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Three Mile Island: A Case Study in C^3I for Crisis Management

Richard L. Thornburgh

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Richard L. Thornburgh

Since the time he addressed this seminar, Richard L. Thornburgh was named Attorney General of the United States, and has served in that capacity since July 1988. At the time of this presentation, he was the Director of the Institute of Politics, John F. Kennedy School of Government, Harvard University, after having served two terms as Governor of Pennsylvania (1978 to 1986). During his term of office, he was elected Chairman of the Coalition of Northeast Governors and of the Republican Governors Association, and was named as one of the nation's most effective big state governors by his fellow governors in 1986. Previously, he served as Assistant U.S. Attorney General in charge of the Criminal Division of the Justice Department from 1975 to 1977, and as U.S. Attorney for Western Pennsylvania from 1969 to 1975.

Oettinger: As you know, Governor Richard Thornburgh is the Director of the Institute of Politics. He will begin with some remarks that he has prepared, though he has indicated that he is amenable to questions even then. Then we'll move on to discussions.

Thornburgh: Thank you, Tony. As I said during our luncheon gathering beforehand, I thought it might be useful to begin this discussion of my experiences as Governor of the Commonwealth of Pennsylvania for eight years by drawing on my reminiscence of an extraordinary event that occurred very early in my tenure in office; by delivering to you the thoughts that I recorded in a paper that I prepared shortly before leaving office on the Three Mile Island incident as a framework for discussion of a variety of other activities that reflected not only the management of emergencies but the everyday business of a state government.

Pennsylvania is at present either the fourth or fifth largest state in terms of population, depending upon how many people came into Florida today. It's a state with a very diverse population and economic base, and I think is a reasonable laboratory to look at in terms of the challenges that face those involved in the administration of state government. I'd be most interested in your response to the history and what I think are the lessons learned from the Three Mile Island accident in the context of the challenges of state government.

Let me begin by giving you this kind of extended summary of that event, and then we'll open it up for questions.

Only one thing was on my mind at 7:50 on the morning of March 28, 1979. As a Governor in office only 72 days, I was vitally interested in securing passage of my first budget — one that would reflect my administration's priorities for the Commonwealth of Pennsylvania. The agenda at my breakfast meeting for freshman Democratic legislators — I am a Republican — that March morning was to secure bipartisan support for a fiscal plan that reflected our campaign goals: enacting a balanced state budget, promoting economic development, providing better roads and schools, reforming a costly welfare system, and cracking down on violent crime and governmental corruption.

At 7:50 a.m., however, a telephone call from the state Director of Emergency Management interrupted our meeting. There had been an accident at the Three Mile Island nuclear power plant located

just 10 miles downstream of us in the middle of the Susquehanna River. I knew immediately that our ambitious agenda for leadership was about to be rudely amended. What happened in the next five days is now history.

The problem actually had begun at four o'clock in the morning when vital cooling water started to escape through an open valve in the newest of two nuclear reactors at the plant. For the next $2^1/_4$ hours plant operators failed to read these symptoms correctly, failed to close that valve, and mistakenly shut off an emergency cooling system that otherwise would have operated automatically. The reactor core overheated and the worst accident in the history of commercial nuclear power in the United States was well underway.

That was eight years ago. We now know that while some of the reactor fuel heated to the point of melting, a disastrous meltdown, as suggested in the popular movie *The China Syndrome*, would be avoided. We now know that while detectable amounts of radiation escaped into our air and water and even into our milk during the days of tension that were to follow, the amounts were limited and their impact on public health, if any, remains debatable.

And we know now that a massive evacuation of the up to 200,000 people residing in the area, and its potential for panic, would have been far more dangerous and damaging than was the accident itself. But when I answered the phone at 7:50 on that March morning in 1979, we knew none of this.

Nuclear power was still the technological marvel of our time. To some it was the ultimate answer to our growing energy problems: a source of electricity once described as being "too cheap to meter," and an industry whose safety record had been, or at least was thought to have been, second to none.

I had neither reason nor inclination to challenge these assumptions — except, perhaps, the one about my light bill being too cheap to meter. Nuclear jargon was a foreign language to me and my exposure to emergency management at a nuclear power plant was limited to a perfunctory briefing just after taking office. I knew enough, however, that the thought of issuing a general evacuation order first entered my mind at 7:50 that morning and never left me throughout the unprecedented days of decision that followed.

On the first day it was not yet clear that the Governor would have to manage the civilian side of this crisis personally, but it was very clear that a new administration, with ultimate responsibility for public health and safety, had better start asking questions, analyzing the answers, and preparing for the worst.

Because we were so unfamiliar with the existing state bureaucracy and because there simply was no state bureau of nuclear crisis management as such, let alone a precedent to study, we did something at the outset which was to serve us very well. In lieu of the existing bureaucracy, I assembled what might be called an "ad hocracy" — a team of close associates whose judgment and competence I would trust absolutely, and a support group of relevant state specialists whose judgment and competence were about to be tested under pressures none of them had ever known before.

The ad hocracy included, among others, the Lieutenant Governor who, in addition to his role as Lieutenant Governor, served as Chairman of our Energy and Emergency Management Councils. He would head our fact-finding effort in the early stages of the accident. Another member was my Chief of Staff who, like me, was a former federal prosecutor with an instinct for asking the right questions of the right people at the right time — an instinct that served admirably throughout this ordeal. Another was my Secretary of Budget and Administration, who would evaluate the state's existing emergency management apparatus, including evacuation plans, and find them deficient — a situation which we moved quickly to correct.

Others were my Director of Communications, along with my principal speechwriting assistant, both of whom, as former reporters, shared an instinct for gathering and analyzing facts, as well as putting them in language the public could understand. And, of course, there were the specialists: the Director of the Bureau of Radiation Protection, the Secretaries of Health and Environmental Resources, the Director of Emergency Management, and various others who moved in and out of the group on an "as needed" basis.

The ad hocracy reported to me only periodically at first and those reports were sandwiched between other pressing, but somewhat normal, affairs of state. At the outset, I believed it was important to conduct business as usual in the Governor's office, and perhaps even more important to appear to be doing so. As the implications of the accident became more apparent, however, I began to cancel other appointments and the ad hocracy virtually moved into my office for an extended and unforgettable stay.

Our first task was to find out exactly what was happening at the site of the accident. I'd been trained as both an engineer and as a lawyer, and had a well-developed respect for the integrity of facts. I instinctively demanded much more of my sources than opinion, conjecture, guesswork, or contradictory allegations. I wanted the facts as best as they could possibly be determined and as quickly as they could possibly be assembled. In the case of Three Mile Island this would prove to be far more difficult than any of us imagined.

The utility, its regulators, and other groups and institutions appeared to be contradicting one another, or telling the public either less than they knew or more than they knew. Self-appointed experts began to exaggerate either the danger or the safety of the situation. The credibility of the utility, which first seemed to speak with many voices, and then with none at all, did not fare well either with us, the news media, or the public. The company began that first day by seeking to minimize the accident — assuring us that everything was under control, when we later learned that it wasn't, and that all safety equipment functioned properly, when we later learned that it didn't. Even when company technicians found that radiation levels in the areas surrounding the island had climbed above normal, the company itself neglected to include that information in its statement to the public. The company also had vented radioactive steam into our air for about $2^1/_2$ hours at midday without informing the public.

It fell to us, then, to tell the people of central Pennsylvania, as the Lieutenant Governor did at a 4:30 p.m. press conference, that, "The situation is more complex than the company first led us to believe. That there had, indeed, been a release of radioactivity into the environment. That the company might make further discharges. That we were concerned about all this, but that off-site radioactivity levels had been decreasing during the afternoon and there was no evidence, as yet, that they ever had reached the danger point."

Although we continued, throughout the crisis, to monitor what utility officials were saying, we began to look elsewhere for sources of information which would be more credible to the public, as well as helpful to us. Among others, we turned inevitably to federal engineers and inspectors who had spent most of the first day inside the plant.

Three of these on-site government experts briefed us that evening and joined the Lieutenant Governor in a 10:00 p.m. press conference that was to put a long Day One to bed for most members of the ad hocracy.

I was an exception. My past reading habits would delay what otherwise might have been a deep, comfortable, and much needed sleep, because I recalled reading a book reassuringly titled *We Almost Lost Detroit*, an account by John G. Fuller of problems at the Enrico Fermi nuclear power plant in Michigan. I remembered Fuller's discussion of the consequences of core damage at the Michigan plant and realized that our federal experts had not raised this issue with respect to TMI during our evening briefing.

It might be remembered that in 1979 few people realized that there really was no danger of an actual nuclear explosion, a mushroom cloud and all, from a nuclear power plant. That isn't physically possible. The real catastrophe, as outlined by Fuller, would be the overheating of the reactor core to the point where it actually melts down and burns through its concrete and steel containment, thereby releasing massive amounts of radioactive material which silently but lethally could contaminate the environment for miles around and for centuries to come. The term "China Syndrome" was derived, in fact, from the theory that such a core would be so hot it actually could burn its way through to the other side of the earth.

Ironically, the movie of that name was running in Harrisburg area theaters that very week, and its script incredibly described a meltdown as having the potential to contaminate an area, and I quote, "the size of the state of Pennsylvania."

I did manage to get sleep that night, but I began Day Two with a new skepticism toward experts in the industry.

As the authors of a specially commissioned report were to write much later, the second day of the crisis was an interlude: a day for the drawing of deep breaths; a good time for members of Congress to put in an appearance which, of course, they did. Chairman Joseph Hendrie of the Nuclear Regulatory Commission (NRC), meanwhile, was telling a congressional committee in Washington that we had been nowhere near a meltdown, although he had no way of really knowing this at the time. The company was holding its first full-fledged press conference since the accident, and telling reporters that the plant was stable and that the controlled release of limited amounts of radioactivity into our atmosphere soon should be terminated. There seemed to be a feeling among those in charge that the worst of the

accident had passed. I wanted to believe that, of course, but I was not too sure.

Company efforts to cool down the reactor were not working as well as expected and self-appointed experts and eyewitnesses of dubious distinction continued to feed us unsubstantiated stories about dead animals, along with exaggerated warnings, various evacuation schemes, and a ridiculous tale prompted by a poorly worded NRC press release in Washington, of radiation so powerful that it was penetrating four feet of concrete and spreading across the countryside up to 16 miles from the plant. There were also signs popping up in grocery store windows proclaiming, "We don't sell Pennsylvania milk."

Public faith in the experts and institutions was beginning to erode and it was clear that the credibility of the Governor's office was to become much more than simply a political asset for its occupant. That credibility was to become, perhaps, the last check against a possible breakdown in civil authority, and the chaos and panic such a breakdown surely would ignite. Obviously, we were determined to preserve that credibility and that check.

The time had come, I felt, for the state to become more visibly active and to use whatever credibility we had maintained to put things back into perspective: to establish, in other words, if the situation was not as bad as some would have us fear nor as good as others would have us believe.

Let me emphasize that we did not run to the capitol media center with every doomsday alarm, offsite rumor, pseudoscientific finding, or even credible piece of information that crossed my desk. We took our lumps from the news media, in fact, for alleged inaccessibility because we spent hours and hours cross-checking one source against another and testing all of our information for truth, accuracy, and significance. Once we did go public, even the grumpiest of reporters acknowledged that they did indeed come to depend upon us for the truth about what was going on and what it all meant.

While I did continue to seek advice and briefings from federal people working at the site, I sent our own state experts on radiation and nuclear engineering to the island to supplement and cross-check what they were being told.

On their assurance that it was safe to do so, I also asked the Lieutenant Governor to go into the plant and bring back what was to become the first authentic layman's report on what it was like there. I wanted to know if the company technicians themselves were in a panic, and his later description of the workers as calm and cool was reassuring, to say the least.

The mere fact that the Lieutenant Governor actually had gone inside the plant at that particular time was perhaps even more reassuring to a citizenry bombarded by the various "Chicken Littles" in our midst.

Finally, we all agreed it was time for me to become publicly involved in the effort. As you know, a Governor cannot command the television cameras free of editing the way a President can. Yet, I felt a need that afternoon to communicate directly with the people who had been living with the uncertainties of this strange and unprecedented event. So, as I opened my first press conference since the accident began, I addressed my remarks directly to the people of Pennsylvania. "There is no cause for alarm," I said, "nor any reason to disrupt your daily routine, nor any reason to feel that public health has been affected by the events of Three Mile Island." "This applies," I said, "to pregnant women. This applies to small children and this applies to our food supplies. While we believe the danger is under control at this time, we recognize that it is very important that all of us remain alert and informed. We will do so."

My briefing to the press that day was followed by one of the experts from the NRC, a staffer who declared to my astonishment that the danger was over. I learned later that night that another on-site expert privately disagreed, and that water samples indicated that core damage was very bad. While Thursday ended on this somewhat edgy note, it was a mere prelude to a Friday I will never forget.

Day Three was to become known as the day of the great evacuation scare — the day that illustrated not only the folly but the very real danger of trying to manage this kind of an emergency by long distance. It began, once again, in the early morning hours, when the shift operators at Three Mile Island were alarmed by a buildup of steam pressure on a valve. Without approval from anybody, they simply opened the valve and allowed the steam, along with a substantial amount of radioactive material, to escape into the atmosphere.

Helicopter readings taken directly above the plant's exhaust stack indicated a radiation exposure rate of 1,200 millirems per hour — a rate certainly high enough to warrant an evacuation if the readings had been taken in nearby Middletown, in Harrisburg, or anywhere off the plant site itself. But coming directly out of the stack, where the materi-

als immediately were dispersed, such a reading was no more significant than those taken on the previous two days of the crisis.

Unfortunately, in a classic manifestation of what I later was to call the "garble gap" between Harrisburg and Washington, the NRC's Washington-based executive management team thought that the readings had, indeed, been taken in an off-site area and decided to recommend that we evacuate all residents within a five-mile radius of the plant. Also unfortunately, this Washington group forwarded its recommendation up to us through our Emergency Management Director instead of our Radiation Protection Director, the latter of whom could have corrected the error and spared central Pennsylvania from reaching the very brink of panic. Even more unfortunately, the Emergency Management Director called a local civil defense director, who called a local radio station with the news that an evacuation order from the Governor might well be imminent. I had yet to be so informed.

When the word finally did get to me that a Doc Collins from Washington was saying we should evacuate, I had no idea who he was or by what authority or for what reason he was making such a recommendation, and I did not intend to evacuate thousands of people on such incomplete information. For no matter how well they are planned, massive evacuations can kill and injure people — especially the aged and infirm, infants in incubators, other hospital patients, and even the able-bodied bystander who, like the usher at the exit of a burning theater, happens to be in the wrong place at the wrong time.

So, I started asking questions. My difficulty in getting answers was compounded by the jamming of our switchboard, thanks not only to the premature disclosure of an erroneous evacuation advisory, but also to the mysterious tripping of an emergency siren that soon had hearts pounding and eyes widening all over the city.

Oettinger: What city are you talking about?

Thornburgh: Harrisburg. People were throwing their belongings into trucks and cars, locking up their shops and homes and packing to get out of town. If ever we were close to a general panic this was the moment.

I placed a call to the NRC Chairman himself, and by the time I reached him, his staff had discovered what my own radiation experts were telling me: that the evacuation advisory was a mistake. The NRC group withdrew the advisory, and I immediately went on the air to assure our people that the alarm was a false one and that there would be no general evacuation.

Shortly after that I was on the phone with President Carter. Our two staffs had put aside partisan interests in dealing with this crisis from the beginning, and rightly so. They had developed the kind of "friendship under fire" that such incidents frequently promote. My conversation with the President was, therefore, honest, open, direct, and above all, productive.

I asked for, and the President agreed to send us, a high-ranking professional who could go to Three Mile Island as his personal representative, merge solid technical and management expertise with an on-site perspective, and report accurately and directly to the White House, to me, and to the people on what was going on out there, what was not going on, and why.

Harold Denton, the NRC's Director of Nuclear Reactor Regulation, turned out to be the perfect choice, and his arrival later in the day would represent a turning point in the crisis. For the moment, however, the evacuation question was not entirely settled. While we were relieved that a general evacuation was unnecessary, the confusion which that episode exposed in Washington, as well as in the plant, and the uncertainty over what might happen next troubled us deeply.

We began to wonder on our own if pregnant women and small children — those residents most vulnerable to the effects of radiation, yet relatively easy to move — should be encouraged to leave the area nearest the plant. We put that question directly to Chairman Hendrie who answered, and I quote, "If my wife were pregnant and I had small children in the area, I would get them out, because we don't know what's going to happen."

Shortly after noon on Day Three of the crisis, therefore, I recommended that pregnant women and preschoolers leave the area within five miles of the plant until further notice, and that all schools within that zone be closed as well. I also ordered the opening of evacuation centers at various sites outside the area to shelter those who had no place to go. "Current readings," I told the people, "are no higher than they were yesterday, but the continued presence of radioactivity in the area and the possibility of further emissions leads me to exercise the utmost caution."

Harold Denton arrived at the plant that afternoon. A three-way hotline was installed there to connect him with me and with the President. Later that night, Harold and I met for the first time and spent

an hour and a half reviewing the situation. It was quite, quite clear that his slow and relaxed North Carolina drawl, his way of smiling naturally as he spoke, his ease and apparent candor with the press, his ability to speak plain English, as well as nuclear jargon, all of these factors soon were to make him the world's most believable expert on the technical situation at Three Mile Island. It wasn't to be too long before his value would be put to the test.

While he was on his way up to Pennsylvania, his colleagues in Washington finally referred publicly to the theoretical possibility of a meltdown, an accurate but poorly handled statement which caused even that most credible of all Americans, Walter Cronkite, to lead the CBS Evening News by saying, and I quote, "We are faced with a remote but very real possibility of a nuclear meltdown at the Three Mile Island atomic power plant."

Harold Denton joined me at a press conference that night, put the facts in perspective, lowered the level of concern, and earned his spurs with the press and with me. While we did continue to cross-check his observations against those of my own team, we quickly became convinced that he was as credible as he appeared to be. As Day Three wound down, I felt we were finally equipped to handle the misstatements, second guessing, and false alarms that were certain to continue.

Harold Denton's long series of regular press conferences in Middletown, near the plant site, began on Day Four, Saturday, March 31. These briefings did serve to keep things relatively calm, and I felt it safe to leave Harrisburg for the first time since the accident. I wanted to visit some of the people who had spent the night at my advice on cots and blankets covering the floor of a sports arena in nearby Hershey. It was there that I resolved to do all that I could for the remainder of my term to see that neither human nor technological error on Three Mile Island ever would be allowed to threaten these people again — a commitment that would consume an inordinate amount of my time for the balance of my term of office.

As for March 31, 1979, however, human and technological errors were to provide yet one more scare for these good people. Based on information given to it by an anonymous source within the Nuclear Regulatory Commission in Washington, a wire service ran a news bulletin that night that read, and I quote, "Urgent. The NRC now says the gas bubble atop the nuclear reactor at Three Mile Island shows signs of becoming potentially explosive." This fear was totally groundless. The hydrogen bubble never would explode in the reactor vessel. As one review of the crisis later recalled, "It would blow up, instead, in the media."

The bulletin, in its most cryptic and chilling form, moved like a hurricane advisory across the bottoms of prime time television screens everywhere in the nation that Saturday night. In Harrisburg, people streamed out of downtown bars and restaurants. Our switchboard jammed again, and a herd of reporters stampeded into my press office, not for the story itself, but demanding to know if they should get out of town. Obviously, we had to move fast.

We called Harold Denton at the plant and learned that there was no danger of an imminent explosion and no cause for alarm. My press secretary, skipping our normal clearance procedures, banged out a three-paragraph statement to that effect and literally ran it down to the capitol newsroom.

Concurrently, we asked Denton, who was on his way to my office, to go directly to the newsroom instead, which he did. Within minutes stories quoting our statement, and then Harold's impromptu news conference, began to move on the wires, and another potential panic seemed to have been avoided.

In the course of this "bubble" drill, we had been in touch with the White House and discussed the possibility of a visit to the area by the President himself. Press Secretary Jody Powell authorized me to say that the President would, indeed, be joining us in the near future, and I did. Powell issued a similar advisory out of Washington. This was to be in effect the end of the panic avoidance phase of our crisis.

The President arrived the very next day, and he and I toured the plant together in full view of network television cameras. The image that was beamed around the world on April 1, Day Five of the crisis, had its desired effect. If it was safe enough at Three Mile Island for the Governor of Pennsylvania and the President of the United States, it had to be safe enough for anyone.

Over the next several days, Harold Denton continued to oversee the cooling down of the reactor core and to offer progress reports to a press contingent that was fast losing interest in the story. On April 6, just 10 days after that fateful opening of what was to become the most famous power plant valve in the world, I prepared to tell our people that the crisis had passed, and that those who had chosen to leave the area could indeed come home again.

While I recognize that no other governor has faced a nuclear emergency, and while I pray that none ever will, the experience has suggested a number of lessons that could be useful to other governmental executives, not only in managing those unforeseen crises that always seem to come with the territory, but also some of the normal problems of government and management.

Perhaps the first among these lessons is to "expect the unexpected" and be prepared to adjust accordingly. For us, if it wasn't Three Mile Island, it was three-mile long gas lines at a time of energy shortage. If it wasn't a water shortage, it was a flood. If it wasn't a transit strike, it was a subway crash. If it wasn't an underground mine fire, it was a prison hostage crisis. All of which happened while I was in office.

The importance of limiting those things that any executive should attempt to do in the time allowed, the importance of carefully choosing one's battles, is implicit in the fact that some of the toughest of those battles are chosen for us rather than by us.

Upon taking office, any governor should make sure not only that the state's existing emergency apparatus is adequate, but also that good men and women are in place to handle the administration's planned agenda, should the chief executive become occupied by an item that never was planned for at all.

Second, when an emergency does strike, a trusted "ad hocracy" may be far more useful than an entrenched or untested bureaucracy. It was not in our job description to function like a virtual grand jury, grilling witnesses to a nuclear emergency, and then to serve as a communications center for the people, but it worked. A chief executive should not be afraid to scramble the organization chart, as we did during Three Mile Island, or in perhaps a more familiar example, as President Kennedy did during the Cuban missile crisis, when his own brother's advice weighed more heavily with him than that of the Secretary of State or the Joint Chiefs of Staff.

Third, be ready to restrain those who, as described by our Emergency Management Director during the crisis, may be "leaning forward in the trenches," helmets, sirens, and all, and be thinking solely in terms of doing something, regardless of the safety or necessity. This applies not only to emergency volunteers and staff, and not only to emergencies, but also to bureaucrats, technocrats, academicians, medical and other professionals, and yes, even to my colleagues in politics. The impulse in government to act merely for the sake of action or to test a plan or agency simply because it is there must be kept firmly under control.

Fourth, be wary of what might be called "emergency macho" — the temptation to stay up all night and then brag about it, or, more likely, allow your press staff to brag about it. While it often is important for the governor to maintain a visible and reassuring presence, anyone making life or death decisions for thousands of innocent people owes those people a mind that is clear and a body that is rested.

Fifth, don't try to manage an emergency from anywhere but the site itself. This does not mean that the governor, for example, must be on site personally, but someone must be in charge there whose competence and judgment the governor can trust. As you have seen, most of our communications problems originated in Washington. Even Harold Denton, I later learned, had been a major participant in that bogus evacuation advisory the NRC sent up to us on the third day. He was later to concede that, "I've learned that emergencies can only be managed by people at the site. They can't be managed back in Washington."

Sixth, search for and evaluate the facts and their sources again and again, and communicate those facts truthfully and carefully to the people, remembering that credibility can be as fragile as it is crucial under the heat of a genuine public emergency.

Seventh, respect but do not depend upon the news media. Throughout the Three Mile Island incident, we developed a considerable empathy for the more than 400 reporters from around the world who were assigned to cover this event. Their frustrations mirrored ours in the attempt to establish reliable facts. In many instances, our decisionmakers and the members of the press compared notes on vital issues to ensure both the quality of the reporting and the quality of action within state government. Not all the reporting was reliable, however, and some was downright outrageous. For example, I was informed that a British news organ, in its attempt to convey the gravity of the situation, carried an item to the effect that the Governor's wife, pregnant with their first child, had left the area. In fact, as it turned out my wife was not pregnant; we already had four children; and, most importantly, she stayed with me in Harrisburg during the entire episode, as did the Lieutenant Governor, incidentally, whose wife *was* pregnant with their very first child, and who also stayed with him.

Eighth, forget partisanship, for there is no Republican or Democratic way to manage a real emergency. In our stewardship of this most basic of all

public trusts, we inevitably survive or suffer together, and not incidentally, so do the people we're elected to serve.

Ninth, value and learn from history. While the Fuller book on the Fermi plant proved useful, let me assure you that if one of my colleagues already had experienced a nuclear emergency like Three Mile Island, and had recounted it in published form, such a publication would not long have lingered on my shelf.

Tenth and finally, as that well-known American philosopher Yogi Berra once said, "It ain't over till it's over."

The year after the accident, I had to step into a new furor over a plan to vent radioactive krypton gas into the atmosphere as part of the Three Mile Island cleanup operation. Public hearings on the safety of the plant almost turned into riots. One imaginative opponent of the krypton venting put on a Superman suit and proceeded to choke himself on the front steps of the capitol in full view of all the television cameras.

I took the unorthodox step of asking the Union of Concerned Scientists (UCS), a well-known group of nuclear industry critics, to study the venting plan. When that organization concluded that it posed no physical threat to public health and safety, the venting proceeded peacefully. The year after that, however, we learned that no plan had been devised to fund a billion-dollar effort necessary to decontaminate the damaged reactor.

Because the site cannot be considered truly safe until that cleanup has been completed, and because the established institutions were at an impasse, I had no choice but to develop and push a national cost sharing plan for its funding, a plan which is now in its implementation stage.

These lessons, along with other by-products of the Three Mile Island experience, helped us to reach most of the other goals we had established for Pennsylvania when so rudely interrupted on that fateful day in 1979. Thanks to this "shakedown cruise" we learned, for example, whom we could depend on to do good work under pressure in state government, and we learned it in perhaps a tenth of the time taken by most new administrations.

For the balance of my time in office, however, the cooling towers of Three Mile Island continue to represent a far greater demand on my time than I ever imagined possible. Protracted proceedings involving the utility's application to restart the undamaged Unit One reactor at Three Mile Island, proceedings which ultimately went to the Supreme Court of the United States, consumed thousands of man-hours in our effort to ensure a maximum commitment by the plant operators to public health and safety, and the integrity of the environment and the area of the facility before restart was undertaken. Problems were raised almost daily with regard to the process of decontamination and the legal, economic, and social aftermath of the accident.

And one final postscript. In December of 1979, some eight months following the accident, I visited the Soviet Union and met in Moscow with top governmental and scientific leaders in their nuclear energy program to share with them some of the lessons of Three Mile Island, or as their translator called it, "Five Kilometer Island." To our discomfort, they told me that they regarded nuclear safety as a solved problem, and these are quotations: "that the problems raised by our experience had been over-dramatized," and they quoted the head of their National Academy of Science as saying that, "Soviet reactors would soon be so safe as to be installed in Red Square."

The rest is history. But one must wonder if the accident at Chernobyl might have been prevented if the people of the Soviet Union were as free to question their authorities as were Americans following the Three Mile Island accident in 1979.

Without a free press, however, the Soviet people had no opportunity to learn that Chernobyl was probably more dangerous than Three Mile Island, or even to alert their people to the accident itself, which became known only after unusually high radiation levels were detected in other countries with a free press.

There is no right of free speech to protect a Soviet citizen who might have warned of such a danger or the need to evacuate quickly. And, of course, there are no free elections which might have prompted the Soviet government to be a little more accountable to its constituents and more attentive to their health and safety needs.

For all of its shortcomings, the genius of our political system is that its open nature makes it difficult, if not impossible, to ignore or suppress problems such as those raised by Three Mile Island. Democracy may indeed be, as Winston Churchill was once said to have observed, "the worst system of government — except for all the rest," and for that we can be eternally grateful.

Oettinger: Thank you so much. It was wonderful. Before opening it up, if I might just make a couple of comments to tie this to some thoughts that we

might have been dealing with before. As I was listening to what you were saying, what came to mind is a breakdown of various sources of information which are often ignored. As I heard your talk, you covered all of them, and I'd sort of like to put it on the board and to get your sense of how, on balance, you would weigh them. I could of course apply some judgments, but I'd rather you gave yours.

	Inside the Organization	Outside the Organization	Inside the Decisionmaker's Head
Formal; According to Chart; Preplanned			
Informal; Ad Hocracy			

One set of sources is from inside your organization, which for this purpose would be inside the state government. There are a number of instances where you got information from those folks. And then outside the organization, and again in this case this is outside the state government, which includes the federal government, and lots of other folks as well. Indeed it's a very curious and unexpected one. The third, then, is from inside the decisionmaker's head, and you had a number of instances that you related where that was important. And then all three of those we sort of break down into two other categories which are formal — kind of preplanned, there's a chart for it and there's provision in the legislation and somehow something exists — and informal, which is the most eloquent part, as what you described as the ad hocracy.

I would appreciate it if you would comment on whether you think that's useful or not. We found it useful in military and some other contexts. I think it's useful here. If you buy that, then among the various things you said, where is the weight here, reflecting back on the many instances you gave us?

Thornburgh: I think in an area like this, particularly with its technological complexity, you have to begin, at least, outside the organization because the sources that you go to outside the organization are specialized and focused in the area of concern. That is, state government is not in business to deal with the complexities of nuclear power, and certainly the governor is not in that business. But the utility which is the operator of this plant prima facie has the most expertise in explaining what happened there. The problem is that their expertise was rendered ineffective by an inability or unwillingness to treat with the facts as they were.

Oettinger: On a spectrum, in retrospect now, where would that fall between lie and stupidity?

Thornburgh: I couldn't assess that. I really couldn't. That would require plumbing of human and psychological factors that I don't think anybody could undertake. Clearly there was an understandable desire to calm people, not to get them excited, while the experts found out what was going on, because I don't think at the outset they had any idea. If you read the detailed accounts, and there are several of them, of the technical breakdown that occurred, it was quite clear that for some time they didn't know what was going on, and they didn't have the confidence in themselves or their organization to say that. That's the hardest thing to do. It requires an enormous amount of aplomb and self-confidence to say, "I don't know." And they didn't do it. To a certain extent that was the initial problem. As I said, people were telling us more than they knew. Then they proceeded to tell us less than they knew — they didn't tell us that they had, in fact, vented into the atmosphere, which created a condition of some concern.

At this juncture I think the difficulty was compounded by incompetence in the press and public relations end. The people at the facility who were interacting with the news media and with our people simply were not skillful in that kind of dealing. They lacked an instinct for candor — that is about the most charitable way that I can put it — and, in fact, may well have purposely misrepresented, thinking that it was in the interest of their employer to do so. Again, I can't tell, but that's the condition that existed and caused the outside organization information — both formal and informal — to break down almost immediately. Their credibility was zero by the time the first half day was over.

The inside organization kicked in in the form of people within our management roster who did understand the technology and were able to speak the language, as it were, with those people who were floundering and trying to determine what had transpired or to communicate what had transpired. These folks initially didn't know either, but they at least told me they didn't know.

Oettinger: What was interesting is that, if I heard you correctly, you said your state Director of Emergency Management was the fellow who alerted you in the first place to this.

Thornburgh: That was simply a conveyance from the plant. He turned out to be slightly less than

advertised and was replaced shortly thereafter. What he did was call me after he had received a call from the plant and say, "There's something wrong." He was not one of the people whom I relied on, and, thereafter, we activated a network that kind of worked in tandem or around the guy who had the nominal duty of responding. As it turned out it was a good guess. It wasn't that he wasn't all that good, but it was simply that he was not someone with whom I'd had any previous interaction, whereas there were people that I had dealt with over a protracted period of time whose judgment I did trust.

Inside the decisionmaker's head you can see sprinkled throughout this certain things, the most vivid example being the Fuller book, which is serendipitous. I happened to have read that book, and it happened to relate to what was occurring. Part of the problem, in fairness to the briefers who ultimately failed to highlight the problem of core damage, was their difficulty in communicating with lay people about a highly specialized field with its own extensive jargon and glossary of terms. It was laborious for us to sit and hear these people talk to us about terms and concepts that were totally foreign, and then go back over it again, and again, and again to try to make some plain English out of it. We had to do that constantly, particularly the first day when this was all an unknown language to us. I think we may have worn them down to the extent that they neglected to raise with us a very important element that, as I said, sprang to my mind simply because I'd read a book about this before.

The distinction between formal and informal, I think, is a useful one. The formal are established lines of communication, and the best example of the informal was my hearing from one of the group of federal people who was there following his colleague's assertion that the danger is over, which was a semi-official announcement on camera that, "Everything's okay, folks." This guy called later in the evening and said, "Hey, that just isn't so. We've got some bad core samples down here, and you'd better dampen the enthusiasm."

Oettinger: The impression I'm getting from listening to your account is that your own approach — given that this was really unprecedented — placed an enormous reliance on what were for the Governor's office informal structures — nothing preplanned. In an odd way, a lot of reliance there was put on things that were formal for some other purpose, including some of the technical purposes, that then you or someone on your staff went to call on. It was an ad hoc calling on a variety of preexisting formal building blocks.

Thornburgh: It was a mustering of our best resources, and the redirecting of those resources into the channels of highest priority. I mentioned earlier, and I dealt with briefly there, the notion of sending my budget secretary over to examine the function of the emergency management process. At first blush that sounds a little bizarre. This is a guy who's supposed to be a numbers cruncher. What in the world is he going to do? Well, he happened to be a graduate of the Air Force Academy and was a Pentagon staffer, and then was in the White House and had a checkered career — a bank vice president, a college president — but he had an instinct for the jugular when it came to analysis. Therefore, although his job description in no way could arguably be said to relate to evaluation of emergency management, he had the right kind of instincts and good sense and he had my confidence when he went over and did a quick walk-through of what the emergency management setup was, and came back rather ashen-faced to tell me how it was. For example, the evacuation plans in one respect had two lines of traffic, supposedly carrying people out of the area, meeting in the center of a bridge. Obviously, something was amiss there. That was a symptom that there really hadn't been the type of careful planning for emergency management that was necessary.

Oettinger: I get an impression there was heavy reliance on the Lieutenant Governor about things. Is that correct?

Thornburgh: Initially, that was the case. He was a close associate. He and I had been through running together. We had been through the campaign and through the start-up of the government process together. His responsibilities under our setup included being the Chairman of the Emergency Management Council, which was the governing body of the Emergency Management Administration, and the Director of our Energy Council. In the first stages of the handling of the accident, before we became aware of how serious it was, this would be something that was in his normal bailiwick. It certainly wasn't anything within my field of expertise, and there was a government that had to continue going on. Throughout the first day, as I tried to indicate, I kind of kept an eye on what was going on but I'm frank to say, I didn't have any notion of how serious this was, because of all this static coming out of the people who were evaluating it. In retrospect obviously that was a mistake, but at the time, it

seemed to me to be a reasonable response. Any executive tries to get people who have certain responsibilities and then let them handle them, and he did a good job of doing that. As I said later on, due to the gravity of the situation and the need to escalate our attempt to be a credible source of information, I stepped into his shoes.

Oettinger: Credibility brings to mind another theme that I hear running through. You said several times, "getting at the facts — hours and hours of cross checking."

Thornburgh: Literally.

Oettinger: What is the balance between that and saying, "I've got to act."

Thornburgh: That's the toughest judgment call of all: how much is enough?

Oettinger: Can you comment on that more explicitly? What comes to your mind about when, explicitly or implicitly, you said, "I've got to act. External events. I've got a deadline. There's no choice because the damn media are breathing down my neck."

Thornburgh: Well, as you said during our lunch conversation, at some point or other in an event like this it dawns upon oneself that, "This is my decision." It wasn't terribly comfortable because literally the lives of a sizable number of people would depend upon how decisions were made. The most difficult period of time in my life, which I'll never forget, is the time between about 20 minutes of nine and ten minutes of ten on Friday morning, which was the interval between the time that I received a supposed recommendation from the "big guys" in Washington — okay, this is the Nuclear Regulatory Commission, these guys are in the business — and they tell me, "You've got to evacuate people from this site."

From my point of view, what am I to do? Who am I to second guess these guys? Except there were some clues that just didn't sound right. I never heard of this "Doc Collins." It gets a little bizarre to think that it might have been a hoax. But I said, "Let's at least find out who in the hell this guy is. I never heard of a Doc Collins." In the course of taking the time to try to thread back where this recommendation had come from, by good fortune, a stroke of luck, in that interval of delay the mistake had been discovered and the recommendation was reversed. But I'm sitting there for an hour and ten minutes thinking, "Oh, my God, suppose that I should have ordered this evacuation." You can't write a book about how to do that. With a little bit of luck and some judgment it works out.

Oettinger: But you're very clear even now, it seems to me. There was a recommendation. There was never any doubt about where the authority to order evacuation lay at this point.

Thornburgh: No, in point of fact, the authority was mine.

Oettinger: Clearly.

Thornburgh: But at the same time, I did defer to their expertise even though, as it later turned out, it came from far away and was based on information that simply didn't relate to reality.

Student: I have two questions. The first one is, since the ad hocracy was so effective, did you keep them on line later on in your term for big projects?

Thornburgh: Well, people come and go, but you always have a core group, I think, of people to whom you turn in times of distress.

Student: This was your kitchen cabinet?

Thornburgh: No, not as such. They all had assigned tasks and in the normal course of events carried those tasks out. Probably the second most serious problem we had to deal with — well, another one — was a serious prison-hostage situation at Graterford Prison, the maximum security prison outside of Philadelphia, where a three-time lifer named Jo Jo Bowen, who had been convicted three times of first-degree murder, with two or three other people had taken 23 hostages. Jo Jo just really didn't have much incentive to respond to reason. That period of time lasted about four days and finally ended when we got a negotiator in there. It was fascinating. In fact, somebody's doing a case study on that.

A similar group, though some of the faces and names have changed, was drawn into handling that situation. I was in Pittsburgh, Pennsylvania, at the time, returning from giving a speech that evening, when I got a call just as I got on the plane that they had taken these hostages. When I got back I gathered this group together, and a very important determination was made at that time, that under no circumstances was I to go to this site and negotiate with these people. That was based on collective advice and wisdom, and drawn fortunately from some of my previous experiences in the United States Department of Justice from Norm Carlson, who was then head of the Bureau of Prisons, and his people who had been expert in handling this. But that's the kind of thing that would recur from time to time. Floods, tornadoes, natural disasters, and things like

that, that are of a lesser and maybe a more predictable kind arise, but in each case, there's a certain cadre of people as an overlay on the existing functional bureaucracy, which has certain things to tend to in any event at the time of an emergency. But the key decisions are more likely to be counseled, or at least I would argue should be counseled, by trusted advisers with whom you have experience and can almost communicate without much laboring.

Student: To that same end, my second question is, I'm still not sure I understand the wisdom of doing what you say. I guess one of your lessons is to be ready to scramble the organization chart in a time when you have a front-loaded crisis. For example, at Three Mile Island, if there was some kind of a venting of lethal radiation doses, every tick on the clock would mean that there'd be more exposure, and you'd want to have people out of there as quickly as possible. How do you justify the wisdom of taking out an emergency management system that's supposed to be in place to handle that kind of a crisis, and putting in your ad hocracy?

Thornburgh: Let me clarify that. With regard to the technical questions, as you'll recall, when I referred to the ad hocracy, the last entry was, "as needed, those people who had particular knowledge about particular technical questions." The counsel from the ad hocracy, as I described it, was really more in judgmental terms as to how to respond to the overall situation, rather than superseding those people who have technical skills and expertise who are vitally important to floating to the surface the facts, or approximation of the facts, that are necessary to exercise that judgment.

Oettinger: Let me try to test my understanding of something I think we went around before. What I'm hearing you say in this comment about the difference between judgmental and functional is that, in terms of formality and informality, the closer to the judgmental end the more informal, ad hoc, etc., with shuffling of the building blocks, it is, but with a necessary reliance, or at least a reliance, on the formality of the functional organizations that had this or that responsibility. Now my guess is that if we were to go down to some of those layers, we'd find that replicated inside some of those organizations.

Thornburgh: If they've got any sense.

Oettinger: They'd be like that on their own, but from where he sat the functional ones looked monolithic.

Thornburgh: Let me recast the one example that I used and perhaps deal with it a little bit more completely, and that is sending the Budget Secretary to evaluate the emergency management setup. Note that I did not ask him to assume control of the emergency management setup. I asked him to go, give me a quick evaluation, and tell me what had to be done. Those shortcomings, then, were passed directly to the emergency management people to tell them to clean up their act, and the Budget Secretary continued to monitor that. It was not a matter of taking the organization chart, pulling the present occupants out, and inserting new people, which would be really counterproductive, but of ensuring that you weren't a captive of that one source of information, any more than you'd be a captive of the utility as the one source of information that came from whatever actually happened at the reactor site.

Oettinger: There is the recurrent theme that one shouldn't confuse information channels — that is, the intelligence information upward flow side, with the command side and the downward flow of local commands. The fact that you might supersede for eyes and ears is, I think, based on your testimony highly necessary. You've now rounded that out by saying that doesn't mean superseding the chain of command from execution, because otherwise you have chaos, since there's nobody out there to execute except some fibrillating nonorganizations. That's a very delicate point which keeps getting confused both in theory and in practice.

Thornburgh: It suddenly occurred to me that in coming in here today, and I can't change the facts of what happened, I might well have been recounting something that runs totally contrary to the conventional wisdom. I hope that's not the case. I hope that what we did there doesn't fly in the face of what you all have been examining in much greater detail and with the luxury of not having to respond immediately. I gather that's not the case, because a lot of these resonate.

Student: It seems like it worked, but did you ruffle any feathers, let's say, as part of going that route?

Thornburgh: Yes.

Student: Did that hurt in the long run?

Thornburgh: No. I think what helped in the long run was that our credibility remained intact. People are often surprised when I tell them that following the Three Mile Island accident we had three nuclear power plants come on line in Pennsylvania, including the undamaged reactor at Three Mile Island,

Unit One, with a minimum of public outcry. I contrast that with what is going on around here with Seabrook and in Long Island with Shoreham where they have become so politically volatile. I like to think that part of that is due to the fact that we became a credible steward of the public's interest in making sure that health, safety, and environmental concerns were attended to by the utility and by the regulatory agencies in such a way that people were satisfied that we had presented a reasonably good case, and that, in fact, through a number of regulatory and court proceedings, we forced the alteration of some of the methods that were being followed to put them back on stream. Of course, that's a highly self-serving characterization, as you would expect from a politician.

Student: You criticized an aspect of the Soviet system, that they didn't have a free press to warn the public, to make government more accountable. But when I listened to your story I thought to myself, "Wow, it was really the free press that got us into trouble," since our problems were primarily panic oriented and the press acted really only on the one hand to create panic and then on the other to subside it as you were able to move in. What does that tell us and how would we want to be able to control the press in future crises?

Thornburgh: I think any of us in government, from a narrow point of view, would prefer to shut the press down. I don't think you're ever going to find anybody who's in public life who's going to say at a time like this you want the press mucking around in what you're trying to do. As an American, however, and as a citizen, that's totally abhorrent. I think that, on balance, the notion that there is a free press out there to report on wrong-doing, incompetence, error in government — most of the time accurately — is a tremendous plus. My point about the Soviets is that no such institution exists. As one would think, as has happened in America and in other free world countries, after Three Mile Island there was a great hue and cry about the safety of nuclear facilities, and a lot of examination prompted not only by the press but also by interest groups and political leaders, sometimes for the wrong motives and sometimes misguided, but out of that inefficient, highly unstructured atmosphere and environment comes a proper pressure on those in charge of the operation of these facilities to answer concerns and measure up in terms of performance.

Oettinger: I think your question strikes me as a little bit off in this sense. I didn't hear that same contradiction that you heard. There was nothing that I heard Dick say that suggested that the press was fabricating phony reports and going out to create panic. They were doing their job in a pluralistic checks and balances attempt at reporting. What I heard was that there were any number of folks, including the Nuclear Regulatory Commission, including a whole variety of experts on one thing and another, who were feeding the press with more or less bogus information. The press was not inimical. When the government cleared it up and was giving this message, then the folks had to make their own judgment.

Student: I didn't mean to say that the press was fabricating or anything, but only that it was used, or that it played the role of creating some of the most crucial danger that existed.

Thornburgh: That's right. That's the distinction that I tried to make between saying, from my point of view, we'd have been better off without the press because there would not have been the potential for panic in the misreporting of the so-called meltdown, the so-called seeping of radioactivity through these enormous walls, the bubble thing.

Oettinger: It's not self-serving, but the fact is that you're dealing retrospectively with one particular outcome. Suppose this were not Three Mile Island but had been Chernobyl in middle Pennsylvania and the same press had said, "Evacuate" and the people had evacuated. They would have been a hell of a lot better off. What you're describing is not so much a systemic success or failure as it is that in this instance the facts turned out such that the report and the suggestions to evacuate turned out to be misplaced. Had this happened in Chernobyl it might have been a very different story.

Student: I don't know if you'd want the press to say everybody leave and scoot out of town as quickly as possible. You look at people like Schelling* and they discuss how those kinds of group reactions just cause a lot more problems.

Oettinger: They can, but it depends under what circumstances. You're dealing here with an instance.

Thornburgh: What happened in the Soviet Union at Chernobyl was that when the thing went "kaflooey" they sat on it. They didn't tell anybody. Nobody knew. People who might have saved themselves from exposure to radiation were uninformed and had no basis to think that they were in any way

*Schelling, Thomas C., *Choice and Consequence*. Cambridge, MA: Harvard University Press, 1984.

exposed to any danger. I may be telling you more than I know, but I suspect that's what happened.

Student: There were certainly press comments to the effect that the party members, the more senior people, who did find out quickly what happened, evacuated their families before the general populace heard about it. I can't certify the accuracy but I know there were reports about it.

Thornburgh: It's certainly credible.

Oettinger: The question that you're raising that became important is one that needs to be looked at over a range of happenings, factual patterns, and eventual outcomes.

Thornburgh: The most interesting thing to me was the shift in relationship between the press and our fact finders as they developed a relationship. Originally the press by nature was pugnacious, contentious, suspicious: "Why won't you tell us?" But as the hours and days went on, they recognized that we made a best effort to tell them what we knew, or to tell them that we didn't know, or to tell them that we knew but wouldn't tell them. Once those kinds of relationships are established, then they become a very important, in fact the only available vehicle, for us to communicate as we wish. Obviously, we don't control them, and these things would seep out from other sources or other places from enterprising reporters who hung around the NRC in Washington, mostly. But the people who covered it on the site, by and large in my view, did an excellent job. A lot of them developed extraordinary skills in dealing with a field in which they had no previous experience. I was never one to complain about the coverage from the site that was given to that incident.

Oettinger: We have on record a contrary instance. I can give you one of our publications where one of our research fellows talked to the Science Adviser to Lyndon Johnson about the eastern power failure. The critical thing was the way it happened. It could have been a nuclear attack for all anybody knew. The President of the United States heard about that on his car radio. The President's Science Adviser learned about it because his daughter, who was here as a student at the time, called her mother in Washington and said, "What the hell's going on? Have we been nuked? The Cambridge lights went out and everything." The mother was sitting in Washington and the lights were on. The line turned off somewhere in the middle of Pennsylvania — where the power failed and where it continued, and she called the Science Adviser and said, "What the hell's going on?" He switched on the television and called Bob McNamara and said, "You're going to have the boss on the line pretty soon, so figure out what's going on." So by that time the Secretary of Defense had been alerted. So when the President heard it on his car radio, he called the Secretary of Defense, the SecDef had been alerted by the Science Adviser to use the formal sources.

There was a significant gain in the alerting of the centers of power by the use of the press. You have innumerable accounts of situations — Vietnam, elsewhere — where writers, AP dispatchers, etc., etc., got to their relative commanders, whether in Washington, or in the field, ahead of formal intelligence. It's very complicated when these channels are positive or negative, and I should say the fact pattern that Governor Thornburgh has described is obviously solid testimony, but don't leap from that to a universal pattern about the relative roles of the press and the formal intelligence reporting apparatus.

McLaughlin: I think a couple of illustrations hit home. Bob Hilton suggested a couple of years ago putting CNN into the National Military Command Center just so the people would know what was going on.* I was in the SAC Command and Control Center at the time that John Hinckley made his attempt on President Reagan's life, and with all the consoles down on the floor, I would say that 90 percent of the people were gathered around the few commercial TV monitors to find out what was going on.

Oettinger: It's the mix that's the thing. The thing that has struck me over this whole account is the choice among the menus. It seems to me that the most difficult task was which of these things to pick from, but I think one of the solidities of the American system is that this pluralism of channels and sources is a vital factor, because in every story where he said, "This or that failed," I can give you a counter story where one of the things that worked for him failed in another instance.

Thornburgh: That's the vivid contrast with the Soviet system that impressed me.

Oettinger: I think that's exactly the critical element to get out of it: that by having exclusive, limited channels, you have a problem because any one channel is bound to fail in particular instances. You

*Rear Admiral Robert Hilton, "Roles of the Joint Chiefs of Staff in Crisis Management," in *Seminar on Command, Control, Communications and Intelligence: Guest Presentations, Spring 1985.* Program on Information Resources Policy, Harvard University, Cambridge, MA: February 1986.

don't know which, and I think this goes back to the heart of it — the comments of "expect the unexpected."

Student: I was troubled a little bit by your conclusion which drew a political argument out of this case with the Soviet Union. I think the two incidents are comparable to a certain extent. Chernobyl was certainly more grave and more terrible than what happened at Three Mile Island, and maybe if such a meltdown as at Chernobyl had happened at Three Mile Island, you would have had to evacuate people.

Thornburgh: Absolutely.

Student: ... with the terrible consequences you mentioned. It seems to me that overconfidence in high technology, such as nuclear technology, exists in every country. It was true in the United States before Three Mile Island and it was true, as you say, in the Soviet Union when you went there. It was true in China. The Chinese have learned a great deal after the Chernobyl incident and in constructing the Dynatech plant they tried to get all the experience in nuclear safety before signing the contract. I think people learn from their own mistakes first and then of course from history, as you say. Chernobyl was a much more terrible accident than Three Mile Island, so of course the Soviets could have told you what they told you. What surprised me is maybe what is comparable between the experiences at Chernobyl and what you say. It seems to me the Soviets had exactly the same problems of conflicting interests between the utility company which in the Soviet Union was managed by the government bureaucracy, but was still a vested interest separate from the government, the local government, and the army. What you described as your problem as a political figure independent from this state interest, because your administration had just come in, your problem with the utility which didn't get the facts out, your problem with Washington that you can compare with the army, the Nuclear Regulatory Commission, all these things are very similar. It seems to me that the supremacy of the American system in that case is more independence of the local governor, which you were, who could supersede, as you say, false interconnections and try to push that out of that no man's land.

I think the Soviets have learned the lesson, and the press in the Soviet Union and their TV have inquired very much into these connections of bureaucratic interest, utility interest, plus the army, and how all that's connected. The trial of Chernobyl was an open trial, and you know what happened. I'm not saying that they're becoming democratic, but they identified exactly the same problem that you mentioned. May I ask who was the number one political representative in the state? How come the federal level — over the NRC — didn't intervene before three days? That surprised me very much in your account. Because apparently you were aware personally from the first day on of the gravity of the situation. The NRC apparently was, too, but the federal government didn't react for three days.

Thornburgh: Let me make a couple of observations first. I think your analysis is very accurate in looking at the post-Chernobyl response in the Soviet Union. My point was that I suspect that a lot of the hardship resulting from the incident in Chernobyl might have been avoided or alleviated if, in fact, there had been a more pluralistic environment within which to actually learn some lessons from Three Mile Island rather than beating their chests and telling us how much better they were and having this monolithic control apparatus over the industry itself, and no sharpshooters, or critics, or special interest groups, that were going to keep them on their toes. I think in this country, as much as we respect the capabilities of the scientific community, there is always a series of checks and balances out there on all of these advances that take place in one way or the other.

Oettinger: I suspect that if the Union of Concerned Scientists to whom you are referring had given you an unpalatable answer, you could have shopped for another one. One of the joys of the system is one can find technical opinions in most any direction.

Thornburgh: But you'd run a substantial risk, Tony, because having the UCS on record against this particular thing, if you conjure up somebody else, you've got a built-in problem. Let me see if I can deal with your question. I may not have stated this accurately. There was a division of authority with regard to dealing with this accident that reflects the federal system in this country; that is to say, the licensing — and this is a lot of what's going on up at Seabrook — the licensing authority is the federal government. There's nothing that I as a state governor could do to prevent the licensing of a nuclear reactor. I have a right as a party to appear and present evidence and to urge points, which we did in connection with the restart of the reactor at Three Mile Island.

The management of an emergency, however — the health, safety, and environmental concerns of

the people — is solely and strictly a matter for state and local officials. It wasn't a matter of dissidence or lack of consistent focus between the federal and state officials on the same question. It was a concentration on roles that prompted some of what would appear to be conflicting perceptions of what was going on. Federal people from the NRC, and the Department of Energy, and the Environmental Protection Agency were on site in a timely manner early on the first day of the accident, fulfilling their function of trying to determine what had happened and how to bring this under control. They were, as I indicated, the second source to which we turned following the utility's proving to be less than useful.

That formed the basis for the exercise of the authority that we had, or nonexercise as it turned out, with regard to evacuation or other steps that we might want to take. The limited evacuation that was undertaken was on the basis of the information that we got, as I made clear, I think, in respect to the hour and ten minutes on Friday morning that caused us considerable heartburn. That was not an order and would not be an order. It would not come to this, but I could stiff them if they told me to evacuate. I could say, "I don't think it's a good idea. I'm here. I'm responsible for these folks, and I'm not going to evacuate." Well, it didn't come to that because we were maintaining the kind of relationship that made it useful for us to dialogue back and forth. But I think that's the distinction that might have escaped you in looking at the relationship between what they were doing in Washington and what we were doing in Harrisburg.

Student: It was a clean interaction because you mentioned the role of the President in the matter of your own local support. Interaction was important. If the President himself would have told you, "Please evacuate," I would imagine you would have done so.

Thornburgh: Not necessarily. He could not tell me to do that. It's somewhat unrealistic to talk in those terms because I can't imagine it. But it has happened. It happened in Detroit during the urban riots of 1967 the year before the presidential effort, when Governor Romney was looked on as a potential contender for the presidency. I don't remember all the details, but there was a contretemps between the President and the Governor of Michigan over the federalization or the use of the National Guard. There was a real conflict there and it was recognized that the President could not take the steps that he wanted to because of this unique sort of "federalism" that we have.

Oettinger: This is a fascinating subject and we could continue, but I'd like, if it's agreeable or even if it's somewhat disagreeable, to channel the remaining few minutes we have with Governor Thornburgh in a somewhat different direction. One of my reasons for inviting him as a governor into this forum is to get us off the nuclear level, the nuclear power plants or nuclear armaments level crises, into more day-to-day happenings. I would hope that maybe you could give us some feel for the other end of the spectrum. I mean, these were heroic days early in your administration, which, out of eight years in office, was a limited amount of time, and the rest of the time there were daily grinds and an occasional flood, and you won an election in between, a reelection. So, we'd appreciate your thoughts in the time that remains and some questions and discussion about the daily routine, where the information comes from, what you do about it, and so on. If you can, highlight, if you will, the humdrum. Sample the humdrum.

McLaughlin: Tony, you're being very gentle. Let me try and make it a little more specific because we've talked about this state vs. the federal level before. What kind of intelligence apparatus is available to a governor?

Thornburgh: This whole procedural thing, I hate to mention it, is the subject of a whole other lecture that I gave earlier this year in the field that fascinates me, and that is the humdrum. The "how do you handle these things," and what tripwires do you have? But that's really not the question that you asked.

On information gathering, I suspect it isn't a great deal different from the process that I've described during a crisis. This same kind of matrix is there. Of course, the information is quite a bit different. It's who may be voting for a particular piece of legislation that you're interested in, or who may not be voting, or what it will take to make someone who did not want to vote for a particular piece of legislation vote for it. All of that comes from a wide variety of networks and intelligence gathering, the overlay on the various tripwires that we had set up for our entire decisionmaking process. In brief, everything we did, whether it was to get a policy initiated, or to respond to some other activity, or to design or chart a course in anything, really broke itself down into six areas. One was the policy development area, in which our own private think tank, our Office of Policy Development, was made up of people who had various areas of expertise and could present and assess ideas for me. Out of that, in their

information gathering, a certain amount of data and viewpoints would be floated to the top.

Second would be information from a legal point of view — that is to say, was what was being proposed or was our reaction constitutional or did it conflict with legislation that was on the books, and what did we have to do in order to do legally what we had to do. In the course of gathering that, recommendations, certain data and information would come to the top.

Third would be budget implications. Could you afford what you were proposing to do? And if not, where could the money come from in the way of increased revenues or reallocation of resources, and that in turn would float a whole series of information to the surface.

Fourth would be from the point of view of the legislature. What was the attitude in the legislative branch toward this action or this response? That, of course, is the consummate information. The gossip in the halls of the capitol. The reactions that you get from reading newsletters, or speeches, or what these guys are doing out there. What do they think about this? That's an incredibly important bit of intelligence.

The fifth area was the media. What likely editorial reactions are you going to get? What reporters are going to be interested in putting a good spin or a bad spin on a particular policy or story? In the course of making that finding, bits and pieces of incidental information come up.

And the sixth is really the purely political or constituency type of tripwire. That is to say, who of your supporters are going to be surprised, or disappointed, or pleased, or chagrined by a particular course of action? Who of your opponents are going to be pleasantly surprised that you're doing something? What interest groups are?

All of these things are, in their own way, sources of information and intelligence, and not in any organized way — in really a kind of anecdotal manner. Both the information that comes in, and the recommendations that I would get from the people who were in charge of those specific operations when it came to making a decision which only I could make, would be weighed and again would be the subject of some judgmental chemical factor. No one of those would ever be determinative but they would all enter into what you were trying to get done.

Student: Is it significant that you didn't mention any of your subordinate officers, the department heads, and so forth?

Thornburgh: In this schematic they would have two roles. One, as sources of information for each of the areas that I would talk about because each of them would have a press officer, a budget officer, or whatever. But I was speaking of immediate staff people, and moreover, their responsibilities were largely in the execution of policy. That was the modus operandi that we utilized. Once the policy was divined upon, they were to carry it out. Their input up front would be filtered through people who had an overall administration viewpoint.

Student: As a result of the Three Mile Island experience, did you reorganize or did you reconsider any way to change your command structure? Has it changed to be more in accord with the way you actually operated during a crisis situation?

Thornburgh: We did make some minor adjustments in moving boxes around, but I guess we were confident enough that we were never going to have to deal with that exact same situation again, or maybe, I would have quit!

Student: I don't mean from a crisis standpoint, though. If you felt that your day-to-day operational apparatus wasn't adequate to deal with a crisis situation, did you as a result change it?

Thornburgh: No, and again, don't misunderstand me. I did not mean to indicate that our day-to-day operational setup was inadequate. It was overlaid with a secondary form of operation that related strictly to a particular crisis. And the most important changes that we made in the organization were to put new people in where those were found to be wanting. There were about three or four people who were specifically replaced as a result of their shortcomings during this particular episode. That's what I meant when I said it was an enormous advantage. You don't normally get a chance to shake down your operation so early, or in some cases ever, and the way people respond under enormous stress like that is a pretty good clue to you as to how they're going to handle their day-to-day responsibilities as well.

Student: May I just ask one more question? In regard to the crisis, in getting back to the crisis period itself, there were enormous administrative responsibilities. What was the flow like? I can't imagine how on one hand you had the crisis over here and you're trying to keep your hand on the operation over there.

Thornburgh: By the time we got into this thing, it had ground to a halt. Fortunately, there wasn't anything else. There wasn't a prison riot that came up.

It was a short period of time, in other words; think of it, ten days.

Student: You had no way of knowing how long it was going to last?

Thornburgh: No, you didn't. It would have been a severe overload by the time we got down to Friday, the bad day, if we'd had some extraordinary event — an oil spill, for instance. You just kind of hope these things come one at a time. Again, what you'd do then would be to break a group out and send them off to handle that. That's pretty much what you'd have to do.

Student: Could you comment on the relationship of the governor to the cities that are in his state, and whether you found that analogous to your relationship with the federal government in dealing with certain situations — the one I had in mind being the MOVE bombing — and what kind of input you had into the cities that were there. Something blows up and then you've got a real PR problem on your hands.

Thornburgh: In this case of the Three Mile Island thing the relationships with the local people were not good. That was a tough call. They literally had to find out, in many cases, over the radio and television what was going on, simply because we had no mechanism to communicate adequately with them on a regular basis. I felt badly about that, but it was simply unavoidable. There was no way that we could counsel with mayors and township supervisors, most of whom were part time. In politically sensitive positions, I understood and sympathized with them, but it was just impossible. We took some heat from that, and it gradually died down, but it was just unavoidable.

On the MOVE situation, that was a City of Philadelphia operation from start to finish. I literally knew about that what I read in the papers, because it was not something I had power over. Law enforcement is probably the most jealously guarded of the local prerogatives and it's on rare occasions that the state will move in on the locals, or the feds in on the state, in an area of primary jurisdiction. It's one of those things where you do await the call. Now, we are in a position through the state police or the attorney general's office to respond to a local official who asks for assistance. Similarly, the United States Department of Justice, as I outlined with the Bureau of Prisons, was enormously helpful in giving us advice and counsel on handling a prison situation. But those lines of jurisdiction are very, very tightly drawn.

Student: How do you feel when they turn around to you and say, "Well, we need $20 million to rebuild the neighborhood?"

Thornburgh: Well, we give them $2 million. I don't mean to be glib about it, but obviously that was a negotiable point. We did not want to be insensitive to the cost of rectifying the harm done to the neighborhood, but we're not going to pick up the tab for it. That was a back and forth between Mayor Goode and my administration.

Well, I'm glad you ran out of questions before I ran out of answers.

Student: Did you ever have any crises where it basically involved your state and another state at a state level where the federal government wasn't directly involved?

Thornburgh: During my last year in office we had a little go-round with the District of Columbia. A private operator of a prison in western Pennsylvania contracted to take 75 inmates from Lorton in Virginia, the federal facility that serves D.C., on a contract basis, without telling us. So I had to go and rap on Mayor Barry and tell him to take his inmates back. Literally, I almost had to stop them at the state line as the bus was coming in.

Student: I'm just kind of curious: When things like that happen, do you tend to go to the federal level at all or do you just stay within the state?

Thornburgh: That case was a little different because it was a federal facility, but we did interact with the Bureau of Prisons, although it was the District of Columbia that was sending them up. No, normally those things are head on. Happily, most of the interactions between the states are on a cooperative basis. There's a lot of interaction and joint efforts; the Chesapeake Bay, the Delaware River Basin Commission, a lot of water problems that were dealt with jointly.

We had an interesting battle with the EPA over emission standards from coal-burning utility facilities. The region in which Pennsylvania lies is different than the region in which Ohio lies, and the EPA was applying more stringent standards to the coal-burning plants in Pennsylvania than they were in Ohio, with the same kind of stuff coming out of the stacks. They allowed more high sulfur, whatever all that stuff is that comes out of the stacks, and it was putting our coal industry at a disadvantage because they could not sell, and our utilities had to install these scrubbers and things to clean up the stacks. That was an instance where controversy between states — in effect Ohio had somehow gotten a better

deal from the EPA than we had — got up to the federal level in a somewhat indirect way. The battle is still going on as far as I know.

Oettinger: One name that did not come up at all in anything you've said is that of the Federal Emergency Management Administration (FEMA). Would you comment on that?

Thornburgh: They were there. They were helpful. They were a source of counsel and technical advice. They conducted themselves very well. We had some differences but they were not serious and they were cognizant of the distinction that I made about the areas of responsibility, recognizing that we had the final say so, and our relationships were pretty good. They were a resource to us.

Oettinger: In that sense I think I would say they were functioning the way they should have. That's their charge.

Thornburgh: The reason I didn't say anything about them was, as usual, good news is no news.

Oettinger: For those of you who don't know, FEMA is charged with planning for emergencies. It struck me that you did not mention them at all. Just one of their roles is to stimulate and work with state organizations, local organizations for that matter, in preplanning for emergencies and stashing away supplies and providing guidance and making evacuation plans, etc., etc. And so it meant either that they were totally irrelevant or that they worked quietly and had done their job, and, therefore, weren't worth talking about. And from what you say, it seems to be a bit of the latter.

Thornburgh: It was. It's in contradistinction to the controversy that developed between Joe Califano at the Department of Health and Human Services (HHS) and our administration over the question of distribution of potassium iodide, which is another story in and of itself. The long and short of it was that potassium iodide is a block to the effects of radioactivity on the thyroid — I'm in over my head here. The controversy came because we had to locate huge amounts of this stuff and get it to the area in case there was a radioactive threat. It was a logistic nightmare. The chemical company, Mallinckrodt, I think, was the manufacturer of this stuff. We got all manner of quantities shipped in to the area as a precaution, but some of the bottles were cloudy and the stoppers were loose. You don't need to hear all the gory details.

The controversy came up over the HHS people wanting to distribute this stuff immediately upon its getting there. While we were willing to make it available at the plant site, I had an image of these federal inspectors going around knocking on people's doors and saying, "Here is your potassium iodide," and the people would say, "What's this for?" He'd say, "You take that when the radioactive cloud comes." You then have an unstructured evacuation of people saying, 'Oh, my God, let's get out of here." So it sat in the warehouse and Joe and I still kind of josh one another. Fortunately it was not a serious matter. That kind of back and forth was duplicated countless times during an event like this because there's always somebody in the bowels of either the state, federal, or local bureaucracy who comes up with some goofy idea that if nobody stops it is going to happen.

Oettinger: This is a bit off the subject, but another one in a similar vein was President Ford's swine flu program where in contrast it did get distributed, and those of you who are interested in that should read Tom Schelling's very good study of the swine flu episode which so well corroborates that distributing stuff needs to be done with caution. I'm sure we can also find case studies where holding it back was a disaster.

Thornburgh: It's all a judgment call.

Oettinger: Sir, we're reaching the end of our time, and I want to thank you very, very much for taking the afternoon with us. We really appreciate it.

Thornburgh: Thanks for the chance to talk.