What about nuclear power plant safety and security?

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WHY A CHERNOBYL CAN NEVER HAPPEN IN THE U.S.

- The Chernobyl reactor accident occurred under worst-case circumstances that involved the worst design, management by political hacks, and lack of a containment building. If the reactor had been contained there wouldn’t have been a dispersal of radioactive material.

- All reactors in the United States, Europe, and Japan are enclosed within multiple barriers of containment. Reactor buildings are made of walls of dense concrete and steel that are 3 to 5 feet thick. The reactor fuel is enclosed in a thick steel pressure vessel. The buildings are negatively pressurized to prevent outflow of any emissions. In 1979 at Three Mile Island, a partial reactor meltdown occurred. Thanks to the reactor vessel and containment building, there was no large-scale release of radioactive material to the environment. Containment buildings are the most robust structures on earth. A plane flying into one would be crushed, although hitting a target that small is virtually impossible.

- In 1988 Sandia National Laboratories in USA performed a test to find out what happens when an aircraft impacts a massive, hardened target. A rocket-propelled F4 Phantom jet (about 27 metric tons, with heavy engines, both close together in the fuselage) rammed into a 12-foot thick slab of concrete at 500 miles per hour. This was part of a study to determine whether a proposed Japanese nuclear power plant could withstand the impact of a heavy aircraft. Most of the collision energy went into the destruction of the aircraft itself - about 96% of the aircraft's kinetic energy went into the its destruction and some penetration of the concrete, while the remaining 4% was dissipated in accelerating the 700-tonne slab. The maximum penetration of the concrete in this experiment was 2 inches.

http://www.break.com/index/concreteplane.html

- American nuclear plants are designed to operate as safely as possible and contain multiple backup systems to make sure the reactor is kept properly cooled.

- Every American nuclear plant is required to have inspectors from the Nuclear Regulatory Commission on site and ready to shut down the reactor at the slightest suggestion of a serious problem.

- Reactor operators must undergo stringent psychological and performance tests and must spend many years in training before being permitted in the control room.

- Just as pilots train on aircraft simulators, reactor operators train for many years on nuclear plant simulators so that they will respond quickly and appropriately to a wide variety of accident scenarios.

- The nuclear power industry is motivated to police plants carefully because the whole industry can be damaged by problems at a single plant.

- American nuclear plants have multiple security barriers. These have been enhanced since 9/11. Access to a nuclear plant is extremely difficult. Heavily-armed guards, jersey barriers, checkpoints, turnstiles, and other security measures are in place. Very few people are permitted near the reactor building or the control room.

- Polls indicate that the majority of people who live around nuclear plants are satisfied that they are safe and do not object to additional nuclear plants being built.

- In 2006, a poll conducted by the Los Angeles Times and Bloomberg about energy and global warming found that most respondents think we must take prompt action. When asked about nuclear power, 61% favored it as a way to reduce greenhouse gases. Among those in the under-thirty age group, support was 71%. Trends in other polls also indicate a growing consensus about the necessity of increased nuclear power.

- Take this questionnaire, Relative Danger of Energy Sources, and see how you score.
http://www.quaker.org/fep/reldangersquestions.html