

+ Executive Summary

On the 20th anniversary of the Chernobyl disaster, the worst commercial nuclear power accident in history, Greenpeace has documented nearly 200 “near misses” at U.S. nuclear reactors since 1986.

Of the nearly 200 “near misses” to a meltdown cited in US Nuclear Regulatory Commission (NRC) documents, eight “near misses” are considered the most significant. This means that according to the NRC, the risk of a core meltdown is greater than one in 1,000. Only one of the eight reactors that experienced the most significant “near misses” was on the NRC’s regulatory radar prior to the problems occurring.

Significant “Near Misses” Since Chernobyl

DATE	REACTOR	DESCRIPTION	STATE	RISK	NRC RADAR
2/27/2002	Davis Besse	Vessel Head Degradation	OH	6.00 E-03	NO
4/3/1991	Shearon Harris	High Pressure Injection Unavailable	NC	6.00 E-03	NO
6/13/1986	Catawba 1	Small Break Loss of Coolant Accident	SC	3.00 E-03	NO
9/17/1994	Wolf Creek	Reactor Coolant System Blow Down	KS	3.00 E-03	NO
2/6/1996	Catawba 2	Loss of Offsite Power (LOOP)	SC	2.10 E-03	NO
12/27/1986	Turkey Point 3	Control Rods Failed to Insert	FL	1.00 E-03	YES
3/20/1990	Vogtle 1	Loss of Offsite Power during shutdown	GA	1.00 E-03	NO
3/20/1990	Vogtle 2	Loss of Offsite Power during shutdown	GA	1.00 E-03	NO

An additional 49 “near misses” occurred that are considered important accident precursors with a risk of meltdown greater than one chance in 10,000.

Important “Near Misses” Since Chernobyl

DATE	REACTOR	DESCRIPTION	RISK
1/22/1997	Maine Yankee	Reactor Coolant System Valves Inoperable.	8.20E-04
11/29/2001	Point Beach Unit 1	Potential Common Mode Failure of All Aux Feed Water Pumps	7.00E-04
11/29/2001	Point Beach Unit 2	Potential Common Mode Failure of All Aux Feed Water Pumps	7.00E-04
6/15/1991	Yankee Rowe	Loss of Offsite Power	6.10E-04
5/19/1996	Arkansas Nuclear 1	Reactor Trip And Subsequent Steam Generator Dry Out	5.60E-04
6/24/1998	Davis-Besse	Loss Of Offsite Power Due To Tornado	5.60E-04
7/23/1987	Calvert Cliffs 1	Loss Of Offsite Power Caused Tree Contact With Power Line.	4.80E-04
7/23/1987	Calvert Cliffs 2	Loss Of Offsite Power Caused Tree Contact With Power Line.	4.80E-04
10/22/1999	DC Cook 1	Potential High-Energy Line Break (HELB) Affects Safety Systems	4.50E-04
10/22/1999	DC Cook 2	Potential High-Energy Line Break (HELB) Affects Safety Systems	4.50E-04
7/14/1987	Palisades	Loss Of Offsite Power	4.30E-04
10/29/2002	Point Beach 2	Potential Failure Of All EFW Pumps	4.00E-04
11/2/1997	St. Lucie 1	Non-Conservative Recirculation Actuation Setpoint	3.40E-04
5/15/2000	Diablo Canyon 1	Reactor Trip And Loss Of Offsite Power	3.10E-04
2/24/1999	Oconee 1	Potential High-Energy Line Break (HELB) Affecting Safety System	3.10E-04
4/23/1991	Vermont Yankee	Loss Of Offsite Power	2.90E-04
2/11/1991	McGuire	Loss Of Offsite Power	2.60E-04

DATE	REACTOR	DESCRIPTION	RISK
7/3/1992	Fort Calhoun	Reactor Trip On High Pressure And Loss Of Coolant Accident	2.50E-04
1/26/2000	Hatch	Automatic Scram With Complications	2.50E-04
3/29/1989	Point Beach 2	Loss Of Offsite Power	2.50E-04
4/21/1997	Oconee 2	Unisolable Reactor Coolant System Leak	2.20E-04
10/19/1992	Oconee 2	Loss Of Offsite Power & Failed Emergency Power	2.10E-04
1/30/96	Wolf Creek	Frazzle Ice Causes Loss Of Cooling	2.10E-04
8/24/1992	HB Robinson	Loss Of Offsite Power	2.10E-04
7/8/1992	HB Robinson	Loss Of Offsite Power	2.10E-04
3/21/1991	Zion 2	Loss Of Offsite Power	2.10E-04
8/31/1999	Indian Point 2	Loss Of Offsite Power Following A Reactor Trip	2.00E-04
10/16/1988	Braidwood	Loss Of Offsite Power	1.80E-04
12/31/1992	Sequoyah 1	Loss Of Offsite Power And Dual Unit Reactor Trip	1.80E-04
12/31/1992	Sequoyah 2	Loss Of Offsite Power And Dual Unit Reactor Trip	1.80E-04
8/24/1992	Turkey Point 3	Loss Of Off Site Power Due To Hurricane Andrew	1.60E-04
8/24/1992	Turkey Point 4	Loss Of Off Site Power Due To Hurricane Andrew	1.60E-04
1/16/1990	Byron 2	Loss Of Offsite Power	1.50E-04
2/25/1993	Catawba 1	Potentially Unavailability Of Essential Service Water	1.50E-04
2/25/1993	Catawba 2	Potentially Unavailability Of Essential Service Water	1.50E-04
7/11/1989	Summer	Loss Of Offsite Power	1.50E-04
1/11/1989	Summer	Loss Of Offsite Power Caused By Grid Instability	1.50E-04
2/16/1994	Haddam Neck	Reactor Operating With Degraded Relief Valves	1.40E-04
9/14/1993	LaSalle 1	Reactor Scram Complicated By Loss Of Offsite Power	1.30E-04
3/26/1993	Perry	Clogged Suppression Pool Strainers	1.20E-04
8/13/1988	Maine Yankee	Loss Of Offsite Power	1.20E-04
10/30/1991	Pilgrim	Loss Of Offsite Power Due To Severe Weather	1.20E-04
8/1/1996	Haddam Neck	Potentially Inadequate Reactor Core Cooling During Accident.	1.10E-04
2/15/2000	Indian Point 2	Steam Generator Tube Rupture	1.10E-04
8/2/1995	St. Lucie 1	Multiple Equipment Failures	1.10E-04
10/27/1997	St. Lucie 1	Non Conservative Emergency Core Cooling System Set Point	1.10E-04
1/9/1995	St. Lucie 1	Reactor Operating With Failed Valves & Cooling System Problems	1.10E-04
2/24/1999	Oconee 2	Postulated High-Energy Line Break & Failure Of Safety System	1.00E-04
2/24/1999	Oconee 3	Postulated High-Energy Line Break & Failure Of Safety System	1.00E-04

Of those nuclear reactors that experienced important “near misses” since the NRC began its new oversight process in 2000, only one reactor was on NRC’s radar prior to the “near miss.” The NRC’s inability to identify and prevent these “near misses” is disturbing. While, the nuclear industry and the agency continue to claim that Chernobyl can’t happen here, we’ve already come disturbingly close.

If any of these “near misses” had progressed to a meltdown, the government regulators have little confidence that any of the nuclear reactor containments would survive. In fact, some containment designs used in General Electric and Westinghouse reactors are virtually certain to fail after a meltdown of the radioactive fuel. A nuclear reactor meltdown and the subsequent failure of containment is an “American Chernobyl.”

The reactors that experienced the most “near misses” since Chernobyl, DC Cook 1 and Dresden 3, both have containments that offer the public little or no defense in the event of a meltdown.

Most “Near Misses” Since Chernobyl

REACTOR	OWNER	NEAR MISSES	LOCATION	STATE
DC Cook 1	Indiana/ Michigan Power	6	11 miles S of Benton Harbor	MI
Dresden 3	Exelon	6	9 miles E of Morris	IL
Oconee 2	Duke Energy Nuclear LLC	6	30 miles W of Greenville	SC
Oconee 3	Duke Energy Nuclear LLC	6	30 miles W of Greenville	S
St. Lucie 1	Florida Power & Light	6	12 miles SE of Ft. Pierce	FL
DC Cook 2	Indiana/ Michigan Power	5	11 miles S of Benton Harbor	MI
Oconee 1	Duke Energy Nuclear LLC	5	30 miles W of Greenville	IL
Dresden 2	Exelon	4	9 miles E of Morris	IL
Shearon Harris	Carolina Power & Light	4	20 miles SW of Raleigh	NC
Haddam Neck	Northeast Utilities	4	13 miles E of Meriden	CT
Seabrook	FPL Energy	4	13 miles S of Portsmouth	NH

These “near misses” make it disturbingly clear that nuclear reactors are as dangerous today as they were 20 years ago when Chernobyl reawakened millions to the realities of nuclear power.

In this post-9/11 age, Americans are more concerned than ever about safety and national security. This report is a stark reminder that not only is an American Chernobyl possible, but that nuclear reactors in the U.S. have already come disturbingly close to another meltdown. Equally troubling is the fact that neither the government regulators nor the nuclear industry are likely to prevent an “American Chernobyl.” Regrettably, the nuclear industry and the NRC have been more concerned with ensuring that reactors are profitable than safe.

Although Chernobyl took place twenty years ago in the former Soviet Union, its legacy lives on today. The effects on the lives of millions who live in the Ukraine, in Belarus and in Russia have not gone unnoticed. But, here in the United States, the nuclear industry, their lobbyists and their allies in government are working hard to keep Chernobyl but a distant memory to the average American.

As U.S. corporations contemplate building more nuclear reactors, it is important that our government regulators remember Chernobyl and speak honestly and forthrightly about the very real dangers posed by splitting atoms. Nuclear reactors are, by their very nature, inherently dangerous. Each reactor has the potential to devastate the state or region in which it operates. Unless the nuclear industry and the government regulators re-learn this lesson of Chernobyl more nuclear disasters are likely to follow.