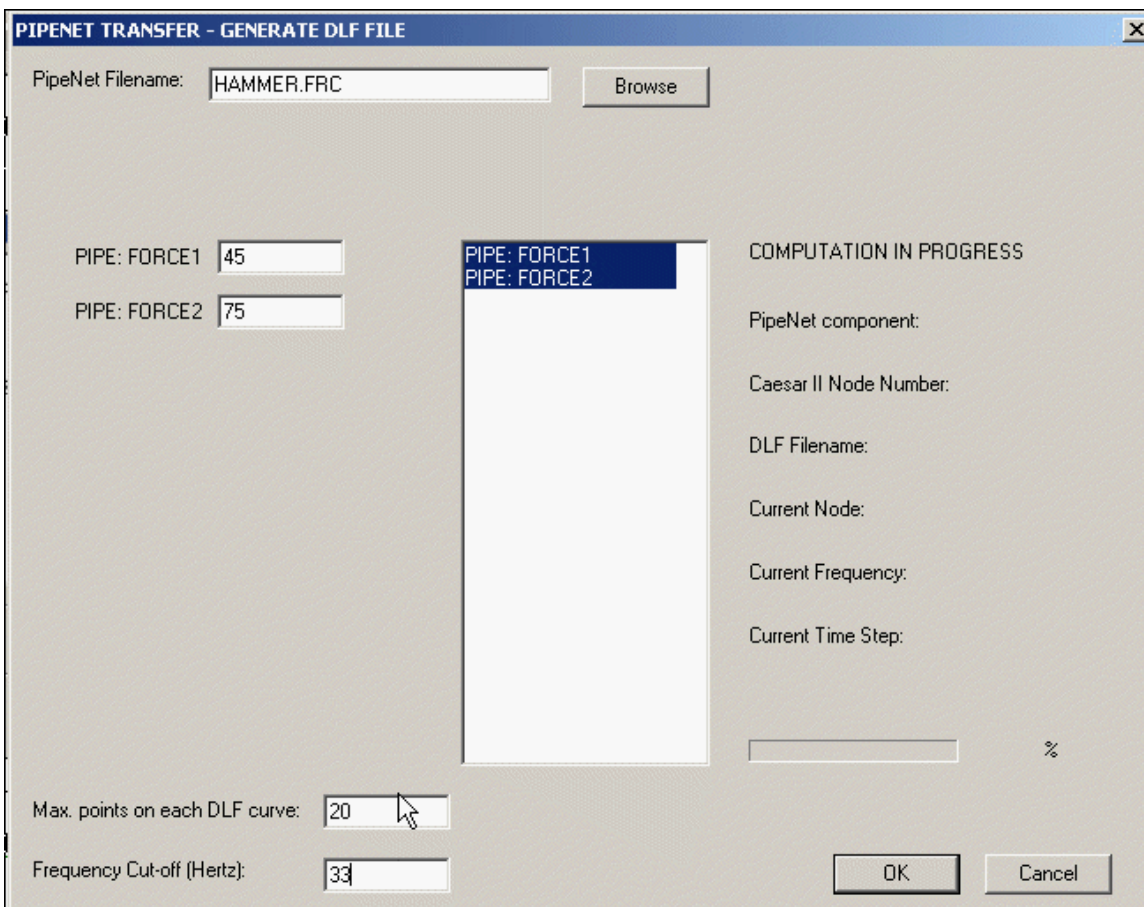
4. Inform in the upper field the name of the file generated by PIPENET. Extension .FRC



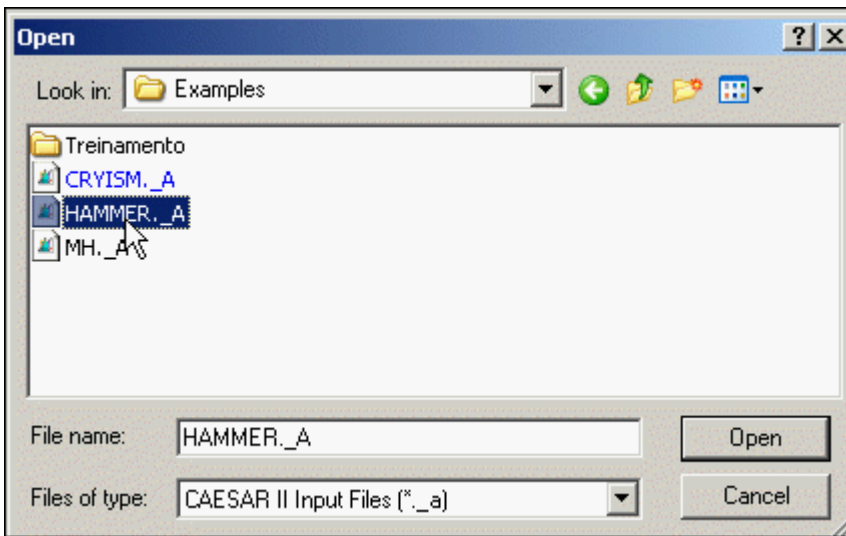
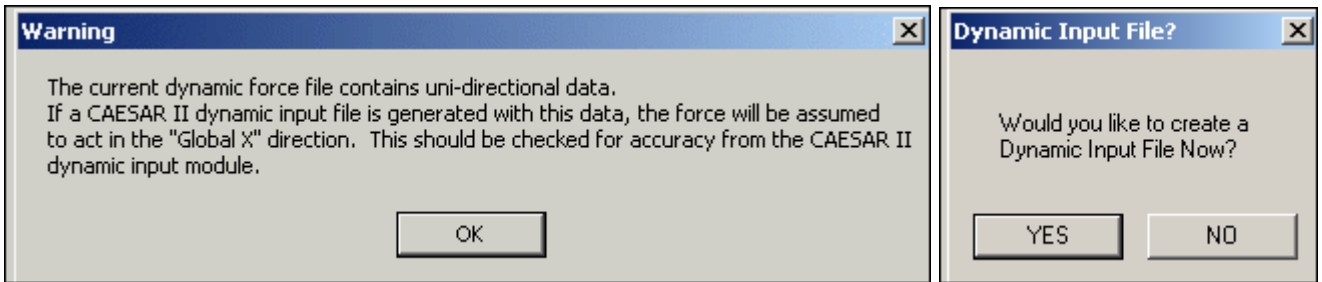
5. Click on PIPE.Force1. A field is opened at the left. Inform the node number where the force will be applied. F1 will show help you may need.



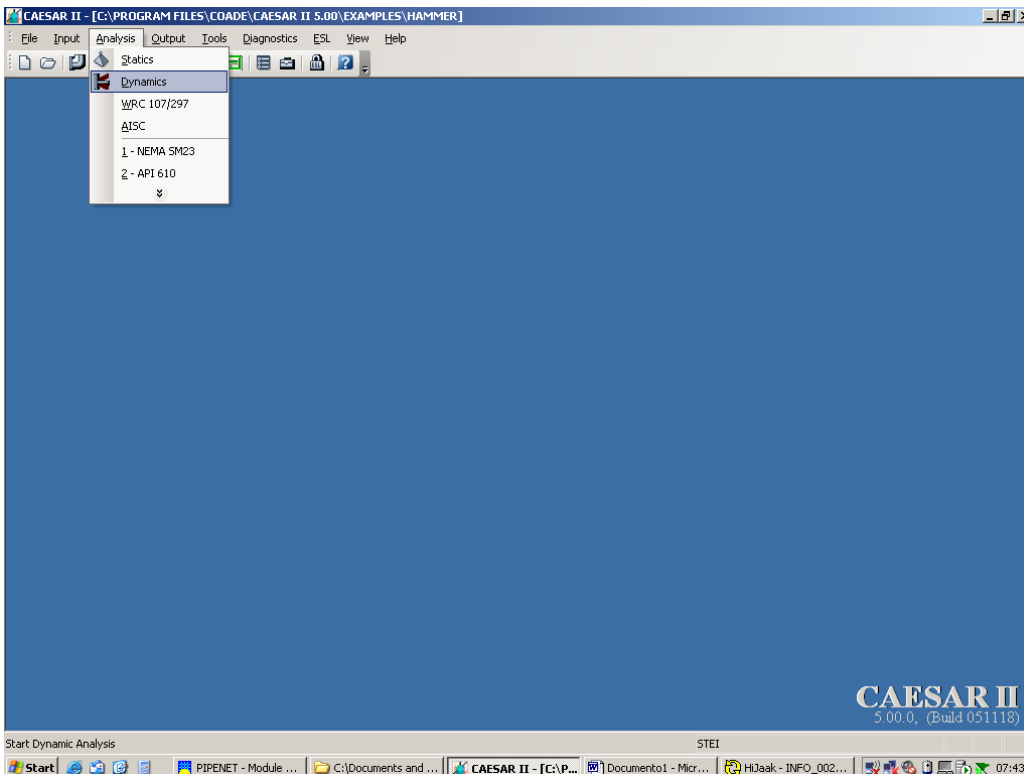
6. Do it for every force listed. Inform the cut-off frequency. 33 is the default number in Caesar II. Click OK.



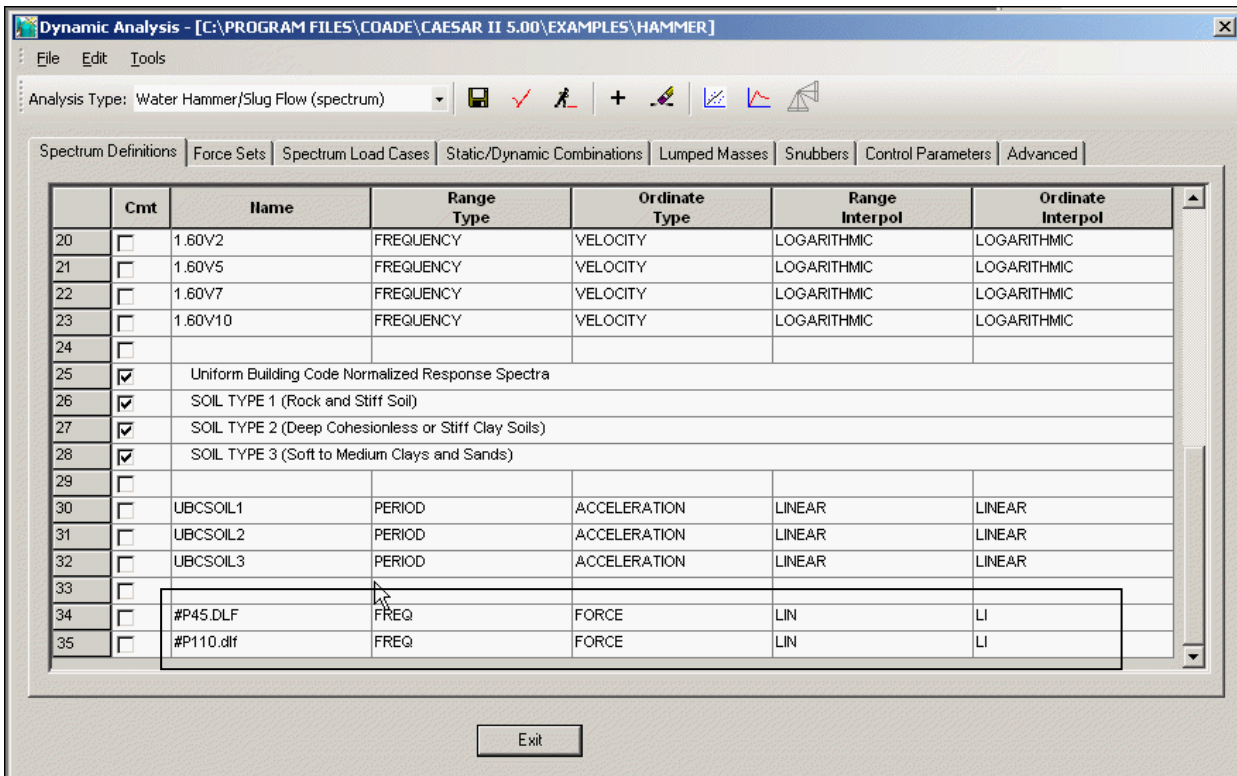
7. Some message will be shown. The file for dynamic is a Caesar II file already created. The interface will include dynamic specification in that file.



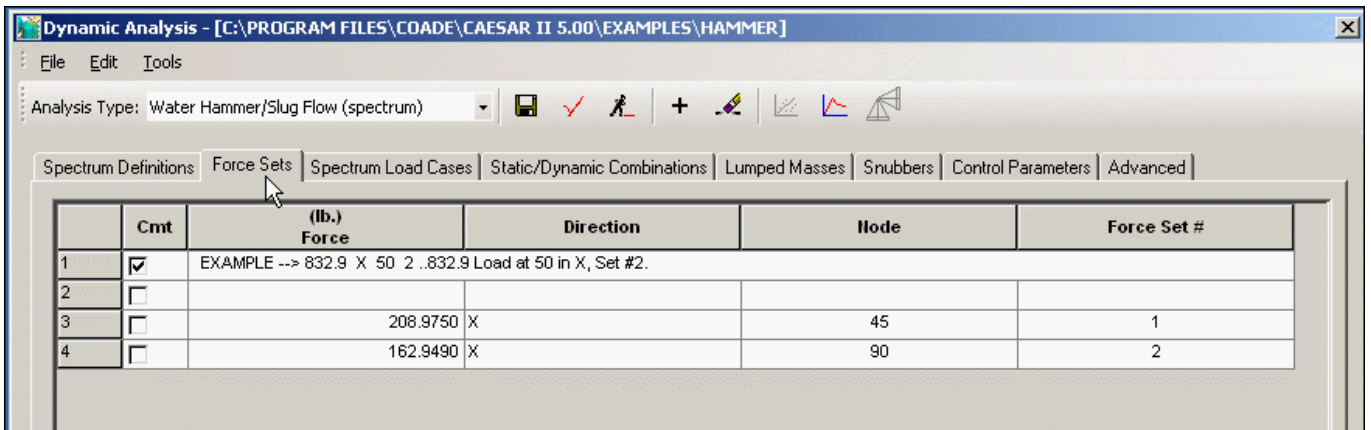
8. Open the Caesar II file, and dynamics analysis

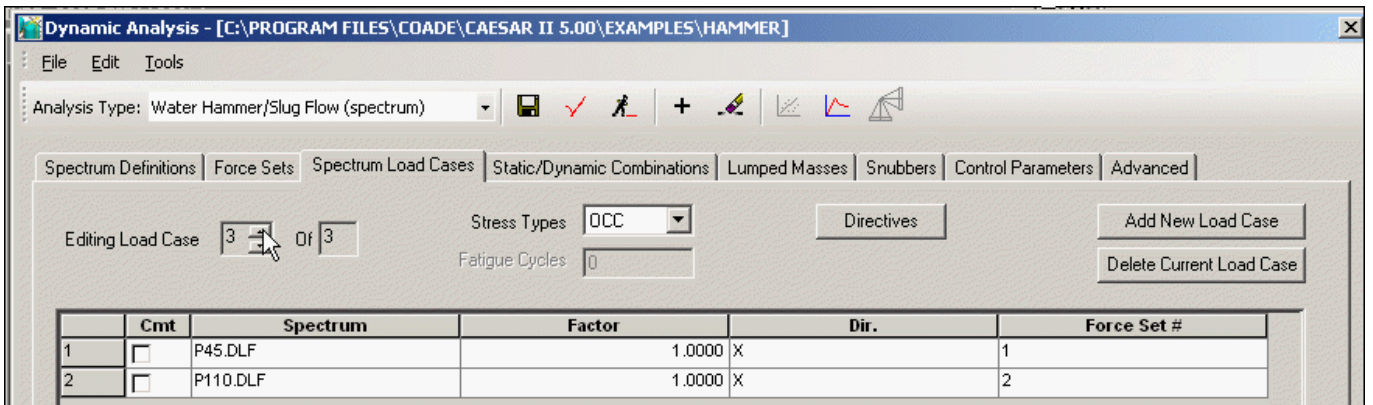
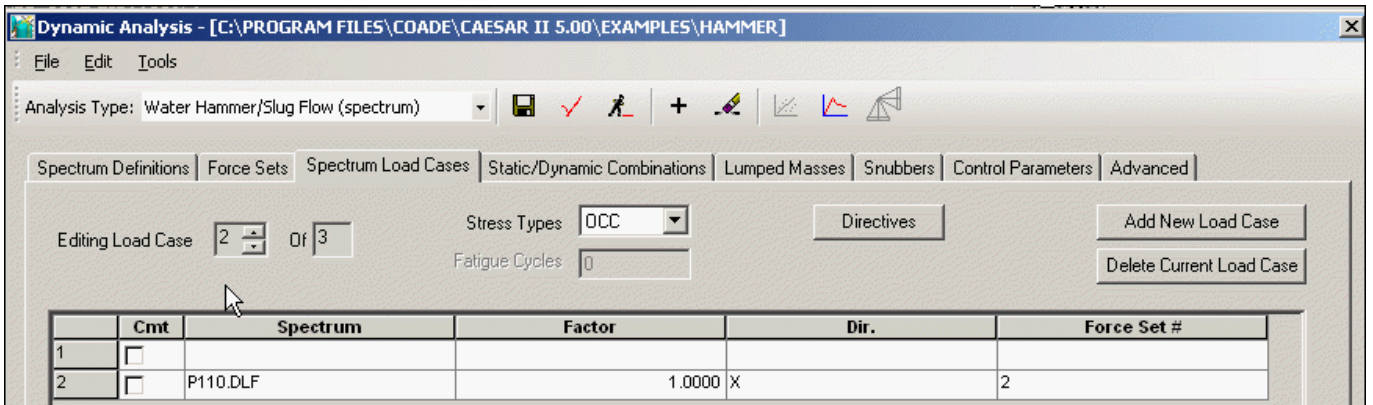
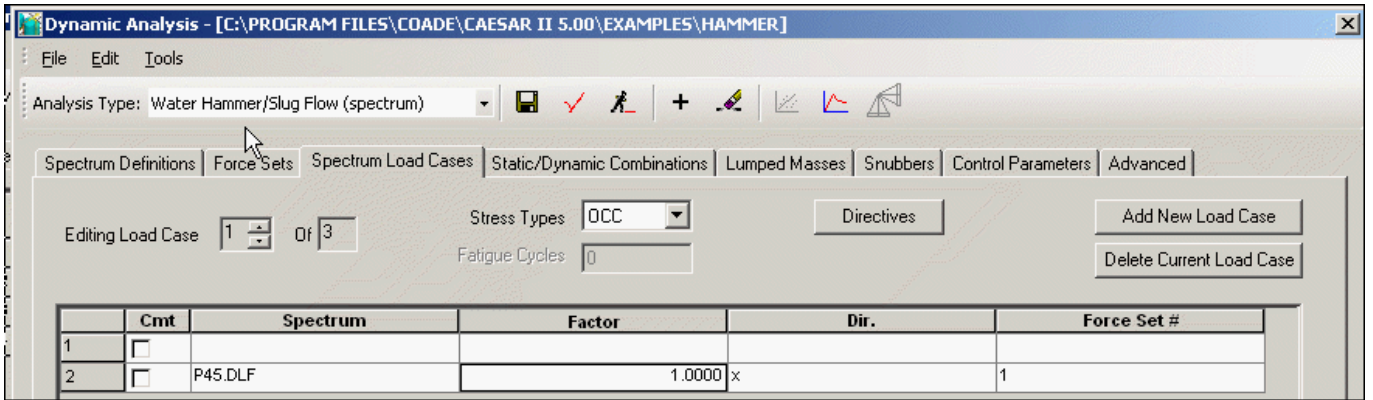


9. In this example the files created by PIPENET were not included completely in the dynamics specifications. As the file have the format P**.DLF, where P is for PIPENET and ** the node number where the force is applied, complete the name manually.

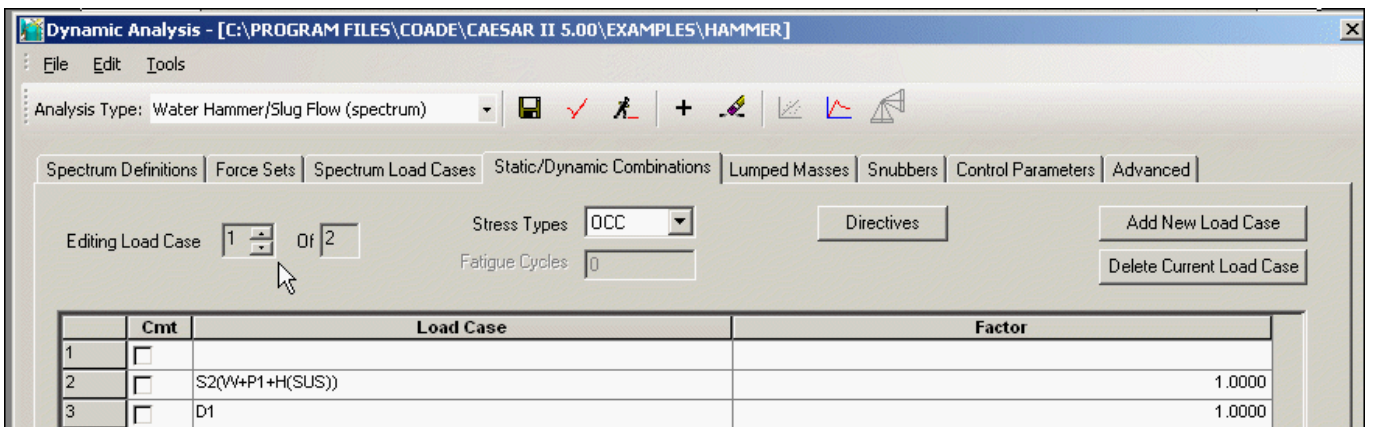


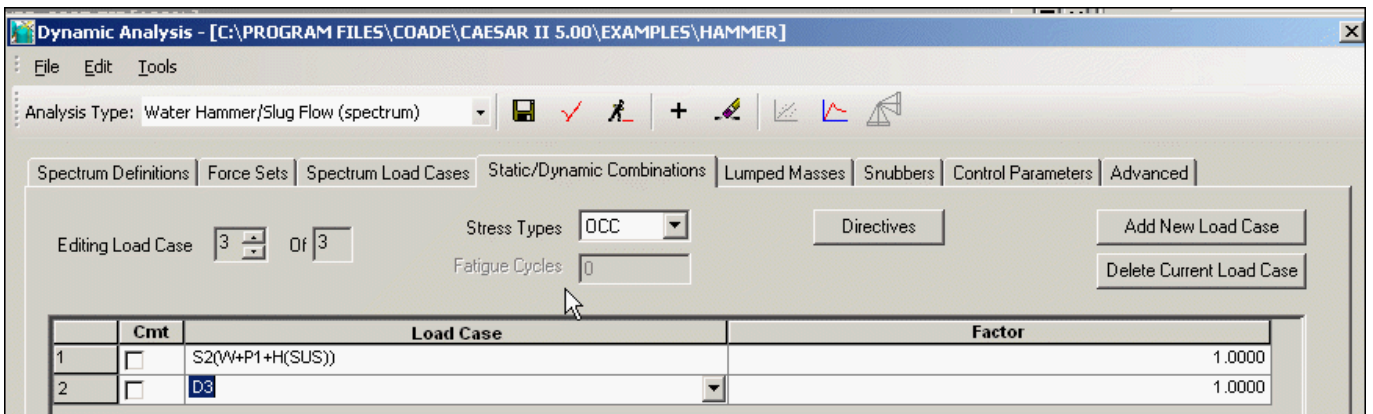
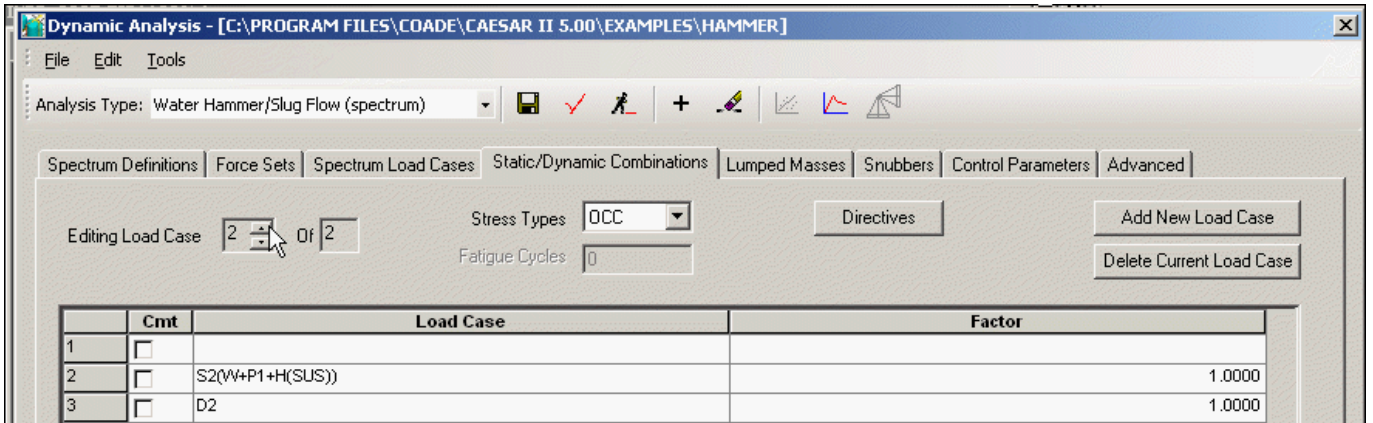
10. Create the additional specifications. Some of them are created by interface program, but the user may modify them or add more specs.



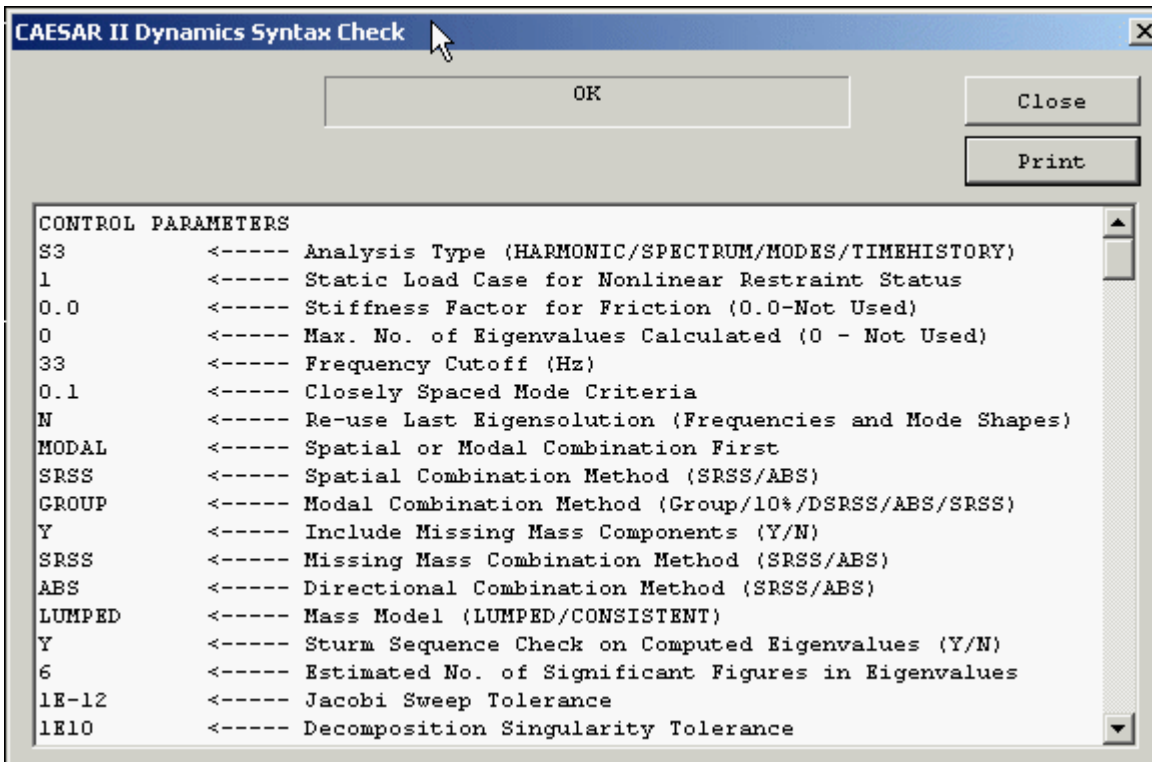


11. Combine static cases and dynamics cases.

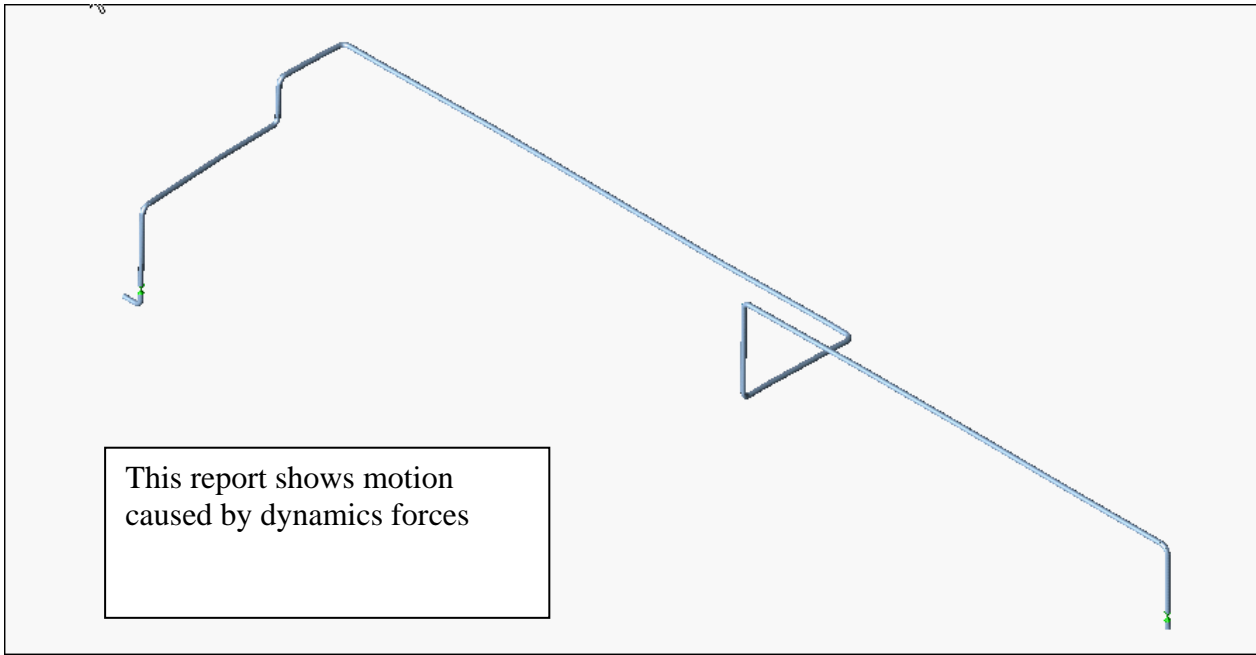




12. Check error and execute it.



13. After many messages the calculation is concluded and results may be seen



DISPLACEMENT REPORT, Nodal Movements
(OCC)COMBINATION # 3

NODE	-----Translations (in.)-----			-----Rotations (deg.)-----		
	DX	DY	DZ	RX	RY	RZ
5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
10	0.0207	0.0245	0.0101	0.0178	0.0523	0.1256
15	0.0477	0.0246	0.0111	0.0200	0.0613	0.1313
20	0.0821	0.0246	0.0139	0.0200	0.0617	0.1316
25	0.4896	0.0268	0.0700	0.0067	0.2057	0.1704
26	1.0470	0.0000	0.0701	0.0121	0.2515	0.1585
30	1.4808	0.0550	0.0722	0.0201	0.2087	0.1345
35	1.6646	0.0463	0.0780	0.0536	0.1494	0.0973
40	1.7377	0.0000	0.0780	0.0515	0.1312	0.0834
45	1.8365	0.0444	0.0773	0.0492	0.0684	0.0481
50	1.8365	0.0000	0.1377	0.0485	0.0787	0.0393
55	1.8365	0.0000	0.5337	0.0455	0.1094	0.0100
60	1.8365	0.0000	0.8986	0.0427	0.0719	0.0034
65	1.8364	0.0000	0.9622	0.0400	0.0731	0.0066
70	1.8363	0.0000	0.6983	0.0373	0.2053	0.0274
75	1.7818	0.0388	0.6780	0.0228	0.3166	0.0781
80	0.8600	0.0000	0.6780	0.0277	0.3483	0.1535
85	0.5718	0.0210	0.6777	0.0339	0.3065	0.1781
88	0.0921	0.0212	0.6817	0.0405	0.2018	0.1550
89	0.0733	0.0150	0.6813	0.0376	0.1908	0.1158
90	0.0675	0.0139	0.6789	0.0372	0.1622	0.0751

LOCAL FORCE REPORT, Forces on Elements
(OCC)COMBINATION # 3

NODE	-----Forces(lb.)-----			-----Moments(ft.lb.)-----		
	Fa	Fb	Fc	Ma	Mb	Mc
45	202	69	112	32	677	1688
50	202	69	268	32	641	1375
50	173	66	443	32	641	1375
55	173	66	615	32	2161	621
55	137	54	542	32	2161	621
60	137	54	495	32	1690	1149
60	126	40	520	32	1690	1149
65	126	40	536	32	2038	1723
65	147	36	584	32	2038	1723
70	147	36	569	32	2670	2038
70	170	33	525	32	2670	2038
75	33	292	170	1023	1944	327
75	31	191	291	1023	327	1944
80	31	191	490	1023	1593	788

(OCC)COMBINATION # 3

NODES	-----Stress(lb./sq.in.)-----				--(lb./sq.in.)--			
	AXIAL	BENDING	TORSION	MAX STRESS INTENSITY	SIFI	SIFO	CODE STRESS	ALLOW STRESS

**** B31.3 -2004, April 29, 2005
**** CODE STRESS CHECK PASSED

HIGHEST STRESSES: (lb./sq.in.)

CODE STRESS %: 29.6 @NODE 5
STRESS: 5904.8 ALLOWABLE: 19950.
BENDING STRESS: 4402.2 @NODE 5
TORSIONAL STRESS: 615.7 @NODE 10
AXIAL STRESS: 1566.5 @NODE 110
3D MAX INTENSITY: 7363.0 @NODE 90

5	1502	4402	279	6030	1.00	1.00	5904	19950
10	1340	2967	615	6483	2.36	1.96	4308	19950
10	1340	1290	615	5137	1.00	1.00	2631	19950
15	1346	1185	615	5064	1.00	1.00	2532	19950
20	1394	1055	615	4979	1.00	1.00	2449	19950
25	1498	2518	69	5639	2.36	1.96	4016	19950
25	1497	1246	69	4573	1.00	1.00	2743	19950
26	1497	1715	69	3751	1.00	1.00	3211	19950
26	1497	1715	69	3751	1.00	1.00	3211	19950
30	1492	1551	364	4304	2.36	1.96	3043	19950