9th CCPS Asia-Pacific Regional Meeting
&
1st - Regional Technical Steering Committee

Marina Bay Sands, Singapore
Thursday, September 17th 2015

Hosted by:

PSRG ASIA PACIFIC PTE. LTD.

The Global Community Committed to Process Safety
Self Introductions

Safety Briefing

Agenda

The Global Community Committed to Process Safety
Objectives

1) To share the knowledge and experience among CCPS member companies
2) To provide updates on CCPS activities in the region and worldwide
3) To collect inputs and feedback from member companies on future course of action from the region
4) To trigger new PSM initiatives in the region
5) To collect inputs on future CCPS meetings and conferences, conduct of CCPS public training programs & workshops to be held in the region
Welcome Address

Annie Nguyen
Director at PSRG Asia Pacific Pte. Ltd.

Bob Weber
President / CEO / Director at PSRG Asia Pacific Pte. Ltd.

presentation

The Global Community Committed to Process Safety
The Global Community Committed to Process Safety
Purpose

Vision 20/20, developed by the Center for Chemical Process Safety (CCPS), looks into the not-too-distant future to describe how great process safety is delivered when it is collectively and fervently supported by industry, regulators, academia, and the community worldwide; driven by the five industry tenets; and enhanced by the four global societal themes.
<table>
<thead>
<tr>
<th>Five Tenets</th>
<th>Four Global Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A Committed Culture</td>
<td>1. Enhanced Stakeholder Knowledge</td>
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<tr>
<td>2. Vibrant Management Systems</td>
<td>2. Responsible Collaboration</td>
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<tr>
<td>3. Disciplined Adherence to Standards</td>
<td>3. Harmonization of Standards</td>
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<td>4. Intentional Competency Development</td>
<td>4. Meticulous Verification</td>
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<td>5. Enhanced Applications of Lessons Learned</td>
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</table>
Implementing the Industry Tenets...

**Prepare**
- Present V20/20 to PSM Colleagues and Management
- Make V20/20 a Regular Topic at PSM-Related Meetings
- "Sprinkle" V20/20 into PSM Conversations
- Use V20/20 Logo on Internal Communications

**Assess**
- Complete the V20/20 Assessment Tool
- Identify Weak and Strong Sub-Elements (<2.5 or >3.5 Respectively)
- Report Results; Management Commits to Improve
- Communicate Results Within Organization

**Plan**
- Reinforce and Use Strong Elements as Building Blocks
- Identify the Specific Improvements Needed
- Research Options to Improve (Reference Industry Documents)
- Develop Specific Action Plans to Address Weak Areas

**Perform**
- Implement Action Plans
- Monitor Status of Action Plan Implementation
- Evaluate Effectiveness of Actions
- Capture & Communicate Learnings

**Achieve**
- Complete Action Plans
- Re-Assess V20/20 Implementation Status with the Assessment Tool
- Report & Celebrate Improvements
- Identify New Weak Sub-Elements and Weak Individual Items (<2)

**Sustain**
- Verify Management System Improvements
- Develop Action Plans for Weak Sub-Elements and Individual Items
- Implement Action Plans and Monitor Performance
- Continual Improvement... Continue the Journey!

More information is available at http://www.aiche.org/ccps/about/vision-2020

The Global Community Committed to Process Safety
Introduction to the Tool

This tool focuses on the five industry tenets associated with Vision 20/20. It is intended to help a company assess its current implementation against Vision 20/20 elements. When multiple parts of a company are assessed, it can be used to understand the consistency throughout operations and identify opportunities for improvement. It is in the company's best interest to answer each question critically, in an effort to understand its own progress on the Vision 20/20 journey, and gain the most value from the tool.

The assessment results are intended to be used internally, as a tool to inform opportunities to better deliver Vision 20/20.
It is suggested that the survey be complete by a team. The following points should be considered in the team composition.

- We recommend using a small team that includes not only process safety leaders but also senior manager/executive representatives and "employee" representatives.
- For large companies, the assessment process might be more complete if the survey is completed on an individual facility-by-facility basis. In the end, the goal is to accurately and honestly state whether each item is good, okay, or there is room for improvement, so it may provide insight to have input from these different parts of the organization.
- Knowledgeable and experienced people at the facilities should be able to answer most of the questions. Where the person is not sure, they should talk to people that he/she believes could provide an answer.
Scoring Guidelines

**Always** - There is evidence that the activity occurs consistently. Any minor gaps are corrected by the established corporate management system. (weighted as 4 points)

**Most of the time** - There is evidence that the activity is executed often, but there is room for improvement. (weighted as 3 points)

**Some of the time** - These activities occur sporadically and not at a defined or regular interval. (weighted as 2 points)

**Infrequent or never** - The activity is missing, not followed, or not enforced. There is little to no evidence of its execution (weighted as 1 point)
## Assessment Tool Interface

### Vibrant Management Systems

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Always</th>
<th>Most of Time</th>
<th>Some of Time</th>
<th>Infrequent or Never</th>
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<tbody>
<tr>
<td>All employees must clearly understand their role in managing process safety.</td>
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<tr>
<td>All employees can describe their site barriers (what they are, what they are for, how they work) that control major accident hazards and risks.</td>
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<td>All employees can describe their roles and responsibilities in maintaining barriers to prevent major accidents.</td>
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<tr>
<td>The management system is documented, readily accessible by all employees, and easily used to access process safety content.</td>
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<tr>
<td>Management system includes all 20 elements of CCPS’s Guidelines for Risk Based Process Safety.</td>
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<tr>
<td>Management system includes all process safety elements required by local regulations.</td>
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<tr>
<td>Management system is not solely at the company level; rather, it cascades from a corporate system to regional requirements to site activities.</td>
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</tbody>
</table>

**Average score:** 3.67

### The management system defines how operations are conducted at the workplace and promotes safety in design, operations, and maintenance.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Always</th>
<th>Most of Time</th>
<th>Some of Time</th>
<th>Infrequent or Never</th>
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<tbody>
<tr>
<td>The management system defines the process safety-related activities that are conducted (e.g. hazard identification, MOCs, incident investigation, and action item tracking).</td>
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<td>The management system refers to specific tools used to perform process safety related activities (e.g. hazard identification, MOCs, incident investigation, and action item tracking).</td>
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<tr>
<td>Managers have a structured management review process (see CCPS’s Guidelines for Risk Based Process Safety) for process safety elements and generate actions to address identified issues.</td>
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<tr>
<td>The management system ensures employees are assigned to roles based on their competency to perform the tasks expected of that role.</td>
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</table>

**Average score:** 2.50

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The Global Community Committed to Process Safety
<table>
<thead>
<tr>
<th>Industry Tenet</th>
<th>Total Avg Score</th>
<th>Evidence</th>
<th>Total Score</th>
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</thead>
<tbody>
<tr>
<td>Committed Culture</td>
<td>1.67</td>
<td>Executives personally and visibly lead process safety</td>
<td>1.00</td>
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<tr>
<td></td>
<td></td>
<td>Operators and mechanics diligently follow procedures and speak up when</td>
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<td>they suspect a problem or see an opportunity for improvement.</td>
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<td></td>
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<td>Supervisors and managers verify work is done properly, intervene to</td>
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<td>correct situations, and openly communicate negative news to management.</td>
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<td>All employees and contractors commit to “do it right” and have a plan</td>
<td>2.60</td>
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<td></td>
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<td>for when it goes wrong.</td>
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<tr>
<td>Vibrant Management Systems</td>
<td>2.79</td>
<td>All employees must clearly understand their role in managing process</td>
<td>3.67</td>
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<tr>
<td></td>
<td></td>
<td>safety.</td>
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<td>The management system defines how operations are conducted at the</td>
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<td>workplace and promotes safety in design, operations, and maintenance.</td>
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<td></td>
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<td>The management system is agile and continually improved.</td>
<td>1.75</td>
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<tr>
<td>Disciplined Adherence to Standards</td>
<td>2.54</td>
<td>Companies identify, document, and diligently follow standards for new</td>
<td>4.00</td>
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<tr>
<td></td>
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<td>equipment.</td>
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<td>Companies also identify, document, and diligently follow a set of</td>
<td>2.50</td>
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<td>standards applicable to existing equipment.</td>
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<td>Companies identify and manage process safety risks arising from gaps</td>
<td>1.60</td>
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<td>against these standards.</td>
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<td>As industry standards evolve, companies codify significant new learnings</td>
<td>3.00</td>
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<td></td>
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<td>in their identified standards for existing (and new?) equipment.</td>
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<tr>
<td>Intentional Competency Development</td>
<td>3.15</td>
<td>Intentional competency development includes understanding competency</td>
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<td></td>
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<td>expectations, providing educational resources, and allowing time for</td>
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<td></td>
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<td>people to build competency.</td>
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<td>Intentional competency development applies to all levels in the</td>
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<td>organization.</td>
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<td>Competency includes engineers implementing technical designs.</td>
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<td>Competency includes operators knowing their process and safe operating</td>
<td>3.33</td>
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<td>limits.</td>
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<td>Competency includes leaders visibly leading process safety.</td>
<td>3.33</td>
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<tr>
<td>Enhanced Application and Sharing of Lessons Learned</td>
<td>2.79</td>
<td>We learn from accidents, near misses, industry benchmarking, and</td>
<td>3.67</td>
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<td></td>
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<td>success stories.</td>
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<td></td>
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<td>First, identify the learnings and recognize the value in sharing it with</td>
<td>3.57</td>
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<td></td>
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<td>others.</td>
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<td>Second, use a system to efficiently share learnings, without</td>
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<td>overwhelming the organization.</td>
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<td>Third, embed the learning in standards or practices, and check if</td>
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<td>existing equipment or processes require modification.</td>
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</tbody>
</table>
## Committed Culture

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<td>Executives review industry and company incidents and review their own operations for similar hazards.</td>
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<td>Process Safety topics are regular agenda items at board/executive meetings.</td>
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<td>Executives have personal Process Safety performance goals and objectives (beyond stating metric goals).</td>
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<td>Process safety lagging metrics are tracked at the site and company level.</td>
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<tr>
<td>Process safety leading metrics are tracked at the site and company level.</td>
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<tr>
<td>Executives commit a meaningful amount of time personally involved in process safety activities (e.g. risk mitigation planning, discussing incident investigations, and actively monitoring action item tracking).</td>
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<tr>
<td>Executives and senior managers respond to poor process safety performance with the intent to identify and address root causes.</td>
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<tr>
<td>Executives and senior managers reward good process safety performance and identify learnings to leverage across the site/company.</td>
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<tr>
<td>Executives and senior managers talk knowledgeably about the major hazards and risks at each site (as applicable) and the associated critical barriers.</td>
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<tr>
<td>Process safety activities are included in annual operating plans and budgets.</td>
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<tr>
<td>Process safety metrics directly impact executive compensation.</td>
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<tr>
<td>The annual report discusses process safety activities and leading process safety metrics.</td>
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<tr>
<td>Executive leadership routinely visits production units and have meaningful discussions regarding process safety related issues with operations and maintenance personnel.</td>
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<tr>
<td>Executives personally follow-up with site operations and technical personnel regarding potentially significant process safety incidents.</td>
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<tr>
<td>Executives and leadership positively recognize individuals for raising concerns regarding process safety.</td>
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</table>
Conduct of Operations

**Committed Culture**

<table>
<thead>
<tr>
<th>Operators and mechanics diligently follow procedures and speak up when they suspect a problem or see an opportunity for improvement.</th>
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<th>Most of Time</th>
<th>Some of Time</th>
<th>Infrequent or Never</th>
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<tbody>
<tr>
<td>Operators and mechanics fully follow and properly complete procedural checklists.</td>
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<tr>
<td>Operators and mechanics freely raise process safety concerns to supervision and management.</td>
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<tr>
<td>Process safety improvements exist or are ongoing based on concerns/suggestions raised by operators/mechanics.</td>
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<tr>
<td>Operators and mechanics consistently report process safety near misses.</td>
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</table>
Communications

### Committed Culture

<table>
<thead>
<tr>
<th>Supervisors and managers verify work is done properly, intervene to correct situations, and openly communicate negative news to management.</th>
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<tbody>
<tr>
<td>Always</td>
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</tbody>
</table>

*Supervisors and managers participate in Management of Change (MOC) and Pre-Start-up Safety Reviews (PSSRs).*

*The status of incident investigation, audit findings and other process safety related action items is regularly discussed at unit production meetings.*

*Unit and plant management conduct regular walk-throughs of the unit, note items of concern or good practice, and personally follow-up.*

*Unit managers, engineers and technical specialists routinely dialog with unit operators and mechanics about process safety topics.*

*Managers and supervisors personally monitor employee conformance with operating and control of work procedures (e.g. hot work).*

*Managers and supervisors communicate process safety performance to executive management (without modifying to make the message more positive).*

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*The Global Community Committed to Process Safety*
## Conduct of Operation

### Committed Culture

**All employees and contractors commit to “do it right” and have a plan for when it goes wrong.**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Always</th>
<th>Most of Time</th>
<th>Some of Time</th>
<th>Infrequent or Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance work plans include the appropriate action to take if the work does not go according to plan.</td>
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<tr>
<td>Operators and mechanics stop and seek guidance if an established procedure appears wrong, unsafe, or otherwise presents a hazard.</td>
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<td>During safety-critical operational steps or phases (e.g., startup of a complex process), an independent “process safety observer” is present solely to monitor the situation and has authority to intervene.</td>
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<tr>
<td>Employees coach other employees who mistakenly deviate from the approved procedure.</td>
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<tr>
<td>Operators follow operating procedures as written; ‘work-arounds’ outside of the management system are not used.</td>
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</tbody>
</table>

*The Global Community Committed to Process Safety*
Where to go......

- http://www.aiche.org/ccps/resources/vision-2020
- Self assessment by representative team
- Addresses each industry tenet
- Intended to be easy to use and differentiating
From GCPS 4/15

Number of Surveys Completed: 68

Responses: Company Type

- Chemicals: 36%
- Upstream: 10%
- Downstream: 14%
- Midstream: 13%
- Pharma: 9%
- Energy: 7%
- Other: 11%

Responses: Company Location

- International: 71%
- National (US): 19%
- National (non-US): 10%

Responses: Company Size

- 10001-100000: 30%
- 1001-10000: 49%
- 101-1000: 13%
- 10000+: 8%
Lunch
WHICH OF THESE HAVE THE MOST IMPACT?
WHAT CAN YOU DO WITH THIS DATA TO MAKE A DIFFERENCE?

• Top Management do not place specific emphasis on Process Safety.
• Top management is strong but does not cascade.
• Culture stops at the front gate.
• Perfection of documentation (never 100% correct).
• KPIs for PSM not clearly established.
• Willingness to challenge and not confrontation.
• Continuous improvement is a challenge.
• Identification of Hazards / risk still an issue. Different view on the level of the hazard.
• Subjective factors.
• May be different in different industries.
• Sub-regional emphasis of process safety is lacking consistency.
• Executives not personally leading PSM.
• Less focus on leading indicators – reactive vs proactive.
• Mismatch of safety culture and flow – top down and bottom up.
• Process Safety is not tied into compensation.
• Felt leadership – no rewards or raise.
• Culture of production first drives many companies.
• Independent process safety observer.
Louisa Nara
Technical Director, CCPS
Ongoing CCPS Projects

- 018 - Process Equipment Reliability Database (PERD)
- 112 - Process Safety Incident Database (PSID)
- 254 - Process Safety Boot Camp
- 152 - Process Safety Beacon
- 072 - Safety and Chemical Engineering Education (SACHE)
- 210 - Benchmarking Process Safety Management Systems
- 219 - Process Safety Moments Presentations
Call For Volunteers

- Planning Technical Steering Committee Meetings
- 253 - Effective Process Safety Communications
- 267 - Process Safety Leadership Challenge
- 268 – GL for Assessing and Managing the Risk of Aging Equipment
- 269 - Preventing Normalization of Deviation
- 270 – GL for Process Safety in Upstream and Shale Ops
- 271 - Process Safety applications for Electronic Devices
- 275 - Process Safety During Transient Operations
- 277 – GL for Inherently Safer Design

http://www.aiche.org/ccps/resources/forms/become-volunteer-ccps-projects
Call For Peer Reviewers

- 175 - Chemical Reactivity Worksheet (NOAA)
- 233 - Process Safety Incident Evaluation Tool (PSIE) Upgrade
- 243 - Guidelines for Mechanical Integrity
- 246 - Guidelines for Facility Siting and Layout, 2nd Edition
- 248 - Tools for Acute Risk Decisions
- 250 - Process Safety in Capital Projects
- 251 - Process Safety in Pilot Plants and Laboratories
- 252 - Essential Practices for Control and Mitigation of Dust Hazards

http://www.aiche.org/ccps/resources/forms/become-volunteer-ccps-projects
2016 Proposed Projects

• For feedback and questions on the 2016 Proposed Projects
  – Submit to Louisa Nara at louna@aiche.org by October 15\textsuperscript{th} 2015

• No new projects will be considered for the 2016 ballot
  – New projects can be added for the Regional Technical Steering Committees (RTSCs)
Member Project Voting

- The Ballot will be uploaded to the CCPS site under **Members Only** for review on by **September 28\(^{th}\), 2015**
- Comments and questions on the 2016 Proposals are due by close of business **October 15\(^{th}\), 2015**
- On-line Voting will be held from **October 15\(^{th}\) to November 18\(^{th}\)**
- TSC Face-to-Face meeting in Houston, TX, USA on **November 18-19\(^{th}\), 2015**
- Company voting is due at the Close of Business **November 18\(^{th}\), 2015 (5:00 PM EST)**
  - Voting results will be presented at face-to-face TSC meeting on **November 19\(^{th}\), 2015**
Member Project Voting

Targeting 100% Participation

TSC Face-to-Face Meeting in Houston, TX, USA - November 18-19th, 2015

• CCPS encourages TSC members to attend the upcoming TSC Face-to-Face meeting, by WebEx or in person, to before voting
  – New comments or questions can be brought up during TSC Face-to-Face meeting, attendance means you will have the most up to date information on Proposed Projects
Proposal Outcome

All proposed project suggestions were evaluated against the CCPS Vision and placed into one of the following categories:

1. Project selected to move forward to Balloting
2. Projects selected to roll into existing projects
3. Project not selected, will be maintained in the file for further evaluation in 2017
4. Projects did meet the CCPS Vision and Mission
## 2016 Project Proposals

### Proposed Project Title

<table>
<thead>
<tr>
<th>PROPOSALS 2016</th>
<th>Proposed Project Title</th>
</tr>
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<tbody>
<tr>
<td>1601</td>
<td>Risk Based Process Safety Web Application Tool</td>
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<tr>
<td>1602</td>
<td>Guidelines for Collaboration and Stakeholder Engagement</td>
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<td>1603</td>
<td>Guidelines for the Revalidation of PHAs, 2\textsuperscript{nd} Edition</td>
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<td>1604</td>
<td>Golden Rules of Process Safety by Technology</td>
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<td>1605</td>
<td>Vision 20/20 Video Communications</td>
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<tr>
<td>1606</td>
<td>Building and Maintaining a Vibrant Management Systems</td>
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<tr>
<td>1607</td>
<td>Guidelines for Investigation Management</td>
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</table>
Proposal: Develop an easily accessible web-based tool for each of the Risk Based Process Safety elements. Free Content will include: A short description of the “pillar” for each book chapter and; Link to other CCPS individual product elements (e.g. Beacons, pamphlets, free web content). Identify incidents associated with each element and provide brief description and link to more information (standard format similar to Incidents that Define Process Safety). Tie available resources such as CSB videos, incident reports, and resources like UKHSE publications to each element. Identify gaps in tools/info for each element DISCUSS. Link (where appropriate) with Vision 20/20 themes and tenets.

Benefits: Develop a position as a central “hub” of information in the area of Process Safety. This web-based tool will be easily accessible and user friendly. This will allow CCPS to hold the position as a leader and developer of process safety risk based information, tools, and resources “connections ”.

Team Composition: CCPS Staff Consultant with small team of TSC reps to vet and oversee the content, this would be an on-going committee.

Product: Web Product

Recommended Development Approach: Consider inter-organization committee (i.e. partnership with API, ACC, EPSC, AIHA, CCPS). A small committee for the initial stage of the project. The committee will offer and define a prioritized process for a staff consultant to begin implementing.

Audience: Everyone, with a focus on risk professionals at sites and corporate offices

Sponsor: Scott Berger, AcuTech Consulting

Champion: Karen Tancredi, Chevron; Tony Downes, Honeywell
Proposal: Develop a guideline for two of the Vision 20/20 tenants: responsible collaboration and enhanced stakeholder knowledge. This project will provide detailed information on what these tenants represent, the value of these tenants to the audience, and how to achieve compliance with these tenants.

Benefits: Increases the visibility of the Vision 20/20 project while satisfying two of the Vision 20/20 tenants. Produces a literary reference for individuals to adhere to Vision 20/20 standards.

Team Composition: The team will be comprised of inter-organizational personal. This personal will have the appropriate expertise in project management and the Vision 20/20 tenants, if possible some members of the Vision 20/20 Project Sub-committee.

Product: Book, pamphlet, software/database, web product

Recommended Development Approach: An inter-organization committee will develop a prioritized process for the approach to this project. The committee written work process can put together and use Staff Technical Writer, if available.

Audience: The audience for this program could include process safety professionals, students, professors, operations and maintenance personnel in the process industries.

Sponsor: David Lewis, OxyChem / Cheryl Grounds, BP
Proposal: Update current version and provide improved guidelines for the PHA revalidation protocol.

Benefits: Provide updates to current version (consideration of human factors, security, siting, normalization of deviation, etc.), and add awareness on how to evaluate and analyze PHAs, and the evaluation of safeguards, independency, and even LOPA application. This will add reference to already established CCPS tools and books.

Team Composition: The team should consist of facility and corporate PHA experts, teachers, and users.

Product: Book, pamphlet

Recommended Development Approach: The product development work can be a contractor-facilitated committee work process, a committee written work process or a committee can put together and use Staff Technical Writer, if available.

Audience: Improved, more applicable guidance for smaller companies. Larger companies typically have a well-developed protocol.

Sponsor: Cho Nai Cheung, Contra Costa County Health Services
Proposal: Organize a team of process safety experts to develop a book that pulls together the Process Safety basics (rules and tenants) into one complete resource. This product will use technology as the framework.

Benefits: This book, and tool, would fill a gap in current process safety literature. This would be a reference for very many mature process technology composed in a concise manner for easy use. The book would be a reliable quick reference for employees in close proximity to the processing for a specific field (FCC, Alkylation, crude, chlorine, chemistry, etc.). It can be used during auditing to do a gap analysis of best practices. H2S, Chlorine Institute What do you look for when you go to a plant.

Team Composition: The team should consist of facility and corporate PHA experts, teachers, and users.

Product: Book, pamphlet and web product

Recommended Development Approach: It is anticipated this project will be a traditional CCPS project, with a volunteer committee of subject matter experts from member companies, and a contractor or technical writer to prepare the material from the committee.

Audience: The audience for this program could include process safety professionals, students, professors, as well as new and experienced engineers.

Sponsor: Jatin Shah, Baker Risk
**Proposal**: Create videos/commercials that describe each of the industry tenets and societal themes in a short and accessible way, encouraging industry and society to join in the Vision 20/20 journey.

**Benefits**: The benefit of this project is outreach, engagement, and education on Vision 20/20’s topics. This series of videos would be used in industry to introduce Vision 20/20 and could be used to frame activities/workshops in this space, such as initial engagement, completion of assessment tool or topical updates. Additionally, its use in the community would be focused at LEPCs, first responders and STEM educators to encourage further “pull” for information in the societal theme areas.

**Team Composition**: CCPS staff member lead team of CCPS member company representatives, some who are members of the Vision 20/20 Project Sub-committee. Team may need to include additional participants in the programming or electronic media areas. Also, legal and communications expert representation is needed on the team.

**Product**: Video, accessible via YouTube (or similar platform)

**Recommended Development Approach**: Convene a subcommittee. Host teleconferences to discuss product, content, and means of developing content.

**Audience**: Process Safety Professionals, Industry Leadership, and key stakeholders (Vision 20/20)

**Sponsor**: Samantha Scruggs, BP; Vision 20/20 Subcommittee
Proposal: Create short booklet that describes how to develop and implement a vibrant management system.

Benefits: The benefit of this project is an enhanced application of a management system within small to mid-sized companies through a developed implementation guide. Setting up an effective management system is a foundational step in delivering the tenets and themes of Vision 20/20 and this product will help direct a company to either create or enhance their own management system with process safety principles.

Team Composition: CCPS staff member lead team of CCPS member company representatives, some who are members of the Vision 20/20 Project Sub-committee.

Product: Booklet (estimated at 20 pages)

Recommended Development Approach: Convene a subcommittee. Host teleconferences to discuss product, content, and means of developing content.

Audience: Process Safety Professionals and Industry Leadership in small to mid-sized companies

Sponsor: Vision 20/20 Subcommittee
Proposal: To develop a comprehensive book that outlines how to and what to include in incident investigations and recommendations for executing the investigations and the follow up to them.

Benefits: Incident investigations provide our best incite into why/what/and how things went wrong, establishing the lessons learned and implementing these lessons are key to preventing reoccurrence.

Team Composition: Experienced and novice incident investigators potential for external collaboration with CSB, OSHA, EPA, and global regulators to include best practices from around the world.

Product: Hard copy and eBook

Recommended Development Approach: The product development work can be a contractor-facilitated committee work process, a committee written work process or a committee can put together and use Staff Technical Writer, if available.

Audience: Industry, academia and regulatory agencies

Sponsor: Jerry Forest, Celanese
<table>
<thead>
<tr>
<th>(2017+)</th>
<th>Title</th>
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<tbody>
<tr>
<td>1</td>
<td>Managing Stress and Anxiety During Process Safety Incidents</td>
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<tr>
<td>2</td>
<td>Psychological and Organizational Behavior of Making Risk Based Decisions</td>
</tr>
<tr>
<td>3</td>
<td>Dow - Risk Assessment Screening Tool (RAST)</td>
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<td>4</td>
<td>How Industry Can Drive the Revitalization of LEPCs</td>
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<td>5</td>
<td>Beyond the Highly Hazardous Chemical (HCC) List</td>
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<td>6</td>
<td>Computational Fluid Dynamics</td>
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<tr>
<td>7</td>
<td>Process Safety Tweets (or equivalent)</td>
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<tr>
<td>8</td>
<td>Graphics / Icons for Process Safety</td>
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<tr>
<td>9</td>
<td>Process Safety Lite</td>
</tr>
<tr>
<td>10</td>
<td>Toxic Air Release Impacts in Communities (Emergency/Unplanned Air Release)</td>
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## Project Proposals - 2017 and Beyond

<table>
<thead>
<tr>
<th>(2017+)</th>
<th>Title</th>
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<tbody>
<tr>
<td>11</td>
<td>Process Safety of Mid-stream Pipelines and Systems</td>
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<tr>
<td>12</td>
<td>Effective legislation - what CCPS believes will work</td>
</tr>
<tr>
<td>13</td>
<td>Auditing App</td>
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<tr>
<td>14</td>
<td>Organizational Considerations for Process Safety</td>
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<tr>
<td>15</td>
<td>How to Demonstrate ALARP</td>
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<td>16</td>
<td>BIG DATA</td>
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<td>17</td>
<td>Best Practices for Human Factors During PHAs</td>
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<td>18</td>
<td>GL for Effective Use of Root Cause Analysis Tools in PS Incident Investigation</td>
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<tr>
<td>19</td>
<td>Integrate Materials Recovery into Safety (Concept Book)</td>
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<tr>
<td>20</td>
<td>Reynold’s Number (Fluid Dynamic) for Process Safety</td>
</tr>
<tr>
<td>21</td>
<td>GL for Ammonia Refrigeration Safety</td>
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</tbody>
</table>
Member Project Voting

• The Ballot will be uploaded to the CCPS site under Members Only for review on by September 28th, 2015
• Comments and questions on the 2016 Proposals are due by close of business October 15th, 2015
• On-line Voting will be held from October 15th to November 18th
• TSC Face-to-Face meeting in Houston, TX, USA on November 18-19th, 2015
• Company voting is due at the Close of Business November 18th, 2015 (5:00 PM EST)
  – Voting results will be presented at face-to-face TSC meeting on November 19th, 2015
Member Project Voting

Targeting 100% Participation

TSC Face-to-Face Meeting in Houston, TX, USA - November 18-19\textsuperscript{th}, 2015

• CCPS encourages TSC members to attend the upcoming TSC Face-to-Face meeting, by WebEx or in person, to before voting
  – New comments or questions can be brought up during TSC Face-to-Face meeting, attendance means you will have the most up to date information on Proposed Projects
Meetings

3rd CCPS China Conference on Process Safety
22-24th September 2015, Location: Pan Pacific Nigbo, China

TSC Face-to-Face Meeting
18-19th November, 2015, Location: Houston, Texas, USA

2nd CCPS 2015 Global Summit on Process Safety
3-5th December 2015, Location: Kuala Lumpur, Malaysia

2nd DIERS Fall 2015 Meeting
5-7th October, 2015, Location: Houston, Texas, USA
Upcoming Events

• European Workshop on Process Safety,
  September 28-29th, 2015 at Nice, France

• HAZOP Studies and Other PHA Techniques for
  Process Safety and Risk Management,
  October 5-7th, 2015 at Houston, TX, USA.
  Web: www.aiche.org

• CCPS Foundations of Process Safety course,
  November 16-19th, 2015 at Ritz-Carlton, Manama,
  Bahrain. Register soon! Web: www.aiche.org/bahrain
Upcoming Publications

Guidelines for Defining Process Safety Competency Requirements  
– End of 2015

Guidelines for Integrated Management Systems and Metrics to Improve Process Safety Performance  
– End of 2015
Publication Updates

242- Introduction to Process Safety for Undergraduates and Engineers
   • January 2016

   • February 2016

   • March 2016

191- Guidelines for Pressure Relief and Effluent Handling Systems, 2nd Edition
   • March 2016
Book Sales

Top 3 books Year to Date:

- GL FOR INITIATING EVENTS AND IPL
- GL RISK BASED PROCESS
- LAYER of PROTECTION ANALYSIS
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https://www.youtube.com/watch?v=dF20tDLg6aw&feature=youtu.be&elq_mid=5211&elq_cid=2151407
Knovel eBooks

Available on Knovel Website

https://www.youtube.com/watch?v=avmUhlE_H1M

The Global Community Committed to Process Safety
Technical Speakers

Bhavesh Shukla
Valspar Corporation, Singapore

Speaker-01: “Reliability Centered Maintenance to Minimize Integrity Failure”

Julie Holden,
Jacobs, Singapore

Speaker-02: “Safety Case Implementation and Requirements”

Andre Du Plessis, ABS Consulting
HOD APAC Region

Speaker-03: “Preventing Process Safety Culture Disease”

The Global Community Committed to Process Safety
Questions or Comments

Recommendations for Next Meeting?
THANKS!!

Shami Nayak - CCPS Singapore
Event Organizer

Bob Weber and Annie Nguyen
PSRG - Sponsors

Speakers

Andre Du Plessis, ABS Consulting
HOD APAC Region

Bhavesh Shukla
Valspar Corporation, Singapore

Julie Holden,
Jacobs, Singapore

The Global Community Committed to Process Safety
Closing Remarks

Thank You for Your Attention, Participation and Your Commitment to Global Process Safety