PURPOSE

The purpose of the facility hazards analysis (HA) is to identify, evaluate and, where unacceptable, reduce the likelihood and/or minimize the consequences of uncontrolled releases and other safety or environmental incidents. Human factors shall be considered in this analysis.

SCOPE

The recommended approach to HA on offshore facilities is to concentrate on the areas that present the greatest risk. For low risk facilities, such as unmanned wellhead platforms with minimal processing equipment, the review shall concentrate on verification that the facility will shut-in upon detection of unsafe conditions. For high risk facilities, such as production or processing platforms with living quarters, the review shall additionally concentrate on the effects of an uncontrolled release on personnel. This shall include layout, fire, escape and rescue, and emergency response.

A checklist format based on API RP 14J guidelines will be the preferred method for HA by Fieldwood. A checklist is commonly used as a convenient means of verifying compliance with minimal standards and to identify areas that require further evaluation. In general, the checklist method provides this minimum level of review for most offshore facilities. The checklist is prepared by experienced personnel familiar with the design and operation of these or similar facilities, company and industry standards/procedures, and HA methodology. Once the checklist has been prepared, it can then be applied by less experienced personnel. A checklist is generally the quickest and easiest method of HA and is very effective for control of standard hazards. Checklists provide a guide to the evaluator of items to be considered in performing the hazards evaluation.

Production facilities are generally simple, standard processes with a vast amount of operating experience and a relatively low inherent risk. This risk is dependent, to some extent, on location and environment. All HA procedures apply to production facilities; however, the direction and level of effort devoted to the HA shall be relative to the inherent risk. In general, the more sophisticated techniques for HA will be the exception rather than the rule for production facilities.

In most cases, mitigation of the hazards is simple or obvious and involves modifications to comply with standard practice. It is important to consider a wide range of possible solutions to the hazards identified and not to expect that every hazard must be controlled by an alteration in physical design. When considering modifications to existing facilities, the potential benefit of the change must be weighed against the
possibility of introducing new risks along with the added risk from associated construction activities.

The HA shall include a review of previous incidents related to the operation and facility being evaluated. Non-regulatory incidents are reviewed by Fieldwood’s SEMS Department. Relevant findings of these reviews shall be included in the periodic hazards analyses. Fieldwood Energy will review all incidents relating to their operations to determine if undesirable trends exist for location or type of incident.

For complex operations or exceptionally high risk facilities such as sub-sea tie back systems, an alternate form of HA may be warranted. Fieldwood’s SEMS department may be contacted to assist with coordination and facilitation of hazards analyses utilizing methodologies other than API 14J checklists. For these reviews, hazards identified as having insufficient safeguards in place or requiring follow-up action for completion may be qualitatively evaluated in terms of the risk they present to personnel, environment, the facility and the business as necessary to prioritize response.

**PERSONNEL**

The size and makeup of the HA team shall be appropriate to the complexity and risk of the particular facility. The effectiveness of a HA depends on the skills, knowledge and efforts of the analysis personnel. A HA is normally performed by a team, but it can be performed by an individual for simple facilities.

The SEMS (HSE) department shall determine the members of the team for each HA. Team members may be Fieldwood Energy personnel or contractors. The HA records shall show name and job title as a means of qualification for team members or the rationale for their selection.

The analysis may be performed as a team meeting or by individuals according to discipline or expertise. Questions or sections of checklists may be assigned to personnel best able to provide input regarding hazards then distributed to the team members for review and input. A final team review of all HA documentation will be performed. This review may be in the form of a face-to-face meeting or by other available telecommunications options to ensure inclusion of appropriate personnel.

The review team shall include those personnel who provide direct input into compiling data and completing checklists, as well as personnel who participate in completed data review and team review meetings.
REQUIRED PARTICIPATION:
   Facility PIC
   Area Superintendent
   EC Foreman
   Compliance Coordinator
   HSE Coordinator
   Compliance Tech - NPDES
   Pipeline / Casing Pressure Coordinator
   Pressure Vessel Foreman
   Environmental Supervisor

OPTIONAL / AS NEEDED PARTICIPATION:
   Mechanical Integrity Supervisor
   Construction Repairs & Maintenance Manager
   Automation Foreman
   Maintenance Foreman
   Crane Foreman
   Construction Superintendent
   HSE Manager
   Vice President – HSE & Regulatory

PROCESS

INITIAL/BASELINE ANALYSES

Per requirements as defined in 30CFR250 Subpart S, Section 250.1911, a hazards analysis (facility level) must be performed on each facility. Fieldwood utilizes the following process to complete an initial/baseline HA:

1. HA Facilitator develops and/or modifies existing workflow procedure and reviews with stakeholders.

2. HA Facilitator develops and/or modifies checklists appropriate for facility risk classifications.

3. HA Facilitator classifies platforms based on High, Low, or Shut-In risk ranking. Forward to Area Foremen for review and to provide clarification based on current facility status.
4. HA Facilitator forwards platform checklists to Area Superintendent with instructions for completion. Area Superintendent distribute checklists for completion to subject facility PICs.

5. PIC completes checklist, obtaining assistance as needed from maintenance, automation, etc. Facilitator can be contacted for clarification regarding checklist questions and requirements. PIC returns checklist to Area Superintendent and field foremen with all items completed and comments as necessary.

6. Complete only one checklist for all bridge connected facilities, noting on the checklist the names of all structures (for instance, South Pass A, D & G). For multiple-well caissons, include names of all wells (Pelto 9 #2, 10 #11 & 10 #14). Include comments if necessary to clarify a response or to note additional risks not included in checklist.

7. Area Superintendent reviews checklist for completeness and accuracy. Request additional clarification and discuss potential recommendations with PIC/field foremen as necessary. Provide proposed action items if applicable. Action items may be modified, deleted or added during team review.

8. Area Superintendent forward completed / reviewed checklist to HA Facilitator.

9. HA Facilitator logs in and reviews checklists for completeness.

10. Compliance Coordinator compiles INC list. HSE Coordinator compiles incident list.

11. EC Foreman compiles list of mechanical integrity issues for facilities, reviews with Mechanical Integrity Supervisor.

12. Pipeline Coordinator compiles list of pipeline issues, including flush & fill, abandonment, etc. Also provides list of any known casing pressure or well integrity issues.

13. Compliance Tech reviews facility data to identify any water quality issues.

14. Environmental Supervisor provides data regarding any air quality/emissions issues.

15. Construction Engineer provides input on known facility or pipeline issues not addressed by other groups.

16. HA Facilitator embeds current facility compliance documentation, INC, incident, pipeline and integrity lists into facility worksheet.
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17. HA Facilitator schedules review meetings and distributes HA workbooks to Review Team participants prior to meeting. Meetings will be a combination of in-person, phone-in and emails as dictated by complexity and risk level of subject facilities.

18. Team members review information provided prior to meeting and arrive prepared to discuss suggested risk mitigation and outstanding issues based on workbook information.

19. Review team meets to discuss potential risks and recommend actions to reduce or eliminate hazards as necessary.

20. If no action items are recommended, HA Facilitator records meeting in facility worksheet and finalizes HA record for inclusion in SEMS Portal.

21. If action items are identified, HA Facilitator distributes action items to Area Foremen for completion. Area Foremen involves others as necessary (construction engineering, crane foremen, etc.) for close-out of action items.

22. Area Superintendent returns completed action item lists to HA Facilitator.

23. HA Facilitator reviews completion information and distributes to Review Team for confirmation that resolution is satisfactory if close-out is not per recommended action. Additional discussions are scheduled if necessary. If close-out is per recommendation, recommendations are finalized and added to facility workbook without further discussion.

24. HA Facilitator logs action item completion in facility workbook and files on the SEMS server for Portal access.

**ACQUISITIONS**

Acquisition of facilities will require review of existing HA documentation by SEMS (HSE) department and determination for scheduling of Fieldwood hazards analyses. Checklist completion will follow the process outlined above for baseline HA. New facilities will be added to the revalidation rotation schedule as reviews are completed.

**Tier 1 Reviews (First Priority):**

- No HA available for facility or HA is not current (more than 5 years for high risk facilities, more than 10 years for low risk or shut in facilities.)
- Status Change (Facility shut in analysis completed but facility is now flowing) *If MOC process was used to document status change, appropriate hazards review should have been included as part of the management of change process.*
Tier 2 Reviews (Upon completion of Tier 1 facilities):

- Status change (High Risk review /checklist available but facility is now shut in) _If MOC process was used to document status change, appropriate hazards review should have been included as part of the management of change process._

**PERIODIC ANALYSES/REVALIDATIONS**

Fieldwood shall provide for updating hazards analyses within the Management of Change process. The baseline facility HA is continuously appended through the MOC process. The HA record can be found on Fieldwood Energy’s SEMS Portal.

The MOC process includes the requirement for determining whether the change requires an addition to the existing facility HA. Operational changes can be described as permanent or temporary. Permanent changes include modifications to the existing equipment, piping or structure which will remain after the operation is complete. Temporary changes include addition of equipment and materials to the facility for operations that do not require site modifications. This equipment and materials will be removed at completion of the operation. The specific hazards of the operation shall be determined during the planning phase hazards review. This will consist of reviewing the applicable Hazard Identification sheet, Hazards Checklists found within the MOC program, or other accepted methodology as appropriate to the complexity of the operation. These documents shall be verified as applicable to the proposed operation and modified as necessary. The Hazard ID sheet, checklist or other documentation may be used in conjunction with Job Safety Analysis (JSA) to communicate potential hazards of the operation to site personnel.

Revalidation of High Risk facilities are on a 5-year revalidation schedule. Low risk and shut-in facilities are on a 10-year revalidation cycle.

The revalidation process will include review of the current facility HA for applicability considering the current facility status and operations. All action items from the previous review will be checked to ensure close out. Revalidation will also require review of all changes to the facility since the current analysis completion date and confirmation that all changes were included in the Management of Change (MOC) process. Inclusion in the MOC process ensures that a hazards review was completed for all changes to the
facility. The revalidation will include a review of INCs/incidents since the last hazards review. The current facility drawings and compliance documents shall be compared with the reference documentation from the most recent HA to ensure any changes are included in the MOC process or analyzed as part of the revalidation process. The revalidation will include a review of the Facility Operating Procedures by the Area Foreman and PICs to determine if they are current, accurate and available.

ANALYSIS RECORD

The analysis will be documented to show who conducted the analysis, when it was conducted, what information was covered, and any recommendations. Identified hazards and recommendations resulting from the review shall be summarized and distributed to appropriate personnel for action.

Area Foremen are responsible for ensuring the timely and adequate completion of hazard analysis recommendations and action items. These action items shall be prioritized based on facility risk levels, with high risk facilities receiving priority in addressing recommendations.