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Testimony

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Hearing on the Future of Federal Coal: Status, Availability and Impact of Technological Advances  
in Using Coal to Create Alternative Energy Resources

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Thank you, Mr. Chairman. Distinguished Members of Congress and guests, I am Hunt Ramsbottom, the President and CEO of Rentech, Inc. Rentech is a publicly held, Denver-based firm listed on the American Stock Exchange. For 25 years, Rentech has engaged in research and development, focusing on enhancing the production of ultra-clean fuels made from coal, petroleum coke and natural gas.

#### Rentech's Clean Diesel

I am passing around a sample of Rentech's ultra-clean fuel – in this case, our diesel. As you can see, it is very different from petroleum diesel. It is clear, refined to a high degree of purity and extremely low in both particulates and sulfur. The familiar belching cloud you see when a diesel truck or bus starts to accelerate is caused by particulates, and recent studies have shown that they potentially have long-term harm to human and environmental health – but our fuel eliminates most of that concern. When the Air Force tested our fuels and similar fuels made by competitors, the tests showed reductions in particulates of up to and over 80%. The Rentech fuel is also extremely low in sulfur – less than 1 part per million, far under the new EPA standard of 15 ppm.

Rentech's fuel doesn't require any engine modifications. It can be used as is as the operating fuel for trucks, buses and barges. It can also be blended with petroleum diesel or alternative fuels such as biodiesel. It can even be processed into jet fuel.

The basic chemistry behind our fuel products has been known for 7 decades. The basic technology has been developed and used extensively in other countries. Rentech currently holds 20 US and 4 foreign patents making the process more efficient and effective. We have tested our innovations in six pilot plants over the past 20 years.

The 7th pilot, our Process Demonstration Unit (PDU), is scheduled to be operating by the first half of 2007. It will produce 10 barrels per day (bpd) for demonstration, analysis and training by potential end users. And it will allow us to optimize our technology for variations in coal and other site-specific factors. We now have developed our technology extensively around Coal-to-Liquids – or CTL – gasification, and for Rentech, the future of CTL in the United States is no longer a theoretical, what-if, conversation. We plan to have a fully commercial, fully operational CTL plant up and running by 2010.

Our focus as a company is now on making clean transportation fuels in the US, from US resources for US consumption. We are targeting our commercial investments to production based on coal and petroleum coke (a byproduct of oil refining) feedstocks. We can locate plants anywhere with sufficient access to these resources, from coal-producing states to Hawaii (which has petroleum coke from its refinery).

#### Environmental Benefits

You should also smell the product. It has none of the typical odor of diesel. There are two other critical differences between this and typical diesel. Our fuel has a shelf-life of at least 8 years, rather than 3-4 months for petroleum diesel – meaning that for the strategic reserve, for emergency first-responders, and the military, our fuel has incredible advantages. Next, our fuel is biodegradable. If it spills, it does not cause extensive or irreparable damage to waterways or wells.

Let me take a moment to highlight the environmental policies that we intend to pursue. Rentech is committed to being environmentally friendly – and both our production and fuels have environmental benefits.

As we manufacture our fuel, we remove most of the harmful regulated pollutants in the gasification stage. Sulfur and mercury come out as elements – they do not go up a smokestack to be scrubbed out, and do not leak into the environment. We are also working to reduce unregulated emissions, such as greenhouse gases. Our proposal for a second plant, to be located in Natchez, Mississippi, offers the opportunity for 100% carbon capture and storage. Our carbon dioxide output would be pumped into nearby older oil well fields, both helping to produce additional oil by forcing out additional supplies and trapping the carbon underground.

Additionally, our fuel runs cleaner than petroleum diesel. Diesel itself has significant advantages over gasoline, providing greater power with fewer emissions – and using Rentech's diesel keeps the power advantage and reduces emissions even further.

## Economic Challenges

At the moment, a number of trends are converging to jump-start the clean fuels industry in the United States. You are all familiar with the recently soaring price of gas, of the very real concerns about America's energy dependence and energy security, and of the challenges posed by both the geopolitical and global environmental situations. Our fuel is part of the solution for each of these concerns.

With oil prices at historic highs, our fuel is also economically competitive. Including the financing and development costs, we can produce finished fuels for \$36 to \$42 per barrel, the equivalent of buying raw crude at \$30 to \$35 per barrel.

To start this industry however, you need to open the first plant in the US. Each successive plant will build on the economies of scale, improve on the lessons learned at previous plants, and expand the market. It is very capital intensive to build the industry, and one plant is only the start. You have to build second, third, fourth, and then successive plants. But, as the Governor of Montana likes to note, everyone wants to build the second plant. Nobody wants to finance the first in the US, even though these plants exist in several other countries.

Rentech has developed a five-point strategy for commercialization, designed specifically to overcome the financial hurdles of getting started in the US. First, we are jump-starting the deployment of our proprietary Rentech process by pairing off-the-shelf gasification and finishing plant technologies with our Rentech Reactor. Second, we are aggressively pursuing multiple strategic projects in the US, with the goal of getting plants up and running at several sites very quickly.

Third, we are developing a repeatable and scalable design that allows for expansion of production up to 50,000 bpd per plant that will provide for a very rapid expansion of the industry once the first plants are operational and proved out. Fourth, we are continuing to invest heavily in research and development, to push the optimization of our technologies even farther. And fifth, we are examining selected licensing opportunities to expand use of our process and our proprietary technologies.

## East Dubuque , Illinois: The First Clean Fuels Production Plant in the U.S.

Our first clean fuels plant is underway right now. Last week, Rentech purchased a fertilizer plant in East Dubuque, Illinois, and we plan to convert it in phases to CTL poly-generation over the next 3 to 4 years. By poly-generation, I mean that we will ultimately produce 3 core products: ultra-clean transportation fuels, ammonia fertilizer and electricity.

The plant currently makes ammonia fertilizer from natural gas, and it already incorporates basic technologies that are critical to successfully implementing CTL. The conversion will include changing the feedstock from expensive natural gas to affordable Illinois coal. In phase one, we will add a coal gasification unit to the fertilizer production line, generating syngas which is the first step in each of the products that will ultimately be generated.

- Fertilizer will still be made in large quantities. As I'm sure all of you know from our friends in the farm states, domestic fertilizer plants are shutting down rapidly because of high natural gas prices -- the current primary feedstock for fertilizer. Since 1999, the US has switched from producing all its own fertilizer to becoming a net importer. We will demonstrate that fertilizer production can still be a thriving domestic industry using clean coal technologies .

Electricity will also be produced, primarily for the plant's own use. A small surplus, however, will be provided to the local grid. But our primary focus is the production of our fuels. So in later stages of our first phase, we will add a Rentech Reactor and a finishing plant, allowing production of 1,800 bpd of our diesel. Those additions will be on-line and producing in 2010.

Later, in phase two of our East Dubuque build-out, we will add a second gasifier. That will allow us to raise fuel production up to 6,800 bpd. Under our timeline, the East Dubuque plant will be first commercial plant in the U.S. to produce marketable quantities of clean fuels from CTL.

## Looking Ahead

Rentech is also pursuing a second larger scale plant in Natchez, Mississippi – the Natchez Adams Strategic Fuels Center – which would produce up to 11,000 bpd in phase one. We were invited by the local community to consider the possibility after Hurricane Katrina when Mississippi ran disastrously low on diesel. At Natchez, we can use two feedstocks -- both coal and petroleum coke, a byproduct of the local petroleum industry. And as I have mentioned, there is the very real possibility of capturing and storing 100% of the carbon dioxide emissions through enhanced oil recovery in nearby oil fields. To our knowledge, this would be the first large-scale U.S. commercial capture and storage of man-made carbon emissions. Carbon dioxide injection is already being used in this oil-producing basin, but additional supplies are needed.

Looking even further ahead, we are considering several development opportunities in various regions of the US, including discussions with coal companies to utilize a replicable, iterative plant model at the mouths of mines. There, we would size a basic plant model that could be expanded. For twenty years, Rentech has researched and optimized its technology. We have refined our process to make it more effective and more environmentally-friendly. Now we are commercializing it.

Today, the US produces and consumes over 2 million barrels per day of diesel, and many experts project demand to double in the next twenty years. A thriving clean fuels industry is vital to our nation's future, both for our energy security and our environmental sustainability.

## What the Government Can Do

As we launch this industry, we are planning to make full use of the EPACT 2005 incentives that the Congress designed to jump-start clean fuels. Thank you for those efforts. Let me also note that the States are also lending their assistance. The State of Illinois has been extraordinarily helpful – they helped us to complete feasibility studies, engineering studies and provided grants to assist with conversion to coal. The State of Mississippi has also been exceptionally supportive of the possibility of our second plant being located in Natchez, and they just passed a \$15 million bond bill for the proposal.

We are not asking the government to subsidize clean fuels. We need your help to create a climate where we can use private-sector funding to establish a fully commercial industry. There are four ways that you can help us jump-start the industry.

## A Four-Point Plan to Jump-Start the Clean Fuels Industry

1) Support Appropriate Investment Tax Credits. To meet our aggressive timeline, we will apply for the industrial gasification investment tax credit provided by the Energy Bill. Recent initiatives to raise the current \$350 million cap to \$850 million would help even more. If Congress is serious about trying to reduce our dependence on foreign oil import then allow me to offer an observation. Maintaining the current cap of \$350M could slow the rollout of industrial gasification using coal to the point where the US winds up losing more industry. Even an \$850M cap will assist the development and deployment of only 3 to 4 more plants – hardly the creation of a full-fledged industry. At \$75 per barrel, the price of oil last week, the U.S. is paying \$850 million to foreign countries for oil every two days. To create a real incentive, it might be better to lift the caps altogether. Another proposal, for an investment tax credit specific to clean fuels, would do even more to accelerate production.

2) Make the Fuel Excise Tax Credit Available to Clean Fuels. There is another way for the federal government to help, by making the 50 cent-per-gallon fuel excise tax credit provided in the Highway Bill available to CTL fuels. To do that, you could extend the expiration of the current credit from 2009, when no CTL plants will yet be operational in the U.S., to at least 2014.

3) Fully Fund and Implement the Federal Loan Guarantees. We will also apply for the self-pay guarantees that the Congress initiated at the Department of Energy (DOE). This program is absolutely vital to our efforts. We understand that DOE's implementation has begun and we commend the Department and the Secretary of Energy for quickly moving to implement the authorized programs. We appreciate and hope you will continue your efforts to ensure that both of the DOE loan programs are fully funded and implemented expeditiously. And,

4) Support Military Consideration of Clean Fuels. The final idea for the government to help catalyze commercial deployment of the CTL industry is to examine usage of clean fuels for military applications. Long-term contracts for military use of diesel and jet fuel would assist greatly with private-sector financing of the first plants.

The Energy Information Administration's AEO 2006 projected long-term oil costs at \$50 and above. The same forecast shows CTL production growing to 700,000 barrels per day by 2030. To get there, the first plants must be financed and built, paving the way for the industry to flourish. This 4-point combination of incentives and contracts would provide the initial climate and stability needed to propel private investment.

## Conclusion

I think the great potential of clean fuels, especially using CTL, is that American resources, American know-how, and American innovation will help create environmentally-friendly energy and sustain American jobs. A robust clean-fuels sector can help us meet the challenge of our national energy needs, foster greater energy independence, and preserve a full measure of our energy security. At Rentech, we are moving today to produce clean fuels for America's future.

Thank you for all that you have already done to allow a jump-start of CTL and clean fuels in the Energy Policy Act of 2005. We intend to make use of your help to do just that – jump-start full scale utilization of CTL, and jump-start a new clean fuel manufacturing industry. Thank you as well for your time today.