



**MARY KAY O'CONNOR
PROCESS SAFETY CENTER**
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**CCPS's Vision 20/20:
Improving YOUR vision so WE ALL can see better**

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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. BP reflects how selected corporate activities may be seen as supporting the industry tenets and societal themes.

Keywords: Process Safety, Management Principles, Leadership, Commitment, Safety Culture, Process Safety Information and Knowledge, Codes and Standards, Knowledge

CCPS's Vision 20/20, 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.

An overview of the CCPS Vision 20/20 and an overview of the industry tenets and societal themes that comprise the vision have been presented to this Symposium in past years. This paper will build on that foundation by providing:

- a reminder of each tenet and theme,
- examples of how the tenet and themes may be seen in application in BP, and
- suggestions on what you can do to improve process safety performance by progressing Vision 20/20 in your company.

Why is Vision 20/20 important to you? The same reason it is important to all of us. We are all striving to reach a common goal - fewer process safety events. Vision 20/20 believes that we can

all reach that goal faster if we join together in a common vision toward that goal. Many companies and our stakeholders have individual efforts aimed at improving process safety. If we work individually, eventually we will get there. If we join together, we can learn from each other, cover more ground together than we can individually, and we can leverage our collective expertise, innovation and strength to get to great process safety performance faster.

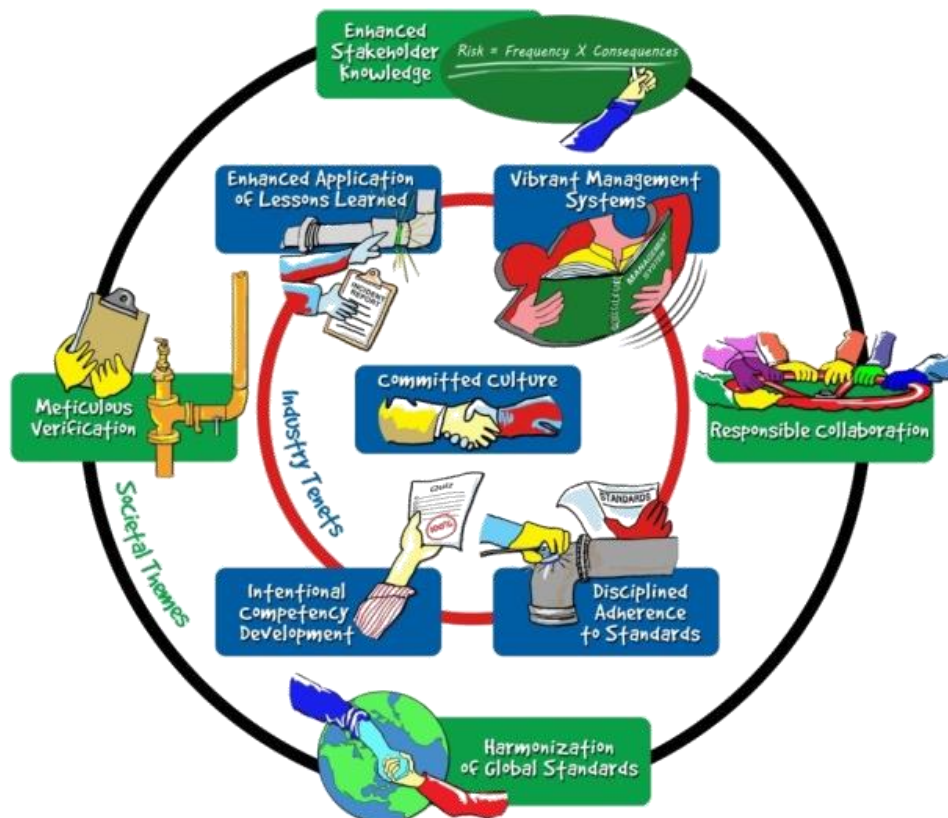
As a brief reminder, CCPS Vision 20/20 is comprised of five industry tenets and four societal themes. The fact that there are both industry and societal aspects to the vision underscores that we should all contribute to this vision - we all have a role to play.

The industry tenets describe the characteristics of companies with great process safety performance.

- Committed Culture
- Vibrant Management Systems
- Disciplined Adherence to Standards
- Intentional Competency Development
- Enhanced Application & Sharing of Lessons Learned

The societal themes are important for industry to achieve great process safety performance

- Enhanced Stakeholder Knowledge
- Responsible Collaboration
- Harmonization of Standards
- Meticulous Verification



Committed Culture

CCPS Vision 20/20 states that in a Committed Culture, executives involve themselves personally, managers and supervisors drive excellent execution every day, and all employees maintain a sense of vigilance and vulnerability.

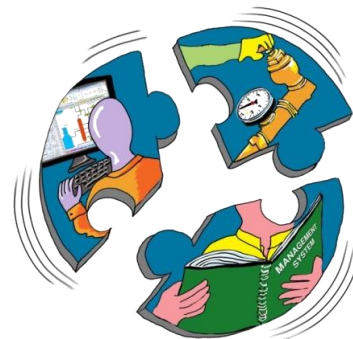


In BP, culture starts with our values and behaviors. These are the foundation of our Code of Conduct which applies to all BP employees. The values are: safety, respect, excellence, courage, and one team. These values impact the way we work together and what we prioritize our efforts on. The BP leadership is personally involved in process safety including reviewing performance, asking questions in the field, and reviewing risk action plans. All this sets the tone from the top.

What can you do in your company to live the Vision 20/20 industry tenet of Committed Culture? The first step may be to define your company values and communicate that broadly. It is important that everyone in the company understands the values. They should seem ‘real’ to everyone so that they can easily see how the values apply to them and how they can support the values. Having conversations about how the values show up in a person’s job helps to engage the workforce and make it ‘real’. Values underlining the importance of safety are key and can then serve to align all the staff in a focus on safety.

Vibrant Management Systems

CCPS Vision 20/20 states that Vibrant Management Systems are engrained throughout the organization. Vibrant systems readily adapt to the organization’s varying operations and risks.



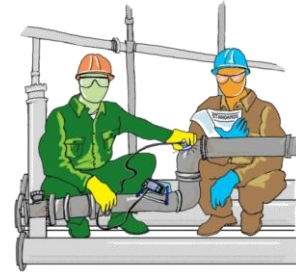
In BP, we have an operating management system (OMS) that is a group-wide framework designed to help us manage risks in our operating activities and drive performance improvements.

OMS brings together BP requirements on health, safety (personal and process), security, the environment, social responsibility and operational reliability into a common management system. All businesses covered by OMS undertake an annual performance improvement cycle and assess alignment with the applicable requirements of the OMS framework. The elements of CCPS Risk Based Process Safety can be seen in the BP OMS.

What can you do in your company to live the Vision 20/20 industry tenet of Vibrant Management Systems? The first step may be to develop a management system that is either solely on or includes the topic of process safety. This system should be one created by your company. It is fine to learn from others - but you need to make it your own. The second step is to conform to the management system. Use it to align activities, to focus manpower and to improve performance. Your company management system is focused on your priorities so it is useful in keeping people/resources/efforts focused on the important topics.

Disciplined Adherence to Standards

CCPS Vision 20/20 states Disciplined Adherence to Standards means using recognized design, operations, and maintenance standards. These standards are followed every time, all the time, and are continually improved. The majority of engineering practices are used in the engineering design of new projects. The conundrum of course, is that the majority of the equipment in our plants is not 'new'.



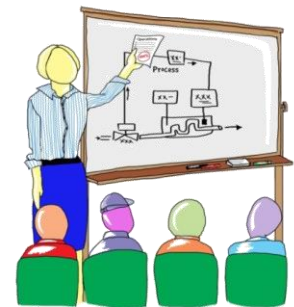
In BP, engineering practice control authorities decide which engineering practices are required to be applied in projects. For existing equipment, BP Upstream has implemented an approach called fit for service. With much engineering expertise, a review of the practices, and consideration of field operations, expectations were developed for key pieces of existing equipment. In total then, there is clarity on the standards for both new and key existing equipment.

What can you do in your company to live the Vision 20/20 industry tenet of Disciplined Adherence to Standards? The first step is to recognize that clarity is needed on standards for both new and existing equipment. There are many industry standards available to either use directly or as a basis for engineering design of new projects. The topic of standards for existing equipment will likely start with new project standards. Some companies may choose to pick individual clauses from engineering standards for application to existing equipment. Others may choose to 'distill' the text in an engineering standard to describe a pragmatic approach to existing equipment.

Intentional Competency Development

CCPS Vision 20/20 states Intentional Competency Development ensures that all employees who impact process safety are fully capable of meeting the technical and behavioral requirements for their jobs.

In BP, we have organized our learning offers into BP Academies. We reviewed audience needs, aligned with company priorities and rationalized the existing training into the Academy structure. The forward vision is to maximize accessibility through virtual learning.



In Process Safety, we strive to reach two audiences. There are the Process Safety Engineers who need to build deep technical process safety expertise, e.g. in LOPA and QRA. Just as important is the broader BP population that needs to understand process safety fundamentals and how their role may impact process safety.

What can you do in your company to live the Vision 20/20 industry tenet of Intentional Competency Development? Define competency expectations and help bosses and workers understand how to achieve this competency. Work with learning and development professionals to improve learning offers. And enable early career people to not only learn on-line, but also to experience.

Enhanced Application & Sharing of Lessons Learned

CCPS Vision 20/20 states that Enhanced Application & Sharing of Lessons Learned communicates critical knowledge in a focused manner that satisfies the thirst for learning.

In BP, we have processes to learn at a local level and escalate learnings to business or corporate level as appropriate. We are in the final stage of implementing a new recording and reporting tool called IRIS which will help us analyze and learn from both leading and lagging data.



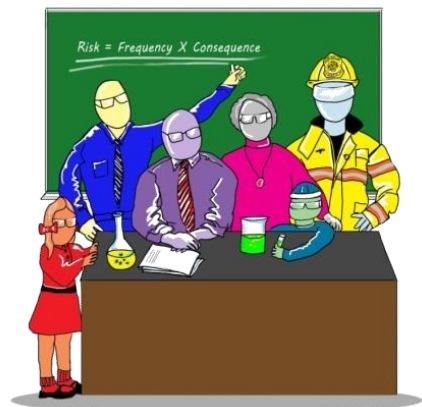
What can you do in your company to live the Vision 20/20 industry tenet of Enhanced Application and Sharing of Lessons Learned? The first step is to develop a process to move from just sharing data to actually learning through that information. The next step is to extend that learning from a local effort to an approach that can leverage learnings across the company.

The above described the industry tenets. The below entries describe the societal themes.

Enhanced Stakeholder Knowledge

CCPS Vision 20/20 Enhanced Stakeholder Knowledge promotes understanding of risk among all stakeholders, including the public, government, and industry leaders.

In BP, we recognize that, in addition to the competency of our own workforce, the ability of our partners, neighbors, regulators, school teachers, and others to understand what we do is very important. This helps to enable informed decisions in the industrial communities and neighborhoods in which we operate. BP is involved in numerous activities to support STEM programs. Many BP process safety professionals have lectured at university level on process safety topics.



What can you do in your company to live the Vision 20/20 societal theme of Enhanced Stakeholder Knowledge? To start you should identify the stakeholders. These can include other teams in your company such as Human Resources or purchasing. It will likely also include the neighbors near your plant, local regulators, and emergency responders. These different audiences will likely have a different background and interest and so a single message may not work for all. Developing the right message for the audience in a way they can understand and relate to will help to enhance knowledge across your stakeholders.

Responsible Collaboration

CCPS Vision 20/20 states that Responsible Collaboration is a cooperative relationship among regulatory and investigative authorities, labor organizations, communities, research institutions, universities, and industries.

In BP, like many companies in the industry, we are involved in a number of external activities. These are joint industry committees that create codes, standards and guidelines as well as professional institutes that focus on furthering capability and impact. Through these collaborations, BP can work with others in the industry to advance process safety practices and understanding.



What can you do in your company to live the Vision 20/20 societal theme of Responsible Collaboration? You are collaborating at a basic level by your attendance at this conference. There is much more that you can do though. Volunteer to work on an industry technical committee. You can share your company successes and will undoubtedly learn from others as well. Other options to collaborate may include involvement in local emergency response teams, writing a journal article, and engaging in rulemaking process

Harmonization of Global Standards

CCPS Vision 20/20 states that Harmonization of Standards for the safe design, operation, and maintenance of equipment streamlines practices, eliminates redundancy, and cooperatively addresses emerging issues.

BP, like many companies in the industry, operates across the globe. As the world becomes a smaller place, a global economy, the need for efficiency in identifying, understanding, and implementing engineering standards is becoming clear. We participate on committees that write standards and encourage consideration of global applicability. A specific example is BP's active involvement in API RP 754 and IOGP 456 on Process Safety Metrics that now provide upstream and downstream alignment across the globe.



What can you do in your company to live the Vision 20/20 societal theme of Harmonization of Global Standards? Participate in writing or commenting on standards taking a global perspective. Listen and recognize that others may have different ways to do the same thing. Consider these differences as opportunities to learn and be willing to compromise on occasion for the greater good.

Meticulous Verification

CCPS Vision 20/20 states Meticulous Verification by knowledgeable independent parties helps companies evaluate their process safety programs from an independent perspective.

BP implements what we refer to as the 3 lines of defense. The first line is self-verification. Businesses self-verify the effectiveness of their own risk management. The second is assurance. Group functions assure the effectiveness of the first line activities. This second line reports independently of the first line. And lastly the third line is audit, which is independent of the first two lines. Audit considers whether the Group's controls are adequate and effective. Through these three lines of defense we strive to optimize the resources used in verification, have clarity of responsibility across the Group, and work together to understand the health of the barriers managing our major accident risks.



What can you do in your company to live the Vision 20/20 societal theme of Meticulous Verification? Your company may have its own model for verification. A question to consider is if the model and verification activities in your company cover the full range, e.g. from checking an engineer's calculations to auditing key company controls at priority locations on a routine basis. Is there a potential gap that might mean that a barrier your company once had in place, might not be there anymore.

Conclusion

This paper has briefly described the CCPS Vision 20/20 industrial tenets and societal themes, provided examples of how each tenet and theme may be seen in BP, and made suggestions on how you can take the first steps in your company to live this Vision 20/20.

Vision 20/20 resources are available at <http://www.aiche.org/ccps/resources/vision-2020>. These include:

- A brochure, with Business Case and "A day in the life of..."
- One-page documents/posters
- Booklets (in English and Spanish)
- Implementation Plan
- Industry Tenet Assessment Tool

CCPS again reminds us all that it is time to leverage resources, knowledge and skills to strive for a common goal of great process safety performance. Through understanding, taking on-board, and living the tenets and themes, you can improve your vision so we can all see better!