

5.0

FUTURE PROGRAMS

Much valuable information is expected to be obtained from an experimental program involving the BFTR. Gas holdup should be obtained at each of the operating conditions run on the BFTR. Experience has shown that to predict gas holdup in a larger scale vessel, measurements must be taken at the same operating conditions, using the same liquids and operating in the same flow regime. The optimum catalyst loading to obtain a maximum space time yield is expected to be obtained. The wax removal system using either a candle filter or two sedimentation tanks operating in batch mode should be developed. Catalyst life and attrition rates at bubble column conditions are expected to be tested.

Along the path to commercialization, several other key questions need to be addressed. In future efforts, a continuous catalyst regeneration system needs to be developed and tested. Scaling up the reactor to a 12' x 60' commercial unit will require operating a bubble column in at least one intermediate size measuring such hydrodynamic parameters as gas holdup, bubble size and gas distribution.

Whatever catalyst is finally chosen, numerous tests on the product need to be conducted to assure product compatibility to the existing refinery and energy consumption infrastructure. Table 16 gives a list of most of these tests. Product stability studies will also need to be conducted. Lastly, at each step, economic evaluations will need to be conducted to allow proper focusing of future efforts.