

How the News Media Reported on Three Mile Island and Chernobyl

by David M. Rubin

A comparative analysis of the events following each nuclear accident and the accompanying flow of information shows that the optimistic bulletins of official sources provided too few facts and weakened credibility with both journalists and the public.

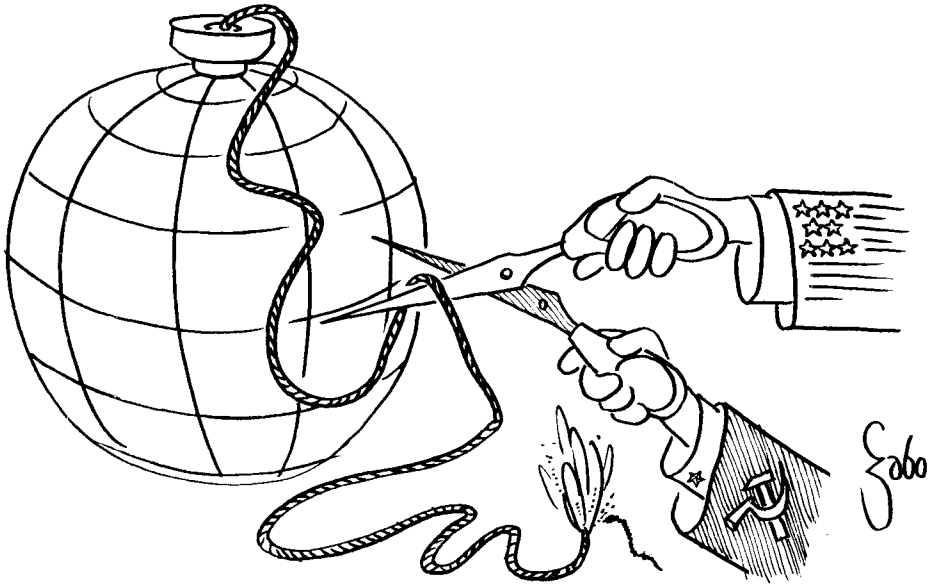
Of the many criticisms leveled at the Soviet Union by the Western press during the accident at Chernobyl, perhaps the most damning was that the U.S.S.R. failed to provide prompt warning to her foreign neighbors, and to her own citizens, about the seriousness of the accident. Soviet leader Mikhail Gorbachev counterattacked by charging that the U.S. government had taken months to inform the world of the accident at Three Mile Island (TMI) and that Congress did not know about it for ten days (7, 23). Gorbachev's charge even found some support from U.S. journalists (see, e.g., 11).

There were many striking parallels in the flow of information during TMI and Chernobyl, from the absence of emergency communications plans to the deliberate withholding of data on radiation releases. But in both the attitude of officials toward what the public needed to know and when, and their willingness to provide certain information to the press, TMI was not Chernobyl. This article will develop the comparison, for a clearer understanding of the differences makes the similarities all the more revealing and provides important lessons for the handling of future events.

Information about the accident at TMI was available in greater quantity in a shorter time and with fewer restrictions than at Chernobyl. About three and one-half hours into the accident at TMI (7:24 A.M. local time), officials of Metropolitan Edison informed the Pennsylvania Emergency Management Agency that they had declared a general emergency at the site because of high radiation readings in containment. Less than an hour later, this information was passed along by a civil defense official to an enterprising reporter at a local radio station. He confirmed it with utility officials in Reading, Pennsylvania, and broadcast it at 8:25 A.M. (21, p. 295). Shortly after 9:00 A.M. the information appeared on the Associated Press national wire (21, p. 106).

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The utility informed the Nuclear Regulatory Commission's branch office in Pennsylvania of the emergency at 7:41 A.M., and they passed the information on to the NRC's Bethesda headquarters between 8:30 and 9:00 A.M. (21, p. 107). Some members of Congress were told by the utility as early as 1:00 P.M. that the plant may have suffered core damage (21, p. 95).

At Chernobyl, on the other hand, the first news bulletin about the accident seems to have come in a local radio announcement at the start of the evacuation of Pripyat, some 36 hours into the event. The first acknowledgment of the accident from Tass, the Soviet news agency, did not come for a full 67 hours (14). Thus, at comparable stages, TMI was already a major world news event when Chernobyl was known only to Soviet officials and to individuals at the scene of the accident.

No attempt was made to keep reporters from congregating at Metropolitan Edison's Observation Center opposite the reactor, and between 40 and 50 journalists had assembled there by mid-morning (21, p. 112). Other reporters talked freely with residents of the surrounding communities and tracked down plant workers.

By contrast, a twenty-mile security zone was established around Pripyat (29). Reporters had difficulty placing calls to Kiev (4) and were at first not permitted to travel there (it is normally an open city) to observe evacuation conditions (22). When they were finally permitted to travel, they were ordered by security officials not to interview passengers arriving by train (3).

Although the quality and timeliness of information provided by TMI utility officials has been legitimately criticized, the public's "right to know" was not entirely disregarded. This was true even when utility officials were not sure themselves about the course of the accident.

Jack Herbein, Vice President for Generation at Metropolitan Edison, briefed

the press on each of the first three days of the accident. "I felt that somebody had to do it," he told staff members from the President's Commission that investigated the accident. "I felt it was my responsibility to communicate what I understood and what I knew to the public in the best way I knew how" (21, pp. 86-87). Utility President Walter Creitz appeared on the "Today" and "Good Morning America" television programs on the second day of the accident after having spent the entire first day fielding reporters' queries over the phone (21, p. 84). Other examples of utility and NRC personnel attempting to respond to requests for information were common. At Chernobyl the public was not provided information until the crisis was no longer containable.

A final point that distinguishes the flow of information in the two accidents is the number and variety of sources open to the news media in the West as opposed to the Soviet Union. A study of sources used by reporters who covered TMI shows that more than 300 different persons were consulted about some aspect of the accident during the first crucial week. These included government and utility officials, doctors, physicists, engineers, plant workers, and even First Lady Rosalyn Carter and rock singer Stephen Stills (21, p. 285).

A similar variety of sources turns up in a careful reading of Chernobyl coverage—but once again these sources were almost entirely from the United States and Western Europe. Soviet and Eastern bloc sources were rarely heard. Through their inaction the Soviets yielded control over information to those in the West, who could only speculate on what might be happening. Little concrete information was available from Soviet government officials, doctors, engineers, physicists, and average citizens for more than two weeks after the accident.

But even though officials at TMI offered more information than the Soviets, and even though the accidents were quite different in severity, duration, consequence, and accessibility, coverage of Chernobyl in the U.S. news media was in many ways a replay of TMI. Reporters complained about many of the same problems in gathering information. Readers and viewers were critical of the same errors and exaggerations. Why was this the case? Did Soviet and U.S. bureaucracies make many of the same mistakes in dealing with journalists? Do the peculiar needs and habits of the press shoe-horn coverage of nuclear accidents into predictable patterns, regardless of their severity and location? At both sites, the actions of the officials who were the potential sources of information and the behavior of journalists suggest an answer to these questions.

Neither population had been prepared by those in charge for life-threatening accidents. After the accidents started, officials who might have taken the lead in providing information to the press and public were unable to learn what was happening within the damaged reactors. Systems for communicating under disaster conditions were not in place; indeed, the problem had never been addressed.

Once officials in charge of the accidents did begin to talk, they were quick to put the best face on developments and reluctant to confirm bad news. This

demeanor diminished their credibility and reduced the number of potentially trustworthy sources with firsthand knowledge of the accident to few, or even none. Similarly, certain kinds of information—particularly the amount of radiation released beyond the confines of the plant—were simply never provided or were provided too late to assist a worried public.

From the journalists' point of view, a major, or even moderate, nuclear power plant accident is much more serious than an earthquake, flood, or hurricane. Nothing else, short of nuclear war, resembles it. As a result, when accurate, timely information about a nuclear accident is not immediately forthcoming, journalists will impute the worst motives to official sources and search out any alternatives. Such behavior poses a high cost in the accuracy of information and produces a good deal of worst-case scenario spinning.

After journalists have suffered through a few days of this turmoil with secondhand (and often second-rate) sources, the pressure to provide an accurate picture of the accident builds to such a pitch that many call for the centralization of information in one credible institution or individual. This would normally be an anathema to Western journalists, who thrive on conflict among sources. But in these circumstances, an "information czar" has become an acceptable and even preferred option.

A more detailed examination of these behavior patterns at TMI and Chernobyl can clarify their consequences for news coverage and suggest how key information sources might change their behavior. The most efficient way to assist the performance of reporters and increase the flow of essential information to the public during a nuclear disaster, or potential disaster, is to recognize how and why journalists behave as they do in reporting a serious accident and to change the information environment in which they work.

Officials in both the United States and Soviet Union seem genuinely to have believed that a serious accident was impossible, and this confidence, with some exceptions, was reflected in the media of both countries. "[I]f there's anything that's clear," said Karl Abraham, a public affairs officer with the Nuclear Regulatory Commission, "it was that we didn't expect this [TMI] accident" (21, p. 71). Utility officials dutifully reported turbine trips and other incidents to the NRC during the construction and early operation of the reactor, but the language used to describe these problems put off local journalists to such a degree that little appeared in the newspapers, and what did was not made intelligible to the lay reader (21, p. 54). Of all the local papers and broadcast stations, only the *York Daily Record* published a series of articles that raised the possibility of a serious accident at the plant. (This series was attacked in an op-ed article by Metropolitan Edison's President Walter Creitz, who reassured the public about the plant's safety just two days before the accident [21, p. 54].)

The Soviets were similarly upbeat. In the magazine *Soviet Life*, published for a U.S. audience, Chernobyl chief engineer Nikolai Fomin was quoted as saying that the plant was loaded with so many safety features that the odds of a serious accident were one in 10,000 years (16). *Los Angeles Times* reporter George

Stein concluded, after a close reading of the Soviet press, that some mention was made of mismanagement, poor workmanship, improper construction, and other problems at the country's nuclear plants. However, "serious discussions about reactor design, use and location, and about prevention of major accidents have not appeared in Soviet mass media. And despite muffled indications of public concern about nuclear safety—long before Chernobyl—the media have delivered only soothing assurances" (25).

Just as with the York newspaper, a red flag did appear in the Soviet press. About a month before the accident, two Ukrainian-language publications in Kiev reported on poor construction practices, management failures, and labor dissatisfaction at Chernobyl, all of which might lead to safety problems (12). However, the dominant theme in the media of both countries was that serious accidents were extremely unlikely and local populations were not at risk.

Although key utility personnel were assembled at TMI within hours of the accident, the lack of any emergency information plan made it impossible for public information specialists or other utility officials to keep the public and press informed. The utility, as required, quickly informed the NRC and the Pennsylvania state government about the general emergency, but no utility official directly placed a call to any news organization. Public relations personnel were willing, even eager, to answer queries from journalists, but no plan had been established for them to communicate directly with those managing the accident. In the first two crucial days, the utility's public relations staff had little up-to-date information about the accident, and they were often behind the journalists themselves in learning about events. (Journalists were using other channels, such as members of Congress or the NRC.) Feeling that the information function was subordinate to the task of harnessing the reactor, the PR staff was also unwilling to "bother" the engineers in the control room for updates (21, pp. 84–90).

State and federal authorities were somewhat better informed than the press, but they also were exasperated with the contradictory, and often incorrect, information that reached them. For example, on the morning of the third day of the accident, following a radiation release to the environment measured at 1200 mR, an NRC official who was part of the Emergency Management Team recommended to the Pennsylvania Emergency Management Administration that residents be evacuated from an area ten miles around the plant. The various civil defense directors in the area then asked Governor Richard Thornburgh whether they should actually begin an evacuation. Thornburgh did not know who had made the recommendation or on what radiological information it was based. Nor did the NRC Commissioners. When NRC Chairman Joseph Hendrie and the governor spoke that morning about whether to evacuate, Hendrie said, "[The governor's] information is ambiguous, mine is non-existent, and—I don't know, it's like a couple of blind men staggering around making decisions" (21, p. 176).

Such confusion led the governor to ask President Jimmy Carter to dispatch an NRC official to the accident site to direct communications, so that all parties

(including the press) would get accurate, up-to-date information. The arrival of Harold Denton did help to coordinate communications among the NRC in Bethesda and Washington, the White House, the governor's office, and the personnel on site. Denton also proved to be the first source to win the trust of the press. The confusion, along with the accident, began to wind down after his arrival.

Much less is known about the flow of information from the plant at Chernobyl to various sectors of the Soviet leadership, most importantly to the Politburo and Chairman Gorbachev. As noted earlier, the first local radio announcement did not come for 36 hours, and the first Tass statement took 67 hours. Valentin Falin, chief of the Soviet Novosti Press Agency, said that Gorbachev did not receive detailed information until a Politburo meeting more than two days after the beginning of the accident (1).

The Soviets are sensitive to charges that they never would have mentioned the accident (other than to those being evacuated) if the radiation releases had not been so easily detected across frontiers, and that they purposely stonewalled Swedish requests for information about their high radiation readings beginning April 28. In response, Soviets admit that local officials misjudged the seriousness of the accident and blame those officials for the fact that accurate information did not make its way to Moscow for as long as three or four days (2).

Vladimir Lomeiko, then the spokesman for the Foreign Ministry, told reporters on May 12, "The first people who saw this accident didn't think radioactive material would be released into the atmosphere" (27). Lomeiko actually left the Soviet Union the day after the accident for a planned trip to the United States to discuss Soviet and U.S. media coverage of summits; he did not alter his schedule to return early. This further suggests that some individuals in top leadership positions were unaware of the severity of both the public relations and radiological crises in the first couple of days.

Obstacles encountered by Western diplomats in Moscow who were trying to gather information support the impression that mass confusion reigned (although Western diplomats are not always the most objective sources about Soviet affairs). One diplomat told Thom Shanker of the *Chicago Tribune*:

We wanted to find the department responsible for monitoring radiation. We got several different answers, and every time we called one agency, they said it was someone else. In those first few days, I don't think anybody could tell you who was in charge of what. There was no single place where information came in, and there was no single person giving any orders that stuck (1).

Serge Schmemann of the *New York Times* uncovered a telling statement in the May 7 issue of *Izvestia* that could equally have been said of TMI. Wrote Schmemann, "[T]he service responsible for monitoring radiation inside the plant had had no contact with the service that monitored radiation outside the plant." Schmemann also suggested that Politburo dissatisfaction with the

flow of information from Chernobyl forced the visit of Prime Minister Nikolai Ryzhkov to the site on May 2: "The visit was not shown on television, suggesting that the purpose was actually to assess the situation rather than to reassure the public that the leadership was on the job" (10).

A number of developments at the very beginning of the accident, however, indicate that the leadership knew much more than it was willing to share with its neighbors and its own citizens. First, the Defense Ministry daily *Krasnaya Zvezda* reported that, within 24 hours of the accident, helicopter pilots were ordered to drop sand on the fire, suggesting knowledge that considerable radiation was being released and that the reactor could be approached only from the air (20).

Second, Ivan Yemelyanov, then Deputy Director of the Soviet Union's Institute of Energy Technology, said that an investigative team was set up the very day of the accident (2). Soviet scholar Marshall Goldman asserts that the Deputy Minister of Internal Affairs in the Ukraine arrived at the site a mere ninety minutes after the explosion, "obviously [knowing] that they had a serious problem on their hands" (6).

Most intriguing, however, is the Polish connection. Writing from Warsaw, Robert Gillette of the *Los Angeles Times* said that Polish officials were making discreet inquiries about the availability of iodine at Polish hospitals the night of the explosion. A doctor on duty at one of the Warsaw hospitals said that the puzzling inquiry was a major topic of conversation among the medical staff. Gillette concludes that this is "circumstantial evidence that the Soviet Union gave prompt but secret warning of the Chernobyl disaster to Poland, its Warsaw Pact ally, while failing to tell western countries about the spreading plume of contamination until it triggered radiation alarms in Sweden and Finland" (17).

From this contradictory evidence, it is certain that many Soviet officials who should have known the details of the accident at an early stage did not. Given the confusion at TMI, in a relatively open information environment, it should not be surprising that the Soviet leadership also seems to have been inadequately informed. The challenge is to establish emergency communications networks that speed information from inside the accident scene to the outside world.

Even if such emergency information channels can be established, the pressures on individuals at the scene to protect their careers and keep residents calm are likely to taint their information with an unwarranted optimism. Here the natural suspiciousness of the press—at least the Western press—is an important counterweight.

The first three statements issued by the Soviet government (which did not come until the third, fourth, and fifth days of the accident) strongly suggest that optimism was the safest course to adopt. The second statement asserted that the "radiation situation at the electric power station and the adjacent territory has now been stabilized, and the necessary medical aid is being given to those affected." The third said that the reactor was already in a "smothered state," that cleanup work was underway, and that radiation levels were reduced (although no figures were provided in any of the statements; see 26). These

statements support the view of Lomeiko and others that the Soviets do not believe it is the proper role of the news media to alarm the public.

Many of the key sources at TMI acted in the same way, although without the imprimatur of official government policy. The first press release written by Jack Herbein certainly is soothingly bland: "The nuclear reactor at Three Mile Island Unit 2 was shut down as prescribed when a malfunction related to a feedwater pump occurred about 4:00 A.M., Wednesday [March 28]. The entire unit was systematically shut down and will be out of service for about a week while equipment is checked and repairs made" (21, p. 117). Another press release from the public information office that morning said that the "reactor is being cooled according to design" and that no radiation is expected outside the plant (21, p. 118). In reality, utility officials knew that high radiation levels were already present in the containment vessel, that a valve was stuck open, and that cooling pumps could not be made to work.

Optimism is the mindset of these (and probably all) utility personnel, whether in the United States or the Soviet Union. As Walter Creitz put it, "We had a belief that we were always on the downhill side of the accident." Utility engineer George Troffer admitted, "We certainly set as a goal optimism instead of pessimism." And Ken Clark, a public information officer with the NRC, said at the time that anyone who expects a utility to behave differently is a "fool" (21, p. 96).

Nor were top U.S. officials any less protective of the nuclear industry than their Kremlin counterparts. A study of reassuring versus alarming statements made to the press by a wide variety of sources in the first week of the accident showed that President Jimmy Carter and Energy Secretary James Schlesinger were quoted on 36 separate occasions; *all* of their quoted statements to the press were reassuring about the course of the accident (21, pp. 273-275). Alarming statements were more likely to come from various members of the NRC, Congress, outside experts, and citizens living around the plant.

The correlate of official optimism was the unwillingness of officials, during both TMI and Chernobyl, to share certain sensitive but crucial information with the press and public. The parallel was clearest on radiation information: How much radiation, of what type, has been released, and what are the implications for public health and safety? Such information is necessary so that individuals living around the plant can, with some confidence, decide whether to stay or evacuate. Those located farther from the plant also need radiation information to decide whether to eat certain produce, meat products, or milk.

The performance of Soviet officials on this score was dismal. As late as May 11, Morris Rosen, an official of the International Atomic Energy Agency, said that he could not be sure that the information on radiation levels he had received from the Soviets was accurate. He believed the Soviets themselves did not have much reliable information, and he could not make sense of some of what was provided (31).

On May 1, *Washington Post* reporter Celestine Bohlen noted an official statement that radioactivity in the vicinity of the plant had dropped 1.5 to 2 times,

but officials "did not give the levels before or after this drop, making the information virtually meaningless" (32). "We've been trying to get information about the radiation release and exposures. But it just isn't available," said Roger Ney, Executive Director of the National Council on Radiation Protection and Measurement (19).

Some governments in Western Europe seemed equally unwilling or unable to communicate such information about radiation levels. For ten days the French government kept its own people in the dark about radiation levels 400 times higher than normal in some parts of the country (5), and the Italian government provided contradictory information in formats not likely to be understood by lay people.

Radiation information also precipitated the downfall of Metropolitan Edison. The utility began to lose credibility with journalists and the governor's office when, on the morning of the accident, Jack Herbein failed to tell them that the utility was indeed releasing radioactivity into the atmosphere. Herbein said in his defense that the press had neglected to ask him (21, p. 70).

On the second day of the accident, the Department of Energy sent an official, Joe Deal, to the site to coordinate the collection of radiation information and to brief various interested parties. Although the Deal briefings were the best source of such information, he was under instruction not to talk to the press. Teams from the Pennsylvania Bureau of Radiological Protection, who were monitoring releases on a regular basis, were also silenced by Governor Thornburgh's press secretary. And *Washington Star* reporter Cristine Russell said that officials on the scene were "puzzled" that she was even interested in radiation information (21, p. 286).

Among the most urgent recommendations to come from the Task Force on the Public's Right to Know, which served the President's Commission on the Accident at Three Mile Island, was that information on radiation releases be dramatically improved. Specifically, the Task Force called for reports that include the amount and unit of radiation, the rate, time, duration, and location of the release, the type of radioactive materials detected in the atmosphere, and the impact of continuous versus short-term exposure (21, pp. 287-288).

At TMI the fault lay with officials who refused to provide information and with reporters who confused matters by making improper comparisons and analogies, providing insufficient contextual information, and presenting factually impossible statements. At Chernobyl the fault lay primarily with officials who refused to provide any information; journalists had little to use. With the common experience of TMI and Chernobyl, all governments must address seriously the development of standard language that communicates radiation information, and the risks involved, in a manner the public can understand.

From an information perspective, TMI was out of control until, three days into the accident, the White House ordered the Nuclear Regulatory Commission to dispatch a spokesperson to the site to coordinate policy and brief the press. This person turned out to be Harold Denton, who performed quite capably under difficult circumstances.

The utility had lost credibility with the press almost immediately because it could not coordinate a believable story. Journalists also became suspicious of utility optimism. As a result, until Denton's arrival (and even after it to some degree), journalists sought out sources at the NRC, other utilities, in academia, and at companies that had designed and built TMI. They also chased after Pennsylvania state government officials, low-level utility employees, White House officials, and everyone living near the plant.

For journalists under enormous pressure to fill air time and newspaper space, these diverse sources provided the conflict necessary to produce a good story. However, as it became clear that an accurate picture was not emerging, and as criticism of the alarmist coverage mounted (much of it wrongly directed at the press), many journalists were ready to hail the appearance of a credible source. (Some were also worried about being beaten on the story by another news organization with better sources.)

In this atmosphere the White House successfully maneuvered to shut off all governmental sources except Denton, ordered Metropolitan Edison to withdraw from the information scene, and agreed with Governor Thornburgh's office that his staff would speak only about evacuation plans (21, pp. 72-92). Once Denton was up and rolling, with support from expert briefers in an ad hoc emergency press center, the government was able to assert control over the story.

The Soviets should have learned from the Denton example, but it took them more than two weeks to wrest control of the accident from Western sources. The first two weeks of Chernobyl coverage in the U.S. news media were thus in many respects like the first few days of TMI coverage. Reporters were forced to rely on second- and third-hand sources to fill the information vacuum. These included weather and radiation specialists around the globe, nuclear engineers with knowledge of graphite reactors, U.S. and British tourists leaving the Soviet Union, and medical experts familiar with radiation effects.

The Soviet image took its most severe beating from three sets of sources. One was ham radio operators ostensibly inside the U.S.S.R., Israel, Holland, and other countries who provided information on panic and casualties. It was from such a source that United Press International acquired the information that 2,000 Soviets had been killed. (UPI later retracted the report.)

The second set of sources were Ukrainian-Americans in New York, Chicago, Cleveland, and other cities. They used the accident to criticize Soviet occupation of the Ukraine and to draw connections between Chernobyl and the famine fifty years earlier that had killed millions of Ukrainians in Stalin's program of forced collectivization and subjugation. These Ukrainian-Americans were often unable to speak to relatives near the site, and they passed along their fears and suppositions to the U.S. media audience.

The third important source was the U.S. government task force set up to monitor the accident, which had the benefit of photographs taken by a KH-11 satellite that was diverted to a path over the reactor. While some misinformation came from this group (such as the assertion that a second reactor at the site had exploded, and that the reactor had no containment), the task force

quickly usurped the role that the Soviets might have played. For the press it became not only an important source but the only source: The Departments of Energy and Agriculture, the NRC, and scientists at Lawrence Livermore and Brookhaven Lab had been silenced.¹ The irony of a U.S. government task force, with its own propaganda goals, seizing the communications initiative during a Soviet accident cannot have been lost on the Politburo or on the leaders of any other country.

Control over information shifted away from U.S. sources when the Soviets stepped up their own briefings and began to share information with the International Atomic Energy Agency, which was viewed by the press as a credible and reliable source. The Soviets repaired some of the damage to their credibility with their report on the accident to the IAEA conference in Vienna in the summer of 1986. But Gorbachev's policy of openness in communications has never fully recovered.

The press at both TMI and Chernobyl were roundly criticized for sensationalism and inaccurate reporting. These criticisms were generally misplaced, although some journalists are guilty of having published and broadcast information, such as the reports from ham radio operators, without sufficient checking. The more serious problems, however, were created for journalists by sources who were misinformed, misleading, or simply unavailable. The public suffered from the resulting confusion and alarm. The Denton model at TMI demonstrates that a government with an emergency communications plan and an articulate spokesperson can seize the high ground and preempt the ham radio operators.

From a journalist's perspective, a serious nuclear power plant accident is wholly unlike such other disasters as hurricanes, floods, or earthquakes. Journalists are naturally suspicious of anything nuclear because of the secrecy surrounding the technology and the lack of candor all governments have shown in the face of accidents. In the 1957 Windscale accident, the British government said three days into the event that the radioactivity released had blown out to sea and no longer presented a hazard to populations. In truth the radioactive cloud traveled southeast across most of England and then over Europe. In 1983 the National Radiation Protection Board admitted that Windscale may have caused 260 cases of thyroid cancer, 13 of them fatal (15).

In the 1954 Bikini Island hydrogen bomb test, the U.S. government waited ten days before acknowledging that Marshallese Islanders and U.S. servicemen had been exposed to radioactive fallout; the admission came only after a U.S. marine blew the whistle and described what he had seen (13). A report by the

¹ Some saw the hand of the White House in this "gagging"; journalists were outraged. Richard Smyser, editor of the *Oak Ridger* in Tennessee, wrote, "I do not recall ever before a bureaucratic fiat telling several thousand scientists and engineers they could not comment on a world event." He added that the gag was "deceptive" and "frightening" (9).

General Accounting Office released by Senator John Glenn during Chernobyl listed 151 "significant" leaks of radioactivity around the world in recent years, and nearly all of them were kept secret when they occurred (30).

Governments have a vested interest in promoting the technology, as do utility personnel and many scientists and engineers. No one ever said a hurricane was beneficial to the local population, but the U.S. nuclear establishment has promoted nuclear power as the solution to the nation's energy ills for nearly forty years without reflecting on the significant problems attached to the technology. This overselling has had the expected effect on skeptical journalists.

Many more elements of conflict are present in a nuclear accident than in natural disasters, and journalists, as has been noted, thrive on conflict. All nuclear accidents are caused by human error of some sort, either in the operation of the plant or in its design and construction. Blame is thus an important part of the story. This is not true in natural disasters, unless government turns out to have been unprepared.

A significant anti-nuclear opposition in the United States, and around the world, guarantees a supply of hostile sources. There is, of course, no organized opposition to hurricanes.

There are few recognizably "neutral" sources for reporters to consult in a nuclear accident (as compared to the availability of geologists in an earthquake or meteorologists in a hurricane), which also contributes to reporters' suspicion and conflict. Nuclear power is an intensely political issue, so every source is speaking from some viewpoint.

Journalists, too, have views on the technology, and these can influence coverage. Stuart Diamond, the science writer for *Newsday* and the *New York Times*, was candid about this after TMI: "For 20 years the nuclear industry has pointed to its chin and said, 'Hit me right here, brother.' I think they set themselves up for a fall" (21, p. 237). The Soviets, who also denied that a serious accident could take place, suffered from this attitude in the Chernobyl coverage.

Finally, while journalists and the public at large have a good sense of the risks involved in riding out a hurricane or flood, the risks of power plant accidents and long-term effects of radiation are not nearly as clear. Sources and journalists have found it difficult to communicate risk, particularly in light of expert disagreement. This often leads to the building of worst-case scenarios, since U.S. journalists prefer to provide the public with all possible alternatives and let each individual decide how to act. The constant stream of "what if" questions about the likelihood of meltdown convinced many utility and NRC officials at TMI to stop talking to the press altogether.

These elements of conflict, secrecy, and suspicion will affect coverage of every power plant accident until the industry can develop a perfect safety record and solve the waste disposal problem. As this is not likely to happen soon, prudent public information specialists, in crafting a disaster communications plan for a power plant accident, should expect a suspicious, even hostile, press.

Chernobyl has without doubt been a learning experience for the Soviets. Valentin Falin, chairman of Novosti, told *Der Spiegel* that "it would have been better if the information we released on Monday [the third day] had been released on Sunday" (28). *Pravda* has acknowledged that "in the first days, shifts in people's moods came from uncertainty that was sometimes promoted by belated information on the real state of affairs at the site of the accident" (18).

The Soviets excused their policy of silence by saying that they did not want to panic the population with incorrect information. Georgi Arbatov, a Soviet expert on the United States and Canada, explained,

We have also to do some things [beforehand] not to create panic because it can lead to additional victims. If you just at the first moment say there is catastrophe before you have taken measures to make an orderly evacuation from the surrounding towns and villages. . . then you will do more harm (24).

The difference between East and West in the flow of information was put this way by Hans Blix, Director General of the International Atomic Energy Agency: "The Soviet reporting was late, meager but probably not untrue. The Western reporting was fast, massive and often misleading. Can there not be anything in between?" (33). Blix's entreaty seems reasonable enough, but in fact no middle way is likely to be found, and it would be unproductive to seek it. U.S. journalists have in the main never accepted the social responsibility theory of the press. They are unwilling to assess the long-range effects of their work, preferring to "print the news and raise hell," which is not a bad description of the TMI and Chernobyl coverage. U.S. journalists have faith that their audience is capable of sorting out conflicting information and acting rationally. The response of the public at TMI bears them out.

A handful of local journalists in central Pennsylvania did consciously try to calm their audience, but some of them had second thoughts about such behavior. One radio newsman said shortly after the accident,

We tried to give the people everything we had on the premise that a well-informed public would make the right decision, and we tried to make that information the most accurate we could produce. At the same time, though, we wanted to present things in a reasoned and cool manner that was not one of panic. We may have over-reacted on that side—we may have been too cool. . . . At one point, we thought we had some inside information that the governor was going to order an evacuation that day and thought, "Who the hell are we to withhold this information?" There was a lot of soul-searching (21, p. 295).

If a serious hydrogen explosion *had* breached the containment on the fifth or sixth day of the accident, as some at the NRC were predicting, those local jour-

nalists who had withheld information about that possibility would have looked rather foolish.

Given the reaction of the Soviet Union's neighbors, it is clear that no sovereign state can permit another to decide if it is better to calm the population or provide detailed information as soon as it is available. Rather than seek methods to shackle the press, critics ought to focus instead on solving problems in information flow that occurred at both TMI and Chernobyl. The similarity of coverage was remarkable, even though one accident was extremely serious and the other was not, one occurred in a closed information system and the other in an open system, one was played out in five days and the other took two weeks, and one had serious implications for neighboring states, while the other did not.

Because it is now possible to predict with confidence how the Western media will react to the next serious nuclear power plant accident, knowledge of these patterns should permit governments and private electric utilities to shape their public information policies so that the needs of the news media are met while the worst excesses of journalism are avoided. The above analysis suggests the following key questions for government and utility officials who are in a position to set public information policy during a serious nuclear accident:

Who is responsible for communicating information on the status of the reactor from inside the power plant to the outside world? Who is responsible for collecting data on radiation releases, and how is this information to be made public in a timely and understandable fashion? Who should be responsible for developing an international language of radiation? Who is responsible for providing information on the likelihood of, and the circumstances for, an evacuation?

At what point in the course of an accident must the public and press be notified? (This question has been answered in the U.S. context in NRC rules concerning general emergencies at the site.) Should all information be centralized in a single briefer? If so, how early in the course of the accident should this occur? Who should step forward to brief the press? What role should the management of the utility take? Should the briefing role be taken over by government regulators of the nuclear industry? Should gag orders be placed on potential sources, and if so, on which ones, and for what reasons?

How close to the damaged reactor should journalists be permitted to travel? How close to the evacuation area? Will local journalists be given pride of place over national or foreign journalists?

Are there specific journalistic organizations in each country that deserve information first, and in the greatest detail? Which organizations? Why? Who should certify the existence and quality of emergency information plans at nuclear power plants around the world?

"You have to understand," one Soviet commentator said, "that we are learning. Ten years ago, the facts you know now [about Chernobyl] might not have

come out for months. Twenty years ago we might have simply denied that the whole thing ever happened" (8).

The potential victims of future nuclear power plant accidents, however, cannot afford to wait for additional disasters to educate their leaders. They deserve a clear, comprehensive, open information policy now.

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