Governing Energy

Maturity Model

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The last two words of the last issue are *maturity curve* as it relates to organizational governance. This follows a point of view that human thinking as well as technology develops and matures over time. Regarding management, from Wikipedia, "The term "maturity" relates to the degree of formality and optimization of processes, from ad hoc practices, to formally defined steps, to managed result metrics, to active optimization of the processes."[i]

The Capability Maturity Model (CMM) was first described in 1989 book *Managing the Software Process* as a software development process maturity framework.[ii] It has subsequently become a general model to aid many business processes.[iii]

Its roots can be traced back to a need to manage complex software development processes beginning with the broad use of computer systems, circa 1960s. The model began its transition into its current form in the 1980s when the US Department of Defense needed a method for "evaluating the capability of software contractors as part of awarding contracts."[iv] The requirement to integrate software projects across an enterprise transformed the early CMM into the current Capability Maturity Model Integration (CMMI) installment.[v]

In 2004, the author applied the maturity concept to the then emerging field of the digital oilfield.[vi] At the time, there was a one size fits all approach to IT systems and it became clear that some oil assets did not require the full integrated system many vendors were selling. This model sought to align IT with business requirements—does this sound familiar? The resulting Asset Maturity Model (AMM) remains a unique framework for assessing the *degree of formality and optimization of processes, from ad hoc practices, to formally defined steps, to managed result metrics, to active optimization of the* digital oilfield aka, Integrated Operations processes

In 2011, PennEnergy and the author were researching how the industry was implementing the new Safety and Environmental Management System (SEMS) requirements for US Outer Continental Shelf (OCS) drilling operations.[vii] SEMS made and continues to make formidable changes to the upstream technical and business processes.

As part of that research effort along with the changes that were being made to Standard Operating Procedures (SOP) suggested that modifications would be required to organizational governance models. For example, while it has always been the case, regulatory compliance is now *explicitly mandated* at the operator and supply chain level.

As such, the industry has made changes to the manner the Well Construction Interface Document Guidelines are being used.[viii] Bridging documents are now extended to all suppliers of goods and services used in OCS drilling operations. Logically, this can be expected to extend to all US (and perhaps globally) drilling operations in the future. Therefore, it was logical to extend the AMM and apply it to new governance requirements—Asset/Equipment Integrity Governance. (AEIG).

AEIG captures all aspects of organizational governance as extended to the supply chain and operations/production process. It provides management with a quantifiable approach that incorporates the subjective knowledge of the organization and other constituents into a singular model.[ix] The first of the AEIG four pillars is organizational MATURITY.

Enterprise risk and financial exposure is at an all-time high. AEIG suggests to markets that, "Strong governance demonstrates a **strength of purpose**" or as noted in the last edition—Strength of Ideas.[x]

What is the maturity level of your governance model and should it be higher?

About the Author

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End Notes

[i] http://en.wikipedia.org/wiki/Capability_Maturity_Model
[ii] http://www.amazon.com/Managing-Software-Process-Watts-Humphrey/dp/0201180952
[iii] http://en.wikipedia.org/wiki/Capability_Maturity_Model
[iv] Ibid.
[v] http://www.sei.cmu.edu/cmmi/
[vi] http://www.worldoil.com/November-2004-Knowing-the-economic-value-of-information.html
[vii] http://www.bsee.gov/Regulations-and-Guidance/Safety-and-Environmental-Management-Systems---SEMS/Safety-and-Environmental-Management-Systems---SEMS/
[viii] American Petroleum Institute. (2013, November). Well Construction Interface Document Guidelines (API Bulletin 97, First Edition). Washington, D.C.: Author.
[ix] Asset_Integrity_Governance_-Ver_1.1.pdf
[x] Ibid.