<u>ASSIGNMENT 2</u>   CHE 5480

DUE: February 9. Send through e-mail. Include the simulation file and a narrative explaining what was done and how.

Exercise 1: Group work. Present a unified submission of homework 1.

DUE: February 12. Send through e-mail. Include the simulation file and a narrative explaining what was done and how.

Exercise 2:
Consider the following rates of demand increase for the pipeline problem of Exercise 2-3 in Homework 1, for the next 20 years.

Km	Rate of demand increase
115	5%
143	8%
323	3%
550	4%
609	7%
613	7.5%
630	7%
638	12%
650	9%

Add cash equations. Assume re-investments of proceeds if needed.

Assume a fixed diameter and use the cost data for a new compressor. Pick one reasonable location for one extra compressor based on simulations of the demand at year 20. When allowing two compressors to be added for extra capacity perform a similar exercise and so on. You can put potential new compressors everywhere if you like.

Determine the optimum initial capacity and expansions (loops) in time. You can propose several loops or those that make more sense only.

Use GAMS/CPLEX. How far can you go using the simulator? Can you set this up in Excel? Discuss.

Exercise 3: Test Pipephase on-line
http://www.simsci-esscor.com/us/eng/products/productlist/pipephase/PIPEPHASE.htm
and give your opinion about its capabilities.