

## Interoffice Correspondence

Massachusetts Institute of Technology  
Department of Chemical Engineering

**Memorandum to:** Team 10 – Group Members

**From:** Gregory J. McRae

**Subject:** Assignment of ICE Design Topic Spring 2006

**Date:** 27<sup>th</sup> February 2006

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Dear Team 10 – Group Members:

One of the challenges in reducing emissions from electricity generation is to remove the CO<sub>2</sub> from the flue gas. Most of the existing power plants in the US and for that matter around the world do not have any CO<sub>2</sub> capture technologies installed. One concept is the use of Integrated Gasification Combined Cycle (IGCC) technologies. A key part of this technology is the water gas shift reaction and in particular how you might change the equilibrium using membranes. Your task for this next week is to explore the issues associated with the water gas shift reaction and develop a suitable options and a plan of attack.

You are not to discuss with your class mates either the technology you have been asked to evaluate or your findings as you progress with your designs. A separate handout describes the structure of the final report.