PEO-SONDAS Management Audit Manual

Operational Excellence Program for Offshore Drilling Rigs

PETROBRAS

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Introduction

PEO-SONDAS

In this chapter, you will be introduced to the PEO-SONDAS program, including the foundational concepts, objectives, and key drivers required to understand the scope and operational dynamics of the managemente audit program

1. PEO-SONDAS

1.1. Concept

The PEO-SONDAS program is an operational excellence initiative implemented on offshore drilling rigs chartered by Petrobras, aimed at enhancing the management systems of drilling contractors, with a focus on technical compliance, operational efficiency, and improved quality of services provided.

1.2. Objective

To contribute to the strategic objectives of achieving zero fatalities in Offshore Drilling operations conducted for Petrobras, and to maintain workforce confidence in the effective management of risks associated with drilling, completion, and workover activities; and to support the development of the market toward the adoption of industry best practices in offshore drilling within the global oil and gas sector.
The management audits under the Operational Excellence Program for Offshore Drilling Rigs (PEO-SONDAS) aim to verify the CONTRACTOR's adherence to industry best practices and to help increasing the levels of safety, quality, and efficiency in drilling, maintenance, and well-abandonment services, seeking to ensure:

- Improved quality in contractor management;
- Greater centralization at the onshore base rather than offshore;
- A competitive advantage for companies with strong safety and performance results;
- Recognition of companies committed to continuous improvement.

For companies without an active contract with PETROBRAS, a differentiated audit is conducted, focused on pre-qualification requirements and the organization's ability to comply with Brazilian laws and regulatory standards. This audit aims to perform an initial screening of companies with a minimum management capability to be invited to future rig-tendering processes, ensuring the safe and efficient delivery of contracted services.

FIGURE 1 - RESULTS ACHIEVED WITH THE PEO-SONDAS PROGRAM

Management Audit

Management Groups
Requirements
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Management Audit Cycles

In this chapter, you will be introduced to the structure of the audit, its content, and the processes involved, with detailed descriptions of the activities.

2. MANAGEMENT AUDIT

The PEO-SONDAS management audit is designed to cover the various functional areas of the Drilling Contractor (DC). Accordingly, it is structured into six representative management areas: Human Resources, Suppliers, Assets, Integration, HSE, and Operations. Although these areas are presented as distinct groups for instructional purposes, several requirements involve transversal and integrated activities to enable a comprehensive evaluation of the company's management system.
The audits are conducted by an independent third-party company with qualified auditors assigned to each management area.

3. MANAGEMENT GROUPS

3.1. Human Resources Management Area

Within the Human Resources Management requirements group, the evidence sought during the document review and on-site verification is obtained through documented information, interviews, records, position-specific external training certificates, adherence to HR programs, and matters related to the language used at the onshore base and offshore unit.
The HR area encompasses all processes related to recruitment, hiring, evaluation, training and team development, assessment of the work environment, and controls associated with HR processes. In this management area, the continuous and proactive role of HR is evaluated, particularly regarding its responsibility for supporting and jointly ensuring the safety and well-being of the workforce.
Familiarity with the Code of Ethics, Conduct Guide, and the consequences management system is verified, as well as the reporting channel and the updating of applicable legislation within HR processes. The audit evaluates whether the regulatory and technical training of both direct employees and subcontractors, whether permanent or temporary—are mapped and adequately controlled by HR.
The subgroups within the Human Resources Management Area are:

01. HR planning and integration of new employees
02. Human Resources Indicators
03. Work environment and safety culture
04. Human Resources Development
05. Individual training and certifications
06. Engagement and Leadership

3.2. Supplier Management Area

Within the Supplier Management requirements group, the evidence sought is divided into four main categories: the first concerns the system that ensures the operational safety of suppliers; the second refers to the controls associated with the maintenance of critical elements through robust supplier management; the third addresses the logistics of transporting critical materials to the offshore unit; and finally, the fourth concerns the understanding of how fixed subcontractors participate in the unit's emergency response plan.
The Supplier Management area covers all processes related to the contracting of goods and services, from pre-qualification and supplier selection to the evaluation of services rendered, considering prioritization and assessment criteria based on the unit's and the company's risk management. The integration of service providers into the Client's safety culture and the evaluation of the Contractor's processes are assessed, since the integration of both fixed and temporary subcontractors is essential to the rig's daily operations.
Systematized audits of suppliers are evaluated, as well as the processes used to assess the criticality of the items to be supplied. Contracting strategies and partnerships for products that are critical to rig safety are also analyzed.
The subgroups within the Supplier Management Area are:

01. Selection and hiring of suppliers
02. Management of outsourced work
03. Supplier knowledge and training
04. Management of critical inputs
05. Supplier audits
06. Stocks

3.3. Asset Management Area

Within the Asset Management requirements group, the evidence sought is diverse, ranging from governance elements to equipment compliance certificates. The audit seeks to understand the system used to identify critical elements and the acceptance criteria for their acquisition. The processes for asset maintenance and preservation are also verified.
The Asset Management area covers all processes related to maintenance strategies and controls the company's assets. The role of engineering is assessed as a support function for the activities conducted offshore, as well as its responsibility for defining strategies and controlling information related to asset maintenance. The implementation of processes aimed at optimizing performance and increasing equipment availability—while reducing expenditure—is also evaluated, along with the implementation of failure analyses and/or appropriate maintenance methods and the existence of a robust reliability analysis.
Additionally, this group evaluates how risk assessments are translated into an appropriate maintenance plan and into stock and spare-parts management. Systematized audits of maintenance processes are also reviewed.

The subgroups within the Asset Management Area are:

01. Governance

02. Management of critical equipment

03. Maintenance process

04. Audit in the maintenance process

05. Processes for preserving the Rig's assets and products

06. Cybersecurity

3.4. Integration Management Area

Within the Integration Management requirements group, the evidence sought consists primarily of system-based evidence and interviews. Because this management group integrates elements from all other areas, it contains requirements similar to the other groups; however, they are verified directly with the leadership in order to obtain an assessment at a more strategic level. The requirements are exclusively managerial and contain almost no items linked to technical activities. The Integration Management area covers the processes for which the company's senior management is responsible. These include defining the company's strategic benchmarks, objectives and annual targets, participation of senior leadership in the systematized Management Review Meetings, as well as in the monitoring of all performance indicators (KPIs—Key Process Indicators) used to evaluate processes. The integration of employees and fixed and temporary service providers into the company's safety culture is an essential point of this evaluation. The proactive and systemic engagement of managers, as well as their continuous interaction with the team, is also assessed. Systematized audits of company processes, the dissemination and control of technical-management information, and the proper treatment of lessons learned—whether from audits, workshops, or incident/accident investigations—are verified within this management area, in addition to the management and control of applicable legislation.
The subgroups within the Integration Management Area are:

01. Corporate strategy
02. Integrated Management
03. Compliance and legal requirements
04. Lessons learned and Good Practices
05. Audits and handling deviations

3.5. HSE Management Area

In the HSE Management requirements group, the evidence sought can be summarized as follows: evidence of the establishment and reinforcement of an HSE culture and HSE-related training; identification of critical areas; unit-level and environmental risk assessments; incident/accident analysis; and operational safety performance.
The HSE area encompasses all processes related to planning, execution, dissemination of the company's safety culture, and the technical support required during tasks and/or operations. The HSE Management Verification Checklist (LV/GSMS) includes requirements related to the Unit Risk Assessment, covering its development, dissemination, application, and systematic review. The integration of company personnel and both fixed and temporary contractors into the company's safety culture is thoroughly assessed through the checklist.
This management area also evaluates whether the company's HSE process is focused on improving safety performance and maintaining continuous control of safety indicators. The implementation and quality of incident and accident analyses are verified, including the dissemination of lessons

learned to prevent recurrence and the development of action plans, along with effectiveness verification after the planned actions are implemented.
Additionally, the definitions and actions related to the Unit's critical areas, waste management, training, Toolbox Talks, and safety briefings conducted onboard are assessed, as well as the performance of the safety technician and overall occupational safety management.

The subgroups within the HSE Management Area are:

01. Onboard SMS Practices and Culture
02. Work in critical areas of the probe
03. Unit risk analysis
04. Environmental Risk Analysis
05. Analysis of Onboard Incidents and Accidents
06. Waste Control
07. HSE Policies and Programs

3.6. Operations Management Area

In Operations Management, the evidence sought can be grouped as follows: operations management and operating procedures; Management of Change (MOC); Permit to Work (PTW) issuance; PTW risk analysis and operational risk assessments; definition of criticality and critical areas; emergency response plans and drills; operations planning and planning of critical activities; and audits of rig operational areas. It is essential to ensure that personnel have a full understanding of the hazards and risks involved in the operations.
The Operations area encompasses all processes related to well operations and vessel/rig operations. The Emergency Response Plan is evaluated based on the Unit Risk Assessment. The entire Permit to Work process and the Management of Change process are reviewed jointly with the other management areas, with emphasis on the quality of risk assessments.
In this management area, the quality of operating procedures and overall operations management is assessed, as well as the performance of the onshore base in all planning activities and its role in ensuring safe work practices.
Additionally, the following elements are evaluated, all with a focus on safe operations: identification and management of critical areas, integrated work with other companies, and the management and quality of planning meetings.

The subgroups within the Operations Management Area are:

01. Operations Management
02. Change Management
03. PT issuance process
04. Risk Analysis for operations that do not require PT
05. Operation Procedures - Quality of information
06. Planning Meetings for critical activities
07. Emergency Plans (PRE and PEI)
08. Training and emergency drills
09. Operational Performance

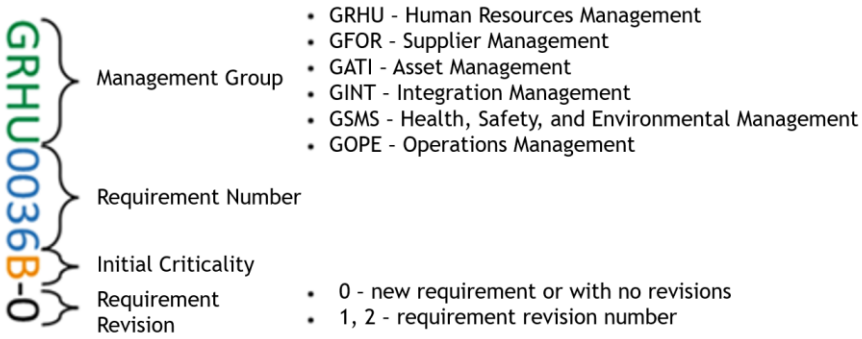
4. REQUIREMENTS

For each of the management areas, requirements that indicate the expected outcomes in the Drilling Contractor's (DC) management system were established, rather than prescribing how the management should be executed to achieve these results.
Critical Requirements (CR) are normative or contractually defined items and, therefore, companies must comply with them; otherwise, a nonconformity will be issued. These items have an initial criticality defined according to criteria that will be presented in the following section.

4.1. Requirement Code

Each requirement has a specific nomenclature that does not change during process reviews, as shown in the figure below.

FIGURE 2 - REQUIREMENT CODE



The requirement code is divided into four blocks:

1st Block (four letters of the Management Group):
Indicates the management group to which the requirement belongs, such as Human Resources, Suppliers, Assets, Integration, HSE, or Operations.

2nd Block (requirement number):
This number does not change between audit cycles, even if requirements are added or removed. This ensures traceability.

3rd Block (initial criticality):
Defines the starting criticality level of the nonconformity associated with that requirement, as viewed by the auditors.

4th Block (requirement revision):
This block may change whenever any part of the requirement is revised. Revisions may include text corrections or updates to reference documents.
This structure allows verification of which requirements have been revised and enables comparison between cycles.
All items begin with revision zero (0) when created. Revisions (1, 2, 3…) indicate how many times the requirement has been revised across audit cycles.

4.2. References

The reference documents for the PEO-SONDAS Verification Checklist (*LV – Lista de Verificação*) include Brazilian and international standards, industry best-practice guidelines, and other regulatory and technical documents. The main reference documents are listed below:

- Regulatory Standards (NRs) and NORMAM;
- CLT, LGPD, SGSO, BSEE;
- CONAMA Resolutions;
- ISO Standards: 9001, 10667, 14001, 29001, 30405, 30409, 31000, 31010, 37001, 45001, 50001, 50004, 55001;
- API Standards: SPEC Q1, SPEC Q2, STD 53, RP 54, RP 75, RP 750;
- NORSOK: Z-006, D-010;
- IOGP: 423-01, 423-02, 432, 510, 575;
- ANP Official Letters;
- IADC KSA Matrix;
- HSE Case Guidelines;
- Petrobras HSE Annex and Contractual Requirements;
- Petrobras Standards.

4.3. Criticality Criteria

As stated in the previous item, each requirement has a predefined initial criticality that will determine the criticality of the nonconformity (NC) if the requirement is not fulfilled. The criteria for defining the initial criticality levels are described in the table below.

TABLE 1 - REQUIREMENTS VS. CRITICALITY CRITERIA

A	Critical - Critical non-conformity NOTE: Classification A is not included in the PEO-SONDAS audit checklist, however, if any critical non-conformity is detected, which could result in serious accidents, the audit is interrupted and the contract inspector and company representatives will be informed.
B	Serious - Serious non-compliance. The deadlines for resolving this non-conformity will be evaluated in the action plan and monitored by PETROBRAS. Requirements that are normative and are related to the critical elements / critical areas / risk analysis of the unit are classified as B.
C	Moderate - Moderate non-compliance. The deadlines for resolving this non-conformity will be evaluated in the action plan and monitored by PETROBRAS. Requirements based on normative requirements, or requirements specified by PETROBRAS, are classified as C.
D	Mild - Mild non-compliance. The deadlines for resolving this non-compliance will be assessed in the action plan and monitored by Petrobras. Requirements based on non-mandatory or international normative references, or requirements specified by PETROBRAS, are classified as D.

The letters are the starting point for determining the Nonconformity. Any requirement that contains the letter **B** generates a **Major NC**; likewise, if the letter is **C**, it will be classified as a **Moderate NC**, and if it is **D**, as a **Minor NC**. This table is found in the Verification Checklist (LV), in the tab called *Evaluation Criteria*, where the scoring-criteria table is also located, detailing how scores from 0 to 10 are assigned.
It is possible to verify the criticality of each requirement in the **CNC column** of the LV or directly in the requirement code.

4.4. Sampling Criteria

For the requirements in which a batch of evidence is specified, the sample size to be analyzed is defined in the table below. The requirement will be considered fulfilled or not based on the number of deviations found in the sample, as defined in the same table.

TABLE 2 - SAMPLING CRITERIA

Lot size	Sample evaluated	Detours to NC
< 15	3	0
16 a 25	5	2
26 a 50	8	3
50 a 100	15	5
>100	20	7

5. VERIFICATION CHECKLIST

All requirements are consolidated in the PEO-SONDAS Verification Checklist (LV). In this checklist, the requirements are organized by management area and, within each area, grouped by topics to facilitate understanding and the audit process itself. For each requirement, the LV presents the following information:

- No. – Requirement Number;
- Requirement Code;
- Title;
- Requirement – Description of what is expected;
- Location – Base and Offshore Unit (UM); Base Only; or Unit Only;
- Application – Scenarios in which the requirement applies: Operations (OP), Receiving (RE), Pre-qualification of Dynamic Positioning rigs (PQ), and Pre-qualification of Jack-Up Platforms (PA);
- Analysis – Documentary or on-site;
- Criteria Type – CR (Critical Requirement) or EX (Excellence Requirement);
- CNC – Nonconformity Classification (B, C, D, or E);
- Guidance – More detailed explanations of what is expected and how it must be evidenced;
- Documentation – Standards and reference documentation;
- Minimum Verification – Items that will be verified;
- Evaluation Criteria – How compliance will be evaluated;
- Self-assessment – Field to be completed by the company explaining how the requirement is met, including supporting documents. At the end of completing the entire LV, it is important to verify that all documents referenced in this column by the Drilling Contractor (DC) have been attached in the initial submission package.

6. EVALUATION CRITERIA AND SCORING

During the audit, all requirements are evaluated according to the guidelines and verifications contained in the Verification Checklist. In this evaluation, a score of 0, 3, 7, or 10 is assigned to each item, according to the criteria presented below.

TABLE 3 - CRITERIA USED FOR SCORE ASSIGNMENT

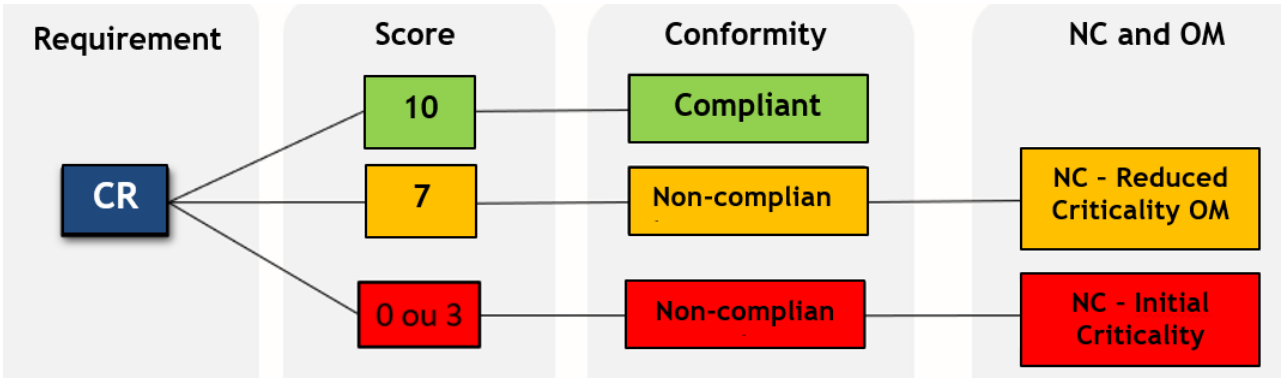
Note	Conformity	Focus on the evidence	Focus on processes
10 (TEN)	According to	Requirement evidenced without observable flaws	Adequate process, with effectively controlled variation
7 (SEVEN)	Conforming / Nonconforming	Requirement evidenced with specific failures	Adequate process, with ineffectively controlled variation
	In this case, if the requirement is in compliance, an opportunity for improvement will be generated, indicating the reason for the grade. If it is classified as not conforming to grade 7, it reduces the criticality rating by one level.		
3 THREE)	Non-Compliant	Requirement evidenced with systemic failures	Inadequate process, with effectively controlled variation
0 (ZERO)	Non-Compliant	Requirement not highlighted	Inadequate process, with ineffectively controlled variation

It is important to highlight that for CR items, scores of 0 and 3 indicate nonconforming items, while a score of 7 may represent either conformity or nonconformity depending on the type of deficiency identified.

7. NONCONFORMITIES AND OPPORTUNITIES FOR IMPROVEMENT – NCS / OMS

After the evaluation and scoring of each requirement, its conformity or nonconformity is verified as shown in the figure below.

FIGURE 3 - CRITERIA FOR NC AND OM



The criticality of CR items is defined by the requirement itself, as previously mentioned. In cases where a score of 7 is assigned, this criticality may be reduced or converted into an Opportunity for Improvement (OM), depending on the type of deficiency identified that prevents 100% compliance.

Management Audit Process

Planning
Audit Execution
Process Summary

In this chapter, you will learn about the PEO-SONDAS audit process.

8. PLANNING

8.1 Audit Notice

Once the audit date has been confirmed, the planning stage begins with an Audit Notice issued to the Drilling Contractor (DC) by PETROBRAS, 40 (forty) days prior to the deadline for submitting documents. This notice includes the audit details—such as dates, whether the audit will be remote, in-person, or hybrid, the audit team, the Units to be audited, the schedule, and the Audit Plan with guidance on the required preparations. The initial documents required for the auditors' preliminary document review are also requested.

Three files are sent along with the notice: one containing the list of initial evidence and documents for the auditors' preliminary review; another with the schedule (interview agenda) to be conducted at the onshore base and on the rig; and a third containing a version of the Verification Checklist (LV) to be completed by the DC as part of the self-assessment. The completion of this self-assessment is detailed in the next chapter.

The DC must confirm receipt of the notice and immediately designate a focal point (both for the base and the rig), who will maintain direct communication with the PEO-SONDAS coordinator throughout the entire audit. The deadline for submitting the requested documents and the completed self-assessment is up to 10 (ten) days before the start of the Documentary Audit. The DC shall upload these documents directly into the Teams group created for the audit.

8.2 Audit Preparation

In parallel, the PEO-SONDAS team carries out the audit preparation to enable its execution. During this preparation phase, a Teams Group is created, which will be used for document storage throughout the audit and as the communication channel for remote auditing. The auditors, the representatives designated by the DC, and the Petrobras personnel involved will all be included in this Group.

Within this Group, all management documentation will be made available, including: the audit notice, schedule, list of evidence and documents, the cycle's Verification Checklist (LV), and the auditors' Confidentiality Agreement. Both the schedule and the list of evidence are dynamic documents and may be updated throughout the document review and audit process.

The documents requested must be uploaded by the DC to the Teams Group by the deadline indicated in the audit notice, and any additional documents must be submitted throughout the audit.

9 AUDIT EXECUTION

The PEO-SONDAS management audit is carried out in four stages: self-assessment, document review, base audit, and rig audit.

9.1 Self-assessment

The self-assessment consists of the DC completing the PEO-SONDAS Verification Checklist (LV), indicating how each item is met and providing the documents that demonstrate such compliance. The self-assessment spreadsheet contains one tab with company data and the rigs that will be audited. The remaining tabs correspond to the Verification Checklist that will be used by the auditor. In these tabs, the column *"Self-assessment (completed by the audited company) - Include justifications and documentary references"* must be filled out with an explanation of how the requirement is met and the documentary evidence that supports it.
This stage aims to confirm the DC's understanding of the requirements that will be verified and align the DC's perception with the Program's expectations, in addition to guiding the third-party auditors' analysis. The self-assessment is requested in the audit notice, 40 (forty) days before the deadline for submitting documents, and must be submitted to Petrobras no later than 10 (ten) days before the start of the document review stage.

9.2 Document Review

With the documentation requested in the audit notice and the self-assessment in hand, the third-party auditing company begins the document review and identifies the points that will be verified at the base and on the rigs. This prevents bottlenecks for the DC supervisors during the audit and allows the auditors' actions to be precise. In addition, the range of items to be covered increases significantly.
This stage begins upon receipt of the self-assessment and the requested documents, therefore, 10 (ten) days before the base audit.

9.3 Alignment with the Focal Point

The PEO-SONDAS coordinator will be assigned to lead and oversee the entire process, and this coordinator must remain in direct communication with the DC's focal point, providing guidance and clarifying any questions that may arise. If necessary, the coordinator may hold a preliminary meeting before the start of the document review to explain the entire audit process.

9.4 Base Audit

The base audit aims to verify whether the systems and procedures established by the company meet the PEO-SONDAS requirements. The Base is the main focus; however, the audit also takes place on selected rigs (it is not necessary to audit all of the DC's rigs) to confirm the implementation of the procedures verified at the base. This stage is conducted remotely, using Microsoft Teams, and has an expected duration of three (3) days.
The audit begins with an opening meeting, which is held jointly for both the base and rig audits for the same company, with no interval between them. During this meeting, the audit team is

introduced, along with the PEO coordinator who will oversee the audit, the DC focal points, and the established audit rules.
During the audit, interviews are conducted with managers and employees from the company's various departments, along with the review of supplementary documents and analysis of evidence related to processes carried out at the DC's base. Throughout this process, all unmet items are communicated to the DC representatives designated as focal points for the respective management area, ensuring full awareness by all parties throughout the audit.

9.5 Rig Audit

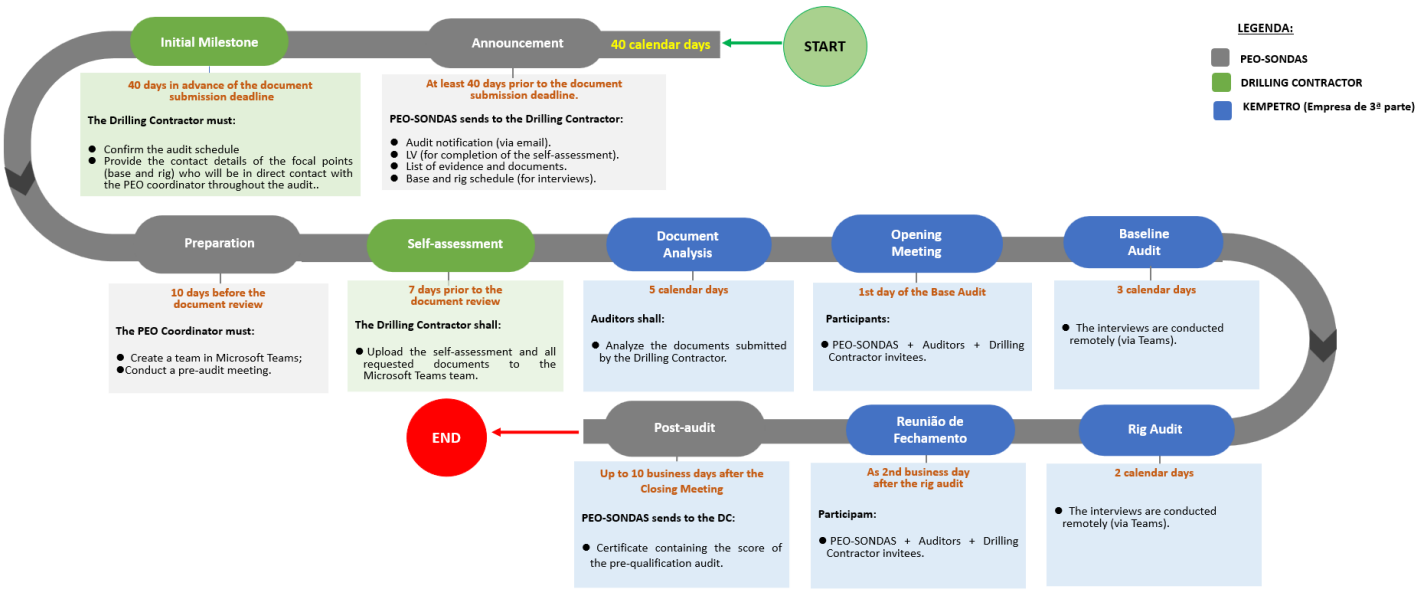
The rig audit is conducted with the purpose of verifying the implementation of the systems and procedures previously assessed at the base. During the rig audit, interviews are carried out with the leadership and the crew, evidence is reviewed, and walkthroughs are performed onboard.
Since it is not necessary to audit all of the company's Units, the PEO-SONDAS team determines which Units will be included in the audit so that the sample is representative.
These audits are conducted remotely and last two (2) days. After completing the rig audit, the audit team will have one (1) day to consolidate all data collected during the audit. Once this stage is completed, summary meetings will be held with the six management groups, during which only the non-compliant items identified in each respective area will be presented.

9.6 Certificate

With the release of the audit scores, the PEO-SONDAS Certificate is issued, including a summary of the scores for the evaluated cycle. This certificate serves as the official audit document required for the company pre-qualification process.

10. AUDIT PROCESS SUMMARY

FIGURE 4 - AUDIT PROCESS SUMMARY



Glossary

CNC – Nonconformity Classification

CR – Critical Requirements

DC – Drilling Contractor

DP – Dynamic Positioning

EX – Excellence Requirements

RS – Drilling Representation

GATI – Asset Management

GFOR – Supplier Management

GINT – Integrity Management

GOPE – Operations Management

GRHU – Human Resources Management

GSMS – Health, Safety, and Environmental Management (HSE)

KPI – Key Process Indicators

LV – Verification Checklist

NC – Nonconformity

OM – Opportunity for Improvement

OP – Operations

PA – Action Plan

PQ – Pre-qualification

PT – Permit to Work (PTW)

RE – Rig Accecptance

SM – Offshore Drilling (Maritime Drilling)

TAR – Total Recordable Incident Rate (TRIR)

TG – Severity Rate