



SEMS Discussion: Summary Report

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Raw Answers (attached) **Error! Bookmark not defined.**



Summary on SEMS Discussion

Effectiveness of SEMS regulations and approaches generated a lot of discussions in the past few years. The purpose of SEMS is to prevent (or mitigate) incidents in the offshore oil and gas operations. The original Workplace Safety Rule made API RP 75 mandatory for offshore oil and gas operations effective on November 15, 2010. After the completion of SEMS audit by November 2015, SEMS II Rule became effective on June 4, 2013. There is a considerable speculation in the industry what would be future of SEMS or where SEMS is heading toward after the compliance timeline with the SEMS II Rule by June 4, 2015.

SEMS discussion session was introduced by Ocean Energy Safety Institute (OESI) as guided by Bureau of Safety and Environmental Enforcement (BSEE). A set of twenty two questions on different issues of SEMS were prepared by BSEE and provided to OESI to conduct a discussion session. The seven groups that the twenty two questions were divided into are as follows:

- Hazard analysis and risk management
- Contractor participation or delineation of responsibilities
- Consideration of Human Factors
- Adoption and use of performance indicators
- Audits and utility of audit report findings
- Follow-up on high-risk action items in audit reports
- Adoption of an improved SEMS: regulations vs. industry standard

OESI took the set of questions unaltered and initiated the process of discussion session. As being a part of the Texas A&M University system, OESI office of director of operation requires approval from Institutional Review Board (IRB) for inviting any participants and collecting their opinion or comments. The process requires all participants to be anonymous and also the origin of the discussion or comments need to be unidentifiable from the final data or result. Upon receiving the IRB approval OESI arranged the discussion session through a company called *Survey Monkey*. It is a cloud based mechanism where invited participants can give their opinions or discuss on certain issues being completely anonymous. OESI listserv that contains more than six hundred names of different people involved in oil and gas industry on that time was used to prepare the invitee listing. Among them more than three hundred persons were selected as potential participants based on their past experience, background, and involvement with SEMS process at various levels and invited to participate in the discussion session. The discussion portal was kept open from June 29, 2015 to August 15, 2015 for comments and opinions. A total of thirty four persons participated in the discussion. Later their comments and opinions were retrieved or downloaded from the cloud without any name tags or affiliation.

A team of four graduate students and one research associate worked with the Direction of Operations, OESI and Principal Investigator of OESI to analyze the data.



A general methodology was applied for analyzing the answers of each question. Similar answers to a question were grouped together and their bias toward the agreement or disagreement about the question was identified. There were few questions whose answers were divided into even to 3, 4, or 5 groups. The reason is that some participants took stand a middle ground; few participants even argued the basis of the question without answering the questions directly. Instead of neglecting or eliminating these answers they are summarized as a different group. The answers of each group were then summarized.

It should be noted that quite a few answers were hard to group or categorize since they were ambiguous, or not straight, or level of complexity. For such reasons, terminologies or words (Almost all, most, majority, many, some, few *etc.*) representing quantity was preferred rather than assigning any percentage value to any group of answers.

Summaries of answers to twenty two questions and raw answers to the twenty two questions are attached

General Discussions

Q1. Should BSEE consider incorporating by reference into the SEMS regulations existing industry or international standards or guidance documents related to hazards analysis and risk management that are not currently referenced? If so, which standards should BSEE consider and why?

Opinions are divided, but somewhat leaning towards positivity of incorporation of other standards or guidelines. However, the standards and guidelines recommended are widely varied.

- Existing international standards or guidelines can be considered after reviewing its usefulness, relevance and current gaps engaging the operators. Some of the suggested guidelines include - ISO 31000, ISO 17776, ANSI Z6901-1, OGP 510, NORSOK standards, OSHAS 18001, Operator's standard, Norwegian Z-013 standard, CCPS Books *etc.* It was also suggested that BSEE needs to put more focus on design safety, drilling/well risk assessment particularly for SIMOPS, easy understanding, definition of Recognized and Generally Accepted Good Engineering Practice (RAGAGEP)
- Currently there is no indication of limitations which would require considering incorporation of additional standards. It will create confusion and affect management system efficiency. It is also contradictory with BSEE's stated goal of performance-based system where organizations select appropriate standards and models. In a performance based regime, companies should define how they will meet certain fundamental obligations, and then be held accountable those definitions. Moreover, too much focus on paperwork will negatively impact safety.
- A complete gap assessment should be performed with the operators before considering this step.

Q2. If BSEE proposes to incorporate by reference specific standards, please provide guidance on whether any of these standards should be used to require an operator to define an acceptable level of risk in a specific manner, such as a qualitative (e.g., high, medium, low value) or quantitative (numeric value) manner and why.

There is no consensus among the responders on this question. Some were in favor of quantitative, some are for qualitative and some goes for semi-quantitative.

- Quantitative risk assessment cannot be brought under regulatory requirements for several reasons – risk models are sensitive to data accuracy which is a big challenge, incidents result from multiple complex factors, may cause mistrust and it will complicate the audit process. Again, defining acceptable levels of risk is not any solution to any recent problems. More clarification from BSEE is sought regarding this question as it contradicts with BSEE's goal of performance-based system. It will create more paper and illusion on how we are addressing safety.
- Another group indicated that operator should decide on their risk acceptability criteria for their organization based on scope of work and impacts. It will help universal comparisons and trending.

- Some answers reflected that government can standardize approaches to risk assessments.
- Some suggested qualitative, quantitative or semi-quantitative risk assessment methods but without clarifying the role of government or operators.
- One person pointed into a different direction - currently industry is doing well on defining acceptable risk and focus should be made on some other elements *i.e. leadership and competency*.

Q3. If there are no appropriate standards for this purpose, please describe an alternative approach that BSEE can consider for requiring an operator to define an acceptable level of risk.

No agreement was made for an alternative approach. Opinions widely varied: answers were similar to question no 2. Some are in favor of an approach to define an acceptable level of risk while others opposing the concept of defining it.

- Performance-based regulations should allow operators to conduct their own hazard analysis and determine risk level. Prescriptive standards are too rigid to be universally applicable. *Rather than impose new standards, BSEE should expect a qualitative level of assessment and a company should be able to justify their assessment based on their scope of operations.*
- Another set of opinion stated that without a standard, the definitions could be altered for achieving organizational purposes. Useful guidance could be: UK HSE sheet no. 3/2006, ISO 31000, API 14J. Following documents can also be considered - Precursor analysis recommended for use by DOI in National Petroleum Council recent Arctic Potential study for Sec. Moniz, RFF DP 10- 61 "Precursor Analysis for Offshore Oil and Gas Drilling" by Cooke, Ross and Stern.
- Not all facilities require a detailed risk assessment. Initial focus should be made on deepwater high pressure fields with some barrier-based risk assessment.
- Adding will not fix any outstanding issues. Auditing can be performed to recognize industrywide best practices.

Q4. Please discuss whether a SEMS program should include a description of what an operator considers to be an acceptable level of risk and how this can be accomplished. For example: 1. How should operators determine if a certain level of risk is acceptable? What kind of methodology, if any, should operators use determining an acceptable level of risk? 2. How do other regulatory regimes address acceptable levels of risk?

Although we have a variety of opinions, most of the responders agreed that SEMS program should include such description.

- A large group of participants believe SEMS should include a description of what an operator considers to be an acceptable risk and the tools or methodologies to accomplish this. Several objective methods are: Risk Management tools and methods which include Haz-Ids, Risk Assessments, SIMOPS, auditing/inspections, Job Safety Analysis. Operators should be able to justify their risk assessment based on their scope of operations and regulators can focus on audit/inspection part. Operators should provide process and methodology to establish levels of risk and tolerability criteria on which risk management requirement are based.

- Consideration of ALARP risk methodologies was highly suggested.
- Some suggested references for consideration are: ISO 31000, ISO 17776/A3, USCG
- Another group thinks that, operator-determined acceptability of risk can be questionable and SEMS should provide definition on “acceptable” risk.
- These questions are also suggested to be considered for discussion during the proposed SPE summit. By a "reverse brainstorming" session the group could focus on what types of preventative measures should be considered to mitigate or avoid those risks.

Q5. Please discuss whether operators should use third-party organizations to review their hazards analyses and risk management plans to certify that they meet good industry practice. Please describe whether and how such organizations are currently used under other regulatory regimes.

The views are divided in favor and disfavor on third party review. A small group wanted it to be conditional.

- A larger group thinks this work should be done by people with appropriate knowledge and experience and such expertise with technical capabilities should come from individual organization. Hazard analysis and risk management are functions of an individual operator's risk tolerance, culture, operational processes, safety management systems and other internal factors. The third party without operational knowledge and situational awareness will not understand these internal factors to a point where they can add value. Again, such plans are too general and do not cover any specific hazardous event.
- One group prefers third-party review for unbiased report. Certified third party organization can provide objective assurance that an operator meets both regulatory and internal risk management requirements. An additional suggestion is the third party can also be audited by the regulators.
- There are some other mixed comments – third-party can be considered when in-house expertise is absent, but at the same time auditor certification system should be established; Personnel from company's international divisions or experienced consultants can serve as experts; Universal industry standard would eliminate the necessity of third-party verification; Can consider ISO Audits, OSHA PSM 1910.119 and others.

Q6. What additional information, if any, should BSEE require in a SEMS program regarding identification, documentation, and personnel awareness of SCE in order to ensure that all personnel involved in offshore operations, including contractors and regulators, are aware of the role of SCE as critical barriers and of each person's responsibility in maintaining the integrity of those barriers? In examining this issue, please consider: 1. How do operators currently address these issues? 2. How should BSEE assess personnel awareness during safety inspections or through SEMS audit reports? 3. Should SEMS programs be required to describe programs for ensuring the operability of all safety barriers, including but not limited to SCE, that operators and lessees have adopted?

Majority of the responders are in favor such programs. But they didn't answer to the directly towards the considerations.

- BSEE should consider performance based criteria – bow-tie or safe-chart can be used for SCE identification and documentation. BSEE should keep track of the operators work methods and ensure operators are following the management systems in place.
- Need to focus more on awareness and competency rather than SCE documentation. But BSEE should not assess personnel knowledge. For BSEE to assess personnel, their inspectors would have to have specific knowledge of each company’s policies and system. BSEE and operators should rely on advice of subject matter experts concerning multiple safety barriers when time is not in favor of safely controlling the well.
- Another comment stated that the definition of critical equipment in RP 75 is too weak. On a similar note it is also commented that SEMS should contain more definition and actual instances referenced and mitigated.
- It is suggested to conduct some research on determining appropriate testing frequencies of SCE
- It is also suggested that these questions should be discussed in SPE summit to compare and contrast the criteria, and hopefully identify gaps or variations to further define expectations.

Q7. What appropriate measures should be required in SEMS programs to address facility security and protection against malicious software and cyber-attacks? Please identify any special cyber-attack issues related to MODUs, well control equipment, or real time monitoring systems that should be addressed and why. Should other issues be considered or addressed relating to security and protection against cyber-attacks, if so, please describe?

Several comments were made to address the need for this issue.

- Most of the people suggested the need for this. Approximately 50% suggested ways to include it. Based on the experience that poorly designed systems have led to at least two incidents (FPSO and jack-up), this issue should be addressed. USCG regulates this issue and suggestion for third party evaluation was made. Following the lead of DHS, NRC, FAA, BSEE should systematically assess current data protection, standards (including API). Suggestion to include this in Hazard identification and MOC was done, with a bow-tie analysis to identify preventive and mitigating measures. Although this issue was suggested to be addressed for potential to cause environmental loss in §250.1911, it can be done to cover proprietary risk. Suggestion to include this in risk management program and involving IT professionals was done.
- Some responded having not enough expertise to comment on this issue. While the remaining commented to not have come across such issue in their experience and that it is less likely to happen.

Q8. Please discuss whether the current BSEE regulations and SEMS requirements especially if supplemented by proposed rule-makings on production safety systems and well control, are or would be comprehensive enough to ensure the continuous performance of the contractor owned SCE for its entire life cycle, from design through maintenance and to eventual decommissioning.

The answers are clearly divided into three groups: yes, no, and don’t know.

- Current regulations are not comprehensive enough. Reason given were that operators opt for short-cuts by using inexperienced people to complete SCE tasks than spending money on contractors. Contractor requirement should be managed effectively by BSEE. SEMS auditing should verify use of bridging document to ensure contractor effectiveness. Two of these people suggested SEMS for contractors.
- Some commented that existing regulations are comprehensive enough and that rule making should minimize complexity. It was suggested to focus on resolving current issue to address low performers. 30 CFR 250.1916 suggests mechanical integrity requirements which would include SCE tasks.
- Some pointed out that they don't have any opinion due to lack of expertise regarding regulations.

Q9. What do operators and contractors currently do to ensure that SCE is upgraded to minimize risk on existing facilities as technology improves? Please discuss whether there should be an established process to ensure the continuous improvement of SCE as a part of the operators' SEMS programs. If so, what should that process require?

Opinions are varied.

- 7 of 22 mentioned several specific information in SEMS. Including improvement of clean-up technologies was suggested. Adoption of new technologies is done aggressively by some operators only. Two ways to improve SCEs would be either to change SCEs or improve Performance Standards (PS). It was suggested that currently, operators follow fit-for purpose analysis and this process should be described in SEMS and also procedure to determine the equipment retirement schedule. Specific references were suggested to be cited in SEMS. Robust guidelines should be mentioned for BAST implementation.
- 5 suggested that prescribed method for such updating is not needed as that is against the idea of performance based regulations. Currently, MOC process is used during updating SCEs by some companies. Intermittent holistic assessment of incident data should be done by BSEE to determine which equipment performance is no longer acceptable. It was suggested to define SCEs in a better way rather than providing prescriptive measures for upgrade. 2 suggested that such prescriptive mention should be avoided as no benefit is seen.
- Measures to ensure continuous improvement were mentioned. It was mentioned that currently, devices that fail on test are replaced. It should be ensured that audit data is submitted to BSEE and BSEE has ability to really spot check if audits are good. Also, annual review on performance standard on SCE should be done and risk assessment on SCE based on cost benefit analysis and result of technology advancement should be done. Continuous contractor involvement can be established for continuous improvement of SCEs.
- 6/22 pointed that they do not have enough expertise to comment.

Q10. Please discuss whether BSEE should revise the SEMS regulations to apply directly to contractors in addition to lessees and operators. For example, please discuss whether all contractors performing



critical operations should be required to have a SEMS program in conformance with API RP 75. Please address whether there are alternative ways to ensure or improve the adoption and integration of adequate safety and environmental management systems when multiple groups/organizations are involved in covered operations.

Although the responders disagree on how to do it, they are in agreement to address the issue.

- 10/24 suggested SEMS should be applicable to contractors too. Mostly based on the thought that this will ensure way of interaction with companies and each other. API is not the best safety management system since it dates back to 1922 with minor changes and additions. However, risk based SMS such as based on CCPS or ISRS v8 is better. SEMS will help operator monitor contractors' SEMS by assuring accredited ASPs have audited contractors. Contractor focused SEMS or greater involvement in SEMS should be considered.
- 4 people suggested SEMS for contractor would be just involving more regulations, which is not the answer, but the hindrance in critical operations is. All contractors are expected to already have SEMS by most of the operators. Thorough analysis do be done to understand the friction points to understand what parts of SEMS should apply specifically to contractors than to focus on documentation and auditing.
- 3 people suggested the use of bridging documents rather than a complete new SEMS program. For example, need for proper bridging documents and JHAs for a complex job, safety critical operations.
- 7 people suggested that specific parts of SEMS should be applicable to contractors. COS is developing SEMS certification process which can be used to address this question. General contractors which usually involve rig or lifeboat owner should have SEMS, contractors which are drilling companies that own man and equipment through which HC flows should have SEMS and not all.

Q11. Please discuss whether BSEE should consider incorporating by reference into the SEMS regulations existing industry or international standards or guidance documents related to the consideration of human factors in the design of SCE and management system elements? If so, which standards should BSEE consider?

- Majority supported incorporation of standards/regulations related to human factors. UK HSE and PSA Norway guidance were suggested to follow. Reviewing IOGP material and asking companies to describe their program concerning human factor in SEMS. Also, definition of human factors should be elaborated to let people understand what aspects it covers – ergonomic use of tools or decision making or error. Working environment is an issue in Arctic than in GoM, and thus, issue that BSEE addresses may not be fit for all locations. Considering human factors in design phase and identification of gap and how to fill it must be done.
- Inclusion of API RP 75 and well control regulation currently in work will be adequate. It was suggested that standards should not be a requirement but guidance so that we do not risk going backward on safety with all the requirements.

- SCEs should be included in risk management process and learning what program is already existing rather than creating new which would be disruptive to the industry.
- A person pointed out that human factor is non-tangible and the system has not worked in the U.K, it is just another way to point the finger.

Q12. How do operators currently ensure that human factors are considered when they evaluate SCE effectiveness, and how do they maximize workforce motivation to adhere consistently to all other management system requirements? Please discuss if there should be additional requirements for a SEMS program to account for human factors in the design of the various program elements and in the auditing of their effectiveness.

- Many suggestions were made on ways to conduct risk management process in life cycle, *i.e.* conception, initial design and human factors in auditing process. Clarifications and expectations on human factor are needed. Work force motivation is critical but cannot be mandated and thus guidance and training of management should be done rather than in the form of regulations. Fatigue management and understanding the meanings behind SCE alarm/warning and what they can lead to should be incorporated to account for human factor.
- Few suggested that additional requirements are not necessary to address this issue. Human factor is already considered by many industries in different ways, ranging from engineering to operational to workforce management.
- Some did not have a clear opinion on this topic.

Q13. Please discuss whether BSEE should require that KPIs be adopted as part of a SEMS program. If so, what requirements should BSEE impose on, or what guidance should BSEE give to, operators and lessees to develop their KPIs, and which aspects of management system performance should the KPIs focus on?

- Majority gave positive response to this question. 30% think that BSEE should require KPIs in SEMS program. Others 30% people did not answer this question, but they emphasize the importance of KPIs and think BSEE should wait the information gathered by COS.
- Many people gave negative response to this question. 20% gave clear answer to no because they think it is not BSEE's place to dictate a business KPI's and most operators and contractors already have KPI programs. 20% think KPIs could be dangerous and misleading.
- Some common comments include: KPI should be very well selected, the company or operator choose their KPIs, BSEE could give guidance to them and ask them to justify their KPIs is robust, but not mandate which KPIs, and KPIs should be tied into the company's business practices, operational activities and workforce culture
- Reference guidance: COS SPIs (majority people), API 754 and OGP456 (One suggests).
- Focus on: personnel training, competency and continuous performance ensure workers understand the risk barriers. BSEE could collect data to understand what should focus on and single out the poor performance



Q14. Please discuss whether the SEMS auditing process under 30 CFR 250.1920 and API RP 75, requiring sampling of 15 percent of the facilities every three years, is a statistically valid approach for assessing whether a SEMS program is being completely implemented by an operator across all operations and facilities on a daily basis. Please explain whether the criteria used to identify the facilities included in the 15 percent should be set by regulation or other government-accepted standards, and, if so, please explain how that should be done.

- On 15% percentage: Opinions vary widely. 40% people think it is enough. 35% people think it is two low (half of 35% think 100% is suitable). 25% think it should depend on the size of operators and risk levels. Larger sample for small operators and high risk facilities. One suggests grouping similar types of facilities and applying the sampling rubric to each group.
- On frequency: Only half of the responders answered this question and their opinions also varied. Some think it is enough, some think assessment should be annually, and some think it should be risk based assessment.
- Only one answers to the last question: it should be set by government. One people give suggestions that the sample should be chosen based on past performance and history

Q15. How could BSEE ensure that new operators or new facilities have a functioning SEMS program before operations begin or before existing lessees and operators resume operations after a period of shutdown? How should BSEE apply SEMS requirements to existing facilities that have been recently transferred to a new owner? Should BSEE perform inspections or require a one-time report confirming that SEMS program elements are in place soon after operations begin for a new facility and/or a new operator and explain why?

Most people did not differentiate the questions 1 and 2 in their answers.

- Perform SEMS audit or review before operation. Conforming a SEMS program for a new facility is not required, unless a new operator is also involved because it is operator specific, not a facility based management system. Another opinion is to submit a detail report prior to resuming operations. Some suggested establishing what elements of a SEMS program needs to be in place and verified as part of the pre startup program and establish criteria for approval. Then requiring companies to demonstrate compliance with those criteria.
- SEMS audit should be performed prior to operations of a change of ownership or contract. Transferring ownership of existing facilities should include a plan for transitioning the SEMS to reflect the new owner(s), understanding that ultimate responsibility for a facility is transferred to the new owner on a date certain
- Few people gave response to the last question, but most responses are in agreement. The safety culture of an installation that is not operating cannot be assessed. One suggested that they should require a one-time report confirming elements in place before operations begin, not after.

Q16. How can the sharing of safety data such as found in some audit findings be facilitated? For example: 1. How would confidential submittal of specific SEMS audit findings directly to an agency



(e.g.,BTS) that specializes in acquiring and analyzing confidential information on a statistical basis increase sharing and increase the amount of incident precursor data available to industry and the public? 2. How could such information be used to identify safety and performance trends? 3. What type of audit data or findings could or should be shared in this way? 4. How could BSEE promote more beneficial sharing of data on specific risk-related findings of the SEMS auditors?

- There is a common sense among the companies that sharing audit information will benefit learning and safety performance. However, divergent opinions were raised regarding the organization that should be in charge of that. Three of the people interviewed suggested the involvement of the Center for Offshore Safety (COS), which is already responsible for compile safe performance indicators confidentially and distribute the findings in a report. For them, BSEE does not need to be part of the process. Contrarily, there were some people who defended that it is BSEE's responsibility to review and disseminate the audit data.
- Other relevant point raised was the containment of the data shared. It was mentioned that all information is relevant for the industry and should be available for the public. Contrary to this opinion, some of the people interviewed suggested that only the best practices and lessons learned should be shared. For them, besides useful, there are fewer concerns in sharing good practices. It would be a duty of BSEE to review all audit data and identify the best practices prior the distribution. For others, BSEE should only make public the common issues.
- It is agreed that the companies name must be confidential and the result should be absented of opinions and view point. It was recommend a written approval from the operator prior the distribution of the results, and a creation of a legal protection for submitting the information.

Q17. How can BSEE move the concept of a SEMS program audit beyond compliance with a checklist to an overall assessment of the management system's effectiveness in reducing risks to safety and the environment? For example: 1. Should the Bureau require regulated parties to follow specific standards developed by standards development bodies or others as to content of their audit reports; which standards and why? 2. Discuss if such reports should include an evaluation of how well individual SEMS program elements are integrated to effectively manage risks.3. Discuss if audit reports should require the auditor to evaluate the maturity level of an operator's safety culture? What aspects of a SEMS program can be audited to assess levels of safety culture and why?4. If such audit reporting practices were adopted, would they promote a deeper commitment to the management system by operators, employees and contractors?

- The standardization of the audit procedures is encouraged by the majority of the participants. In their perception, audit reports should be consistent among the industry in order to improve the comparison of information and take advantage of lessons learned. It would also clarify the participation of contractors in the audit process. To make the audit procedures uniform, it was suggested the development of audit protocols and tools by COS and IADC, more standards required by BSEE with specific audit requirements, and the implementation of a checklist as a

way to avoid auditor's opinions. It was also mentioned that all auditors should be trained similarly by BSEE or AB.

- On the other side, some of the participants were against the standardization. They defended that existing standards (API RP 75, COS-2-03, ISO 19011 and ISO 17021) have enough requirements for auditing and reporting, and before changing any existent procedure, BSEE should consider the guidelines already proposed by COS.
- Regarding the evaluation of the maturity level, there were divergent opinions. For some of the participants, BSEE should not be concerned about maturity. It would require more time to obtain any conclusion about the safety culture of the company. Others, however, believe that a properly conducted audit, that includes an assessment of the participation, understanding and skills or workers, will give an understanding about the organization's culture. Nevertheless, auditors should be able to include the people behaviors and feedback while they are doing the audit.

Q18. What is the meaning of “noncompliance” with a SEMS program requirement, as opposed to “nonconformance,” in SEMS audits? Should BSEE standardize the meanings of these terms and other terminology used in audit findings? If so, please provide examples of any audit related terminology that should be standardized.

Majority people could understand the two terminologies.

- Non-compliance is a failure or refusal to be or act in accordance with a command, wish or request of another, e.g., in accordance with a law or regulation; non-conformance is the failure to be or act in accordance with a set of accepted standards, expectations or specifications. Non-compliance occurs when an element required by the regulation is not being incorporated into a SEMS program or when audits are not conducted or CAP not submitted or implemented within the required timeframes.
- Regulatory (and other) requirements are assessed for compliance, while management systems are assessed for conformance
- Majority people think BSEE should standardize the terms and COS SEMS audit terminology could be adopted.

Q19. If BSEE does not require that the content of audit reports follow established standards, what type of information should BSEE require that a SEMS audit report include in order to ensure that auditors have adequately assessed and identified compliance or non-compliance, conformance or non-conformance, opportunities for improvement, and best practices related to specific elements in the SEMS program?

One third of the responders think that the reports should follow established standards. They suggest adopting standard definitions developed by COS. For the type of information BSEE should require, every people held their own points which include: establishing a format for auditing and reporting; using evidence in the form of interview transcripts and documentation to support claims of compliance and conformance; reading the report and make a determination based on professional

judgment; using OSHAS18001 model; requesting explanation of exemplary conformance as well as non-conformance; making a summary of each element and re-inspect if issues are found; and reviewing of training requirements for each job task, the review of individual employee and contractor training and requirements, and ensure that employees are competent to do their jobs tasks

Q20. How should a SEMS audit report assess whether the individual SEMS program elements are being integrated into systems to effectively manage risk? Should the interdependencies of each SEMS program element be measured, and if so, how? What guidance can be provided, or requirements set, to promote that measurement? For example, please discuss whether a SEMS Audit Service Provider should be required to provide a professional statement of the SEMS program’s adequacy or effectiveness as part of the audit report.

The opinions are very widely varying.

- Possible considerations are: effectiveness of employee participation plans, thoroughness, progress, widespread involvement
- The audit should include a detailed debrief

Four people give positive response to the second question.

- The operator should be asked to provide evidence of element interdependencies
- These interdependence and their effectiveness can be qualitatively identified by an experienced professional, but not 3rd party
- Recommend guidance for measurement: COS; NIST/Baldrige model; TRB309

With regard to the ASP, there are two group opinions:

- Majority commented that it is important to audit the adequacy or effectiveness of DEMES, but they don’t trust the ability of 3rd party.
- 25% think SEMS ASP should provide a professional statement of the SEMS program adequacy, but it should be based on a standard format based on objectivity and definition and not a personal interpretation of the effectiveness.
- One suggests BSEE establish specific criteria for the audits that all third parties ICP should use if using certified third party independent persons.

Q21. Please discuss whether BSEE should conduct follow-up audits on the implementation of high-risk action items generated from the results of SEMS audit reports and if so how? In lieu of a follow-up audit, how can an operator provide confirmation to BSEE that every item in the CAPs generated by the SEMS audit process has been fully implemented?

- The vast majority of participants agreed that BSEE should conduct follow-up audits. For them, it is the only way to make sure that conformances have been properly addressed. One of the interviewed, besides agreeing with the idea, suggested that the decision in rather conducting a follow-up or not is relative, and should be based on factors “ranging from past performance to lessons learned to current focus areas to risk”. It was also suggested that BSEE should conduct

inspections on organizations that do not have COS SEMS certification and are unable to prove if their corrective plan was completed.

- There was just one opinion against, which defended that follow-up audits could be replaced by “less disruptive” approaches without compromising the results. As an example, it was suggested annual inspections conducted by BSEE.
- There were many suggestions regarding the way that the inspections should be conducted. Among them were inspections of the CAP conducted either directly by BSEE or through a qualified 3rd party, verbal or Face to Face meetings with employers and operators, and the implementation of an official document that can be addressed to BSEE as part of the verification.

Q22. Please explain whether modification of existing industry standards and best practices would be preferable to revising BSEE’s existing SEMS regulations as a means to address the issues raised above.

- There is no consensus among the participants on whether BSEE should modify industry standards or existing regulations. On one side, there are people who defend the enforcement of the regulations. In their point of view, operators are more likely to obey the specifications required by Regulators rather than industry standards. Besides that, revising existing SEMS regulations could reduce or even extinguish the ambiguity that might be present in industry standards. Moreover, a revision of SEMS program might lead to the modification in industry standard.
- On the other side, there are those who do not consider the creation of a new regulation as a solution. For them, organizations would be more supportive in modifying current industry standards given that the main purpose of those practices is to recognize the organizations’ necessities and promote a conjunctive development. Others recognized that the revision which has been conducted in API RP 75 is enough to supplement any modification to the regulation that might be necessary. Additionally, it was suggested the establishment of a performance expectation, which helps the industry to develop and implement means to comply with the expectations.