OpsPilot

SOP Module — User Manual

Standard Operating Procedure Creation · AI Engineering Co-Pilot

What this guide covers — what a Standard Operating Procedure is, how the OpsPilot SOP module builds a plant-ready, audit-ready SOP across all seven operating phases, what to have ready, and the document you receive.

1. What is a Standard Operating Procedure?

A Standard Operating Procedure (SOP) is the authoritative instruction for running a process safely and consistently — every operating phase, every parameter, every alarm response, written so any qualified operator runs it the same way. It is what protects a plant when the experienced operator is on leave and a tired crew is on nights.

OpsPilot builds SOPs to *OSHA 29 CFR 1910.119(f), AIChE/CCPS Risk-Based Process Safety, ISO 9001 / 45001 / 14001, API RP 754 and IOGP RP 456*, and crucially covers all seven OSHA PSM operating phases — not just normal running.

#	The seven OSHA PSM operating phases
1	Initial start-up
2	Normal operations
3	Temporary operations
4	Normal shutdown
5	Emergency shutdown (ESD)
6	Emergency / abnormal operations
7	Start-up after turnaround or ESD

2. What the OpsPilot SOP module does

Role	Responsibility
🎯 **AI Operations Coach (OpsPilot)**	Builds the full procedure across all seven phases, challenges vague verbs (“open the valve” — which valve, to what target, what's the consequence if missed?), and probes every step for target value, alarm setpoint, consequence of deviation and corrective action. It never invents a setpoint — you own every number.

Role	Responsibility
👷 **Operations Expert (you)**	Provides the real operating parameters, alarm setpoints and sequences from actual operations. The SOP is only as good as the detail you give — OpsPilot will not fabricate a value to fill a gap; it marks it TBC.

3. How it works — the guided process

Sixteen discovery stages, one question at a time, each building a section of the finished SOP:

#	Stage
1	Identification — process, asset, SOP number, document owners
2	Process overview and major equipment (with tag numbers, P&IDs/PFDs)
3	Normal operating ranges — Min / Normal / Max / Alarm Low / Alarm High / Trip per parameter
4	Hazards, SDS references, safety systems and PPE
5	Roles and responsibilities (RACI)
6	Pre-start checks — utilities, permits/LOTO, line-up, instruments
7	Initial start-up sequence
8	Normal operations and alarm response
9	Temporary operations
10	Normal shutdown
11	Emergency shutdown (ESD)
12	Emergency / abnormal operations and escalation
13	Start-up after turnaround or ESD
14	Operating limits and consequences of deviation
15	Training and records
16	Revision and annual certification

4. What you will be asked — have this ready

- The process and what it achieves; the asset, area and unit; an SOP number and the document owner, reviewer and approver.
- The major equipment with tag numbers, and the P&IDs / PFDs it references.
- Every key controlled parameter with its Min / Normal / Max / units / alarm low / alarm high / trip.
- The principal hazards, the applicable SDS sections, the safety systems (PSVs, SIS/ESD, F&G, interlocks) and the PPE.
- Who performs it (with RACI and required competency), and the start-up, shutdown and emergency sequences step by step.

Tip — have the real setpoints to hand. OpsPilot will challenge a vague step and will mark anything you can't supply as TBC rather than guess — which is exactly what keeps the SOP safe.

5. The discipline it enforces

- **Every parameter, fully specified.** Min / Normal / Max / units / alarm low / alarm high / trip / consequence of deviation / corrective step.
- **Every alarm, fully specified.** Tag / description / first operator action / time to respond / escalation trigger / who to notify.
- **Hierarchy of controls.** Elimination → Substitution → Engineering → Administrative → PPE — OpsPilot challenges any jump straight to PPE.
- **Figures where they help.** It marks where a P&ID extract, valve line-up photo or decision tree should be attached.

6. What you receive — the output

A complete, plant-ready Standard Operating Procedure (Word) — around 21 sections, formatted to plant document-control standards, including:

- Document control header and process identification.
- Operating limits table with the consequence of deviation for each parameter.
- Alarm response table, RACI matrix and PPE matrix.
- Step-by-step sequences for all seven operating phases, including abnormal scenarios and escalation.
- Training and records, revision history and an annual certification block.

7. Worked example (illustrative)

Take the start-up of a feed pump into a pressurised system. OpsPilot won't accept “start the pump.” It asks for the suction and discharge valve line-up, the minimum-flow protection status, the discharge pressure target with its alarm and trip setpoints, and the consequence if the pump is started against a closed discharge. The result is a step that reads: line up suction, confirm minimum-flow recirculation in service, start the pump, verify discharge pressure rises to its normal band within a stated time — with the alarm setpoint, the trip, and “if pressure does not rise, stop and investigate” written in. That single disciplined step is the difference between an SOP that protects the plant and one that just describes it.

8. Getting the best result

- **Bring the real numbers.** OpsPilot won't invent a setpoint — supply it or it's flagged TBC.
- **Don't skip the rare phases.** Emergency shutdown and abnormal operations are where SOPs earn their keep.
- **Respect the hierarchy of controls.** If your only control is PPE, expect to be challenged.
- **Attach the figures it flags.** A line-up photo or P&ID extract removes ambiguity at 3am.