

tutorial6	2011-01-12 18:18:30 +0000					
Variables						
dp	DeltaP 50.00000	50 Kpa Kpa				
dt	DeltaT 5.00000	5 C C				
ggduty	Input Sources Q 55197.59045	salesgas @salesgas - @Its.v W	Its			
Fluids						
feed						
	T P F X	10 C 4000 kPa 10 mmscfd [70,20,10,9,8,7,6, 5]				
			Bulk	Vapour	Liquid	
	Vf T P F H S X METHANE ETHANE PROPANE n-BUTANE n-PENTANE n-HEXANE n-HEPTANE n-OCTANE		0.53454 10.00000 4000.00000 498.04060 850.28512 160.02798 0.51852 0.14815 0.07407 0.06667 0.05926 0.05185 0.04444 0.03704	0.53454 10.00000 4000.00000 266.22212 2434.89588 159.63944	0.46546 -10.00000 4000.00000 231.81848 -969.49404 160.47417 0.18444 0.15917 0.11962 0.12950 0.12265 0.11013 0.09506 0.07943	
Its	Input Sources T P F X	dp -10 C @feed - 2 * \$dp @feed.v @feed.v	feed			
			Bulk	Vapour	Liquid	
	Vf T P F H S X METHANE ETHANE PROPANE n-BUTANE n-PENTANE n-HEXANE n-HEPTANE n-OCTANE		0.98546 -10.00000 3900.00000 266.22212 2116.84726 155.61286 0.80942 0.13855 0.03441 0.01195 4.06E-03 1.11E-03 3.71E-04 1.19E-04	0.98546 -10.00000 3900.00000 262.35119 2164.22719 155.89926	0.01454 -10.00000 3900.00000 3.87093 -1094.31101 136.18847 0.23002 0.21877 0.17011 0.17123 0.12220 0.05708 0.02274 7.85E-03	
dewpt	Input Sources P Vf F X	Its 800 psig @Its.v @Its.v	1			
			Bulk	Vapour	Liquid	
	Vf T P F H S X METHANE ETHANE PROPANE n-BUTANE n-PENTANE n-HEXANE n-HEPTANE n-OCTANE		1.00000 -9.88043 5617.13060 262.35119 1970.39562 150.92708 0.81797 0.13737 0.03241 9.60E-03 2.32E-03 2.81E-04 4.14E-05 5.03E-06	1.00000 -9.88043 5617.13060 262.35119 1970.39562 150.92708	0.00000 -9.88043 5617.13060 0.00000 -563.69897 133.47797 0.34086 0.24614 0.15980 0.17378 0.07838 0.03003 0.01010 2.92E-03	
salesgas	Input Sources T P F X	Its @feed - \$dt @Its - \$dp @Its.v @Its.v	feed	dp	dt	
			Bulk	Vapour	Liquid	
	Vf T P F H S X METHANE ETHANE PROPANE n-BUTANE n-PENTANE n-HEXANE n-HEPTANE n-OCTANE		1.00000 5.00000 3850.00000 262.35119 2374.62300 158.78753 0.81797 0.13737 0.03241 9.60E-03 2.32E-03 2.81E-04 4.14E-05 5.03E-06	1.00000 5.00000 3850.00000 262.35119 2374.62300 158.78753	0.00000 5.00000 3850.00000 0.00000 -255.16775 140.60625 0.31292 0.23657 0.16242 0.14275 0.09125 0.03656 0.01336 4.18E-03	
chillfeed	Chiller Feed Input Sources P H F X	ggduty @feed - \$dp @feed.v.Q - \$ggduty) / @feed.v.F @feed.v @feed.v	dp	feed		
			Bulk	Vapour	Liquid	
	Vf T P F H S X METHANE ETHANE PROPANE n-BUTANE n-PENTANE n-HEXANE n-HEPTANE n-OCTANE		0.99290 -3.43129 3950.00000 262.35119 2227.55927 157.02371 0.80942 0.13855 0.03441 0.01195 4.06E-03 1.11E-03 3.71E-04 1.19E-04	0.99290 -3.43129 3950.00000 264.33281 2251.09675 157.12662	7.10E-03 -3.43129 3950.00000 1.88931 -1065.57087 142.62556 0.21358 0.19776 0.15281 0.16315 0.13578 0.08283 0.03930 0.01498	
stabovhd	Stabilizer Overheads Input Sources P Vf F X	stab #stab.0.p #stab.0.v.f #stab.0.v.x	1			
			Bulk	Vapour	Liquid	Liquid2
	Vf T P F H S X METHANE ETHANE PROPANE n-BUTANE n-PENTANE n-HEXANE n-HEPTANE n-OCTANE		1.00000 -3.79578 700.00000 119.03742 2858.77344 178.36116 0.36667 0.31708 0.23848 0.07753 2.33E-04 1.76E-07 1.24E-09 5.67E-12	1.00000 -3.79578 700.00000 119.03742 2858.77344 178.36116	0.00000 -3.79578 700.00000 0.00000 -1504.83512 119.25363 0.01957 0.11705 0.37002 0.48898 4.36E-03 1.80E-05 3.94E-07 0.00000	0.00000 -3.79578 700.00000 0.00000 374.09541 136.79837 0.36667 0.31708 0.23848 0.07753 2.33E-04 1.76E-07 1.24E-09 5.67E-12
stabbtms	Stabilizer Bottoms Input Sources P Vf F X	stab #stab_1.p #stab_1.f #stab_1.l.x	0			
			Bulk	Vapour	Liquid	
	Vf T P F H S X METHANE ETHANE PROPANE n-BUTANE n-PENTANE n-HEXANE n-HEPTANE n-OCTANE		0.00000 123.71142 750.00000 116.65199 4390.03501 249.52077 1.69E-13 2.77E-09 0.18392 0.19395 0.24755 0.22075 0.18966 0.15812	0.00000 123.71142 750.00000 0.00000 9356.47391 263.44376	1.00000 123.71142 750.00000 116.65199 4390.03501 249.52077 1.69E-13 2.77E-09 6.13E-05 1.19E-05 0.24755 0.13714 0.22075 0.18966 0.15812	
vpcheck	Check vapour pressure of stabilizer bottoms Input Sources P Vf F X	stabbtms 1 atm @stabbtms @stabbtms	0			
			Bulk	Vapour	Liquid	
	Vf T P F H S X METHANE ETHANE PROPANE n-BUTANE n-PENTANE n-HEXANE n-HEPTANE n-OCTANE		0.00000 37.77778 101.32500 116.65199 -750.63949 197.44352 1.69E-13 2.77E-09 0.18392 0.24755 0.22075 0.18966 0.15812	0.00000 37.77778 101.32500 0.00000 5977.81818 231.77886	1.00000 37.77778 101.32500 116.65199 -750.63949 197.44352 1.69E-13 2.77E-09 0.18392 0.24755 0.22075 0.18966 0.15812	
c3comp	Propane to Compressor Input Sources T Vf F X	c3jt @Its - \$dt @c3jt [0,0,1,0,0,0,0]	Its 1	dt		
			Bulk	Vapour	Liquid	
	Vf T P F H S X METHANE ETHANE PROPANE n-BUTANE n-PENTANE n-HEXANE n-HEPTANE n-OCTANE		1.00000 -15.00000 291.39920 10.36504 3229.39922 182.32710 0.00000 0.00000 1.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	1.00000 -15.00000 291.39920 10.36504 3229.39922 182.32710	0.00000 -15.00000 291.39920 0.00000 -1617.83380 114.73052 0.00000 0.00000 1.00000 0.00000 0.00000 0.00000 0.00000 0.00000	
c3jt	Propane to JT Valve Input Sources T Vf F X	Its 45 C @chillfeed.Q - @Its.Q) / (@c3jt.H - @c3jt.H) @c3comp	c3jt 0	c3comp	chillfeed	
			Bulk	Vapour	Liquid	
	Vf T P F H S X METHANE ETHANE PROPANE n-BUTANE n-PENTANE n-HEXANE n-HEPTANE n-OCTANE		0.00000 45.00000 1539.53450 10.36504 385.80352 139.37450 0.00000 0.00000 1.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	0.00000 45.00000 1539.53450 0.00000 4018.72812 180.48255	0.00000 45.00000 1539.53450 0.00000 385.80352 139.37450 0.00000 0.00000 1.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	
c3cond	Propane to condenser Input Sources P H F X	c3comp #c3comp #c3comp #c3comp				
			Bulk	Vapour	Liquid	
	Vf T P F H S X METHANE ETHANE PROPANE n-BUTANE n-PENTANE n-HEXANE n-HEPTANE n-OCTANE		1.00000 65.21867 1589.53450 10.36504 4525.66617 185.83968 0.00000 0.00000 1.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000	1.00000 65.21867 1589.53450 10.36504 4525.66617 185.83968	0.00000 65.21867 1589.53450 0.00000 1303.14083 149.40558 0.00000 0.00000 1.00000 0.00000 0.00000 0.00000 0.00000 0.00000	
Tools						
hydrate	Hydrate Input Sources Feed Fluid P	feed feed 2052.67389	kPa			
envelope	Phase Envelope Input Sources Source	feed feed.v				
stab	Tower Input Sources Converged NStages Ovhd Flow Est Reflux Ratio Spec Feeds Energy Flows Stage	liquid stabilizer vpcheck 15 140 kgmole/h 1.0 Stage Fluid 7 Its.I 0 -1 T C	Its 150.00000	feed		
			P kPa	V kgmole/h	L kgmole/h	
	1 2 3 4 5 6 7 8 9 10 11 12 13 14	-3.79492 25.75416 34.59681 39.35367 50.09965 71.22186 75.90919 77.61492 78.93713 79.87841 81.14479 83.47176 88.41410 99.60009 123.71142	700.00000 703.57143 707.14286 710.71429 714.28571 717.85714 721.42857 725.00000 728.57143 732.14286 735.71429 739.28571 742.85714 746.42857 750.00000	119.03742 238.07488 241.93886 240.72827 230.40149 224.60153 272.46962 283.15534 286.53211 288.79964 288.87686 287.16688 281.97188 268.92872 242.08678	119.03746 122.90144 121.69085 111.36407 337.38259 385.25067 395.93640 403.18410 405.45163 405.52885 403.81886 398.62386 385.58070 358.73876 116.65199	
c3comp	Compressor/ Expander Input Sources Feed Fluid OutletP Efficiency Power PolyEff	Propane Compressor c3comp c3comp @c3jt + \$dp 75 13435.85861 0.78052	c3jt c3jt 1589.53450 75	dp		