

# The Process-Safety Teardown Checklist

Twenty-four checks drawn from eight investigated disasters.  
Run them against your own site this week.

- 01

### Givaudan Sense Colour

LOUISVILLE, KY · 12 NOV 2024 · 2 FATALITIES · CSB 2024-06-I-KY

The harmless-looking material nobody thought to reactivity-test.

  - ☐ Reactivity-test your low-hazard materials at real operating and upset conditions.
  - ☐ For anything that could run away, what scenario was the relief actually sized for?
  - ☐ Does your PSM effort chase the scary-sounding chemicals, or the truly reactive ones?
- 02

### Formosa Plastics

ILLIOPOLIS, IL · 23 APR 2004 · 5 FATALITIES · CSB 2004-10-I-IL

One bypassable procedure standing in for a real barrier.

  - ☐ Count the independent protection layers on your top three scenarios. One operator is not one.
  - ☐ Every bypassable interlock: is the bypass managed under MOC, or waved through by phone?
  - ☐ A near-miss at a sister site is your finding too, not “not applicable here.”
- 03

### Bayer CropScience

INSTITUTE, WV · 28 AUG 2008 · 2 FATALITIES · CSB 2008-08-I-WV

A startup pushed before the unit was ready to run.

  - ☐ Your last post-turnaround pre-startup review: performed and closed, or just signed?
  - ☐ New control interface: were operators proven competent before go-live, not during it?
  - ☐ Is the hardest, least-familiar work running on 60-hour weeks and 18-hour shifts?
- 04

### BP Texas City Refinery

TEXAS CITY, TX · 23 MAR 2005 · 15 FATALITIES · CSB 2005-04-I-TX

A low injury rate mistaken for a healthy process.

  - ☐ Split your safety numbers. Can you name one process-safety metric you watch weekly?
  - ☐ Your critical gauges: what is each one calibrated to see, and what is it blind to?
  - ☐ Any relief or PHA study years overdue? That is a decision, not a backlog item.
- 05

### Esso Longford Gas Plant

LONGFORD, VICTORIA · 25 SEP 1998 · 2 FATALITIES · ROYAL COMMISSION

The people who understood the hazard had been moved off-site.

  - ☐ Can your shift read the early sign of your worst failure mode, or was it never taught?
  - ☐ Did your last engineering reorg get an MOC review, or pass as an org-chart change?
  - ☐ Near-miss log and HAZOP schedule: is your worst unit's study done, or just planned?
- 06

### DuPont La Porte

LA PORTE, TX · 15 NOV 2014 · 4 FATALITIES · CSB 2015-01-I-TX

Every barrier already gone before the last valve was opened.

  - ☐ Piping moved to clear a plug or restore flow: did that change ever get an MOC?
  - ☐ Is your toxic-gas detection sized for toxicity, or borrowed from a flammability limit far above it?
  - ☐ Count last month's alarms your crews treated as normal. That count is normalized deviance.
- 07

### Aghorn Operating

ODESSA, TX · 26 OCT 2019 · 2 FATALITIES · CSB 2020-01-I-TX

A safety system that lived in one man's memory.

  - ☐ Which alarms send a person into the hazard just to learn what the alarm means?
  - ☐ Pull the calibration records for your toxic-gas detection. No records, no detection.
  - ☐ Any energy-isolation step that is not written down is a program running on memory.
- 08

### LyondellBasell La Porte

LA PORTE, TX · 27 JUL 2021 · 2 FATALITIES · CSB 2021-05-I-TX

Two sets of bolts on one valve, and nothing marking which held the process in.

  - ☐ At one actuated plug valve, can you point out the pressure-retaining bolts in 30 seconds?
  - ☐ Which valve work requires de-inventorying the process? Write that line down and sign it.
  - ☐ Who can call a job “simple” at your site, and which requirements does that word turn off?

Eight investigations. Eight headlines that blamed an operator.  
Not one of them held up.

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