DISCUSSION FOLLOWING THE REMARKS OF MR. MANNING AND MR. DRINKWATER

QUESTION, MR. DE: I have a question for David Drinkwater. As you know, David, we are committing ourselves as a nation, Canada to the U.S., and vice versa, to reduce the emissions of all acid rain components – NO\textsubscript{x}, SO\textsubscript{x}, etc. – and several other toxic substances such as mercury. To that end, your coal generation units are going to be a problem. Until the Ministry of Environment issues directives to close down some of the inefficient coal powered plants, 18 percent of the power plants in Ontario will continue to use coal, as well as 52 percent of plants in the U.S.\(^1\) My question to you is this: what is your plan to comply with our binational and toxic regiment and, perhaps by eliminating your coal-fired stations completely, to contribute to the complete eliminations of acid rain emissions?

ANSWER, MR. DRINKWATER: We do not have any plan to eliminate the coal-fired stations. There is one facility near the center of Toronto, our Lakeview facility, that the province has committed to close down by 2005,\(^2\) but apart from that, Ontario just put in place new rules which I referred to, which will require us to reduce both NO\textsubscript{x} and SO\textsubscript{x} quite significantly over a period of time.\(^3\) I think that these regulations will allow us to meet the federal proposals. Right now, to help us get our NO\textsubscript{x} down to where we need to get them, we are spending about $300 million on SCRs on two of our facilities. The Canadians do not have this issue of the Clean Air Act and old plants versus new ones. Today, all of our facilities are meeting U.S. NO\textsubscript{x} and SO\textsubscript{x} standards. We will get down to the standard the Canadian government promulgates.

One of the debates between the federal government and Ontario is the issue of credits. Our system, we believe, meets the Canadian-U.S. commitment, but it does that through a credit regime, which the federal government has not embraced as much as we would like.

ANSWER, MR. MANNING: There was a law passed by New York State that prevented the sale of SO\textsubscript{2} credits into the 15-state Northeast region.\(^4\) Just


this week, a court decision declared that the law was a restraint on trade. Those credits were worth less, but now you can actually export them. The irony of it is that we have not burned coal in downstate New York since 1976, so our power plants are all natural gas. Our newest project — we do not even have an oil generator as back up, as we could not get that approved. However, there are those who are burning coal for power west of the Adirondacks, and the air stream brings it to New York in 24 hours. However, the plants in New York City and on Long Island are forced to burn natural gas, and the air stream takes out over the ocean; they, of course, are able to sell their SO₂ credits to the dirty plants upstate.

This was supposed to be a subject of a major piece of litigation that the northeast governors and maritime premiers were going to undertake. Paul Cellucci, the lone Republican from Massachusetts, was the head of that committee, but now that he is the ambassador to Canada, I do not know where that meeting is going to be, but they are scheduled to meet again next month.

So that was going to put, in light of all the other transnational boundary agreements, the greatest pressure on plants in and around Ohio, so I do not know where that is right now.

ANSWER, MR. DRINKWATER: New rules are coming out on mercury, I guess, soon and we will have to wait and see what these are. I think the Canadian rules on mercury will be out by this summer, and EPA has identified mercury but I do not think their standards have come out, so we will comply with whatever we have to.

QUESTION, MR. DE: The second part of my question is: what will be the impact of environmental compliance on the retail price of energy at the household level?

ANSWER, MR. DRINKWATER: The way the system is going to work in Ontario for generation is that everyone will bid their plants in at whatever price they think they will clear the market. There is a market administrator called the “independent market operator” who, based on load for every hour,

The commission shall assess an air pollution mitigation offset equal to any sum received by any utility corporation, person or entity entering into contracts or engaging in the sale or trade of select SO₂ allowance credits for use in operations, permits or for maintaining compliance with SO₂ emission requirements in acid precipitation source states, where such select SO₂ allowance credits are found to have been transferred to the allowance deductions reserve account by a generating source located in [New Jersey, Pennsylvania, Maryland, Delaware, Virginia, North Carolina, Tennessee, West Virginia, Ohio, Michigan, Illinois, Kentucky, Indiana and Wisconsin].

Thus, the legislation, in effect, charged a 100 percent penalty for any emissions trading.

5 Clean Air Markets Group v. Pataki, 194 F.Supp.2d 147 (N.D. N.Y., 2002) (finding that whatever goal New York set to reduce acid rain emissions was not enough to justify burdening interstate commerce in a discriminatory manner).
will take energy from the plants. I guess that it will have to be factored in somehow, because we will have to try and make a profit. It is not something that is "passed through" in that sense, because all of the generation plants will get cleared, depending on where they bid in the stack. We just have to factor it into our business plan and get on with it. It will not be something that will be added onto a specific bill because that is not the way our market model works.

QUESTION, MR. QUINN: I have a question for the second speaker. You made the statement that we have 250 years of coal supply left. I did not hear the usual qualification, "at current rates of production." There are critics out there who say, even with the reserves of natural gas and oil depletion coming first, by about the year 2035, nuclear reactors will be decommissioned,\(^6\) so there will be a vast increase in the rate of production of coal.

In addition, the most easily accessible coal has been mined, and the less-accessible coal will take, given enough time, a lot more energy to obtain than its energy output. So, some critics have pointed out that there is really, after you switch to coal, you have only about 50 years, not 250, and I have seen some estimates as low as 29 years. My question is, indeed, why should we use the qualification of "current rates of production" when it is not realistic?

ANSWER, MR. DRINKWATER: Let me say there are very significant coal reserves. I think the reality will be, as prices go up, some of those reserves may turn out to be more economical. People were discussing, in the pre-Bush era, that the future is in coal, but coal did not look very good in terms of actually being used. I was just trying to make a point that, given the security and cost issues, and notwithstanding the environmental challenges, coal is not going to go away any time soon.

QUESTION, MR. MICHAEL ROBINSON: I would like to ask a question of David Manning, showing my ignorance of the U.S. system, or maybe I was not listening very closely. I do not understand why the Federal Energy Regulatory Commission (FERC) lacks the power to tell the states what to do in terms of electricity generations and transmission, because it is all going into an interstate grid – it sounds like interstate commerce to me.

ANSWER, MR. MANNING: You raise a good point because, based on past litigation, including the lawsuit that involved the Iroquois pipeline,\(^7\) FERC has eminent domain authority on natural gas distribution. FERC can, in fact, approve a route, or they can find a pipeline necessary and can then

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\(^6\) Of all commercial nuclear plants that are currently operating, the last scheduled for decommissioning is Baltimore Gas & Electric's Calvert Cliffs II, in 2036. See R. ANIGSTEIN ET AL., ENVIRONMENTAL PROTECTION AGENCY, POTENTIAL RECYCLING OF SCRAP METAL FROM NUCLEAR FACILITIES app. A1-3 (2001).

\(^7\) Iroquois Gas Transmission System v. FERC, 145 F.3d 398 (D.C. Cir. 1998).
provide for the use of eminent domain for gas distribution. The difficulty is that this does not currently exist for electrical transmission.

One of the major lobbying efforts from the industry is to try and get FERC to have that same authority over electric. The difficulty is the uncertainty over the RTO debate; that is, who will end up owning the transmission. You have TransEnergy and Hydro Quebec trying to set up some merchant lines, but no one else is willing to make that investment, because operating the grid as one would a taxi fleet at a regulated price does not have much as much appeal as operating it on a merchant basis.

QUESTION, MR. MICHAEL ROBINSON: If the authority for FERC respecting gas was established as a judicial precedent, why is not there another case?

ANSWER, MR. DRINKWATER: It needs legislative change. There has been some debate around that. There was discussion about it as part of energy debate, but the states – particularly the Western ones – have been very opposed to allowing FERC to have eminent domain. It is going to be a very difficult thing for people to give up, so that is part of the problem.

QUESTION, MR. MICHAEL ROBINSON: But would it control the international aspect of electricity transmission?

ANSWER, MR. DRINKWATER: The Department of Energy and the National Energy Board control cross-border transmission.

QUESTION, DR. HICKEY: Just on FERC jurisdiction on the electric side: Section 205 of the Federal Power Act provides that the federal government has jurisdiction over wholesale and interstate sales, and that has meant that retail sales and distribution has been in the purview of the states. The complication is that the Federal Power Act’s provision on interstate sales does not say whether it applies to retail interstate sales, so that is part of the tension now. I think that FERC authority is bleeding into the retail side of electric transmission and distribution, both wholesale and retail.

My question goes to the state of regulation by both Canada and the U.S. How far should deregulation go? Should we treat energy as jeans, beans or perfume, or should we, in light of the link between energy and a nation’s economic well being, and especially in view of the essential character of electricity to residential customers, small business and large industry, keep some segments of regulation at the provincial/state or federal level?

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9 Note id., § 201, 16 U.S.C.A. at § 824(a):

It is declared that the business of transmitting and selling electric energy for ultimate distribution to the public is affected with a public interest, and that Federal regulation of matters relating to generation . . . and the sale of such energy at wholesale in interstate commerce is necessary in the public interest, such Federal regulation, however, to extend only to those matters which are not subject to regulation by the States [emphasis added].
MR. DRINKWATER: I think one of the first things you must do is to separate the elements of the industry, because the wires business, either the big transmission or the local distribution, is quite different from the issue of the generation or manufacturer of the electrons. Because both transmission and distribution are natural monopolies, I think you are never going to have those facets of the business completely unregulated. The issue is, is it a better model to have a competitive market or managed market to get your generation costs down. In my observation, having been with what was part of the old Ontario Hydro for three years, we may have sold electricity at cost, but it was at a substantial cost. So I believe that the competitive market, if there is adequate supply and demand, would work, but because supply and demand mismatches can be so dramatic, there must be some mechanism in place to make sure prices are not as volatile. I believe that the competitive market will ultimately result in lower costs to the consumer, but you probably have to have something around like FERC. Electricity just has something unique about it; someone once said if you could just separate the politics from electricity, this would all be easy, but you cannot.

MR. MANNING: If I could just very quickly. I rarely get a chance to speak from one Long Islander to another Long Islander out of the scrutiny of the New York press. The public opinion polls are going the wrong way for us, and after Enron and after California, I think the majority of the American people would like to see complete deregulation, because this is no longer a luxury; it is a necessity. I gave the example of the ten NYCA plants in New York City and the ten more being built right now by LIPA. These are the most expensive power plants in the world based on their heat rate, and the power within the New York region is now being taken up by these single-cycle plants with a 40 percent heat rate; however, we should be building co-generation plants that have efficiency numbers as high as 85 percent. If you can build a co-generation plant with an 85 percent heat rate instead of using a jet turbine with a heat rate of 40 percent, your fuel cost is going to be cut in half. The state, because it is almost a bottomless pit to draw upon in terms of their ability to fund a project, can go out and build whatever they want and were able to get it in under their own environmental scrutiny and do it quickly because there is an election this fall and they feared a blackout. Their worst nightmare is that people will run out of power just before voting day.

From where I am standing, I think deregulation is inevitable, because I think that is the only way you are going to get out the efficiencies and make the right decisions for the environment as well as for the economy.

MR. DRINKWATER: One final comment. The other thing that I said, and I really feel very strongly about this, is that we should adopt real-time pricing and pass that price onto consumers; this would force people to pay different prices for electricity depending on their time of use. I think it is
crazy to have the price of electricity be the same four cents or five cents
whether you use it at 5:00 in the afternoon or 5:00 in the morning. This
would be good just in terms of reducing the overall demand on the system,
which would, in turn, be environmentally beneficial as well.

MR. HOLLOWAY: My question is for David Manning, and it has to do
with California. The way you have explained it and the way others have
explained it, it just seems so self-evident that it was a screwed-up way to do
it. I am wondering, was there a counter-theory, in terms of the approach to
deregulation, or does this just tell a story about the political dynamics in the
State of California?

MR. MANNING: I think the counter-theory was that you must get to the
point where you have a surplus of power before you deregulate. That, of
course, has become grippingly obvious out in California. The deregulation
model does not work if you have market power, so having six utilities or six
generators have market power as opposed to one or two still does not get you
there. If you deregulate in a situation where only a few utilities have market
power and there are real shortages, then you are going to get perverse
markets impact.

The difficulty we have was that we are criticized for these peaks. You
could have a moment that the price of power is $6,000 per megawatt in New
York (that is why there has now been a cap of $1,000 put on its price\(^{10}\) but,
frankly, when you are burning everything you can burn, there are plants
around that will only run for six or seven days a year, but you have got to
keep them there—they are the highest cost providers—because you have got
to maintain your capital cost for that period.

We have one plant in New York City—Ravenswood. The largest turbine
is one of the largest in the world—900 megawatts out of a single turbine. It
gone down last May. On the fourth of May, we had an unusual 95-degree
day in New York City, but most plants were down for maintenance, getting
ready for the summer load. It cost us about $10 million for a couple of hours
to replace the power out of that one unit that Friday afternoon. We had to go
buy that power elsewhere on the market. Frankly, that is how you get new
plants built. If we were to have shaved off those peaks, whether they be for
an hour or even for just a few minutes, from a PR perspective, we are dead
meat. You start talking about making six thousand dollars for something that
sold for $2 three hours earlier, and you will never win that argument.

COMMENT, MR. MICHAEL ROBINSON: I hope you bought that $10
million worth of power from Ontario.

QUESTION, MR. LOWE: There is, I guess, a split in the conversation here and I was hearing a lot of talk about if we can get the markets working right, they are going to provide the least-cost power. On the other hand, I was hearing about governments or government run entities and I do not know all the acronyms, stepping in and building plants quickly to keep the lights from going out. My question would be: how good are open markets going to be at delivering reliable power, not just cheap power?

ANSWER, MR. DRINKWATER: I think if you look at certain other jurisdictions, we tend to be so focused on the U.S. experience. For example, the UK and the Australian experiences have been quite successful, as has been the case with other countries.

The New York problem that David was referring to was just a short-term crisis gap-filler, and was not a long-term arrangement.

ANSWER, MR. MANNING: The difficulty is to go from a completely regulated utility environment in the U.S. (which was the New York story, where the incumbent utility did not build any generation) to the creation of a non-regulated entity that has already built plants in other states. The incumbent utility in New York City has 2,600 MW of projects understand construction, but none of them are in New York City itself. They were simply going out to other markets, looking for other places to build plants where they could do so more cheaply, and were not about to build in the New York market where the cost is very high. So, transitioning from that incumbent utility that had complete control to a deregulated market will require a transition period, but the fools will rush in.

Companies like us will build new plants if that market is strong, but halfway into the process, the state suddenly drops in. You cannot have it both ways. States must be steadfast in their commitment to deregulate, and the investments will surely follow because the prices support that. If the state jumps in and out of the market as it has in New York, you will inevitably see companies such as Reliant and others abandon ship. They will not take the regulatory risk.

QUESTION, MR. KING: I had a question for David Drinkwater. You told us about the vast resources of coal and potential that has for absorbing some of our energy demands. What I was wondering is, did you want to comment on the effects, if any, of improvement of the use of coal as an energy source on the environment? What progress has been made in that regard?

MR. DRINKWATER: To be fair, I think the short answer is “not enough.” My comments about coal were, in part, to simply remind people or make the point that I do not think it is going to go away any time soon.
In one of the earlier presentations, there was a proposal to develop a form of clean-coal technology, but it will be many years before it will come about. There is money being spent on this.\(^\text{11}\)

I think the Bush energy policy does put more money towards a clean-coal technology, but there has not been enough spent on it to date. The other things that are being done are more reducing, but not eliminating, emissions. Our rules in Ontario will reduce the NO\(_x\) and SO\(_x\) down to levels that people consider acceptable, but there is still a considerable amount of emissions.

COMMENT, MR. MICHAEL ROBINSON: Before taking the next question, I am going to jump in and tell a story elaborating on the problems of electricity-at-cost. It is a story on Ontario Hydro, but not when David was there; it happened before he arrived.

Ontario Hydro had an operation called Ontario Hydro International, and they were getting in the business of operating private plants (public/private partnership or BOT plants), around the world, mainly in lesser developed countries, because they had a surplus of good, trained people who knew how to operate them. There were consortia to build power plants that included private companies and the occasional public entity like Ontario Hydro.

So while everybody was sitting around trying to calculate the costs, Ontario Hydro was asked how they were going to go about their own operations. Part of the attraction of operating one of these BOT plants is training people in that particular host country how to operate it, and then the number of operators that would have to come from Ontario Hydro should go down quickly as the local operators were trained. The private-company people just about fainted when Ontario Hydro said that they would need 280 expatriates from Toronto to run a little 300-MW power plant, and that included two people for the mailroom.

To take all of those expatriates and move them would cost about US$400 million a year, with all expenses, which would include moving families and children and flying them out and back and everything. That number was going to drop very slowly down to about $100M at the end of 20 years. This is the kind of thing that you get when you have power at cost; these are our costs. Ontario Hydro does not have to justify them to anybody. I think it is crazy.

I think what we are doing in Ontario, in terms of competition and deregulation is going to work, because you cannot have gold-plated faucets and just pass those costs through to the customers anymore.

COMMENT, MR. DRINKWATER: It is an emotional issue. The province, in addition to opening it up electricity to competition on May 1 has

\(^{11}\) Since about 1984, about $2 billion has been granted in subsidies for the Clean Coal Energy Program. See Paying for Pollution: Clean Coal Technology, at http://www.foe.org/eco/payingforpollution/clean.html (last visited July 25, 2002).
also decided to sell our sister company, called Hydro One, the wires business. Two of the unions in Canada took the province to court, and these were not the unions that had people employed at the Hydro One; in fact, the Hydro One unions opposed their sister union on this application. Yesterday, a judge ruled that the province was not entitled to sell Hydro One. Now, we can enact legislation to overturn that ruling, but it is a huge setback for the province to be told that their plans to privatize were not quite where they thought they would be.

COMMENT, MR. MICHAEL ROBINSON: I gather the underwriters were very unhappy as well, because they were counting their profits on the stock issue.

MR. MANNING: This makes this panel probably the timeliest conversation I have seen. We are right on the edge of it.

I have to just say, on Henry’s behalf, one of the projects that may have fallen away on September 11th in New York is the new Guggenheim Museum, which would have been a magnificent structure on the water’s edge, and it is largely modeled after architect Frank Gehry’s Guggenheim Museum in Bilbao, Spain. The model for it is just right outside of this window, so if anybody walks out of here and does not see this business school and then look out in the other direction and does not see the construction of the botanical gardens, they are missing out on some fascinating structures. Case Western has a great international reputation, but I am afraid, Henry, you are going to lose your contemporary image. It is a treat to be here.

COMMENT, MR. MICHAEL ROBINSON: I think we have one more question.

QUESTION, MR. GAINES: My two questions are for either of the panelists on this real-time/demand side pricing, and about how this would actually work in terms of a being a market mechanism. I understand that you would only find out at the end of the month the cost of power on the 20th of

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14 That is, the Peter B. Lewis Building of the Weatherhead School of Management, Case Western Reserve University. The $65-million structure, the work of the world-renown, Canadian-born (but naturalized American citizen) architect Frank Gehry, is situated behind Gund Hall, CWRU School of Law. For pictures of the project, which is now complete, see Weatherhead School of Management, at http://weatherhead.cwru.edu.
15 That is, the reconstruction of the Cleveland Botanical Gardens, directly across the street from the School of Law, designed by the well-respected national architecture firm Graham Gund Architects, the same firm that, incidentally, completed the redesign of the CWRU School of Law, including the renovation of the very room where the Canada-U.S. Law Institute Conference took place.
April, so how are consumers supposed to respond to that price signal? Also, given at least the way it is structured in Texas, a restructured market, I am signed up with a particular power provider. Can I change on a day-to-day basis? I do not think the regulatory system is set up this way, to allow customers to shift to the lowest-cost provider. So, if I can find real-time information, and if I find out that the people I am signed up with today are higher than a competitor, can I then switch? In terms of market response, I do not see quite how this is going to work.

ANSWER, MR. DRINKWATER: In Ontario you will be able to go into an Internet site and see the prices that are going to be passed through on a wholesale basis. In fact, there is a “dry run” going on right now. You can go in there and see what it is going to look like. You can look at what price has cleared at the last hour and you could watch it and it will show you what is anticipated for the day.

One of the things I find very exciting, and one of reasons why I went from the telephone industry to the power industry, is that I believe when we really get an open market and people start to be charged on the basis I just described to you, people will come up with innovative ways to deal with this. One way might be that you would set up a price-sensing meter or something before you go to work, and if electricity prices hit a certain amount, it would shut off your air conditioner, or perhaps it would shut off only the appliances that run at 240 volts, as opposed to 120. You will be able to get real-time pricing in Ontario. You cannot get the interval meters yet, easily, but you can get them. I think that will come.

Contracting with a supplier is a bit more complicated. People will have to make informed decisions about whether they want to directly contract with an electricity supplier. I think that, over time, those contracts could be modified to provide for some flexibility, but that is an issue.

ANSWER, MR. MANNING: We spent a lot of money on black boxes over the last couple years with many different partners. What is in practice now is that you can sign up in Long Island for what is basically a huge centrally-controlled thermostat. You will get a reduced overall cost of power; but if you take the deal, you lose control of your thermostat. At a time of critical shortage, the central power authority can literally turn up your thermostat and reduce your air conditioning load. People are signing up for it in droves.

The other thing is that, starting this month in New York State, all power bills must show the emission numbers for the power that is provided by the utilities. People are now getting a “green scale” on their bill every month so they can decide whether or not the utility that you are currently using is the right provider for you. They did this in Washington, D.C. a few years ago, where, based on averages, you could get an actual scale, and they changed their price according to time, so you had a pretty good idea going in. It was
not real time, but you knew that your price at peak was 24 cents and your price in the late evening was six cents, so you knew from what was given you in the bill. It was not precise, but it was close enough so that people could make those decisions, and if we do not get there soon, we are going to waste a lot of power.

COMMENT, MR. MICHAEL ROBINSON: I hope you will join me in congratulating this panel. I cannot imagine two more knowledge and articulate presenters on this very difficult area, and we are had glad to have them. Thank you.