INFORMS UH Lecture Series

Fall 2006

Distinguished Speaker

Dr. Youyi Feng

Affiliation

The Chinese University of Hong Kong

When: 10:00 am -11:00 AM,
Friday, September 22, 2006
Where: 102 D, Engineering Building 1
Topic:

Valuing a Gas Storage Facility by a Real Options Approach

Short Bio

Dr. Youyi Feng received his B.S degree and M.S degree in Mathematics from Nanjing University in 1982 and 1985 respectively, and his M.S. degree in Industrial Engineering and Ph.D. degree in Operation Research from Columbia University in 1993 and 1994 respectively. During 1995-2000, he was an assistant professor in the Department of Information Systems at the National University of Singapore. Before he joined the Chinese University of Hong Kong as associate professor in 2001, he had held visiting professor positions at the Kyushu Institute of Technology and Northwestern University. Professor Feng had also worked as a research manager in Enron North America and a financial analyst in Baring Securities Inc. and Lasser Marshall Inc.

Abstract

We consider an independent, risk-neutral, natural gas marketer that rents a storage facility and trades gas in an energy commodity exchange. For the sake of simplicity, we assume that the gap between ask and bid prices in the exchange is zero, and the gas price in the exchange is exogenous and random. The facility is valued by the optimal trading and operating tactics of a finite or an infinite horizon. In particular, the optimal gas purchasing decisions follow an inject-up-to curve, and the optimal selling decisions are governed by a withdrawal-down-to curve. The structural properties of and managerial insights into this optimal policy are exploited. Meanwhile, we develop a capacity valuation approach that grounds in the structural properties to evaluate a capacity lease contract and conduct a contracting game analysis to elucidate which strategies the marketer should imagine to enter into a congenial contract with the facility owner.

Details can be found at http://www.uh.edu/~informs/events/events.htm.
If you have any questions regarding this event, please contact Dr. Gino Lim at 713-743-4194 or at ginolim@uh.edu.