

July 19, 2011

of ultra-clean gasoline from natural gas and waste cellulosic material,” according to Chesapeake. “The investment promises to accelerate the development of an affordable, stable, room-temperature, natural gas-based fuel for immediate use in today’s automobiles, diesel engine vehicles and aircraft.”

The first \$35 million tranche of Chesapeake’s investment has been funded and the remaining tranches of preferred equity “will be scheduled around certain funding and operational milestones to be reached over the next two years,” according to the company.

The investment will be augmented by an additional \$20 million pro-rata investment by a current investor, Palo Alto, California-based venture capital firm Oak Investment Partners, “which along with Sundrop Fuels’ management and Menlo Park, California-based venture capital firm Kleiner Perkins Caufield & Byers, have provided substantially all of Sundrop Fuels’ capital to date,” according to Chesapeake.

“Sundrop Fuels’ plant is a critical strategic development to initiate the commercialization of the company’s promising biofuels gasification process, which is unique among all other conversion processes in existence today. This gasification process is the foundational technology for a number of chemical processes converting natural gas to higher value chemicals and fuels.

“This technology will utilize a proven methanol-to-gasoline process for producing tank-ready fuel, rather than the more capital intensive Fischer-Tropsch (F-T) process. The company expects to break ground in early 2012 and be in full production by late 2013. Full-scale commercial plants are expected to be five to 10-times the size of the initial plant, with the first such plant scheduled to break ground approximately one year after start-up of the commercial demonstration plant.”

McClendon added that “after extensive evaluation and due diligence of various GTL processes during the past three years, we believe there is no doubt Sundrop Fuels’ proprietary approach will be a breakthrough to achieving affordable and scalable GTL fuels using [U.S.] natural gas and [U.S.] non-food biomass to produce a tank-ready green biogasoline replacement or supplemental fuel for gasoline and diesel.

“With Sundrop Fuels’ efficient synthesis gasification process, natural gas becomes the enabling technology for a safer, stronger and greener economy. Natural gas supplies the missing link -- hydrogen -- needed to turn our nation’s biomass waste stream into a bountiful flow of truly green biogasoline that can fuel our cars, trucks, aircraft and industry.”

– Jack Peckham

INTEGRATED GASIFICATION COMBINED CYCLE & SYNTHETIC NATURAL GAS

Illinois Gov. Signs Enabling Legislation for Leucadia SNG Project

Illinois Gov. Pat Quinn (D) on July 13 signed a revised bill that would enable construction of Leucadia Corp.’s proposed US\$3 billion, 43.5 billion cubic feet/year synthetic natural gas (SNG) plant in Chicago.

According to the legislation, the project developers must guarantee that the resulting SNG would save natural gas consumers more than US\$100 million over 30 years.

“The new law follows principles the Governor outlined in the spring legislative session requiring all energy projects to protect consumers, create jobs and safeguard our environment,” according to a press statement from Gov. Quinn’s office.

The “Chicago Clean Energy” project would be built at the former LTV Steel plant on Chicago’s southeast side.

Leucadia would produce SNG via gasification of Illinois coal and petcoke. Final technology selections haven’t been made, but earlier, pre-front end engineering and design (pre-FEED) study employed a GE quench gasifier as the notional technology.

Under the legislation, the project would have to capture and store least 85% of byproduct CO₂. The bill says that failure to comply with this provision would cost Leucadia \$20 million.

“Chicago Clean Energy expects to generate more than \$10 billion in economic output for Illinois and create tens of thousands of jobs, including approximately 1,100 construction jobs, 200 permanent jobs and 165 additional mining jobs,” according to the governor’s office. The plant would use at least 1 million tons of Illinois coal per year.

“We are grateful to Governor Quinn for his foresight in seizing an opportunity to make Illinois a leader in clean energy technology, and in securing clean energy jobs for the state,” said Tom Mara, executive vice president of Leucadia National. “We are committed to working closely with local leaders and community members to make this project a tangible benefit to Chicago and the entire state of Illinois.”

The latest version of the enabling legislation was revised from a previous measure vetoed by Gov. Quinn earlier this

July 19, 2011

year. The revisions followed suggestions from the governor, the Environmental Law and Policy Center, the Citizens Utility Board, local organizations near the project site and other interested parties.

The final bill “now proportionally allocates the natural gas produced at the facility to Illinois’ gas utilities. It also includes a number of consumer protections, including a rate cap, a robust reserve account that fairly aligns the interests of the developer with those of the consumer, and a revised system to share savings and potential revenues with consumers,” according to the governor’s office.

However, the *Chicago Tribune* reported that “Leucadia does not yet have permission to add pollution to a crowded industrial area in Chicago and has not pinned down a buyer for its carbon dioxide emissions. The owners of the proposed plant site also are locked in a legal battle to persuade the state to let it sell its permission to pollute to Leucadia along with the site. The Illinois Environmental Protection Agency [EPA] has opposed the sale of the pollution offsets.”

But in a July 14 interview with *Gasification News*, Eco-Industrial Development (EID) principal Hoyt Hudson explained that whatever dispute that may exist between the site owners and Illinois EPA has nothing to do with the air permit that Leucadia/Chicago Clean Energy now will seek from Illinois EPA. (EID is Leucadia’s development advisor for the project).

Chicago Clean Energy doesn’t need those emissions offsets and instead will start the air permit process for Illinois from scratch, Hudson clarified.

While some nearby residents at the site have publicly protested over potential air pollution from the project, other residents have come to understand that gasification has a vastly lower emissions footprint than a conventional coal-fired power plant, he explained.

The proposed plant’s emissions would resemble that of a hospital or a university, or the world-famous Art Institute of Chicago, rather than a conventional power plant, he said.

Asked whether Illinois EPA has a baseline with which to compare the future emissions of the Leucadia SNG project, Hudson pointed out that Illinois EPA has already granted air permits to the proposed Tenaska SNG/integrated gasifica-

tion combined cycle (IGCC) project as well as the proposed Power Holdings SNG project, both in Illinois.

“Illinois EPA is familiar with gasification. But, every site and every air permit is different,” so Leucadia will have to provide all the required emissions data that are specific to the Chicago Clean Energy SNG project, he added.

Asked about whether the city of Chicago might object to an air permit, Hudson said that “as far as we can tell” Chicago Mayor Rahm Emanuel supports the concept, while Chicago’s 10th Ward Alderman John Pope, who represents the district where the project is located, has publicly supported it.

No Ratepayer Risk if Cost Overruns

As for financial risk on the project, the new legislation doesn’t allow Leucadia to go back to the Illinois Commerce Commission at some future date to ask for some higher ratepayer price on SNG sales if Leucadia’s original capital cost estimates later turn out to have underestimated actual capital cost, Hudson told us.

This stands in contrast to the situation in neighboring Indiana where Duke Energy is trying to convince state utility regulators to approve higher electricity rates to cover repeated cost overruns on Duke’s under-construction Edwardsport IGCC plant (see related story, this issue).

As for Leucadia’s risk that the project will indeed be profitable, Hudson pointed out that company studies indicate that future natural gas prices likely will be above today’s depressed levels, once the current U.S. gas oversupply bubble deflates over the next few years.

In contrast to the long history of U.S. natural gas price volatility, the coal and petcoke feedstocks for the SNG plant have a history of relatively low prices and low volatility, he said.

As a result, the SNG project developers believe that Illinois gas consumers are likely to save around \$1 billion over the 30-year projected life of the plant, compared to what they would pay for conventional natural gas, he said.

The enabling legislation requires the project developers to start construction on the plant by July 1, 2014, so Leucadia has less than three years to finish the required permitting.

– Jack Peckham

Consumer Advocate Slams Duke’s IGCC Cost Overruns; ‘Fraud’ Question

The Indiana Office of Utility Consumer Counsel (OUCC) on July 1 slammed what it terms as unjustified and possibly fraudulent cost overruns at Duke Energy’s under-construction, 620 megawatt Edwardsport integrated gasification combined cycle (IGCC) project.

The [testimony](#) before the Indiana Utility Regulatory Commission (IURC) addresses Duke’s latest request for a \$530 million increase in rate recovery on the project, now estimated at nearly US\$2.88 billion, up 45% from an original estimate of \$1.98 billion.