The crippled Fukushima reactor is a grim reminder of the Three Mile Island crisis. It has some common technical and safety aspects, and brings to mind broken promises by the industry to resolve open safety issues. The Japanese crisis certainly demonstrates the propensity for obfuscation by the industry while the public is left sifting through hundreds of media reports.

The first indication that the Fukushima reactor was in serious trouble came from reports that the Japanese military was flying batteries to the plant. This clue made it clear that the operators were having more problems than just trouble with circulating reactor coolant. It revealed that the operators were losing or had lost electrical control of the reactor systems and that the emergency diesel generators were not working. But the Japanese government and the industry continued to downplay the dire conditions facing them.

This same pattern of denial happened here at Three Mile Island leaving the citizens and their governor bewildered and confused. In fact, radioactive releases at TMI are presently being reported as a miniscule amount of radiation. At least 13 million curies of radiation were released. So it is easy to see how the Japanese crisis brings back various details of the TMI crisis.

Here are some of the similarities and differences:

Safety Issue	**Fukushima**	**Three Mile Island**	**comments**
Threat of a loss of coolant accident	Inadequate cooling allows the water level to drop as water boils away	A small break in the coolant loop combined with operators shuting off the high pressure injection pumps	While this is happening, the companies are claiming that all is well.
Pressure in the reactor building reaches dangerous levels	Reports state the pressure is 2.1 times higher than normal and venting is necessary	Pressure levels increase and then a hydrogen explosion takes place	The pressure is a result of climbing temperatures combined with loss of coolant
Radioactive release to vent the high pressure	A radioactive release is planned but cannot be performed due to lack of electrical control	A lone rogue operator is blamed for taking it upon himself to vent radiation.	Many other releases occurred at TMI including “planned” and “unplanned.” One that is never reported is the one that occurred as a result of the hydrogen explosion.
Failed coolant pumps	Failed due to loss of electrical power	Turned off when cavitation threatens to destroy the pumps.	Without the main source of coolant circulation, controlling the reactor gets difficult

Deadline	Projections are made about a meltdown in 2 days	Projections are made about another hydrogen explosion in 2 days	The original hydrogen explosion at TMI was not revealed by TMI until months later
Poor instrumentation	With electrical problems, the operators might be in the dark to varying degrees	Poor control panel layouts, poorly designed controls, faulty alarm printer	Even the best planning is foiled when electrical circuits short from sea water or from melted wires.
Communications	Everything is under control	Everything is under control	Code for were having trouble shutting down
Evacuation order	When the reactor reaches the set conditional threshold, a precautionary evacuation is ordered. As the conditions worsen, the evacuation zone increases in size.	When the reactor reaches the set conditional threshold, NRC commissioners ignore the protocol to evacuate the population.	When the evacuation is suggested by the governor of PA, it is only a precautionary evacuation for pregnant women or young children. In both incidents, evacuations are only "cautionary."
Obfuscation	Radiation might have "seeped out" or "leaked out"	NRC commissioners argue for two hours how to word a press release without using the word "release"	Both incidents avoid the word "release"
Assurances before the crisis	Following previous earthquakes, the industry repeated the lie that these robust plants were designed to handle an earthquake	A meteor would hit your house before a nuclear accident would ever occur We have backup after backup.	Without properly functioning emergency diesel generators, an accident is only a step or two away.
Military Assistance	Electrical equipment and radiation shielding is being transported to the scene	A secret plan called "Operation Ivory Purpose" is prepared by the PA National Guard to evacuate the area.	Ironically, the US claimed to be providing military assistance to the Japanese accident, while at TMI, the US hid the shipments of Potassium Iodide and lead block radiation shielding to the area.

Govermental Assistance	Unknown: The International Atomic Energy Agency is requesting information	The NRC ran the other way at first stating that they don't tell licensee how to operate their plants.	Only one NRC official had a reactor operators license in 1979, the time of the TMI accident.
Potassium Iodide	No orders to take the thyroid protecting pill before planned releases.	No pills available	The NRC promised to provide these pills following the accident. It took more than 20 years to do that.

Knowing that station blackout is the leading cause of accident conditions in hypothetical analyses, the industry failed miserably by allowing the placement of emergency diesel generators at an elevation which allows flooding or washout by a tsunami.

In 1999 Scott Portzline of TMI Alert performed a study on emergency diesel generator at US nuclear reactors. He found that more than half of US reactor had problems with their generators.

Portzline has urged the NRC to require US nuclear plants to have an extra set of diesel generator which can be driven to the reactor and connected to the electrical bus if the primary set is lost.

A few more facts:

Electrical cables at US nuclear plants have never been tested under accident conditions.

The valve which allowed the loss of coolant at TMI is still not rated a safety component.

Just last week, as a result of steam leaks at two PA nuclear plants, power was reduced. Both of the aging plants recently changed their license to operate at higher temperatures, pressures and output.