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**CENTER FOR STRATEGIC
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CSIS-SNL GLOBAL WATER FUTURES WORKSHOP**

**DAY TWO, FEBRUARY 9, 2005
9:00 AM – 9:45 AM**

SPEAKER:

**STEVEN R. LORANGER,
CHAIRMAN, PRESIDENT AND CEO, ITT INDUSTRIES, INC.**

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JOHN HAMRE: Okay. Let's get started because we have got a very, very interesting morning.

I want to first say sincere thanks to all of you for coming. My reports are that you had really quite a very good day yesterday. And I'm sorry that I wasn't here but my boss, Steve Loranger, had me up doing other work. Just for truth in advertising, I'm on the board of ITT Industries and we had our board meeting yesterday. So we were up in White Plains moderating what ya'll were doing and I think from Steve's perspective, he would have much rather had me down here than have me up there with him. (Scattered laughter.) It was really good. I'm delighted you had such a good day.

Let me again say thank you. We're very pleased to have this opportunity to partner with Sandia on this project. Sandia is one of the great – one of the great national treasures. People may not know much about Sandia, but it's a remarkable laboratory. You know, if you were to say that – you know, if you list the top 10 laboratories in the world, Sandia would be at the top of that list of 10, and it's really quite impressive. And we're really proud to be here with you and your team. And thank you for a chance to work with you on this. And this is of course made possible because of the support of ITT and other corporate friends. Let me just say a word about that and why I think it is so important to put that in context.

I think we're on the front end of a very different era of corporate governance – not corporate but the way government does work. You know, when you think about this – and what I understand a lot of your discussions yesterday were about was the vacuum of a policy framework where you can make advances in trying to produce a coherent plan for water for humanity. Seriously. I mean, we've got – it's been such a distributed and localized enterprise up to this point and we're now starting to say we need larger, more enterprise-wide structures to help make big advances in policy and it's not there.

Well, this is one of those examples where the government and the private sector look to each other as necessary partners. It has to happen, and the governed and the government realize that they depend on each other to make this next advance. Industry is ready to do enormous things. And all of you read in the papers many companies that are interested in and see great opportunities in water technologies in years ahead, but they are being held back by the void of a policy framework that makes this sensible, and where it's coherent and it's logical.

The government also has come to realize, I think, that it really cannot pull off complicated major global tasks like this. Most problems now transcend the sovereign reach of any one government. And the greatest challenge is how do you coordinate across boundaries to pull off complex enterprises that produce real things? And it's becoming clear that is in the province of the private sector. And the government and private sector are going to have to work on this together.

So what is interesting about this water issue – not only is it a pressing human need – and we’ll talk about that – not only is it an astounding economic challenge, because if you think the way that the world’s prosperity could be advanced if people had decent drinking water every day instead of diverting two hours of your productive labor to just try to get a couple of gallons of water to keep yourself clean and hydrated, you know, think of the tremendous boost in global productivity we would get. But it is also chance to demonstrate a new effective mode of government – have a partnership in government. And that is part of what we are going to talk about today.

I am very proud to introduce Steve Loranger to you. Steve is the CEO at ITT Industries, and ITT Industries, about five years ago – before I ever started on the board – committed itself to becoming one of the global players in water technology, seeing it as an opportunity both to do good and to do well, you know, in the process. And I’m very proud to say I think we’re doing really landmark work in that area.

Steve has come recently to ITT but he’s put tremendous energy into this. And one of his commitments was trying to advance the public debate on this issue, knowing that until we resolve that public debate, companies like ITT and Coca-Cola and Procter & Gamble and others are sitting here waiting for a framework before they can really get going. We need them to get going so that is what this is all about. So I’m delighted you’re here.

Steve, let me turn to you. You are going to get us off here on a bright start. Thank you.

STEVEN LORANGER: Thank you, John. I appreciate it.

First of all, on behalf of ITT and the public sector today, I wanted to say thank you to, again, John, for your personal leadership as well as CSIS’s leadership in bringing us all together today to really discuss how we could work together to create a viable and vibrant future in this important area.

What we need today is a new pump handle. Let me explain what I mean by that. Victorian physician Dr. John Snow of London has affected all of us today, both as we use water and as we contemplate the future use of water. One hundred and fifty years ago, 500 people died of cholera in just 10 days in one London neighborhood, marking the beginning of another dreaded epidemic.

Dr. Snow had already written a controversial pamphlet suggesting that cholera was not caused by vapors but was indeed a disease of the gut spread by contaminated water – that the high number of deaths in this neighborhood – he studied the cases and he was convinced that a pump at the intersection of Broad and Cambridge Streets was the sole source of this contaminated water. So in this emotional panic-filled public meeting, he suggested removing the pump handle so that no more water could be drawn from that location. And the rest was history: cholera abated, huge engineering projects were launched for sanitation systems and clean water across Europe.

Dr. Snow's pump handle has affected all of us. It led to improvements in the areas of sanitation and purification; huge projects led to success. But today, complacency about water quality and availability has resulted in unfortunately a lack of progress. Snow's pump handle has come to symbolize innovation in a time of crisis and it represents a moment of awareness and transition that, yes, improve many things, most importantly lowering infant mortality rates and increasing the human lifespan.

And so strong is Snow's influence even today that Dr. Andrew Hayward, a professor at the University of Nottingham, begins his lectures to medical students with this slide. Did you come into medicine to save lives? If the answer is yes, perhaps you should give up medical school and take a course in water engineering. And I think that says it all about what kind of a mission we're on today.

We're not medical students, and only some of us are water engineers, so what do we need to do to improve the global water situation? Today, I am going to suggest that we look for the next "pump handle" innovation. We need to remind ourselves that successful as we have been, we must move forward. And just as the pump handle represented a moment of historic enlightenment in understanding the environmental importance of clean water, so today we are again at a defining moment.

We are required to understand and take action on three very critical areas. Number one, scarcity of inadequate supply; number two, sanitation and environmental issues; and finally, the efficient use of energy. So as we think about these conditions that need to be resolved, let's take a look at the conditions for innovation so we can build on Dr. Snow's success to lead us through this time of transition.

So what are the conditions essential for innovation? There are five in my view and we're going to talk about those in order. Number one, we must be time travelers; number two, we need to have global vision to see the global linkages; number three, will power; number four, brainpower; and finally, we need to collectively work together to make a decision to have proactive instead of crisis innovation.

Let's take a look what – let's take a look at being a time traveler. On the issue of sanitation, if we look back to our efforts to eradicate disease and health risk in the world, yes, we wiped out smallpox, but yet, I think as you all know, 90 percent of the diseases we have today are still water related and four out of five deaths result from water-related problems. And I think you all know that 6 million people die every year because of contaminated water.

Despite the fact that engineering marvels have delivered clean water, many developed nations today face problems of purity. Many of the water delivery systems are fragile and aging, and contamination is increasing in many modern countries. The trend is clear, but it's rarely even commented on, that even citizens of the most developed countries of the world now carry water in bottles, and that is simply because we can't trust municipal water supplies. We continue to identify more pathogens and

contaminants that we need to address as we ever yet set higher standards for what is considered safe and pure water.

Looking back to scarcity: in 1950 there were only two cities larger than 8 million and today we have 23 cities larger than 10 million – 18 of these are in the developing world. By 2030, just 25 years from now, the urban population will be two times that of the rural areas, representing an amazing 160 percent urban growth. Many of these cities are in areas of major water shortages and most do not have the resources to deliver and purify the water they do have. Three hundred million people now live in areas that are serious-to-severe shortage. In 25 years, that number will be 3 billion people. But again, the amount of fresh water available for all of us will remain constant: 1 percent. And when we think about improving supply and demand, keep in mind that the demand is essentially – correction – the supply is essentially fixed.

We saw this map yesterday several times with respect to scarcity and stress, so we all know that there is no area in the world that is free of these issues. But what is important for us as a group is to say, how can we educate those people outside this room to know that increasing demand with a fixed supply will in fact dictate productivity and efficiency or else we are going to continue to face the disaster that we have?

Many countries depend on others for the inflow of their water. Here is a chart that shows Egypt, the Netherlands, Cambodia, Syria, Sudan, and Iraq. All of these countries get more than half of their water from neighbors. And also, take a look and see how quickly population is doubling in these regions. With increasing population density and no increase in fresh water, is there any question that we have to think about water the way we once thought about it as oil? It's a fluid which is going to define this century for good or ill, for peace or war.

So there is no need to really hypothesize about the future implications of all of this as we look backwards. We can look right here close to ourselves to see the implications -- the recent cholera epidemic in South America in the early 1990s -- 11,000 people dead, a million or more sick, and an economic impact beyond calculation. And just so we don't think that these things affect undeveloped areas of the world, let's look right here in the United States back to the 1993 cryptosporidiosis contamination in Milwaukee – 58 deaths, \$96 million worth of damage, and again, economic impact – and to think things like this have actually precipitated the use of things such as the fresh water and bottles that we drink. I think the point of this is that we have a global problem on our hands. It's not a local issue, and the past and the future need to be recognized or we are not going to be in control of our destiny.

The second condition for innovation is global vision: to recognize the global links of all peoples and all problems. We must be able to look at the globe and recognize it is not a traditional local issue. As I mentioned, all local issues have in fact become global. There was a day when many in the U.S. thought that there was -- drugs were a problem of the poor and the so-called “marginal in society.” Today, drugs are a problem for all of us. There was a day when some nations thought AIDS would never affect them and now

we face a pervasive, comprehensive AIDS crisis in every country in the world. And just as local supply chain productivity has dramatically affected global economies, the interdependencies of water-related issues have indeed become one global issue.

And I think more importantly is that this has not necessarily been a priority for all of us in the developed economies. Water seemed readily available, endless in supply, and now shortages and sanitation, and scarcity are problems for all of us.

Let's take a look at scarcity and the world. The availability and distribution of water is a major problem. For example, agriculture uses 70 percent of the world's water. Whether it's California, Texas, Sudan, irrigation is inefficient and wasteful. Cities just a few hundred miles away from farms struggle with shortages and high prices while – excuse me – poor farming practices and subsidies result in wasted water.

If we look at manufacturing, the picture is also discouraging. The world manufacturing systems are open, meaning water is drawn in for production and discarded at the end of the process. And more often than not, we are discarding a very, very valuable renewable resource. In both developed and developing countries, it is not uncommon for communities to be able to account for less than 60 percent of their water. This may be the result of leaking, aged systems, or corruption. Whatever the case, we are all the losers.

If we look at economic costs, they are enormous. India, for example, lost 73 million working days in the 1980s because of water illnesses, costing the economy \$600 million. In human costs internationally, one child dies every eight seconds from water-born disease. I mean, this is something that I think as a group we need to articulate more clearly to the rest of the world. Can you imagine what would happen if we could really get the general public at large to focus the attention around this dramatic and increasing loss of human life? I mean, just reflect on how many initiatives we have around us that focus on losses of human life – far less significant than the fact that one child dies every eight seconds.

On energy and water, the purification and movement of water depends on energy. Whether a generator in a rural village, or a mega city of 20 million, energy is clearly tied to clean, available water. It's expensive no matter where you are and increasingly scarce. The Electric Power Research Institute estimates that if we stay on the course that we're on, by 2050, we are going to need 7,000 gigawatts of additional electrical power just simply to clean water. And the total available that we have today in the world is only 3,000 gigawatts.

So you might ask: do we have the resources to deliver that power? Probably not. This is clearly not a path that we can take in terms of energy consumption, and again, it's a mandate that dictates the application of efficiency and productivity. What are ways that we can do to rebalance the energy needs of the future and to find new ways to deliver pure water? Global vision and global links should make it clear that there is no longer such a thing as someone else's problem. It is now our problem. Remember, those who

noted that oil was the fluid of development and contention of the 20th century now believe that water is the fluid of development and contention of this century.

The third condition for innovation is will power. It is not enough for all of us here in the room to recognize the enormous threats of water scarcity, sanitation, and energy, but we have got to have the steady will to help others realize these dangers and opportunities. There are difficult and complex issues that the public at large must understand and we really can't waiver in terms of introducing these issues as complex as they are, as controversial as they are to the general public.

There is still little public understanding of the risk of the status quo. You know, in most cases in communities – and I know this was an interesting topic yesterday -- water has not been offered at market value. It has been subsidized by various governments so that the true cost of water is really not clear to the user. We must have got to the will power to consider offering water at market value and offering water through public and private partnerships.

There must be a connection between the cost of producing a good and what people pay for it. Without that connection, waste and inefficiency will indeed result. It is our responsibility then to increase the awareness that if people undervalue water, they are very likely to waste it. And we think that that is a fundamental economic equation that needs to be addressed.

If you think about free water, even the so-called “free water” of rural villages carried from distanced wells is far from free -- hours of labor to carry water is hardly water without price. And add to the labor, inefficiencies, which discourage fair distribution to the elderly and ill – and never mind the fact that these distribution systems are very, very unclean. The poor often pay dearly for water that is free in name only. And the cost of the water in the bottles we're drinking today – I just did the math, you can do the math – six to 10 times the price of gasoline – that is hardly free.

It is amazing the lack of trust in municipalities – water purity forces us to really savor the fluids at a price that is enormous in considering something as – generally as expensive as gasoline. So whether it's developed or developing countries, the true cost of water had got to be realized if conservation, efficiencies of use, and technological innovations are to follow.

Addressing manufacturing and agriculture, quite simply, if these two sectors can improve the use of water, there will be more water for others. Worldwide, manufacturing wastes water and affects other large amounts of water via pollution. And as you know, agriculture uses 70 percent of the world's water. And if you think about reductions in that 70 percent, that's an enormous incremental increase in availability of other fresh water that can be used for domestic and residential uses.

In terms of manufacturing, I think this chart says it all. One car requires 39,000 gallons of water to manufacture. A barrel of crude oil takes 1,800 gallons. A ton of steel

62,000 gallons, and just one semiconductor takes 3,000 gallons of water. Imagine how much water it took to produce the chips that all of our cell phones -- here in the room today. A pound of bread, a pound of rice, one ton of water each. I think that is an enormous revelation in terms of what the agriculture and manufacturing sectors consume on a product basis. And further, we need the willpower to face difficult issues. What sense does it make that the farmers of the Imperial Valley of California are paying \$15.50 an acre foot of water when just to their south, the neighbors in Southern California are paying \$431 an acre foot? That's an enormous discrepancy that we ultimately need to deal with.

Obviously there are not yet answers to a lot of these questions and issues that we are raising here and throughout the forum, but certainly financing water projects, bringing in new partners, different cultures, and different policies affect all of these issues. But again, we need to have the willpower to acknowledge that not everything is clear and easy even if we have the money. We must recognize, for example, that there are different markets for financing and achieving sanitation. If you take a city like Paris or Milwaukee, their sources of funding and existing infrastructure are quite different than in Belgrade and Mexico City.

The same is true in developing areas: the needs and solutions of an African village are quite different than that of an Indian village. Recognizing these differences doesn't mean that the resolution is clear but they are important starting points. We can't turn away from this issue around the world because some countries or municipalities simply can't pay the check. We do need funds for the system and how are we going to proceed?

We think there is a variety of appropriate responses. We need the will power to investigate new players and new financing. What do we have to consider about village water delivery compared to urban water delivery? What are the different needs? How does delivery differ? And how do we achieve results? We think there is great contribution with our NGOs, government, and private industry and especially working in concert rather than independent and creating wasteful redundancy unfortunately as a result of our collective efforts for the good will of society.

We need to consider new relationships and new opportunities, and I think that is one of the magical opportunities that we have right here together in the discussions around the coffee pot and water cooler. That is the power of everyone here in the room -- the fact that we have done so much and we know that there is so much more to be done and it really is up to us to initiate those conversations with each other to serve as a catalyst for future cooperations. And I think from that new commitments for partnerships are going to generate some new solutions.

We need to have the will power to consistently educate our public about the many issues of scarcity, sanitation, and energy. And I think this education particularly will raise the awareness of youth because those are the folks that are going to be consuming water and setting policy for the future. There is no national water policy in the United States nor is there a Department of Water. There is no single place in the United States

government to get a comprehensive view of water policy and issues. There is no consortium of businesses addressing water needs and opportunities.

So water needs to become a policy priority. It is time for a national and international expansion of commitment to the water century to provide clean, safe water, well managed, and conserved for everybody. So I think when we leave the room today, we want to know that it is indeed time for a national and international policy. Our U.S. Congress is an appropriate starting place. Lawmakers should review local and national policies in preparation for a national policy. And we need to consider revolving funds as sound water improvement loans, and finally find ways to make policy and practice part of an integrated whole.

Local politicians, city planners, farmers, agri-businesses, various citizens – we all need to be equally involved in water planning and decisionmaking. We need to make sure that local, state, and national forums can make decisions for the better good of all of society and not just in their independent areas of jurisdiction. Only then can we meet the challenges of our water century.

The fourth condition for innovation is brainpower, and what we mean here is new ways to solve problems of scarcity, sanitation, and energy. Some are the leading edge technologies and some are changes in scale and approach. Let's look at some breakthrough technologies appropriate for the developed economies and understand that these new technologies can really address not only sanitation, scarcity, but energy uses as well.

Ambrose Bierce described our oceans as "A body of water occupying about two-thirds of a world made for man, who has no gills." Gills or not, there is no doubt that desalination is a large part of the future for developed economies. Florida and Massachusetts, Middle Eastern countries are all participants in the desalination movement. Reverse osmosis and new technologies no longer so dependent on energy have resulted in steadily decreasing costs for water. Look at the costs from 1991 to 2003 -- the savings are dramatic: from \$6.00 per 1,000 gallons in Santa Barbara to \$1.50 per 1,000 gallons in Singapore. Kuwait will soon be producing 30 million gallons a day of fresh water with our own ITT desalination technology at even more cost efficient levels.

Industrial recycling of water is another area which dramatically alters the intake of water and the quality of discharge. A decade ago it was standard procedure to just run water through the manufacturing cycle and then just discharge it, which not only was wasteful but created a downstream contamination and pollution. Now, more and more companies are looking at self-contained systems where the same water is used, cleaned, and used again. These systems can create enormous savings. One example is our own ITT Defense/Avionics Plant, where we make avionic equipment for airborne aircraft -- saves 160,000 gallons per day via a totally self-contained system. We reuse the water and in fact it's a zero discharge system so that it is totally -- totally free of taking in new water.

Using a self-contained, zero-intake water system, Israel increased water efficiency in manufacturing three fold in 13 years. The \$100 worth of goods that required 20 cubic meters of water for manufacture in 1962 required only 7.8 cubic meters of water by 1975. This efficiency has been so successful in cutting costs and creating a better environment that Israel has a national policy requiring total wastewater reuse.

I would like to point out that it is policies like this that will be a catalyst for further technological innovation in efficiency and productivity. We think about developing economies in terms of technology. If we can lower agriculture's use of water, we are greatly going to alleviate these concerns. And of course at the heart of this is poor irrigation techniques. Drip irrigation systems are better than broadcast systems in terms of conservation, as well as preventing salination in the soils. Lining irrigation channels with water-impervious liners prevents seepage and loss. Recycling wastewater for agriculture results in greater supply and provides more crops.

Delivery too can be accomplished with awareness of scale. Although Jamaica was the site of the very first water system in the New World, 30,000 people in Withorn and Darliston were without water. All the water had to be trucked in at a great expense disrupting planning and daily activities, and now, for the first time, these communities have received clean, potable water. This was made possible with an energy-efficient phased pumping, and low maintenance, small plants with very few people – has created this availability and now 30,000 people have clean water without all of the inefficiencies and limitations of truck delivery.

Scale is very important when we consider the problems before us. Brainpower must not be saved for big projects only. Projects smaller than the 30,000 people of Jamaica are important first steps and they are important incremental steps. For example, ITT donated just one pump to the Malawi Children's Village in East Africa, and this one pump became the difference between life and death for several hundred orphans. And additionally, the availability of small, local installed systems of fresh water has shown to be a catalyst for accelerating local economic development.

Turning to sanitation – this is a major issue to affect infant mortality, life span, in both developed and developing economies. Sanitation options are multiplying right now because of new technology and awareness. For instance, ultraviolet and ozone disinfecting alternatives are growing at greater than 10 percent a year. Ultraviolet irradiation, for example, is very low in cost, it's low in operating and maintenance expense and it's environmentally safe.

If we look at this chart comparing chlorine treatment to UV treatment, you can quickly see that UV is the stronger option across the board whether you are considering pathogen, inactivation, or simple cost of operation. So these are examples of new technologies that we are rapidly advancing to address sanitation.

Another example would be a portable ST1 water treatment, capable of treating more than 1,800 gallons an hour of water. The units are diesel powered, enabling them to

operate in the many areas that are without electricity – they are simple to operate and maintain. These ST1 units are the units that ITT sent to the tsunami victims that are in process now helping to clean water quickly in Sri Lanka – in the Maldives. And these treatment systems, which are portable and inexpensive, have already proven the difference between life and death in the devastating aftermath of the tidal wave.

And this application, which was originally designed to support our troops in the field, has been really very successful. And we have already created a significant amount of interest for other commercial applications of end Point of Use systems with a production quantity such as this one – no pipes, no infrastructure; just clean water when you turn the diesel engine on.

These kinds of point of Point of Use products to purify small amounts of water are also an important option. I know you saw yesterday a summer of Procter and Gamble's very, very innovative purer, but I think this is an example of wonderful new technology. We are truly mastering the scale by making one family the unit of action and benefit. PGN's product that you see here was also sent to the tsunami victims and as you know it provides two-and-a-half gallons of fresh water -- clean, safe water for a family in just 30 minutes. These are the kind of technologies we need to address with sanitation.

On the energy side – again, enormous opportunity in the future. It takes a lot of energy to have clean water. Pumping stations typically have had 56-kilowatt pumps stations, which cycled on and off as needed. This is expensive both in maintenance and electrical cost. Through the use of some load-balancing sensors, as well, as using new designs, one example was an ITT design that uses 26-kilowatt pump running continuously with a larger pump cycling on and off at peak usage.

But look at the results – 50 percent less maintenance costs and 21 percent electricity. When you think about the fact that 70 percent of the cost of a water pump's lifecycle cost is in fact the energy that it consumes. You can understand why we are proud – 21 percent less electricity for just one pump may not seem like much, but three percent of the United State's power consumption is consumed by sewage pumps alone. So you can see that this is actually an enormous national energy user and these savings are obvious.

In developing economies, available energy is always a problem. It is difficult for rapidly growing economies like China to meet both industrial needs and those of residential users. For example, Northern China, when they recently suffered a major drought, they had an immediate need to develop new efficiencies and they coupled that with higher pricing for the use of their water, which ultimately led to a reduction in waste. It is not uncommon for factories in China today to use 10-times more water than those in fully developed economies. And think of this – this is despite the fact that two-thirds of Chinese cities are short of water, 90 percent of the cities are polluted, and 20 percent of water in China is lost from leakage.

China has already begun to exercise the difficult will power of innovation, including raising the price of water for the first time since 1949 to encourage a wiser use of this essential resource. Impoverished countries have even greater difficulties. One important variable for these countries is the difference between urban users and village users. Sparse populations, dense populations; distanced water carried by pumps or by hand.

These variables clearly reflect one of the most difficult challenges and I think one where innovation can make the difference. And this is clearly where new players like the NGOs and new understandings of the market come together. There is no doubt that organizations such as WaterAid, Water for People, CSIS, and others will be important partners in the future as they have been in the past. These NGOs affect and influence the media and the government, and water will move up as a priority and solutions will quickly follow.

The final condition to contemplate around innovation is going to be proactive innovation rather than crisis innovation. Dr. Snow was a part of crisis innovation. That crisis forced citizens to pay attention to his theory, which had been formulated actually years before the crisis occurred, and only faced with disaster was serious attention given to his ideas, which led to the improvement of London's water quality. Crisis Innovation will force change at a difficult rate. There will be casualties, hasty allocation of funds, and quite frankly, we don't need another set of droughts, disease outbreaks, terrorist acts, and water wars to launch our water policies.

I complement Coca-Cola. Several restrictions were brought on by drought that forced the shutdown of Coca-Cola and Pepsi in India recently. The losses for workers, and shareholders were immense, and after that crisis, Coke, recognized future water threats – they reduced water use by three percent while increasing volume sold by four percent. We need widespread study, analysis, and commitment, testing in the application of all of these technologies to innovation. We can't afford to have global shutdowns like the ones that were faced by Coke and Pepsi. And only through a consortium of partnerships and new technical and business approaches will we find the new pump handle, which symbolically marks our transition of the innovations to the new century of water.

For the future, the players will be time travelers who spend their energies understanding the past as they look forward. They will recognize that innovation depends on the realization that global vision is required to see the global linkage and that all seemingly local issues are in fact really global ones.

We will have the will power to commit to public education and development of policies. This will include the recognition that there is no such thing as free water, and that the new markets, new methods, and new players, in cooperation with each other will in fact generate new opportunities for innovation, which will lead to recognizing the importance of brainpower in new technologies – different technologies for different

stages of growth and economic needs. And finally those players will practice proactive innovation and avoid the crisis innovation.

I think it would be appropriate to conclude with three points in terms of what this means for ITT, what this means for the private sector, and what we think needs to happen in the future. We start with the fact that the one percent of fresh water is not really going to change. So we think about that – is going to be a fixed input into this system.

We need to do three things. We need to have a policy on water. This is going to happen only through education; it's going to have to be in the top of everyone's to-do list. We need to be involved collectively, politically, and to make sure that we are commitment to an enlightened policy to save lives and avoid this ongoing disaster. I think we all know and appreciate that Senator Frist has made it clear that this is an important personal commitment, and ITT management and our water technology group absolutely shares that commitment.

Second, scarcity, sanitation, and energy challenges are going to be met only when water – when the production of water is tied to demand and cost. With market pricing will come increased awareness, efficiencies, and public involvement.

And then finally, if we have these first two things in place – and that is water policy and an economic model that ties demand and cost together, then we believe that that will be the catalyst for further technological innovation. I think it has been proven over and over again in other free enterprise economies and we believe that that is absolutely necessary as a next step for us.

So Dr. Snow and his neighbors were fortunate that he could remove the pump handle and change history. I think we have to seek our new pump handle – the pump handle innovation of this century, and in fact create our own future before it defines us. As Francis Bacon said, "Time is the greatest innovator." And over the span of history, it is true that time is the greatest innovator, but we can't allow time to be our master for water. If we do, I think we will share the unfortunate observation of another who said that, "Water is a very good servant, but it is a cruel master." So with that, we need to be the masters of our own destiny as we march into the water century.

Thank you very much.

(Applause.)