

Upstream Process Safety Golden Rules



Stay within **Safe Operating Limit**.
Respond immediately to alarms



Identify changes, raise
Management of Change



Obtain approval for **Bypass of Safety Critical Protective Device**. Reinstate when it is safe



Conduct **Pre-Activity Safety Review**
before start-up or shutdown



Line up **relief device**
properly for live equipment



Maintain **Safety Critical Element**
correctly



Report **Process Safety Observations** because I Care



Be Competent, Be Accountable
to do it right

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Safety Critical Device. Review

- We discuss and use the approved operating limits for our location.
- We escalate where we cannot work within operating limits.
- We obtain formal approval before changing operating limits.
- We alert supervision if an alarm response action is unclear or the time to respond is inadequate.
- We identify, analyze and intervene alarms from time to time.



Line up **red**
properly for live equipment



correctly



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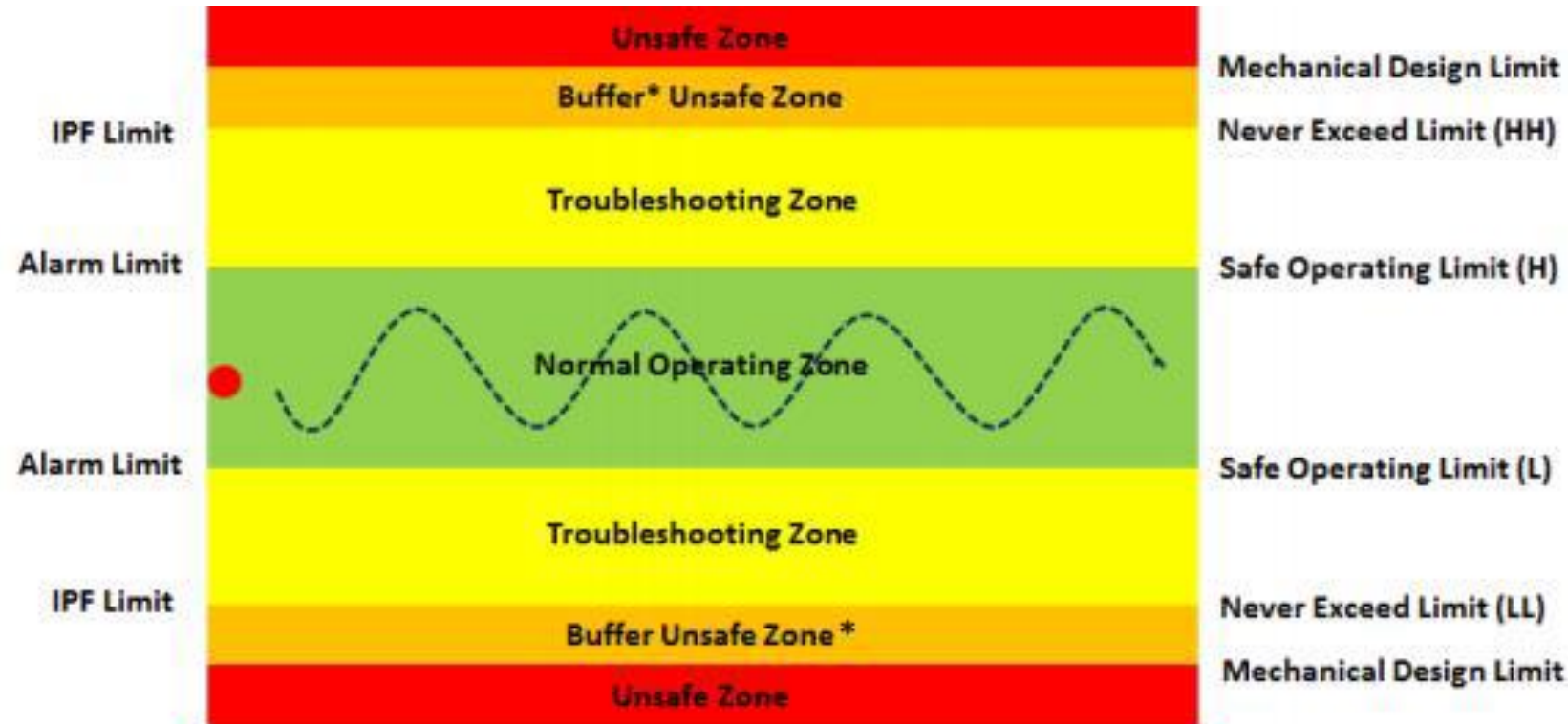
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Reference Documents

- PTS Alarm Management: Design and Implementation Requirement, PTS 14.12.08
- PECL Alarm Management Philosophy, PECL20-001-SPC-001
- PECL Alarm Rationalization Procedure, PECL20-001-SPC-003

Safe Operating Limit (SOL)

Safe Operating Limit (SOL) is the limit (high or low) value of a critical operating parameter (pressure, level, temperature, pH, composition, flow, vibration, etc.) beyond Normal Operating Zone. Beyond SOL, intervention is required, and when troubleshooting or manual intervention ceases, pre-determined engineering actions brings the process back to a safe state



Upstream Process Safety Golden Rules

- We follow PASR procedure to assess the readiness of facilities prior to any commissioning, start-up or facilities handover after planned maintenance or unplanned shutdown.
- We identify potential hazards and/or loss exposure and mitigate prior to commencement of activities.
- We identify, eliminate, or control the full range of potential ignition sources during task risk assessments and during job preparation and execution.
- We raise isolation concerns before the task starts and challenge when isolation plans cannot be executed.
- We confirm leak-tightness before, during, and after reinstating equipment.



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- We identify or initiate MOC, if there is any change - be it engineering, procedural or organization change as defined by PTS MOC and Upstream MOC Procedure.
- We look for and speak up about change.
- We discuss and seek advice on change that occurs gradually over time.
- We ensure adequate risk assessment and proper approval of the MOC.



Properly use equipment



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Safety Review

ment

Reference Documents

- PTS Management Of Change (MOC), PTS 18.23.02
- PECL Engineering Management of Change Technical Standard

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- We ensure that adequate risk assessment is conducted, and approval is obtained prior to actual bypass at site.
- We verify and confirm that bypass is correctly implemented.
- We must take proactive measures or efforts to normalize or reinstate the condition upon completion of work.
- We ensure weekly validation is verified for prolonged bypass.

Reference Documents

- PTS Bypass of Safety Critical Protective Device
- Upstream Guideline Bypass of Safety Critical Protective Device
- PECL Bypass of Safety Critical Protective Device

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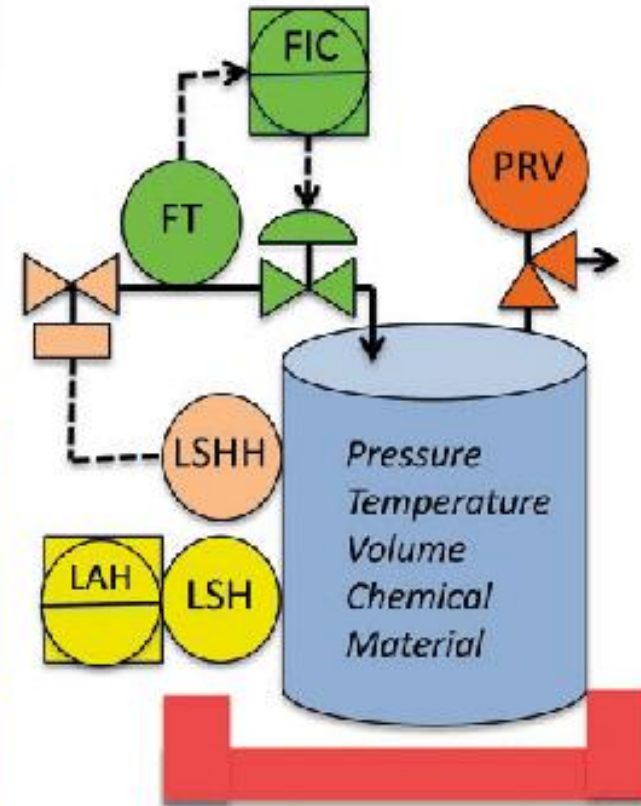
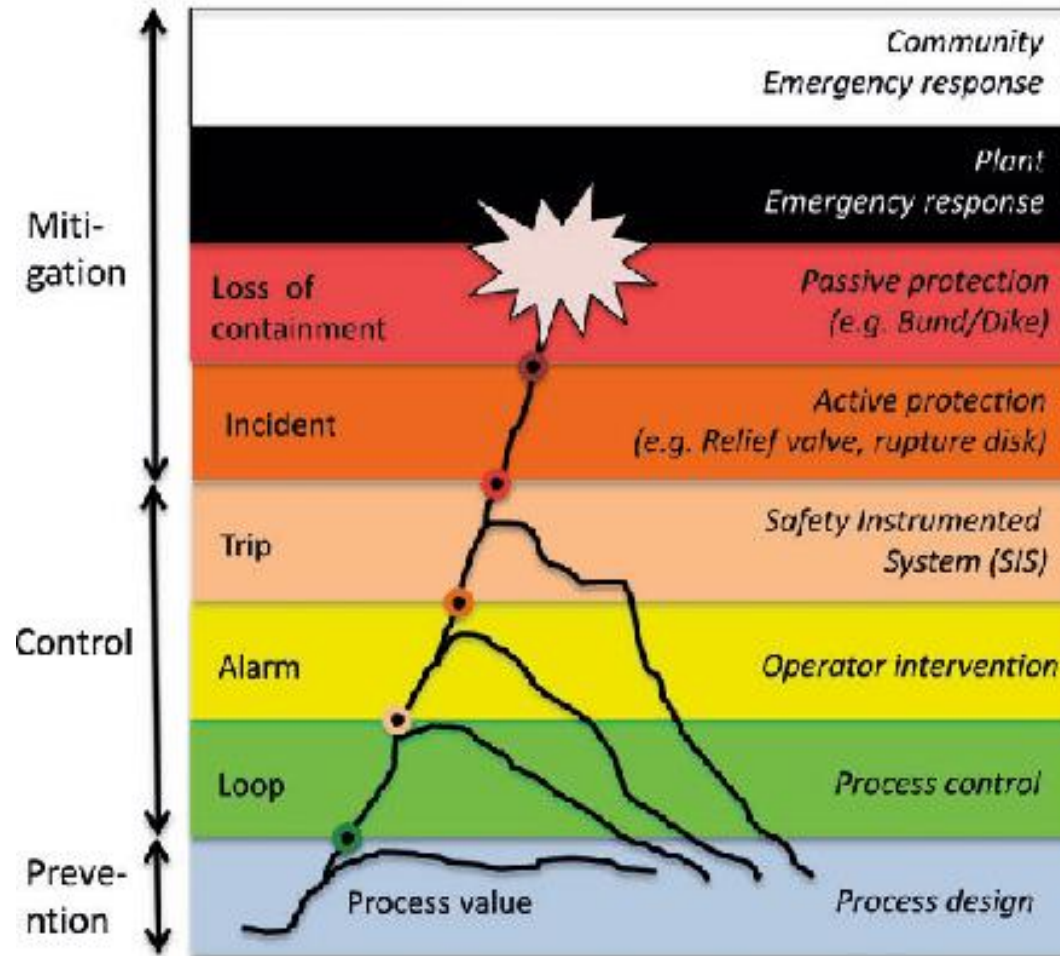
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Be Competent, Be Accountable to do it right

- We physically confirm the system is ready for the intended activity (e.g., valve positions, line up of relief devices, etc.).
- We ensure the line up arrangement is as per P&ID and design philosophy.
- We ensure that relief device must be online as per its intended function to safeguard the equipment
- We use an approval process for operations with degraded barriers.
- We ensure that PRD functionality is regarded as mandatory scope during statutory inspection

Process Safety Layer of Protection



Safety Golden Rules

- We identify the right SCE at our location
- We maintain SCE correctly according to the performance standard (GOPS and SSPS)
- We perform our roles in maintaining barrier health and alert supervision of our concerns.
- We conduct risk assessment and use an approval process for operations with impaired barriers or overdue maintenance



Device. Reinstate when it is safe



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- We evaluate how our tasks could impact process safety barriers.
- We adhere to the requirement for "Operate It Right" and "Maintain It Right"
- We take the accountability to be equipped with mandatory & supplementary skills required, prior to doing the job.



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Be Competent, Be Accountable to do it right

Upstream Process Safety Golden Rules



- We conduct frequent plant walkabout to identify any Process Safety hazards
- We pause and ask questions when any abnormality is observed, and conditions are not as expected.
- We stop and alert supervision if the activity is not proceeding as expected.
- We intervene and mitigate to ensure continuous safe operations
- We report PSO via UAUC system (PECL uses Maximo)



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Thank you for your passion!

