

# ELECTRICAL PANEL SAFETY ALERT



## CONSUMER REPORT:

### Federal Pacific Electric Panel Boxes Can Be Fire Hazards

The Federal Pacific Electric Company (FPE) was one of the most common manufacturers of circuit breaker panels boxes in North America from the 1950's to the 1980's. Millions of their panels were installed in homes across the country. Over time, electricians and home inspectors found Federal Pacific Electric panels sometimes failed to provide proper protection to homeowners. Experts say that certain panels could appear to work fine for years, but after one overcurrent or short circuit, they could overheat and become fire hazards.

#### Federal Pacific Electric Panel Boxes Have 3 Reported Major Faults:

**1. Federal Pacific Electric panels may not pass updated safety codes.**

If a Federal Pacific Electric panel has been in a home for 15 years and not been serviced by a licensed electrician, the breakers may be fully depreciated. It is possible that the breakers would not properly trip and protect an electrical system from overheating.

**2. Federal Pacific Electric panels may have been created with significant design flaws.**

Federal Pacific Electric panels reportedly have defects not shared by other panels of similar age. For example, often certain breakers have loose connections rendering them useless. Should an overcurrent occur, the breakers could melt instead of trip.

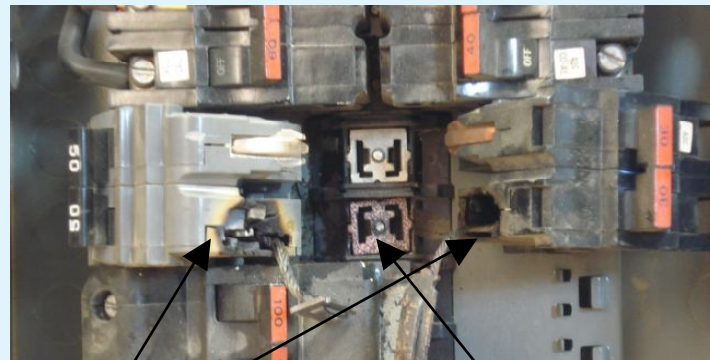
**3. Federal Pacific Electric panels may have manufacturing defects.**

Experts also report that Federal Pacific Electric panels may be unfit for homes because of manufacturing defects. The materials used to construct the breakers may be weak. As a result, the breakers may not trip, and the panel could be susceptible to catching on fire.

#### Example Of Damage Created by a Failed Federal Pacific Electric Panel

Below is a picture of a Federal Pacific Electric panel. The homeowner reportedly heard a loud pop followed by a sizzle noise and a burning smell. She called an electrician; this is what was found.

The homeowner had no way of knowing that too many electrical devices were plugged into one room. The devices required more electricity than the circuit could provide. The wiring severely overheated. Normally, a breaker would trip to cut off electricity and prevent a fire. The panel's breakers did not trip. Two breakers burned as well as a buss bar.



Burned

Burned buss

**Authorities recommend that an immediate professional inspection be done because Federal Pacific Electric panels cannot be counted on to always protect homes from overcurrents or short circuits that could result in a fire.**

## Comments From Experts Regarding Federal Pacific Electric (FPE) Panel Boxes:

“Federal Pacific panels have at least five design issues that are no longer allowed by code; the gutter space, the wire bending space, spring-mounted bus, breakers that are on when down, and the split bus service equipment. These issues mean that a panel that has been sitting on the hardware store shelf for 20 years would not meet today’s code, despite the UL listing of the panel at the time it was manufactured.”

**Douglas Hansen**

**Code Consultant, Expert Witness, Instructor, and Author**

*CodeCheck Series, “FPE Panels – Hazard or Hype?”*

“In sum, if you could replace all the Federal Pacific Electric Stab-Lok equipment with “new” Federal Pacific Electric Stab-Lok equipment, the risk level for the building would not be sufficiently different. There remains a latent risk of fire from failure of these breakers to trip in response to overcurrent.”

“Some insurance companies now require that their policy holders replace Federal Pacific Electric Stab-Lok(R) equipment in the home before they will issue homeowner’s insurance for the property.”

**Dan Friedman**

**Educator, Author, & Building Failures Researcher**

*<http://www.inspect-ny.com/fpe/fpepanel.htm>*

“The presence of a Federal Pacific panel in a home should be classified as a ‘Safety Defect.’ The Federal Pacific breakers are primary safety devices of questionable operating reliability. The breaker’s function is to stop certain electrical sequences that could lead to fire in the building. If an electrical fire hazard develops somewhere in the building, the breaker is supposed to trip and minimize the possibility of fire ignition. If the breaker is defective, fire is more likely to result.”

“There is no question that the Federal Pacific Stab-Lok® panels should be replaced. There is no practical and safe alternative.”

**Dr. Jesse Aronstein BME, MSME, PhD**

**Consulting Engineer Specializing in Mechanical and Materials Engineering**

*Federal Pacific Electric Stab-Lok Electric Panels and Circuit Breakers: Information for Inspectors and Homeowners*

## Federal Pacific Electric Panels Should Be Inspected Immediately

The panel is one of the most important parts of a home’s electrical system. It constantly distributes and receives electricity. The breakers in panels are designed to protect homes from overcurrents or short circuits and any possible damage they may create. However, experts report that the breakers in certain Federal Pacific Electric (FPE) panels cannot be trusted to properly protect the home should an overcurrent or short circuit occur. Instead, the panel may proceed to overheat and an electrical fire may result.

To eliminate the possibility of a Federal Pacific Electric panel and its breakers failing—causing a potentially hazardous situation—experts recommend that all Federal Pacific Electric panels be inspected immediately by a qualified licensed electrical contractor in your area.

## Examples of Damage Created by Federal Pacific Electric (FPE) Panels

The emails below were sent to Dr. Jesse Aronstein from homeowners and electricians regarding their experiences with Federal Pacific Electric panels. Aronstein included 50 of these accounts in a letter to the U.S. Consumer Product Safety Commission. Here are excerpts from several of those emails:

**2. Email 8/7/99** “Last month a co-worker was responding to an apartment maintenance request... He found the breaker on... and no lights... Thinking that there was a loose connection at the first fixture he returned to the shop for a ladder. What we didn’t know was that the problem was a short and that the Federal Pacific breaker had failed to trip. We never had a chance to return with the ladder, the fire department interrupted our repair. Nobody was at home so nobody was hurt. Five homes were left uninhabitable and the damages will probably reach \$500,000...”

**3. Email 8/17/99** “We sustained a horrible fire in January of this year.... We did have a Federal Pacific Electric panel at the time. We were later told that the fire may not have occurred IF the Federal Pacific Electric panel had done its job of “shutting” activity down so to speak...”

**6. Email 7/12/02** “We had a fire in my home Tuesday due to over-current and Federal Pacific Electric Stab-Lock Panel 100amp service. The panel failed to trip and fire occurred within a wall. We have been in this home one month. The home was inspected and we were given no warning about Federal Pacific Electric panels...”

**12. Email 5/14/01** “Just as I was screwing down the FPE panel it blew up and flames shot out. It kept on arcing and buzzing. It kept on going and the main breaker didn’t trip. Finally, I heard a power line fuse blow somewhere in the neighborhood and it finally stopped. ... “

**28. Email 11/22/97** “I have tested a 20 amp Federal Pacific Electric breaker with 72 amps on a 12 gauge wire. The explosion that occurred when I tried to turn off the breaker left permanent scars on my right hand and left arm. Also, a 3 pole 70permitted a 10 HP 3 phase motor to melt the Allen Bradley Contactor, the load wires, and part of the line wiring, without tripping. The motor melted internally. ...

**34. Email 2/17/99** “I didn’t know anything about Federal Pacific Electric circuit breakers until I read on a local newspaper that a house fire was due to Federal Pacific Electric breaker failure. Two days ago, my kid was playing Nintendo and suddenly the lights went off. Quickly, I went to check the service panel and the Federal Pacific Electric breaker for that circuit failed to trip. I touched the breaker and it felt hot. I manually shut the breaker off. A few hours later, I opened the service panel and the 12 gauge wire was completely burned. The 15 amp breaker had a hole burned on both sides... I am planning to replace the service panel to avoid a fire waiting to happen.”

### NEWS FLASH

#### Federal Pacific Electric Committed Consumer Fraud By Fraudulently Placing The “Underwriters Laboratory” Seal Of Approval On Its Circuit Breakers

Judge Bryan D. Garruto of the New Jersey State Court held that Federal Pacific Electric “violated the Consumer Fraud Act because **FPE knowingly and purposefully distributed circuit breakers which were not tested to meet UL standards as indicated on their label** . . .” *Yacout v. Federal Pacific Company, et. al.*, Docket No. L-2904-97.

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