

Appendix I: OE High Level Processes

This section of Operational Excellence (OE) implementation guide includes the OE high-level processes required to ensure consistency in implementing OE minimum requirement across the Company.

These processes were developed with the help of Saudi Aramco Subject Matter Experts (SMEs) in their areas of specialties, then reviewed and enhanced by OE experts to capture Company best practices required to fulfill OE expectations under OE Enabling Elements.



Each process consists of the following main components:

- **Process steps:** a set of interrelated sequential activities initiated to achieve a specific outcome.
- **Process steps details:** explain how each step can be achieved by implementing specific procedures or following certain instructions.
- **Responsibilities:** identify who is responsible to implement the steps.
- **References:** relate the applicable Saudi Aramco Engineering Procedure (SAEP), General Instruction (GI) and Best Practices to each set of steps.
- **Performance measure:** provides applicable Key Performance Indicators (KPIs). KPIs given in these processes are considered draft and need to be updated during the OE Manual customization in alignment with the up-to-date, Admin Area (AA) and Organizational KPIs.

All processes in this section should be customized for each and every Department to fulfill their specific needs and thus provide the tools needed to link OE expectations with the Company and Organizations procedures, instructions, guidelines, best practices, and policies needed to achieve and sustain OE. Refer to section 4.5 for the detailed customization procedure.



OE Element No. 1

Leadership & Accountability

Inspiring Leaders who demonstrate high levels of integrity and accountability are essential for driving and sustaining OE. Leaders must be actively and visibly engaged, personally committed, and consistently exemplifying values, principles and behaviors aligned with OE. They must accept personal accountability and elicit accountability from their peers and others within their Organizations on matters related to OE.

OPERATIONAL EXCELLENCE MANAGEMENT SYSTEM					
Process # 1.1 Vision, Mission, Strategies		Process Owner: Organization Head	Issue Date: MM/DD/YYYY Revision: 04		
Note: This process is “Mandatory” and addresses expectations:					
<ul style="list-style-type: none"> • Financial Resources (Enabling Element # 6) 					
Process Steps					
Plan Strategic Direction	Set Strategic Direction	Monitor Strategy Implementation Progress	Adjust Strategy Implementation Plan		
Process Steps Details					
<ul style="list-style-type: none"> • Conduct Customer and Stakeholder Needs Analysis for the products/ services offered including: <ul style="list-style-type: none"> ◦ Perform customer segmentation. ◦ Determine customer requirements and satisfaction. • Conduct comprehensive business environmental scan considering: <ul style="list-style-type: none"> ◦ Applicable legal requirements. ◦ Saudi Aramco requirements. ◦ Saudi Aramco strategic objectives. ◦ Past Performance. ◦ Benchmarks. ◦ Risks. ◦ Ongoing initiatives/ projects. • Conduct strategic analysis (e.g. SWOT, PESTEL). 	<ul style="list-style-type: none"> • Develop/ re-affirm vision, mission. • Develop strategic objectives. • Translate strategic objectives into initiatives. • Select Key Strategic Indicators (KSI) and Targets • Develop implementation plan. • Communicate vision, mission and strategic objectives. 	<ul style="list-style-type: none"> • Establish Strategic Execution Review structure to track; monitor and report implementation progress • Capture lessons learned. 	<ul style="list-style-type: none"> • Incorporate lessons learned. • Review or update Organizational Strategic Objectives implementation based on performance review and analysis. 		
Responsibilities					
Department Head / Chief Position Holders	Department Head / Chief Position Holders	Department Head / Chief Position Holders	Department Head / Chief Position Holders		
References					
<ul style="list-style-type: none"> • Saudi Aramco Corporate Strategic Framework • Global and Kingdom Outlooks • Relevant Industry market Report 	<ul style="list-style-type: none"> • Corporate / BL / AA Business Plan Guidelines 				
Performance Measures					
<ul style="list-style-type: none"> • % Employees' Awareness Level 	<ul style="list-style-type: none"> • % Strategic Plan Implementation Progress 				

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4. PERFORMANCE MEASURE

1. EXPECTATIONS:

This process will provide guidelines to:

- Establish, communicate, and maintain Organizational Vision and Mission that inspires, aligns, and sustains activity and behavior, throughout the Organization, consistent with OE objectives.
- Develop and communicate the Organization Strategic Objectives in consideration of internal performance and capabilities.
- Review and update Organization Strategic Objectives. Feedback is generated on performance and used to adjust policies and Organizational Strategic Objectives. Feedback is also shared with concerned Organizations in the Company to review and adjust the Strategy.

2. RESPONSIBILITIES:

2.1. DEPARTMENT HEAD:

- 2.1.1. Develop the Organization's Vision to provide clear directions to form the Organization's Strategic Objectives.
- 2.1.2. Develop the Organization's Mission to provide the purpose and function of the Organization.
- 2.1.3. Develop the Organization's Strategic Objectives (long-term action plan to achieve the Organization's Vision as derived from BL and AA Strategies).
- 2.1.4. Develop communication plan for the Organization's Vision, Mission and Strategic Objectives to all Organization's members and customers.

2.2. DIVISION HEAD / UNIT HEADS:

- 2.2.1. Support the Department's Head to establish the Organization Vision and Mission.
- 2.2.2. Participate in the development of the Organization's Strategic Objectives (derived from BL and AA Strategies).
- 2.2.3. Implement the communication plan to explain the Organization Vision, Mission and Strategic Objectives to all Organization members and other concerned parties.
- 2.2.4. Collect lessons learned and feedback on performance analysis and use it to adjust the Organization Strategic Objectives.

3. PROCESS STEPS:

The following is the overall process developed to meet the intent of the OE expectation described above:



The following subsections will describe each step of the process in details:

3.1. Plan Strategic Direction:

- 3.1.1. Conduct Customer and Stakeholder needs analysis for the products/ services offered including:

- Perform customer segmentation.
- Determine customer requirements and satisfaction.

- 3.1.2. Conduct environmental scan considering:

- Applicable legal requirements.
- Saudi Aramco requirements.
- Saudi Aramco strategic objectives.
- Past Performance.
- Benchmarks.
- Risks (refer to Enterprise Risk Management)
- Ongoing initiatives/ projects.

- 3.1.3. Conduct strategic analysis (e.g. SWOT, PESTEL) and document the result:

- Analyze the Organization's strengths, weaknesses, opportunities, and threats, and use the information to set the organization's strategic direction.

3.2. Set Strategic Direction:

3.2.1. Develop the organization's Vision and Mission by validating and finalizing the output from the strategic analysis and consider:

- Alignment of the Organization's Vision and Mission with Company Vision, Mission and Corporate Strategies.
- Alignment with OE targets.
- Time frame.
- Clear directions and expectations for the Organization.
- Quantified Success outcomes.

3.2.2. Re-affirm the Vision, Mission, Strategic Objectives and Initiatives following documented Business Plan Instructions considering the following:

- Review and re-affirm on an annual basis.
- Measure the Organization's progress toward achieving the Vision, Mission Strategic Objectives and Initiatives.
- Update the Vision and Mission as needed to reflect unexpected changes

3.2.3. Develop strategic objectives.

3.2.4. Select Key Strategic Indicators (KSI) and targets.

3.2.5. Develop implementation plan.

3.2.6. Communicate Vision, Mission and Strategic Objectives to stakeholders.

3.3. Measure Strategy Implementation Progress:

3.3.1. Establish strategic execution review structure to track; monitor and report implementation progress.

3.3.2. Capture lessons learned.

3.4. Adjust Strategy Implementation Plan:

3.4.1. Incorporate lessons learned.

3.4.2. Review or update Organizational Strategic Objectives implementation based on performance review and analysis.

4. PERFORMANCE MEASURE:

Below table provides measurement KPIs:

Performance Measure	Formula	Source	Frequency
% Employees' Awareness Level	Survey to check Organization's employees understanding of Organization's Vision, Mission and Strategic Objectives	Organization	Annually
% Strategy Implementation	Strategic Objectives Implemented/ Strategic Objectives Planned	Organization	Quarterly

OPERATIONAL EXCELLENCE MANAGEMENT SYSTEM

Process # OE –1.2: Commitment to Operational Excellence (OE) and OE Culture Note: This process is “Mandatory” and addresses expectations: <ul style="list-style-type: none"> • Commitment to OE (Enabling Element # 1) • OE Culture (Enabling Element # 1) 	Process Owner: To be defined by Organization	Issue Date: MM/DD/YYYY
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Process Steps



Process Steps Details

<ul style="list-style-type: none"> • Share the Corporate Ethical and applicable legal requirements. • Share Company Corporate Values. • Establish OE local governance • Develop annual OE Plan including: <ul style="list-style-type: none"> ◦ OE Process Owners and SMEs ◦ Performance Dialogues ◦ Annual Management Review ◦ OE Assessments • Assign OE Goals • Communicate OE Plan 	<ul style="list-style-type: none"> • Avail resources to implement OE Plan • Execute OE Plan • Conduct performance dialogues • Conduct OE Assessments • Track and monitor status of OE Plan activities 	<ul style="list-style-type: none"> • Report OE Plan progress • Capture lesson learned • Conduct annual Management Review 	<ul style="list-style-type: none"> • Incorporate lesson learned and management review actions. • Update OE Plan
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Responsibilities

Department Head	Department Head/ Division Head / Unit Head	Department Head/ Division Head / Unit Head / OE Representative	Department Head/ Division Head / Unit Head
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References

<ul style="list-style-type: none"> • OE Model. • IR Manual Chapter I Section 13 and 14. • SMS Overview: Company Safety Vision, Value and Philosophy. • SMS Element 1, Expectation 1: Priority of Safety. Company Business Conduct 	<ul style="list-style-type: none"> • SMS Element 1, Expectation 3: “Roles and Responsibilities.” • SMS Element 1, Expectation 5: Safe Operations Committee. • SMG-03-001-2013 “Safety Management Committee (SMC)”
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Performance Measure

<ul style="list-style-type: none"> • % OE Assessment Score Improvement • # of Days Assessment Schedule Variance 	<ul style="list-style-type: none"> • % Overdue AFI's
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1. EXPECTATIONS:

This process will provide guideline for Leaders to:

- Actively engage with their Organization on matters related to OE, OE System, and the design, implementation, effectiveness, and continuous improvement principles embodied therein.
- Demonstrate clear, consistent, and visible commitment to Corporate Values and OE performance objectives in all Focus Areas.
- Ensure that Organizations conduct all activities in an ethical manner and adhere to the highest ethical standards.
- Promote, establish, and maintain Organizational behaviors and norms consistent with Corporate Values and OE targets.

2. RESPONSIBILITIES:

2.1. DEPARTMENT HEAD:

- 2.1.1. Create and promote the OE culture in the Organization.
- 2.1.2. Communicate the Organization's OE Plan with employees.
- 2.1.3. Ensure full compliance to the Corporate Ethical and applicable legal requirements.
- 2.1.4. Provide required resources for the Organization to implement the OE system objectives.
- 2.1.5. Delegate and control the Organization's utilization of resources and expenditures.

2.2. DIVISION HEADS/ UNIT HEADS:

- 2.2.1. Forecast the required resources to implement Organization OE Plan.
- 2.2.2. Empower employees to execute the assigned initiatives by availing resources and assigning responsibilities.
- 2.2.3. Monitor the Organization OE Plan.
- 2.2.4. Ensure full compliance to the Corporate Ethical and applicable legal requirements in all activities.

2.3. OE REPRESENTATIVE:

- 2.3.1. Coordinate the development of the OE Plan.
- 2.3.2. Report OE Plan progress to the Department Head.
- 2.3.3. Coordinate OE Performance Dialogues.
- 2.3.4. Facilitate Management Reviews.

3. PROCESS STEPS:

The following is the overall process developed to meet the intent of the OE expectation described above:



The following subsections will describe each step of the process in details:

3.1. Share and Establish OE Plan

- 3.1.1. Share the Corporate Ethical and applicable legal requirements.
- 3.1.2. Share Company Corporate Values.
- 3.1.3. Establish OE local governance
- 3.1.4. Develop annual OE Plan including:
 - Assigned OE Process Owners and SMEs.
 - OE Performance Dialogues.
 - Annual Management Review
 - OE Self and Corporate Assessment
- 3.1.5. Assign OE Goals.
- 3.1.6. Communicate the Organization's OE Plan with employees.

3.2. Execute OE Plan

- 3.2.1. Avail resources to implement OE plan.
- 3.2.2. Execute OE plan activities.
- 3.2.3. Conduct regular OE performance dialogues.
- 3.2.4. Conduct OE Assessments.
- 3.2.5. Track and monitor status of OE Plan activities.

3.3. Monitor OE Plan:

- 3.3.1. Report OE Plan progress.
- 3.3.2. Capture lesson learned.
- 3.3.3. Conduct annual Management Review:

- The objective of the management review is to analyze lessons learned, and ensure that the OE Plan was suitable, adequate and effective. The review should assess opportunities to improve OE Plan activities. Note: Management Review should not be regarded as “performance dialogue”.
- Inputs to the Management Review may include, but is not limited to :
 - OE Assessment results.
 - Customer feedback.
 - Focus Area, Specific and Generic OE Process performance.
 - Corrective and preventative actions.
 - Actions from performance dialogues and previous reviews
 - Continuous Improvement activities
 - Possible changes that might affect the OE Plan.

3.4. Adjust OE Plan:

- 3.4.1. Incorporate lesson learned and management review improvement actions.
- 3.4.2. Update OE Plan.

4. PERFORMANCE MEASURE:

Below table provides measurement KPIs:

Performance Measures	Formula	Source	Frequency
% OE Assessment Score Improvement	Improvement in the assessment score	Organization	Annually
% Areas For Improvements Overdue	AFI ETCs Overdue	Organization	Quarterly
# of Days OE Assessment Schedule Variance	OE Assessment Schedule Variance	Organization	Annually



OE Element No. 2

Customer Focus

For any Organization to achieve excellence, it is important to provide high quality products and/or services to customers within a reasonable time at a competitive cost.

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Process # OE – 2.1 Identify Customers, Needs, and Measure Satisfaction Note: This process is “Mandatory” and addresses expectations: <ul style="list-style-type: none"> • Customer Identification (Enabling Element # 2) • Customer Requirements (Enabling Element # 2) • Monitoring and Improvement of Customer Satisfaction (Enabling Element # 2) 	Issue Date: MM/DD/YYYY Process Owner: To be defined by Organization	Issue Date: MM/DD/YYYY Revision: 03	
Process Steps			
 <pre> graph LR A[Identify Customers] --> B[Set Agreements] B --> C[Monitor Customer Satisfaction] C --> D[Enhance Customer Satisfaction] </pre>			
Process Steps Details			
<ul style="list-style-type: none"> • Develop a matrix that: <ul style="list-style-type: none"> • Identifies customers. • Classifies customer’s type (internal or external). • Identifies needed service or product type, quantity and frequency. • Identify applicable legal requirements • Confirm capability to provide forecasted product or service. • Develop and review forecast for customer needs. 	<ul style="list-style-type: none"> • Develop agreements with customers including: <ul style="list-style-type: none"> ○ Service scope or product type. ○ Roles and responsibilities. ○ Terms and conditions. ○ Quality control and assurance requirements. ○ Time frame. ○ Cost of service or product. • Provide service or product 	<ul style="list-style-type: none"> • Implement quality assurance program. • Conduct customer focus meetings. • Conduct periodic customer survey • Collect customer feedback for improvements. • Capture lessons learned • Conduct Root Cause Analysis for customer complaints. 	<ul style="list-style-type: none"> • Incorporate lessons learned and implement corrective and preventive actions • Improve services or products accordingly
Responsibilities			
Department Head/ Division Head	Department Head/ Division Head	Division Head / Unit Head	Department Head/ Division Head /
References			
SABP-G-012 A User Guide to Root Cause Analysis Guidelines and Procedures.			
Performance Measures			
<ul style="list-style-type: none"> • % Customer Satisfaction 	<ul style="list-style-type: none"> • % Customer Survey Participation Rate 		

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1. EXPECTATIONS:

This process will provide guideline for Organizations to:

- Identify the Organization's customers for products and services.
- Identify customer needs accurately and effectively.
- Translate customer needs to products or services.
- Deliver product or service on time and at a competitive cost.
- Measure, monitor, analyze and improve customer satisfaction.

2. RESPONSIBILITIES:

2.1. DEPARTMENT HEAD:

- 2.1.1. Approve agreements for providing services or products for customers as applicable.
- 2.1.2. Forecast customer needs.
- 2.1.3. Confirm capabilities to provide forecasted products or services.
- 2.1.4. Establish a quality assurance program in the Organization to ensure meeting Company quality standards for provided products or services.

2.1.5. DIVISION HEAD:

- 2.1.6. Coordinate product or service forecast with concerned Organizations or committees.
- 2.1.7. Coordinate requests from new customers with concerned Organizations and committees.
- 2.1.8. Approve agreements within his authority as applicable.
- 2.1.9. Arrange customer focus meetings.
- 2.1.10. Collect customer feedback for improvements.
- 2.1.11. Identify root causes of customer complaints.

2.2. UNIT HEAD:

- 2.2.1. Participate in the development and review of customer demand forecasts.
- 2.2.2. Implement quality assurance program requirements.
- 2.2.3. Deliver product or services based on approved forecast.
- 2.2.4. Incorporate lessons learned and implement corrective and preventive actions to improve customer satisfaction.

3. PROCESS STEPS:

The following is the overall process developed to meet the intent of the OE expectation described above:



The following subsections will describe each step of the process in details:

3.1. Identify Customers:

The Organization shall identify the customers and their needs of products or services through the following steps:

3.1.1. Develop Customer Needs Matrix:

The Organization shall develop a matrix for its customers, which will include the following:

- Customer identification.
- Customer classification (internal or external).
- Needed service or product type.
- Needed quantities of products or services.
- Frequency of product or service delivery.
- Applicable legal requirements.

Customers can be either internal customers for products or services within Saudi Aramco, e.g., other Department/Divisions/Units or external customers such as domestic and international customers.

3.1.2. Develop and Review Forecast:

The Organization shall develop and review a forecast for the customer needs of its products or services. The forecasts are developed per the following steps:

- Data collection.

- Data analysis.
- Agreement.

Two types of forecasting shall be created as follows:

3.1.2.1 Long-Range Forecast:

The long-range forecast shall be developed and reviewed by the Organization and incorporated in the Organization's BP cycle. This forecast considers growth in customer demand and potential new customers or products or services in the future.

3.1.2.2 Short-Range Forecast:

The short-range forecast shall be developed, reviewed and updated by the Organization periodically. This forecast is used to control inventory, schedule, and supply of product or service.

3.1.3. Ensure meeting applicable legal requirement and standards.

3.1.4. Confirm Capability by meeting customer needs of products or services with the existing facilities' throughputs and Organization resources. Forecasts shall be adjusted to the optimum level that satisfies customer demand within Organization capacity.

3.1.5. Develop and review forecast for customer needs.

3.2. Set Agreements:

3.2.1. The Organization shall develop agreements with its external customers that include:

- Service scope or product type.
- Terms and conditions.
- Quality control and assurance procedure.
- Time frame.
- Cost of service or product.

The agreements shall be reviewed or endorsed by concerned Organizations, e.g., Law, Finance, Loss Prevention, Treasury, and Oil Supply Planning & Scheduling (OSPAS), as applicable.

3.2.2. The Organization shall develop agreements with its internal customers, including roles and responsibilities, as appropriate.

3.4 Monitor Customer Satisfaction:

Organization shall monitor and measure customer satisfaction of provided products and services

through the following as applicable:

- 3.4.1 Implement a quality assurance program to ensure the quality of the product or service.
- 3.4.2 Conduct customer focus meetings or campaigns to improve communications, resolve concerns, provide updates, and collect feedback.
- 3.4.3 Conduct periodic customer surveys. Organizations can develop customer surveys according to the Organization's core business and their customer expectations
- 3.4.4 Capture lessons learned.
- 3.4.5 Collect and analyze customer feedback for improvements.
- 3.4.6 Conduct root cause analysis for negative customer survey feedback and customer complaints.

3.5 Enhance Customer Satisfaction

- 3.5.1 Incorporate lesson learned and corrective and preventive actions from root cause analysis.
- 3.5.2 Improve services or products accordingly.

4. PERFORMANCE MEASURE:

Below table provides performance measures for this process

Performance Measure	Formula	Source	Frequency
% Customer Satisfaction	Sum of the Survey Ratings / (Total Number of Survey Questions) *(Top Survey Rating)	Department	Quarterly
% Customer Survey Participation Rate	Total number of surveyed customer's vs total number of identified customers.	Department	Quarterly



OE Element No. 3

Human Resources

The Organization is regularly assessing, developing, and improving the capabilities of its people to meet their full potential and business requirements.

OPERATIONAL EXCELLENCE MANAGEMENT SYSTEM

Process # OE – 3.1 Employee Selection

Note: This process is “Mandatory” and addresses expectations:

- Employee selection (Enabling Element # 3)

**Process Owner:
To be defined by
Organization**

**Issue Date:
MM/DD/YYYY
Revision:
04**

Process Steps

Identify
Department
Needs

Identify
Mechanism to
Close Gaps

Evaluate
Prospective
Candidates

Integrate and
Onboard New
Talent

Process Steps Details

<ul style="list-style-type: none"> • Identify future job roles and the knowledge, skills and capabilities required to deliver the business plans • Forecast retirements and other attrition factors • Evaluate current talent bench strength (roles, knowledge, skills & capabilities) • Identify number and type of job redundancies or vacancies and create job profiles and candidate profiles to fill vacancies 	<ul style="list-style-type: none"> • Identify appropriate mix of development, knowledge transfer, internal mobility and hiring strategies to address the talent gaps • Identify internal successors for critical roles • Discuss temporary assignment length and conditions • Partner with Staffing Services to formulate recruiting strategies 	<ul style="list-style-type: none"> • Develop relevant and an objective selection criteria • Identify suitably qualified leaders and SMEs to execute hiring plan • Select internal and external candidates using objective criteria • Interview Candidates. • Rank, Screen and Select Candidates. • Provide feedback to managers of internal candidates 	<ul style="list-style-type: none"> • Conduct Orientation Program. • Implement a business onboarding program and Buddy Program that includes health & safety, performance standards goal setting, IDP identification and Values • Conduct a probation review after 6 months to assess competence and to confirm candidate suitability
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Responsibilities

Department Head HR Professional & Generalists Planning & Programs Analyst	Department Head HR Professional HR Coordinator	Department Head HR Generalists	Department Head HR Professional & Gen. Chief Position Holders (CPH)
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References

<ul style="list-style-type: none"> • iWorkforce Center • Approved OCD studies and organization charts • GI 0000.003: Job design and job evaluation • Unit Head Selection Process Practical Guide • M&PDD succession planning guidelines • Internal mobility guidelines • Unit Head Selection Process Practical Guide • Unit Head Selection Process Practical Guide 	<ul style="list-style-type: none"> • Staffing Services psychometric assessments • Kenexa database (external) • Success Profiles • Competency Based Interview questions • Onboarding checklist • Internal Mobility Program • Admin. Area HiPo list/ Succession Plan tables • HR Analytics Build, Borrow, Buy talent matrix
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Performance Measures

<ul style="list-style-type: none"> • # Timeliness of Requisition Release • # Hiring vs. Plan • # Referral Cycle Time for SSD candidates 	<ul style="list-style-type: none"> • # Offer Approval Cycle Time SSD • % Supplement Manpower Saudization • # Interview Process Cycle Time SSD
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1. EXPECTATIONS:

This process will provide guideline to ensure that organizations proactively identify the industrial, professional and leadership talent needed to implement their business plans and develop and implement an appropriate mix of strategies to address business critical talent gaps.

- Forecast the internal supply and demand for talent.
- Hire the right number and quality of people at the right time.
- Create a robust internal pipeline of diverse talent capable of filling leadership and professional roles.
- Create a structured business onboarding process to integrate and accelerate the time to competence of new talent.
- An accurate forecast of current and future manpower requirements.

2. RESPONSIBILITIES:

2.1. DEPARTMENT HEAD/ DIVISION HEAD:

- 2.1.1. Incorporate resource requirements into business plan.
- 2.1.2. Nominate leaders and SMEs to participate in hiring and development activities.
- 2.1.3. Evaluate existing bench strength.
- 2.1.4. Create robust succession plan for leadership and key professional roles.

2.2. HR GENERALIST:

- 2.2.1. Identify new job requirements, based on business plan.
- 2.2.2. Identify number and type of vacancies and create manpower requisitions.
- 2.2.3. Create clear and specific job descriptions to assist Staffing Services with the creation of candidate profiles.

- 2.2.4. Facilitate appropriate job briefing sessions between nominated Subject Matter Experts (SME's) and Staffing Services as well as ongoing calibration sessions, as applicable.
- 2.2.5. Develop a business onboarding program.
- 2.2.6. Monitor outcomes and recommend new tactics as appropriate.

2.3. HR PROFESSIONAL:

- 2.3.1. Anticipate and forecast talent needs for three-year business planning cycle.
- 2.3.2. Define appropriate strategies to address business critical skills gaps.
- 2.3.3. Liaise with Corporate HR groups to oversee hiring, development and internal mobility programs.
- 2.3.4. Identify appropriate assessment framework to evaluate potential candidates.

3. PROCESS STEPS:

The following is the overall process developed to meet the intent of the OE expectation described above.



The following subsections will describe each step of the process in details.

3.1. Identify Department Needs:

This process step aims to create an accurate forecast of talent needs, based on the business plan, longer term strategy and an evaluation of current bench strength. Strategic workforce planning will enable the Organization to implement a wider range of strategies to close the talent gaps, rather than relying solely on external hiring.

This approach will:

- Optimize cost efficiency.
- Create a strong internal talent pipeline.
- Ensure strong collaboration between Finance and HR organizations to create realistic plans and implementation strategies.
- Create higher levels of employee motivation and retention by demonstrating

commitment to employee development and career progression.

The process step details include:

- 3.1.1. Identify future job roles and the knowledge, skills and capabilities required to deliver the business plans.
- 3.1.2. Forecast retirements and other attrition factors.
- 3.1.3. Evaluate current talent bench strength (roles, knowledge, skills & capabilities).
- 3.1.4. Evaluate current talent bench strength (roles, knowledge, skills & capabilities).
- 3.1.5. Identify number and type of job redundancies or vacancies and create job profiles and candidate profiles to fill vacancies.

3.2. Identify Mechanism to Close Gaps:

This process step aims to identify the most appropriate mix of hiring, development, knowledge transfer and internal mobility options to address critical industrial, professional and leadership bench strength gaps. This approach recognizes the importance of updating strategies to attract and develop talent as business needs change.

This approach will:

- Ensure adequate investment in employee development by linking it directly to business challenges and succession plans.
- Integrate succession management and knowledge transfer into the business planning cycle.
- Use internal mobility as a mechanism to acquire new talent by optimizing the use of internal talent.
- Announce through job postings the need for talent.
- Establish releasable candidates' data and conditions.
- Enhance attractiveness of roles to external candidates by communicating targeted EVP (Employment Value Proposition) messages.

The process step details include:

- 3.2.1. Identify appropriate mix of development, knowledge transfer, internal mobility, and hiring strategies to address the workforce gaps.

- 3.2.2. Identify internal successors for critical roles.
- 3.2.3. Discuss temporary assignment length and conditions.
- 3.2.4. Partner with Staffing Services to formulate recruiting strategies.

3.3. Evaluate Prospective Candidates:

This process step identifies how candidates for vacant positions will be objectively selected, to maximize the opportunity for them to perform effectively in the role, including the Unit Head Selection according to the Unit Head Selection Process Practical Guide. This process step recognizes the need to leverage competency based interviewing, psychometric assessments and other best practices that are appropriate to the role being filled.

This approach will:

- Increase the probability of the selected candidate being successful in the role.
- Increase the confidence of leaders in hiring quality by implementing a structured process.
- Increase the confidence of all candidates by communicating with them at all stages in the process.
- Increase engagement of all employees by implementing transparent selection processes for high profile roles.

The process step details include:

- 3.3.1. Develop a relevant and objective selection criterion.
- 3.3.2. Identify suitably qualified leaders and SMEs to execute hiring plan and ensure appropriate training is completed (e.g. Competency-based Interviewer course facilitated by the Staffing Services Dept.).
- 3.3.3. Select internal and external candidates using objective criteria.
- 3.3.4. Interview candidates.
- 3.3.5. Rank, Screen and Select candidates.
 - Ensure new and transferred employees are qualified and physically fit for their assigned tasks.
- 3.3.6. For internal candidates, employment representatives provide feedback to candidate's

manager.

3.4. Integrate and Onboard New Talent:

This process step identifies how successful candidates are integrated and on-boarded into the hiring organization. It recognizes the risk of high attrition when employees are new to an organization and aims to accelerate time to full competence.

This approach will:

- Ensure that new hires have the information they need to operate safely from day one.
- Accelerate assimilation into company culture by providing key information about the Company's Values.
- Accelerate time to competence for new hires by providing clear performance targets, development goals, information on operating procedures, and introductions to stakeholders.
- Build a strong leader and new hire relationship, which is critical to engagement.
- Reduce attrition risks.

The process step details include:

- 3.4.1. Conduct Orientation Program.
- 3.4.2. Implement a business onboarding program and Buddy Program that includes health & safety, performance standards goal setting, IDP identification, and values.
- 3.4.3. Conduct a probation review after 6 months to assess competence and to confirm candidate suitability.

4. PERFORMANCE MEASURE:

Below table provides measurement KPIs:

Performance Measure	Formula	Source	Frequency
% Hiring V Plan	% of business plan requisitions filled by category - Internal, Saudi, Expat, and SMP hires	Department Planning Staff	Quarterly

Performance Measure	Formula	Source	Frequency
% Supplement Manpower Saudization	Ratio of Supplemental (SMP) and Service Contractor Manpower of Saudi nationality	AA Planning Staff	Quarterly
% Timeliness of Requisition Release	Percentage of requisitions released in SAP, with full job specification, during the approved timeframe as advised by Staffing Services Department (SSD)	SAP data	Annually
# Referral Cycle Time for SSD candidates	Date of providing feedback on referral to SSD – Date of receiving referral from SSD	Department/Applicant Tracking System	Quarterly
# Interview Process Cycle Time SSD	Date of providing interview feedback to SSD – Interview Date	Department/Applicant Tracking System	Quarterly
# Offer Approval Cycle Time SSD	Date of finalizing the offer workflow decision – Date of receiving the offer workflow from SSD	Department/Applicant Tracking System	Quarterly

OPERATIONAL EXCELLENCE MANAGEMENT SYSTEM

Process # OE – 3.2 Employee Development

Note: This process is “Mandatory” and addresses expectations:

- Employee development (Enabling Element # 3)

Process Owner:
To be defined by
Organization

Issue Date:
MM/DD/YYYY
Revision:
01

Process Steps

Identify Talent
Bench Strength
and Gaps

Identify
Mechanisms to
Close Gaps

Implement
Development
Plans

Monitor and
Review

Process Steps Details

<ul style="list-style-type: none"> • Define Workforce categories, including; GC 3-10 technical track, PDPs, Professionals, Chief Position Holders, and high potentials • Conduct gap analysis between current talent bench strength and business requirements • Use & update department development plans such as: <ul style="list-style-type: none"> • GC 3 – 10 Competency Matrix • C-Map • Specialty development program • Discuss & document individual development needs, strengths, and career goals with employees • Partner with T&D and ITC to provide feedback on skill gaps in graduates • Manage high-potential and succession planning to identify and develop leaders • Use Unit Head selection competency model • Select employees for 360° feedback, KFALP, and SAC and DAC assessments 	<ul style="list-style-type: none"> • Design development interventions to bridge skill gaps, while considering training history, PMP, feedback, C-Maps, career interest (technical or leadership), etc. • Identify opportunities outside of department (especially across AA, business lines/functions) as well as Chapter 7 (in Kingdom) & Chapter 8 (OOK) assignments • Identify self-development opportunities • For high potential employees, identify potential special assignments, projects, mentors, and advanced degree programs • Forecast and plan for corporate & leadership development programs, assessments, and courses 	<ul style="list-style-type: none"> • Execute development plans • Implement planned PDP development rotations • Provide development coaching & feedback by the direct supervisor & mentor • Provide feedback and transfer Knowledge by mentor • Partner with Talent Assessment & Coaching Unit (part of M&PDD) 	<ul style="list-style-type: none"> • Monitor the execution of <ul style="list-style-type: none"> • C-Map • IDP • LDP • GC 3 – 10 certification and re-certification progress • Review and evaluate development plans periodically and update based business needs and progress • Review TAC coach SAC, DAC, MAC assessments with employees • Adjust development interventions to achieve required outcomes • Use available vacancy during the quarterly open enrollment period for those not included in early opening
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Responsibilities

Employee's Direct Supervisor HR Professional & Generalists Succession Planning Coordinator Training Coordinator	Direct Supervisor HR Professional & Generalists	Manager Direct Supervisor HR Professional & Gen.	Direct Supervisor HR Generalist
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Employee	Succession Planning Coordinator Training Coordinator Employee's Mentor		
References			
<ul style="list-style-type: none"> • M&PDD succession plans • M&PDD high potential process • M&PDD Development & Coaching Program • Performance Management Process • Training & Development Education Programs (ADP, etc.) 		<ul style="list-style-type: none"> • GI 000.003 Design, Job Description, and Job Evaluation • GI 1808.001 and 1809.001,002,003 • SAC, DAC, MAC, CAC feedback • PDP Procedures manual 	
Performance Measures			
<ul style="list-style-type: none"> • % IDP's in Place • % Competency Index • % C-Map Completion 		<ul style="list-style-type: none"> • % Safety Matrix • % High Potentials in Acting Assignments • % High Potentials as R1 and R2 on Succession Plans 	

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1. EXPECTATIONS
2. RESPONSIBILITIES
3. PROCESS STEPS
4. PERFORMANCE MEASURE

1. EXPECTATIONS:

The objective of this process is to ensure that organizations proactively identify critical talent gaps and implement structured mechanisms to develop strong internal pipelines of leadership and professional talent to enable them to implement their business strategies. Development is also a critical element of Saudi Aramco's Employment Value Proposition to attract and retain high performing talent. The process recognizes the importance of taking account of employee aspirations so that individuals are motivated to invest in their development and stay with the organization.

The process expectations:

- Individuals with the knowledge, skills and capabilities to address business needs, aligned with personal aspirations
- A strong pipeline of industrial, professional and leadership talent in business critical areas
- Leaders with the competence, behaviors, and experience to drive business performance
- Development programs aligned with business needs
- Leaders regularly discuss development with their employees
- Technical and professional track development options

- Leaders accountable for managing employee development
- Development objectives aligned to business objectives and employee performance
- Self-development guidelines and channels

The intended outcomes of the process are:

- An accurate forecast of the talent development needs of the business, systematically integrated into budgets.
- Strong employee motivation and engagement through structured development efforts that align with employee career aspirations and development needs.
- A strong bench of professionals with the specialist knowledge, skills and behaviors to develop and execute business strategies.
- A strong bench of leaders with the knowledge, skills and behaviors to successfully lead diverse, multi-functional, global teams.

2. RESPONSIBILITIES:

2.1. DIRECT SUPERVISOR:

- 2.1.1. Identify priority business requirements.
- 2.1.2. Evaluate performance and potential of employees.
- 2.1.3. Identify employee career aspirations and development needs.
- 2.1.4. Assign resources to implement individual development plans.
- 2.1.5. Provide coaching and feedback to employees to facilitate learning and development.

2.2. HR GENERALIST:

- 2.2.1. Ensure availability of quality CMAP per job discipline.
- 2.2.2. Ensure creation of high quality, actionable individual development plans based on CMAPs availability.
- 2.2.3. Ensure that development plans are aligned with priority individual and business needs.
- 2.2.4. Monitor development plan execution and follow-up.

2.3. HR PROFESSIONAL:

- 2.3.1. Coach leaders on application of Corporate Talent Management Processes.
- 2.3.2. Forecast and plan for internal development courses and assessments.
- 2.3.3. Investigate a wide range of development options, including assignments across organizational boundaries, corporate development programs.

3. PROCESS STEPS:

The following is the overall process developed to meet the intent of the OE expectation described above:



The following subsections will describe each step of the process in details:

3.1. Identify Talent Bench Strength and Gaps:

This process step identifies development needs based on an individual and collective gap analysis between current levels of knowledge, skills and behaviors and those required to implement business plans and initiatives. Competency maps, success profiles, job descriptions, etc. help identify the needs of the business and standards for comparison. This process step also recognizes the need to evaluate employee career goals and aspirations to gain an accurate view of individual potential, motivation and retention risks.

This process step will:

- Identify industrial, professional, and leadership talent bench weaknesses which present a risk to implementing business plans
- Identify individual employee engagement issues and retention risks
- Ensure alignment between development efforts and business goals
- Build strong employee motivation and engagement by ensuring alignment between development plans and employee aspirations

The process step details include:

- 3.1.1. Define Workforce categories, including; GC 3-10 technical track, PDPs, Professionals, Chief Position Holders, and high potentials
- 3.1.2. Conduct gap analysis between current talent bench strength and business requirements
- 3.1.3. Use & update department development plan such as:
 - GC 3 – 10 Competency Matrix.
 - C-map.
 - Specialty development program.

- 3.1.4. Discuss and document individual development needs, strengths, and career goals with employees.
- 3.1.5. Partner with T&D and ITC to provide feedback on skill gaps in graduates.
- 3.1.6. Manage high-potential and succession planning to identify and develop leaders.
- 3.1.7. Utilize unit head selection competency.
- 3.1.8. Select employees for KFALP, SAC, and DAC assessments, considering such factors as performance history, being R1 or R2 on a succession plan, having served in acting assignments, etc.

3.2. Identify Mechanism to Close Gaps:

This process step recognizes the need to identify the most appropriate development opportunities for individuals to accelerate knowledge and skills acquisition. For some, this will involve an Advanced Degree Program or other corporate educational programs. However, for most employees, the most impactful mechanism to learn skills and behaviors is work-based and will require the identification of stretch goals or assignments either within the department or with other functions or organizations. Furthermore, it is essential for employees to receive regular feedback on their development and goal progress.

This process step will:

- Leverage Corporate programs to enable knowledge acquisition aligned with priority development needs.
- Promote cross-business line assignments to generate global thinking and encourage innovation.
- Create strong work-based individual development plans which accelerate development of skills and behaviors.
- Encourage leaders and employees to co-create and record development plans to generate strong commitment to IDP execution.

The process step details include:

- 3.2.1. Create development plans based on current role skill gaps, C-Maps, future potential, and career aspirations.
- 3.2.2. Design development interventions to bridge skill gaps, while considering training history, PMP, feedback, career interest (technical or leadership), etc.
- 3.2.3. Identify opportunities outside of department (especially across AA, business lines/

functions) as well as Chapter 7 (in Kingdom) & Chapter 8 (OOK) assignments.

- 3.2.4. Identify self-development opportunities.
- 3.2.5. For high potential employees, identify potential special assignments, acting roles, mentors, projects, and development courses and programs designed for high potential employees.
- 3.2.6. Forecast and plan for corporate and leadership development programs, courses, and assessments through the M&PDD process every 6 months.

3.3. Implement Development Plans:

This process step recognizes joint leader and employee accountability for implementation of Individual Development Plans.

This process step will:

- Ensure that development actions are executed in accordance with the documented Individual Development Plan.
- Accelerate employee development through on-going leader coaching and feedback.
- Ensure employees are motivated and engaged through exposure to new experiences and through challenging assignments and work goals.

The process step details include:

- 3.3.1. Execute development plans leveraging a mix of assignments, stretch goals, mentoring, programs, courses, self-development option, and feedback.
- 3.3.2. Plan the next development rotation for PDP employees, taking into consideration their career interests, skill gaps, opportunity for challenging work, etc.
- 3.3.3. Direct supervisors and mentors provide regular coaching and feedback to their employees to help people learn from experiences and make the changes necessary to develop and grow.
- 3.3.4. Gather feedback from mentors and coaches (TAC Unit) when assessing development progress.
- 3.3.5. Partner with the Talent Assessment & Coaching Unit in M&PDD for coaching services, interventions, talent development, potential discussions, and feedback on assessments.

3.4. Monitor and Review:

This process step looks at the overall impact of development plan execution from a business perspective. It also evaluates the impact of development interventions and training planning at an individual level.

This process step will:

- Identify whether development interventions executed have closed the knowledge and skills gaps identified at the beginning of the plan period.
- Identify the need for new development interventions, or additional investments in development for key talent groups as input into the next budgeting cycle.
- Evaluate the strengths and weaknesses of individual employees as part of performance management, high-potential and other talent management processes.
- Generate higher levels of employee trust through transparent dialog between individual employees and leaders on performance levels and expectations, aspirations and development needs.

The process step details include:

- 3.4.1. Monitor the execution of C-Map, IDP, and LDP development plan, GC 3 – 10 certification and re-certification progress.
- 3.4.2. Review and evaluate development plans periodically and update based business needs and progress.
- 3.4.3. Review TAC coach SAC, DAC, assessments with employees.
- 3.4.4. Adjust development interventions to achieve required outcomes.
- 3.4.5. Use available vacancy during the quarterly open enrollment period for those not included in early opening.

4. PERFORMANCE MEASURE:

Below table provides measurement KPIs:

Performance Measure	Formula	Source	Frequency
% IDP's in place	% of IDP's completed	M&PDD (CPGD)	Quarterly
% Competency Index	Industrial and administrative certifications by department	T&D	Quarterly

Performance Measure	Formula	Source	Frequency
% C-Map Completion	For engineering groups and others using C-Maps, track % of development activities and programs completed.	Department	Quarterly
% Safety Matrix	Safety matrix completion	Department	Annually
% High Potentials in acting assignments	# High potentials in acting assignment divided by # of high potentials overall. Done at department level and AA level	M&PDD and Department	Annual
% High Potentials as R1 and R2 on Succession Plans	50% of R1 and R2 candidates on a Manager Plan should be HiPo 50% of HiPo Professionals should be on a DH succession plan	M&PDD	Annual

OPERATIONAL EXCELLENCE MANAGEMENT SYSTEM

Process # OE – 3.3 Employee Performance

Note: This process is “Mandatory” and addresses expectations:

- Employee performance (Enabling Element # 3)

Process Owner:
To be defined by
Organization

Issue Date:
MM/DD/YYYY
Revision:
01

Process Steps

Align Performance Goals with Business Needs

Manage and Coach

Evaluate result and Communicate

Recognize Different Levels of Performance

Process Steps Details

<ul style="list-style-type: none"> • Communicate priority business goals and targets at team and individual level • Identify opportunities for collaboration with other teams across the organization • Discuss employee goals, and align the goals with business needs, employee development priorities and career aspirations • Document SMART goals in PMP with clear milestones • Discuss and document employee development needs based on business goals, C-Map, performance feedback, etc. 	<ul style="list-style-type: none"> • Identify changes in organization priorities and revise goals, if needed • Regularly discuss performance expectations and results at team and individual levels • Provide resources to support goal achievement • Provide coaching, feedback and support • Coach individuals who are performing below expectations, and document performance 	<ul style="list-style-type: none"> • Gather balanced individual performance information (e.g., goal achievement, feedback on behaviors, etc.) • Evaluate individual performance based on goals and competencies • Calibrate performance ratings across different organization units • Communicate rating trend at mid-year and final rating at year-end meetings • Track 3 yr. trend of M ratings 	<ul style="list-style-type: none"> • Make promotion decisions aligned with performance ratings • Appropriately manage under-performance • Reward and recognize high achievement • Use performance data to inform talent management decisions (development, high-potential, succession & promotion planning) • Complete detailed action plan (PIP for D performers, LDP for HiPo's, etc.)
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Responsibilities

Direct Supervisor Employee	Direct Supervisor HR Professional & Generalists	Direct Supervisor HR Professional & Generalists	Direct Supervisor HR Professional & Gen.
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References

<ul style="list-style-type: none"> • Job descriptions • PMP development program for leaders • Employee Engagement (EE) Survey Results • Performance Management Workshop • Internal mobility program 	<ul style="list-style-type: none"> • Performance Management Process • Calibration guidelines • Promotion & Merit Review Process • M&PDD Talent Management processes guidelines • M&PDD leadership development and coaching programs
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Performance Measures

<ul style="list-style-type: none"> • % PMP Meetings Held – Across Each Quarter of PMP Activity • % PMP Employee Satisfaction 	<ul style="list-style-type: none"> • % Manager/ DH roles with No Permanent Incumbent • % Employees Filing Grievances • % of Leadership Positions Filled by High Potentials
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4. PERFORMANCE MEASURE

1. EXPECTATIONS:

The objective of this process is to ensure that organizations implement a structured mechanism to translate business strategy into clearly defined individual targets and goals. It holds leaders accountable to create a line-of-sight between business goals and individual responsibilities for delivering results, and for managing execution. Leaders ensure that their organizations operate in a way consistent with safety standards and Company Values. Effective performance management is critical to employee motivation and engagement; frequent two-way dialog at individual and team levels is an essential element of the process.

The process expectations:

- Set individual objectives aligned to business objectives.
- Leaders regularly communicate expectations and discuss performance with their employees.
- Empower employees to achieve significant business results and provide support to overcome obstacles.
- Hold leaders accountable for managing employee performance.
- Objectively differentiate between high and low performance.
- Establish different consequences for high and low performers.

The intended outcomes of the process are:

- Empowered individuals and teams with clear accountabilities for delivering specific projects or achieving targets.
- Leader accountability for facilitating execution and providing feedback and coaching.
- Leader accountability for communicating the rationale for important business decisions.
- Strong individual and team collaboration within organization and across organization boundaries.
- Leader accountability for active and appropriate management of high and low performance.

- High levels of individual and team motivation and trust.

2. RESPONSIBILITIES:

2.1. DEPARTMENT HEAD/ DIVISION HEAD:

- 2.1.1. Identify priority business requirements.
- 2.1.2. Manage goal cascade.
- 2.1.3. Hold individual performance discussions with direct reports.
- 2.1.4. Ensure leaders and reviewers hold performance discussions with all employees.
- 2.1.5. Implement individual and team communication and goal review process to align with business performance management cycle.

2.2. HR GENERALIST:

- 2.2.1. Facilitate HR goals execution.
- 2.2.2. Coach leaders on management of individual performance cases – especially low performance and medical cases.
- 2.2.3. Ensure alignment of performance evaluations with merit and promotion planning.
- 2.2.4. Manage Performance Improvement Plans (PIP) for under-performers.
- 2.2.5. Check quality of all HiPo LDPs, and ensure all employees have a development plan.

2.3. HR PROFESSIONAL:

- 2.3.1. Facilitate performance calibration meetings.
- 2.3.2. Recommend best practices on communication and progress reviews (team and individual).
- 2.3.3. Track and report HR Scorecard measures, and other HR metrics used at the AA level.

3. PROCESS STEPS:

The following is the overall process developed to meet the intent of the OE expectation described above:



The following subsections will describe each step of the process in details:

3.1. Align Performance Goals with Business Needs:

The objective of this process step is to ensure that organizations effectively leverage the skills and motivation of their people to deliver results to achieve business targets and goals. In order to do this effectively, employees need to understand the relevance of their contribution so that they are able to identify opportunities for innovation and collaboration. This process step recognizes the power of meaningful work in driving motivation and discretionary effort.

This process step will:

- Align individual and team tasks and goals with business outcomes.
- Align individual tasks and goals with development needs and aspirations.
- Enhance individual motivation by communicating the relevance of work assignments.
- Identify opportunities for collaboration across organization boundaries to enhance performance levels.

The process step details include:

- 3.1.1. Chief Position Holders communicate priorities and business goals and targets at the team and individual levels.
- 3.1.2. Identify the opportunity for collaboration with other teams across the organization.
- 3.1.3. Discuss employee goals, and align their goals with business needs and employee development needs and career aspirations.
- 3.1.4. Document SMART goals in PMP with clear milestones.
- 3.1.5. Discuss and document employee development needs based on business goals, C-Map, performance feedback, etc.

3.2. Manage and Coach:

This process step highlights the critical accountability of leaders in maintaining focus on execution and providing coaching and support. They must also identify changes in the business and realign goals and priorities accordingly.

This process step will:

- Implement mechanisms for leaders to routinely communicate with their teams and hold them accountable to deliver results.
- Implement individual feedback and coaching sessions to support learning and to enhance individual performance levels.

The process step details include:

- 3.2.1. Identify changes in the organization priorities and revise goals, if needed.

- 3.2.2. Regularly discuss performance expectations and results at team and individual levels.
- 3.2.3. Coach individuals who are performing below expectations, and document performance.
- 3.2.4. Provide resources to support goal achievement.
- 3.2.5. Provide coaching, performance feedback, and support to help employees meet expectations.

3.3. Evaluate Results and Communicate:

This process step will result in an objective evaluation of individual performance against goals and competencies and the calibration of rating decisions to ensure consistency. It also will provide employees with clear messages about company performance expectations and how they can improve.

This process step will:

- Ensure that leaders base rating decisions on objective criteria (e.g., achievement of goals and targets) and observed behavior-based competencies.
- Ensure consistency of rating decisions across organization boundaries through calibration.
- Ensure employees receive transparent information on their performance and company performance standards.

The process step details include:

- 3.3.1. Gather balanced individual performance information. For example, get input on goal achievement and on behaviors from multiple sources.
- 3.3.2. Evaluate individual performance on goals and competencies.
- 3.3.3. Calibrate performance ratings across different organization units.
- 3.3.4. Communicate performance rating trend at mid-year and the final rating at year-end meetings.
- 3.3.5. Track 3 year trend of M ratings. This may indicate long-term performance challenges that need to be addressed. This is not about addressing 1 to 2 years of consecutive M rating.

3.4. Recognize Different Levels of Performance:

This process step will ensure that different levels of individual performance are managed appropriately to positively reinforce desired behaviors, and to support those who do not achieve company performance standards.

This process step will:

- Ensure alignment between performance management ratings and decisions on merit awards, promotions and variable pay programs.
- Ensure appropriate use of performance data in talent management decisions.
- Ensure under-performance is appropriately managed.

The process step details include:

- 3.4.1. Make promotion decisions aligned with performance ratings.
- 3.4.2. Appropriately manage under-performance by providing timely performance feedback, coaching, increased supervision, PIP, etc.
- 3.4.3. Reward and recognize high achievement.
- 3.4.4. Use performance data to inform talent management decisions (development, high potential selection, succession & promotion planning, acting assignments, etc.).
- 3.4.5. Complete a detailed action plan (PIP for D performers and an LDP for high potentials).

4. PERFORMANCE MEASURE:

Below table provides measurement KPIs:

Performance Measure	Formula	Source	Frequency
% PMP Meetings Held	% employees confirming they have had a PMP meeting with their leader <ul style="list-style-type: none"> • 1st Quarter – Year-end review • 2nd Quarter – Goal setting • 3rd Quarter – Mid-year review • 4th Quarter – Self-review 	Personnel	Quarterly
% PMP Employee Satisfaction	% employees who agree with their PMP rating, and % who disagree	Personnel/ Dept.	Annual
% Employees Filing Grievances	Tracking employee grievances filed overall, for any issue	Department	Quarterly
% of Leadership Positions Filled by High Potentials	#people who were promoted to supervisor, division head, and manager positions who are high potential	M&PDD	Annual

% Manager/ DH roles with No Permanent Incumbent	% Manager/DH jobs either vacant or occupied by Acting Assignment	M&PDD	Annual
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OPERATIONAL EXCELLENCE MANAGEMENT SYSTEM

Process # OE – 3.4 Employee Engagement

Process Owner:
To be defined by
Organization

Issue Date:
MM/DD/YYYY
Revision:
01

Note: This process is “Mandatory” and addresses expectations:

- Employee engagement (Enabling Element # 3)

Process Steps



Process Steps Details

<ul style="list-style-type: none"> Complete annual Employee Engagement (EE) survey. Review and share the EE survey results from the dedicated online portal with Department Chief Position Holders (CPHs) Analyze and interpret EE results to define initial hypotheses for the reasons for the Department results Validate EE survey results with relevant organizational data (e.g. exit interview data; Leader 360° Surveys; Suggestion Boxes, Town Hall Meetings, HR Blog, informal feedback, Division & Dept. Meetings, etc.) 	<ul style="list-style-type: none"> Engage stakeholders and CPHs to support deep dive analysis and define the priority issues facing each organization and demographic segment Conduct focus groups to better understand engagement issues. Perform root cause analysis Map findings to Management & Professional Development Department (M&PDD) toolkits/offers Create Department communication and engagement action plans, with risk analysis Log actions in the EE online portal for tracking Issue post-survey communications, as required, to employees Assign resources to implement action plans 	<ul style="list-style-type: none"> Collaborate with Corporate HR and the Employee Engagement Focal Point Network (EEFPN) to support implementation of EE action plans Develop EE KPIs and track the CPH action status in the online portal Implement change management and communication plans to generate and maintain engagement and buy-in Identify and leverage existing Department initiatives that support EE action plan implementation Listen to and motivate employees in early stages of implementation 	<ul style="list-style-type: none"> Track and monitor the progress and impact of each action plan Address EE themes and barriers identified in root cause analysis Utilize the EE pulse survey data to modify actions, as required, to achieve desired KPIs and impact Identify and share EE best practices Communicate and celebrate successes Modify action plans to accelerate progress
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Responsibilities

Chief Position Holders/ HR Generalists/ Employee Engagement Focal Point Network (EEFPN)	Chief Position Holders/ HR Generalists/ OE Representative/ EEFPN	Chief Position Holders/ HR Generalists/ OE Representative/ EEFPN	Chief Position Holders / HR & Generalists/ OE Representative / EEFPN
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References

<ul style="list-style-type: none"> HR Data M&PDD EE Toolkits & Offerings EE micro-site 	<ul style="list-style-type: none"> EE Annual and Pulse Survey Data Department EE action plan KPIs
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Performance Measures

<ul style="list-style-type: none"> % Top Performer Retention 	<ul style="list-style-type: none"> % EE annual and pulse survey results
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3. PROCESS STEPS
4. PERFORMANCE MEASURE

1. EXPECTATIONS:

The Employee Engagement (EE) process is designed to measure and improve EE by helping to identify actionable steps that Saudi Aramco can take to ensure our employees are committed to organization's goals and values, motivated to contribute to organizational success, and are able at the same time to enhance their own sense of wellbeing. By leveraging the well-established research link between EE and a high performance culture, the EE process supports Saudi Aramco's strategic intent and its ambitious plans to expand operations, increase strategic investments, sustain an increasing return and uphold the Kingdom's ambitions for Vision 2030. The process expectations are:

- EE levels are measured using the EE annual and pulse survey and findings
- EE results are shared with Department and Division Heads, and an analysis is conducted to develop initial hypotheses of the reasons for the EE survey results
- Root cause analysis is performed to validate the initial hypotheses; focus groups are held; overall findings are mapped to HR toolkits / offerings and EE action plans are developed
- EE action plans are implemented, relevant KPIs developed and progress is tracked

The intended outcomes of the process are:

- Saudi Aramco EE results compare favorably with relevant external benchmarks
- Saudi Aramco enhances its high performance culture
- Saudi Aramco brand reputation as a global employer of choice

2. RESPONSIBILITIES:

2.1. DEPARTMENT HEAD/ DIVISION HEAD / CHIEF POSITION HOLDERS:

- 2.1.1. Champion the Department's completion of the annual survey to measure EE.
- 2.1.2. Assign project leaders, focal points and champions to drive the EE process and represent the Department in the Employee Engagement Focal Point Network (EEFPN) and to manage critical EE projects.

- 2.1.3. Support EE implementation by role modelling EE and executing EE initiatives, activities and utilization of EE toolkits / offerings.
- 2.1.4. Allocate resources to action plan implementation.
- 2.1.5. Hold CPHs accountable for executing action plans.
- 2.1.6. Provide coaching and feedback to project champions and teams.
- 2.1.7. Celebrate and recognize successes.

2.2. HR GENERALIST:

- 2.2.1. Coach leaders and project champions on action areas to address EE issues to evolve the Saudi Aramco high performance culture.
- 2.2.2. Access EE results and reports, interpret findings and share with the Department, and as required, challenge are we doing enough.
- 2.2.3. Implement EE initiatives, activities and use of EE toolkits / offerings.
- 2.2.4. Influence and participate in the EEFPN.

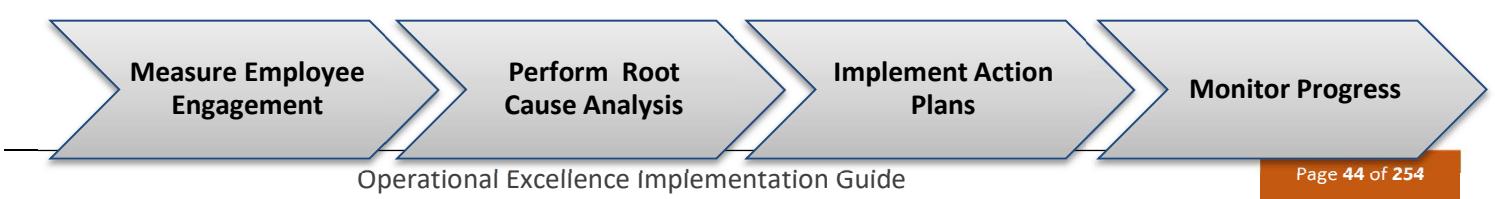
2.3. HR PROFESSIONAL / HR COORDINATOR:

- 2.3.1. Investigate and evaluate EE issues and barriers to evolve the Saudi Aramco high performance culture.
- 2.3.2. Work with Corporate HR to explore and leverage solutions for workforce and organization EE challenges.
- 2.3.3. Access EE results and reports, interpret findings and share with the Department, as required.
- 2.3.4. Influence and participate in the EEFPN.

Note: EEFPN responsibilities is a combination of the HR Generalist, HR Professional and HR Coordinator's responsibilities.

3. PROCESS STEPS:

The following is the overall process developed to meet the intent of the OE expectation described above:



The following subsections will describe each step of the process in details:

3.1. Measure Employee Engagement (EE):

This process step results in an objective, data-based assessment of the EE levels in the Department, and benchmarks results against internal and external organizations.

This process step will:

- Measure overall levels of EE and identify the key-drivers of employee engagement.
- Benchmark employee engagement, key drivers against relevant internal and external benchmark standards
- Identify the gaps in employee engagement and highlight priority organizations and demographics

The process steps are:

- 3.1.1. Conduct the Department annual surveys to measure EE and related drivers.
- 3.1.2. Assign Department Focal Points to champion the EE process and represent the Department in the EEPN.
- 3.1.3. Review and share the EE survey results from the dedicated online portal with Department Chief Position Holders: CPHs (i.e. EE survey presentation, with integrated results and priority EE focus areas).
- 3.1.4. Analyze and interpret EE results to define initial hypotheses for the reasons for the Department results.
- 3.1.5. Validate EE survey results with relevant organizational data (e.g. exit interview data; Leader 360° Surveys; Suggestion Boxes, Town Hall Meetings, HR Blog, informal feedback, Division & Dept. Meetings, etc.).

3.2. Perform Root Cause Analysis:

This process step involves a deep dive analysis of EE survey results with relevant stakeholders and CPHs. Root causes of the EE levels in the organization are identified and the findings are mapped to HR toolkit /EE offerings. Each organization in the Department will create a practical action plan to address priority EE areas and address root causes. The communication plans are then developed and Manager level sponsorship and approval for required resources is secured.

This process step will:

- Analyze and define the EE priorities facing each organization and relevant demographic segments.
- Produce a root cause analysis and map findings and action plans to the HR toolkits/offerings and identify any issues which need escalating to the HR AA.
- Create Department communication and engagement action plans and secure required resources.

The process steps are:

- 3.2.1. Engage stakeholders and CPHs to conduct a deep dive analysis and define the priority issues facing each organization and demographic segment.
- 3.2.2. Conduct focus groups to better understand engagement issues and utilize M&PDD Toolkit.
- 3.2.3. Perform root cause analysis.
- 3.2.4. Validate initial hypotheses of reasons for the results.
- 3.2.5. Map findings to the M&PDD toolkits/offerings.
- 3.2.6. Create Department communication and action plans, with risk analysis.
- 3.2.7. Log actions in the EE online portal for tracking.
- 3.2.8. Issue post-survey communications, as required, to employees.
- 3.2.9. Obtain Manager sponsorship and approval of resources for action plans.

3.3. Implement Action Plans:

This process step ensures that the EE action plans identified are integrated into the normal business plan execution process (e.g., KPIs identified, PMP goals established and tracked accordingly).

This process step will:

- Ensure structured implementation of EE action plans.
- Ensure regular and timely two-way communication of outcomes and improvement areas.
- Enhance leader accountability for EE implementation plan sponsorship.

The process steps are:

- 3.3.1. Collaborate with Corporate HR and the EEFPN to support implementation of EE action plans (e.g. Toolkits / Offerings) and the development of best practice.
- 3.3.2. Develop relevant Department and Division level EE KPIs and track the CPH action status in the online portal.
- 3.3.3. Log all EE actions being taken in the EE online portal for tracking.
- 3.3.4. Hold CPHs to account for implementing agreed action plans.
- 3.3.5. Implement change management and action plans to generate and maintain engagement and buy-in.
- 3.3.6. Identify and leverage existing Department initiatives that support EE action plan implementation.
- 3.3.7. Motivate employees in early stages of implementation.

3.4. Monitor Progress:

This process step involves periodic measurement to ensure that progress is being made on Department and Division EE action plans, KPIs and outcomes. External benchmark data help determine how the level of progress compares with relevant internal and external organizations. Quarterly EE pulse surveys help focus and modify action plans as required. Transparent communication of the results (both positive and negative), and the celebration of success are critical to maintaining momentum towards achieving outcomes.

This process step will:

- Monitor EE KPIs, action plans to monitor Department progress and identify barriers
- Identify additional actions that need to be taken to address barriers to progress
- Modify action plans to accelerate progress towards project outcomes
- Communicate and celebrate success to maintain commitment to the program

The process steps are:

- 3.4.1. Monitor the progress and impact of each action and communication plan implemented using EE KPIs.
- 3.4.2. Address barriers identified throughout implementation and monitoring.
- 3.4.3. Utilize the EE pulse survey data to modify actions, as required, to achieve desired KPIs

and impact.

- 3.4.4. Identify and share EE best practices across the Department and with the EEFPN.
- 3.4.5. Communicate and celebrate successes.
- 3.4.6. Track implementation and report against Department action plan KPIs.
- 3.4.7. Modify action plans as required to accelerate EE progress.

4. PERFORMANCE MEASURE:

Below table provides measurement KPIs:

Performance Measures	Formula	Source	Frequency
% EE Annual Survey Results	<p>A measure of Employee Engagement and a key-driver analysis is reported at the Business Line, Admin Area, and Department and Division levels of analysis.</p> <p>Note: All organizations' results are externally benchmarked with three organizational categories and are available in the EE Data Portal:</p> <ul style="list-style-type: none">1. Oil and Gas2. KSA3. High Performance Companies	M&PDD	Annual
% Employee Retention	Retention vs. Target	Personnel Department (PD)	Annual



OE Element No. 4

Asset Management

Asset Management refers to processes, practices, disciplines and systems applied to ensure that performance-critical assets (i.e., facilities, systems, and equipment) are designed, fabricated, constructed, operated, inspected, and maintained to ensure high levels of operational reliability, integrity, and efficiency consistent with performance objectives in all Focus Areas, throughout the asset lifecycle.

OPERATIONAL EXCELLENCE MANAGEMENT SYSTEM

Process # OE – 4.1 Design, Procurement, and Construction

Issue Date:
MM/DD/YYYY

Note: This process is “Conditional” and addresses expectations:

- Design, Procurement, and Construction (Enabling Element # 4)
- Quality Assurance (Enabling Element # 4)
- Identification and Assessment of Performance-Critical Assets (Enabling Element # 4)

Process Owner:
Engineering
Division Head

Revision:
02

Process Steps



Process Steps Details

<ul style="list-style-type: none"> • Identify the Organization needs and required projects. • Identify applicable lessons learned from previous projects. 	<ul style="list-style-type: none"> • Define tolerable and intolerable risks. • Select acceptable risk mitigations. • Select design philosophy and methodology. 	<ul style="list-style-type: none"> • Develop Front End Engineering. • Develop detailed design. • Specify safe operating envelopes. • Develop Commissioning Plan with acceptance criteria. • Identify critical assets using SABP-A-088 and corporate criticality assessment matrix. • Develop QA/QC plan. 	<ul style="list-style-type: none"> • Procure and Construct as planned. • Conduct Design assurance reviews, such as FAT/SAT. • Pre-commission. • Prepare MCC. • Close exception items. • Perform QA/QC. 	<ul style="list-style-type: none"> • Conduct Commissioning. • Verify and update operating envelopes/alarms. • Complete initial Operations/Startu p • Conduct PAC. • Project close-out and handover documentation. • Capture Lesson Learned.
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Responsibilities

Unit Heads/Project Coordination Unit Head / Engineering Division Head	Project Coordination Unit Head	Operation Division Head/ Project Coordination Unit Head/ Reliability Unit Head/ Inspection Unit Head	Reliability Unit Head/ Project Coordination Unit Head	Commissioning Team / Operation Foremen
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References

<ul style="list-style-type: none"> • AIMS (SCE Identification Guide). • Project Delivery System. 	<ul style="list-style-type: none"> • TPRM – 1. Preemptive Work. • AIMS (Design Integrity Assurance Manual). 	<ul style="list-style-type: none"> • SAES-A-202; SAEP-334 • TPRM. • SAEP-303 • SABP-A-088 • SMS-5&6 	<ul style="list-style-type: none"> • SA Contracting Manual. • SAEP-1154/ 3101/318/381/135. • TPRM. • AIMS. • SMS-5,6&7 	<ul style="list-style-type: none"> • SAEP-329 , SAEP-334 • TPRM. • AIMS. • SAEP-20/1135. • SMS-5&6
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Performance Measures

<ul style="list-style-type: none"> • Project Cost Compliance • Project Schedule Compliance 	<ul style="list-style-type: none"> • Engineering Drawings Accuracy and Availability
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TABLE OF CONTENTS:

1. EXPECTATIONS
2. RESPONSIBILITIES
3. PROCESS STEPS
4. PERFORMANCE MEASURE

1. EXPECTATIONS:

This process will support Organization to:

- Plan, design, procure, and construct reliable and efficient assets in accordance with HSE requirements, Company standards, best practices, and government regulations.
- Ensure that all assets required for achieving performance objectives are identified and assessed with respect to critical performance and condition parameters, degradation mechanisms, and failure risks and impacts.
- Ensure identifying and registering of Safety Critical Elements (SCEs) and uploading of their as-built (up-to-date) engineering drawings in iPlant.
- Conduct quality assurance activities throughout the asset lifecycle in accordance with the Company standards, best practices, and government regulations.

2. RESPONSIBILITIES:

2.1. DEPARTMENT HEAD:

- 2.1.1. Define the Organization business objectives.
- 2.1.2. Approve the projects in the business plan.
- 2.1.3. Assign projects representatives.
- 2.1.4. Avail resources for projects planning and execution supports to conduct the equipment criticality assessments.
- 2.1.5. Ensure up-to-date and availability of as-built drawings in the Corporate Drawings Management System (iPlant)
- 2.1.6. Approve the list of Safety Critical Elements (SCEs) and their Integrity Status (against their Integrity Performance Standards (IPSs)).

2.2. ENGINEERING DIVISION HEAD:

- 2.2.1. Review the projects implementation plan.
- 2.2.2. Approve the Engineering Work Order for design services.
- 2.2.3. Concur the MCC prior to commissioning.

- 2.2.4. Assign members of criticality assessment team.
- 2.2.5. Allocate required resources and competent workforce.

2.3. OPERATION DIVISION HEADS:

- 2.3.1. Approve the work order as applicable.
- 2.3.2. Approve the commissioning and start-up procedures.
- 2.3.3. Approve/reject the walkthrough exception items.
- 2.3.4. Ensure all documentations associated with the project are provided and approve the MCC for implementation.
- 2.3.5. Train employees on the newly installed assets or facility.
- 2.3.6. Assign members of criticality assessment team (Operation Rep).
- 2.3.7. Allocate required resources and competent workforce.

2.4. PROJECT COORDINATION UNIT HEAD:

- 2.4.1. Define the system function and boundaries.
- 2.4.2. Link the equipment criticality assessment to the Organizations' business objectives.
- 2.4.3. Facilitate assets integrity reviews.
- 2.4.4. Facilitate the RBI assessment.
- 2.4.5. Develop the projects implementation plan.
- 2.4.6. Initiate the Engineering Work Order for design services.
- 2.4.7. Develop the detailed design package.
- 2.4.8. Validate the documentations provided with the projects such as OIMs, technical documents and drawings.
- 2.4.9. Approve design alteration requests using MOC.
- 2.4.10. Develop the commissioning and start-up procedures.
- 2.4.11. Initiate/coordinate the project walk through.
- 2.4.12. Participate in the pre-commissioning activities.
- 2.4.13. Make sure all Issued for Construction (IFC) drawings are uploaded into iPlant.
- 2.4.14. Concur the MCC prior to commissioning.
- 2.4.15. Initiate the project closure form (BI-19 projects).
- 2.4.16. Establish/review the OSI program.
- 2.4.17. Develop assets maintenance plans.
- 2.4.18. Identify Safety Critical Elements (SCEs) and review their integrity against their Integrity

Performance Standards (IPSs).

2.4.19. Archive the project handover documents.

2.4.20. Make sure there are no overdue or missing drawings (All IFC & As-Built Drawings are submitted to iPlant).

2.4.21. Make sure all Tags are submitted to iPlant and there are no overdue or missing tags.

2.4.22. Collect and update the lessons learned.

2.5. MAINTENANCE DIVISION HEAD:

2.5.1. Allocate required resources and competent workforce.

2.5.2. Review and approve assets maintenance plans.

2.5.3. Verify technical information in SAP and ensure correct assets registry.

2.5.4. Ensure the spare parts cataloging and bill of material linkage.

2.5.5. Develop the construction/procurement execution plans.

2.5.6. Procure required contract/material/equipment.

2.5.7. Participate in the pre-commissioning activities.

2.5.8. Initiate the project closure form (New Work and Upgrade projects).

2.5.9. Collect and archive the project documents.

2.5.10. Concur the MCC prior to commissioning.

2.5.11. Assigns members of criticality assessment team (Maintenance Rep).

2.6. OPERATION FOREMEN:

2.6.1. Participate in the design review.

2.6.2. Develop/revise the OIMs.

2.6.3. Participate in the project walkthrough.

2.6.4. Participate in the pre-commissioning activities.

2.6.5. Concur the MCC prior to commissioning.

2.6.6. Commission and start-up the project.

2.7. INSPECTION UNIT HEAD:

2.3.1 Maintain the integrity records for new assets.

2.3.2 Act as the quality assurance for the department capital (BI-19) and non-capital projects.

2.3.3 Support maintenance and operation to comply with quality assurance requirements.

2.7.1. Participate in FAT, SAT, MCC, and design review activities.

2.8. RELIABILITY UNIT HEAD:

- 2.3.4 Maintain the reliability records for new assets.
- 2.3.5 Participate in the design review activities.
- 2.3.6 Support maintenance and operation to comply with quality assurance requirements.
- 2.3.7 Participate in FAT and SAT.

3. PROCESS STEPS:

The following is the overall process developed to meet the intent of the OE expectation described above:



The following subsections will describe each step of the process in details:

3.1. Identify needs for projects:

3.1.1. Identify the Organization needs and required projects by:

- Preparing a list of proposed projects.
- Developing a conceptual package that includes:
 - Brief Description.
 - Cost Estimate.
 - Project Justification.
- Preparing the capital vs. expense rolling to identify project funds source.
- Assign project representative.

3.1.2. Identify applicable lessons learned:

Refer to OE-12.5 “Knowledge Management” to capture all applicable lessons learned that can be used to improve the asset performance and integrity.

3.2. Define Design Requirements and Limits:

3.2.1. Define tolerable and intolerable risks:

Conduct risk assessment to define the risk associated with the proposed projects and define the risk tolerability.

3.2.2. Select acceptable risk mitigations:

Select the risk mitigations based on the predefined risk tolerability.

3.2.3. Select design philosophy and methodology:

- Conduct hazard and effect management process to ensure that the chosen design

concept carries ALARP (As Low As Reasonable Practicable) and tolerable risk.

- Select the most efficient design for optimum production while preserving safety and integrity.

3.3. Design:

3.3.1. Develop Front End Engineering Package when required:

- Initiate Engineering Job Request (EJR) for each project to detail design the scope and prepare the procurement and execution documents. The EJR shall be executed either by:
 - Organization engineering entity (In-House).
 - Design Services through Engineering Work Order (EWO). Such request will require clear project scope with list of deliverables that will enable the design office to develop the desired design package.
- Conduct site visits by the designers to the facility to verify the existing drawings and meet with the facility proponent to have mutual agreement on the intent of the design.
- Develop the Front End Engineering Design (FEED).

3.3.2. Develop detailed design:

- Initiate Engineering Job Request (EJR):

Initiate a job request for each project to detail design the scope and prepare the procurement and execution documents. The EJR shall be executed either by:

- Organization engineering entity (In-House).
- Design Services through Engineering Work Order (EWO). Such request will require clear project scope with list of deliverables that will enable the design office to develop the desired design package.
- Conduct site visits by the designers to the facility to verify the existing drawings and meet with the facility proponent to have mutual agreement on the intent of the design.
- Develop design package:

Develop the detailed design package in accordance to Saudi Aramco standards, procedures and best practices. The package shall include:

- Executive Summary.

- Safety requirements.
- Detailed scope of work.
- Material take off List (Use SA-6228).
- Test and commissioning procedures.
- Quality assurance and control procedures.
- Technical documents, drawings, equipment list, etc.
- Management of Change (MOC) as applicable (refer to OE-10.1 “Management of Change”).
- Develop and maintain the facilities engineering drawings list.
- Develop and maintain the facilities engineering tags register.
- Register Safety Critical Elements (SCEs).
- Review design package:
Conduct design review according to SAEP-303 “Engineering Reviews of Project Proposal and Detail Design Documentation”.
- Issue design package:
Incorporate the approved review comments into the detailed design package to issue the final Issued for Construction (IFC) package.
- Upload all IFC drawings into iPlant.
- Submit all overdue drawings and tags into iPlant
- Submit and upload approved Safety Critical Elements (SCEs)

3.3.3. Specify safe operating envelopes:

Specify assets safe operating envelopes by identifying the limits and protection means that provide adequate level of protection to the asset against damage and/or deterioration to secure safe and smooth operations through the assets' life cycle.

3.3.4. Develop commissioning plan with acceptance criteria:

Develop integrity commissioning plan for SCE (Safety Critical Elements).

3.3.5. Identify critical assets using corporate criticality assessment matrix.

Identify safety critical elements /performance standards and acceptable criteria using the safety critical elements identification guide (AIMS).

3.3.6. Develop QA/QC plans:

Review and approve the Contractor's QA/QC plan, using SAEP-1154 Guidelines for

Contractor's Quality Plan.

3.4. Procure and Construct:

3.4.1. Procure and Construct as planned

- Complete all construction activities as detailed in the design package while maintaining the quality assurance controls, adhering to Company safety standards during construction in compliance with LP Construction Safety Manual.
- Monitor the project cost and ensure the schedule compliance.
- Maintain and monitor facilities as-built drawings list, assets' tags list and the correlation (mapping) between the drawings and assets' tags.
- Maintain and monitor Safety Critical Elements.

3.4.2. Conduct design assurance reviews Factory Acceptance Test (FAT), Site Acceptance Test (SAT) and issue Inspection Test Report (ITR) for any newly installed equipment as required:

- Plan/conduct training on newly installed equipment/system as per OE-3.2 "Employee Development."
- Update drawings to reflect as-built state and upload all facilities as-built drawings and assets' tags into iPlant.
- Clear unutilized overdue tags and drawings from iPlant system if they are no longer required.
- Develop the On Stream Inspection (OSI) drawings and:
 - Take baseline UT measurements.
 - Add UT measurements and drawings to the corporate data management system (SAIF).
 - Select CML (Condition Monitoring Location) based on risk derived from the RBI assessment.
- Develop the Equipment Inspection Schedule (EIS) as required.
- Develop/revise the Operation Instruction Manual (OIM).
- Add the new asset to SAP and develop/revise the Preventive Maintenance program including the job task list.
- Catalog the equipment spare parts (Use e-form SA-1149 Proposal for Material Cataloging) in accordance to SAEP-3101.
- Upload approved Safety Critical Elements (SCEs) to SAP.

- Link the bill of material to equipment in SAP.
- Comply with the NMR-601/602/603 requirements.

3.4.3. Pre-commissioning:

- Conduct the pre-commissioning using the Saudi Aramco pre-commissioning forms to prepare for safe commissioning and start-up.
- Conduct Technical Integrity Review on the SCEs, using the Design Integrity Assurance Manual (AIMS).
- Prepare the commissioning and start-up procedure.

3.4.4. Prepare MCC:

Conduct the walkthrough and prepare the Mechanical Completion Certificate (MCC) as per GI-2.710 (Mechanical Completion and Performance Acceptance of Facilities).

3.4.5. Close exception items identified in the MCC

3.4.6. Perform QA/QC.

3.5. Commission and Improve:

3.5.1. Conduct Commissioning and Startup.

Commission and start-up the project safely upon the approval of the MCC to start the performance acceptance tests as per the approved commissioning procedure.

3.5.2. Verify and update operating envelopes/alarms.

3.5.3. Complete the initial Operations/Startup.

3.5.4. Complete Performance Acceptance Certification.

3.5.5. Perform Project close-out and handover documentation to include:

- As-Built drawings (Hard and Soft Copies).
- Submission of Issued for Construction (IFC) and As-Built Drawings in iPlant and no missing or overdue drawings of the facility.
- Identification and review of plant's key and emergency drawings by operation.
- Identification of all approved Safety Critical Elements (SCEs) in SAP.
- OSI data, RBI reports and database, Project Manuals, Piping Specification, Equipment Datasheets, etc.
- Project records for archiving as per OE-9.2 "Data Protection Program."
- Project close out report as per SAEP-329.
- Technical integrity review report and turnover checklist.

3.5.6. Capture Lesson Learned for future use.

Capture lesson learned out of project according to OE-12.5 “Knowledge Management.”

4. PERFORMANCE MEASURE:

Below table provides measurement KPIs:

Performance Measures	Formula	Source	Frequency
Project Cost Compliance	Plan vs. actual	AIMS	Monthly
Project Schedule Compliance	Plan vs. actual	AIMS	Monthly
Engineering Drawings Accuracy and Availability	Refer to SAEP-334	SAEP-334	Monthly

Operational Excellence Management System			
Process # OE 4.2 Safe, Reliable, and Efficient Operations and Maintenance		Issue Date: MM/DD/YYYY	
Note: This process is “Conditional” and addresses expectations:		Process Owner: Engineering Division Head	Revision: 02
Process Steps			
Develop Asset Management Strategies	Operate and Maintain	Monitor and Analyze Performance	Track Recommendations
Process Steps Details			
<ul style="list-style-type: none"> • Develop or Update assets technical information. • Develop or Update operations instruction Manual (OIMs). • Develop or Update maintenance strategy and plans. • Develop or update inspection strategy and plans. • Develop and include Integrity Performance Standards (IPS) tasks into Operation, Engineering, Inspection and Maintenance plans. • Develop assets performance monitoring strategy and frequency. • Develop decommissioning strategy and plans. 	<ul style="list-style-type: none"> • Operate assets as per defined strategy within their envelopes for safe operations. • Maintain assets as per defined strategy. • Inspect assets as per defined strategy. • Maintain facility's as-built drawings state in iPlant. • Register all facility's engineering drawings and all assets' tags in iPlant. • Manage/verify Integrity for Safety Critical Elements as per the IPS • Report observations, areas of improvement and recommendations. 	<ul style="list-style-type: none"> • Monitor Integrity Operation Windows (IOW), as per the defined frequency (where applicable) • Monitor key performance indicators. • Report and analyze observations and findings. • Close reported recommendations 	<ul style="list-style-type: none"> • Issue/update performance and integrity status reports. • Track recommendations implementation as per defined methodology.
Responsibilities			
Department Head/ Engineering Division Head/ Maintenance Division Head/ Operation Division Head	Engineering Division Head/ Maintenance Division Head/ Operation Division Head	Engineering Division Head/ Maintenance Division Head/ Operation Division Head	Engineering Division Head/ Maintenance Division Head/ Operation Division Head
References			

<ul style="list-style-type: none"> • AIMS Manual • Integrity Performance Standards • GI 207.060 Physical Inventory of Fixed Assets. • SAEP-318. • TPRM. • SAEP-20. • SAEP-308. • SAEP-393. • SAER 2365 Saudi Aramco Mothball Manual. • GI 1000.000 Maintenance Policy • GI 1020.000 Daily Work Schedule and Manpower Distribution • SAES-A-030 RAM Study • SAEP-121 Operating Instructions for New Facilities • SAEP-341 Equipment Lifecycle Cost • SAEP-343 Risk Based Inspection • SAEP-503 Asset Sparing Requirements • SAEP-746 Lifecycle Management for Process Automation Systems • GI-2.721 Electrical Arc Flash Hazard Mitigation 	<ul style="list-style-type: none"> • TPRM. • AIMS Manual. • OE-10.1 “Management of Change” • Integrity Performance Standards. • SAEP-393. • SAEP-334. • SAEP-303. • SABP-A-088. • SAEP-20. • SMS-5&6 • SAEP-308 • SAEP-1135 • SABP -P-041 Guidelines for Conducting Arc Flash Hazard Analysis • SAEP-378 Electrical Inspection Requirements 	<ul style="list-style-type: none"> • TPRM – 4. Diagnostic Work and 6. Continuous Improvement Work. • AIMS • SAEP-393. • SAEP-308. • SAEP-372 Plant Inspection Performance Index (PIPI). • SAEP-1135 	<ul style="list-style-type: none"> • TPRM. • AIMS Manual. • SAEP-372 • SAER-2365. • SAEP-308. • SAEP-334. • SAEP-1135 • GI 207.050 FORM SA-630 – Capital asset change authorization. • GI 1000.250.
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Performance Measures

- | | |
|---|---|
| <ul style="list-style-type: none"> • Asset Integrity Indices • Asset Reliability Indices • Corporate Enterprise Monitoring Solution Dashboards | <ul style="list-style-type: none"> • Plant Inspection Performance Index (PIPI). • Corporate Reliability KPIs. |
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1. EXPECTATIONS
2. RESPONSIBILITIES
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1. EXPECTATIONS:

This process will support the organization to:

- All required work procedures for operating, inspecting, and maintaining assets are established, regularly reviewed, updated, improved, communicated, and followed.
- Ensure that assets are operated within their most efficient operating envelopes in a manner that is cost effective and compliant with HSE requirements.
- Proactively, prioritize, plan, schedule and complete necessary maintenance for all structures, equipment and protective devices to minimize failures and maximize reliability.
- Manage corrosion, testing, and inspection of equipment to ensure mechanical integrity, reliability, and performance over their life-cycle.
- Identify Safety Critical Elements (SCEs) in compliance with SAEP-303 and SABP-A-088.
- Lesson learned during operation and maintenance, as well as improvement to existing design, are incorporated to new designs to continuously improve asset integrity and reliability.

2. RESPONSIBILITIES:

2.1. DEPARTMENT HEAD:

- 2.1.1. Support conducting the equipment criticality and PM optimization assessments by availing required resources.
- 2.1.2. Avail all resources required to complete the inspection plans and approve the allocated resources.
- 2.1.3. Approve KPIs and ensure the Inspection and maintenance programs are implemented in compliance with the plans.
- 2.1.4. Review the operations and maintenance process KPIs.

2.2. ENGINEERING DIVISION HEAD:

- 2.2.1. Review and approve operations, maintenance and inspection plans.
- 2.2.2. Facilitate assets integrity reviews and associated reporting.
- 2.2.3. Translate the identified department integrity and performance objectives into action items with assigned responsibilities and timeframes.
- 2.2.4. Ensure up-to-date as-built drawings uploaded in iPlant when concurring changes to the

design during operate and maintain phase, utilizing OE-10.1 “Management of Change”.

2.2.5. Generate & analyze integrity and performance KPIs dashboard and issue recommendations.

2.2.6. Concur KPIs and facilitate approval by department manager

2.3. MAINTENANCE DIVISION HEAD:

2.3.1. Allocate required resources and competent workforce to implement the maintenance plan.

2.3.2. Implement and update defined/approved maintenance programs.

2.3.3. Translate the identified organization reliability objectives into action items with assigned responsibilities and timeframes.

2.3.4. Generate & analyze reliability reports and issue recommendations.

2.3.5. Issue the assets annual reliability reports.

2.4. OPERATIONS DIVISION HEAD:

2.4.1. Allocate required resources and competent workforce.

2.4.2. Operate the assets within the operating envelope.

2.4.3. Monitor assets' operating parameters and prevent exceeding the limits.

2.4.4. Maintain current facility engineering drawings and assets' tags register.

2.4.5. Support the asset reliability by performing basic care activities on the assets including cleaning, priming, monitoring, and switching-over.

2.4.6. Concur the maintenance and inspection plan.

2.4.7. Compile and report assets performance status to Engineering Division Head.

2.5. MAINTENANCE PLANNING & SCHEDULING UNIT HEAD:

2.5.1. Update the SAP PM Equipment hierarchy to reflect any changes.

2.5.2. Revise the maintenance plans to reflect the changes.

2.5.3. Review/update the department maintenance programs.

2.6. MAINTENANCE RELIABILITY GROUP LEADER:

2.6.1. Provide technical analysis of equipment failures concentrating on those that have been repetitive and costly.

- 2.6.2. Respond to requests for reliability by Operation/Maintenance.
- 2.6.3. Conduct the reliability annual survey and issue recommendations.
- 2.6.4. Develop reliability KPIs and dashboards.
- 2.6.5. Communicate all reports to the Maintenance Division Head.

2.7. MAINTENANCE FOREMEN:

- 2.7.1. Identify and maintain safety stock critical spare parts for the most critical equipment.
- 2.7.2. Maintaining proper plant equipment history to follow up maintenance activity for both maintenance and financial aspects.

2.8. INSPECTION UNIT HEAD:

- 2.8.1. Coordinate the integrity assessment.
- 2.8.2. Develop & Implement the inspection plans.
- 2.8.3. Develop performance and integrity KPIs dashboard.
- 2.8.4. Produce integrity and performance reports.
- 2.8.5. Respond to requests for inspection by Operation/Maintenance/Engineering.
- 2.8.6. Comply with Inspection Department cyclic review and close all recommendations on timely manner.
- 2.8.7. Communicate all reports to the Engineering Division Head.

3. PROCESS STEPS:

The following is the overall process developed to meet the intent of the OE expectation described above:



The following subsections will describe each step of the process in details:

3.1. Develop Asset Management Strategies:

3.1.1. Develop or update assets technical information:

- Verify the project documents handed over after project close out.
- Validate assets' data entry into SAP and associated documents.

3.1.2. Develop/update operations instruction Manual (OIMs):

- Develop specific Operation instruction manuals for each system/process/assets and update them periodically.

3.1.3. Develop/update maintenance strategy and plans:

- Develop or Update assets maintenance philosophy and strategies in accordance to the Corporate Total Plant Reliability Management (TPRM) System.

3.1.4. Develop/update inspection strategy and plans:

- Develop/review inspection plan's philosophy and strategies in accordance to SAEP-20 "Equipment Inspection Schedule", SAES-A-135 "Establishment of On-Stream Inspection (OSI) Program" and SAEP-1135 "On-Stream Inspection Administration".
- Develop/review all other inspection programs listed in SAEP-308 (Appendix A) in accordance to Saudi Aramco Inspection Procedures and Saudi Aramco Engineering Procedures.

3.1.5. Include Integrity Performance Standards tasks in Operation, Engineering, Inspection and Maintenance plans:

- Develop/review Asset Integrity philosophy and strategies in accordance to the AIMS Manual.
- Include all IPS Verification Tasks identified during the AIMS Development phase into applicable Operation, Engineering, Maintenance and Inspection plans.
- All AIMS activities (IPS Verification Tasks) are expected to be prioritized as high

priority tasks (Class A).

- Determine the asset Integrity and safety related assessment schedule.

3.1.6. Develop assets performance monitoring strategy and frequency:

- Develop/update Integrity performance Standard.
- Identify/update Damage Mechanisms.
- Identify Plant critical variables:
 - Identify process variables that affect plant safety.
 - Identify process variables affecting damage mechanisms.
- Determine Alarm Set points and criticality.
- Determine actions for each process variable's exceedance.
- Establish process variables limits.
- Set up IOWs for all Plant critical variables.
- Define indicators:
 - Define KPIs for technical integrity as described in AIMS.
 - Define KPIs for assets reliability and performance as described in TPRM.
 - Follow SAEP-372 Plant Inspection Performance Index (PIPI).
- Select methodology/tools to monitor indicators.
- Determine reporting and reviewing methodology and frequency for each type.
- Determine recommendations tracking methodology to implement action items according to OE-12.5 "Knowledge Management." Define key performance indicators.

3.1.7. Develop decommissioning strategy and plans:

- Develop decommissioning strategy and plans for assets with reference to SAER 2365 Saudi Aramco Mothball Manual.

3.2. Operate and Maintain:

3.2.1. Operate assets as per defined strategy within their envelopes for safe operations:

- Operate the assets as per the approved OIMs to efficiently and effectively attain the facility functions while maintaining the highest level of HSE compliance.
- Monitor control panels/console and respond to alarms to prevent exceeding the limits.
- Monitor IOWs as per AIMS Manual and SAEP-393 (where applicable):
 - Determine root cause of exceedances or deviations.

- Apply corrective actions in a timely manner in case of IOW limit exceedance.
- Resolve Recurring Exceedances.
- Generate Weekly/Monthly IOW Reports.
- Update integrity status after corrective actions or recommendations are implemented.
- Use the change management system to track any change or deviation from the original operation envelopes per OE-10.1 “Management of Change.”

3.2.2. Maintain assets as per defined strategy:

- Execute assets maintenance by competent workforce and ensure execution is carried out with adequate:
 - Asset Isolation prior to maintenance work.
 - Asset Disconnection/Disassembly/Decontamination.
 - Asset Transportation when needed to be transported to repair shops.
 - Asset Repair according to the Original Equipment Manufacturer recommended procedures, site established procedures, or well-known best practices.
 - Asset Post-Repair Installation/Alignment/Adjustment/Configuration after completing repair work.
 - Asset Special Start-Up Procedures when required.

3.2.3. Inspect assets as per defined strategy:

- Findings and recommendations shall be issued in an inspection worksheet.
- Inspection worksheets shall be discussed and pre-approved by the operation unit foreman and the inspection unit supervisor or designee.
- Track and update worksheets from initiation to closure as per 00-SAIP-76 “Worksheet Control and Tracking Program.”

3.2.4. Manage/verify Integrity for Safety Critical Elements as per the IPS and AIMS Manual:

- Conduct periodic Asset Integrity and Safety related Tests, Assessment and verification.
- Issue Integrity Status Report with:
 - Reported list of assets not demonstrating Integrity.
 - The recommendations and course of actions for any integrity deficiencies.

3.2.5. Report observations, areas of improvement and recommendations:

- Report observations and areas of improvement captured from assets operation,

maintenance and inspection.

- Develop recommendations and action plan to address any asset deficiencies.

3.3. Monitor and analyze Performance:

3.3.1. Monitor key performance indicators (KPIs):

- Monitor assets KPIs frequently to identify the areas of improvement and concerns.

3.3.2. Report and analyze observations and findings:

- Report and analyze observations and findings to generate list of recommendations and report integrity status.
- Close reported recommendations:
 - Translate the identified gaps into action items with clear responsibilities and deadlines to close gaps:
 - Close out gaps identified in Asset integrity reviews; Asset reliability reports; Inspection annual self-assessment and Inspection Department assessment on OIU inspection programs.

3.4. Track Recommendations:

3.4.1. Issue/update performance and integrity status reports.

- Update the annual integrity and integrity status reports on all critical assets and Safety Critical Elements to reflect the status after implementing the recommendations.

3.4.2. Track recommendations implementation as per defined methodology.

4. PERFORMANCE MEASURE:

Below table provides measurement KPIs:

Performance Measure	Formula	Source	Frequency
Asset Integrity Indices	Automatically calculated in the Business Intelligence Dashboard	Corporate Enterprise Monitoring Solution AIMS	Quarterly
Asset Reliability Indices	Automatically calculated in the Business Intelligence Dashboard	Corporate Reliability KPIs TPRM	Monthly
Plant Inspection Performance Index (PIPI)	PIPI score (out of 100%)	SAEP-372	Annually
Corporate Enterprise Monitoring Solution Dashboards	Automatically calculated in the Business Intelligence Dashboard	AIMS	Monthly
Corporate Reliability KPIs	Automatically calculated in the Business Intelligence Dashboard	TPRM	Monthly

OPERATIONAL EXCELLENCE MANAGEMENT SYSTEM				
Process # OE 4.3 Safe Turnaround & Inspection (T&I)		Process Owner: Maintenance Division Head	Issue Date: MM/DD/YYYY	
Note: This process is "Conditional" and addresses expectations:			Revision: 01	
Process Steps				
Initiate Preliminary Planning	Develop Detailed T&I Plan	Execute T&I Activities	Evaluate and Close-Out	
Process Steps Details				
<ul style="list-style-type: none"> • Develop Strategic drivers and T&I goals • Identify applicable lessons learned from previous Post T&I reports • Create T&I Charter and High Level Scope • Prepare the communication plan 	<ul style="list-style-type: none"> • Generate detailed T&I Scope • Develop QA/QC, HSE, and risk mitigation plans • Finalize T&I package • Perform Pre-Execution Activities • Conduct scope challenge & readiness review 	<ul style="list-style-type: none"> • Perform Unit Shutdown as per updated shutdown procedure • Execute T&I Activities • Conduct final walkthrough • Perform Unit startup as per updated startup procedure 	<ul style="list-style-type: none"> • Manage the T&I Completion requirements • Perform material and contracting services Settlements • Conduct critique meeting • Analyze and evaluate the T&I performance, including KPIs • Generate the Post T&I report to be the basis for the next T&I. 	
Responsibilities				
Department Head / Division Head	Division Head / Representatives / Leader / Champion / Engineer / Planner / Scheduler / Coordinator / Control Man	Division Head / Representatives / Leader / Champion / Engineer / Planner / Scheduler / Coordinator / Control Man	Division Head / Representatives / Leader / Champion / Engineer / Planner / Scheduler / Coordinator / Control Man	
References				
<ul style="list-style-type: none"> • Corporate T&I Manual <ul style="list-style-type: none"> • Strategic Planning • High Level Scope Development • SAEP-20 Equipment Inspection Schedule 	<ul style="list-style-type: none"> • Corporate T&I Manual <ul style="list-style-type: none"> • Scope planning • Detailed planning and scheduling • Perform Pre-execution Activities 	<ul style="list-style-type: none"> • Corporate T&I Manual <ul style="list-style-type: none"> • Unit Shutdown • Execute T&I Activities • Unit Startup 	<ul style="list-style-type: none"> • Corporate T&I Manual <ul style="list-style-type: none"> • Manage T&I Completion • Perform Settlement • Perform Evaluation 	

			<ul style="list-style-type: none"> GI-0002.600 (SA 7180) Plant/Unit Acceptance after T&I Shutdown SA-3060-ENG T&I Acceptance Report SAEP-1161 Testing and Inspection (T&I) Reporting Procedure
Performance Measures			
<ul style="list-style-type: none"> Cost Deviation Scheduling Effectiveness 	<ul style="list-style-type: none"> Planning Effectiveness HSE Performance 		

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4. PERFORMANCE MEASURE

1. EXPECTATIONS:

This process will support the organization to:

- Ensure that assets undergo optimal Turnaround and Inspection through structured T&I planning, including QA/QC and HSE requirements.
- Maintain a consistent T&I process and performance through adopting the Corporate T&I manual requirements.
- Aim to optimize T&I cost while reducing the T&I execution duration and improving safety and work quality.
- Ensure equipment with EIS includes the T&I completion phase to add valuable information and disseminate knowledge to all T&I involved parties.

2. RESPONSIBILITIES:

2.1. DEPARTMENT HEAD:

- 2.1.1. Ensure the Corporate T&I manual requirements are met in all plant or equipment due for EIS. Comply with Corporate T&I manual identified responsibilities.
- 2.1.2. Ensure department structure has a T&I responsible entity to manage, plan, and execute T&Is.
- 2.1.3. Chair the T&I steering committee team.
- 2.1.4. Monitor the Plant T&I progress, cost, safety, and duration.

- 2.1.5. Approve the T&I charter
- 2.2. ENGINEERING DIVISION HEAD:
 - 2.2.1. Comply with Corporate T&I manual requirements, and the identified responsibilities.
 - 2.2.2. Allocate required resources to support the T&I process and requirements.
 - 2.2.3. Maintain the team structure and personnel to encourage team integration.
- 2.3. OPERATIONS DIVISION HEAD:
 - 2.3.1. Comply with Corporate T&I manual requirements, and the identified responsibilities.
 - 2.3.2. Allocate required resources to support the T&I process and requirements.
 - 2.3.3. Maintain the team structure and personnel to support team integration.
- 2.4. MAINTENANCE DIVISION HEAD:
 - 2.4.1. Comply with Corporate T&I manual requirements, and the identified responsibilities.
 - 2.4.2. Allocate required resources to support the T&I process and requirements.
 - 2.4.3. Maintain the team structure and personnel to encourage team integration.
 - 2.4.4. Monitor the T&I progress, cost, safety, and duration. And support enhancing these factors by affording the needed resources.
- 2.5. INSPECTION REPRESENTATIVE:
 - 2.5.1. Comply with Corporate T&I manual requirements, and the identified responsibilities.
 - 2.5.2. Provide all EIS equipment due for T&I with nature of equipment shutdown or not.
 - 2.5.3. Provide all EIS equipment normal SOW and special recommendations.
- 2.6. TEAM LEADER/ CHAMPION:
 - 2.6.1. Comply with Corporate T&I manual requirements, and the identified responsibilities.
 - 2.6.2. Become single point of contact for the all T&I activities in the Planning or Execution phases.
 - 2.6.3. Arrange for a plant T&I acceptance meeting.
- 2.7. T&I ENGINEER:
 - 2.7.1. Comply with Corporate T&I manual requirements, and the identified responsibilities.
 - 2.7.2. Collect all T&I input recommendations; work lists; and projects from the OME.
 - 2.7.3. Prepare and issue comprehensive post-T&I reports.
- 2.8. T&I PLANNER:
 - 2.8.1. Comply with Corporate T&I manual requirements, and the identified responsibilities.
 - 2.8.2. Initiate internal orders, notifications and work orders pertaining to T&I work.

- 2.8.3. Prepare and update job cards for individual equipment.
- 2.9. T&I SCHEDULER (CAN BE ADDED TO THE T&I PLANNER RESPONSIBILITIES):
- 2.9.1. Comply with Corporate T&I manual requirements, and the identified responsibilities.
 - 2.9.2. Responsible for creating, assembling and integrating the overall
 - 2.9.3. Plan of the turnaround event and developing an integrated master
- 2.10. MATERIAL COORDINATOR/CONTROL MAN:
- 2.10.1. Comply with Corporate T&I manual requirements, and the identified responsibilities.
 - 2.10.2. Order and expedite all materials items, such as 9-COM and 9-CAT.
 - 2.10.3. Provide a weekly detailed analysis for all ordered materials (committed and not committed).
- 2.11. CONTRACTS ENGINEER/PLANNER:
- 2.11.1. Comply with Corporate T&I manual requirements, and the identified responsibilities.
 - 2.11.2. Develop Contracts strategy.
 - 2.11.3. Procure all contracts.
- 2.12. EXECUTION COORDINATORS:
- 2.12.1. Comply with Corporate T&I manual requirements, and the identified responsibilities.
 - 2.12.2. Coordinate all work activities.
 - 2.12.3. Ensure that all safety requirements are followed at all times.
 - 2.12.4. Ensure T&I daily schedule compliance.
- 2.13. OPERATIONS REPRESENTATIVE:
- 2.13.1. Comply with Corporate T&I manual requirements, and the identified responsibilities.
 - 2.13.2. Works with on shift supervisors and crews to facilitate turnover and startup
 - 2.13.3. Identifying/ordering materials required such as, catalyst/chemicals, etc.
- 2.14. OPERATION ENGINEER REPRESENTATIVE:
- 2.14.1. Comply with Corporate T&I manual requirements, and the identified responsibilities.
 - 2.14.2. Supports the T&I team in the development of procedures, practices and other techniques to facilitate shutdown, vessel cleaning and disposal activities.
- 2.15. HSE REPRESENTATIVE:
- 2.15.1. Comply with Corporate T&I manual requirements, and the identified responsibilities.
 - 2.15.2. Develop a T&I HSE plan defining roles and responsibilities and required resources to ensure the safe execution of the T&I.

3. PROCESS STEPS:

The following is the overall process developed to meet the intent of the OE expectation described above:



The following subsections are derived from the requirements of the Corporate T&I Manual:

3.1. Initiate Preliminary Planning:

3.1.1. Perform Strategic Planning:

- Develop Strategic drivers and T&I goals:
 - Set T&I strategy and align to Company objectives.
 - Identify measurable specific T&I goals.
- 3.1.2. Produce the High Level Scope to include required EIS equipment and considered jobs:
 - Create T&I Charter and High Level Scope:
 - Generate milestones, organization chart, estimate budget, long lead material, contracting strategy, among other requirements.
 - Establish the scope criteria for adding jobs in T&I scope.
 - Create required SAP PM Order and project number.
 - Prepare high level risk mitigation plan.
 - Estimate the T&I cost.
 - Prepare the communication plan according to the T&I conditions.

3.2. Develop Detailed T&I Plan:

- 3.2.1 Detail the Scope to cover the scope-cutoff date, add jobs and activities, perform scope challenge and optimization.
- 3.2.2 Develop and update the QA/QC, HSE, risk mitigation plans, and the Unit shutdown and startup procedures.
- 3.2.3 Finalize T&I package to include the final scope, cost estimate, execution schedule and plans, resources procurement, organization chart, among other final requirements as per the Corporate T&I manual.

- 3.2.4 Perform Pre-Execution Activities as per developed pre-execution plan, including the mobilization to site, pre-fabrication activities, early equipment release, and material and contractor management.
- 3.2.5 Ensure awareness sessions and meetings are properly conducted to prepare all involved personnel for T&I execution.

3.3 Execute T&I Activities:

- 3.3.1 Perform Unit Shutdown as per updated shutdown procedure and ensure handover date is defined.
- 3.3.2 Execute T&I Activities by managing all HSE requirements, conducting the necessary safety meetings, complying with the T&I execution plans and schedule, and maintain the QA/QC plan.
- 3.3.3 Perform walkthrough to and final acceptance for completed equipment
- 3.3.3 Perform Unit startup as per updated startup procedure and identify any remaining items that will affect the Unit.
- 3.3.4 Communicate the daily progress and documents to management and associated T&I members.

3.4 Evaluate and Close Out:

- 3.4.1 Manage the T&I Completion requirements and ensure proper housekeeping is done at the Unit.
- 3.4.2 Update technical data and drawings for any modifications done.
- 3.4.3 Return left over material to designated location as per the company procedures.
- 3.4.4 Perform material and contracting services Settlements and reconciliation.
- 3.4.5 Settle costs and document actual vs planned cost.
- 3.4.6 Analyze and evaluate the T&I performance and KPIs.
- 3.4.7 Conduct the critique meeting and identify lessons learned.
- 3.4.8 Generate the Post T&I report to be the basis for next T&I.
- 3.4.9 Promote workforce recognition during and at the end of T&I execution.

4. PERFORMANCE MEASURE:

Performance measure	Formula	Source	Frequency
Cost Deviation	Automatically calculated in the Business Intelligence Dashboard	SAP PM Order	Upon T&I cycle Completion

Scheduling Effectiveness	<p>Manually calculated</p> <p>Schedule(slippage) = The changes from the scheduled shutdown day (days)</p> <p>Schedule (compliance) = Total schedule man-hours ÷ total available man-hours</p> <p>Schedule (startup) = The changes from the scheduled startup day (days)calculated</p>	Corporate T&I Manual	Upon T&I cycle Completion
Planning Effectiveness	<p>Manually calculated</p> <p>Planning (slippage) = total T&I duration (days) ÷ total planned duration (days)</p> <p>Planning (hours) = total man-hours charged (Mhr) ÷ total planned man-hours (Mhr)</p>	Corporate T&I Manual	Upon T&I cycle Completion
HSE Performance	<ul style="list-style-type: none"> • Number of loss time incidents LTI • Number of work permit violation • Number of near misses reported (leading indicator) • Number of safe man-hours • Number of environmental releases/violation (i.e. flaring) 	Corporate T&I Manual	Upon T&I cycle Completion



OE Element No. 5

Process Management

Process Management refers to the principles, disciplines, and practices by which Organization specific processes are designed, implemented, and managed to ensure high performance levels in all Focus Areas.

Operational Excellence Management System						
Process # OE -5.1 Process Management		Process Owner: To be defined by Organization	Issue Date: MM/DD/YYYY			
Note: This process is “Mandatory” and addresses the following expectations:			Revision: 04			
<ul style="list-style-type: none"> • Organization Specific Processes • Process Performance Management and Continuous Improvement 						
Process Steps						
Define Specific Processes	Develop Specific Processes	Deploy & Assess Specific Processes	Enhance Specific Processes			
Process Steps Details						
<ul style="list-style-type: none"> • Review inputs to define Organizations Specific processes: <ul style="list-style-type: none"> • Internal and External Customer requirements. • Scope of product and or service to be delivered. • Organization Vision, Mission and Strategic Objectives. • Applicable legal requirements. • Current Functions. • Required capabilities and competencies. 	<ul style="list-style-type: none"> • Consult SMEs in the development and review of the Organizations Specific Processes • Utilize various tools and techniques to analyze the specific process and evaluate its effectiveness (e.g. SIPOC, VSM) • Document the Organizations Specific Processes using the OE process format • Establish sub-processes (internal procedures, guidelines, policies etc.). • Assign clearly defined roles and responsibilities • Develop clear and logical specific processes performance measures. • Communicate organizations specific processes. 	<ul style="list-style-type: none"> • Implement the Organization’s specific processes. • Track, monitor and analyze specific process performance measures • Conduct annual assessment for each specific process • Capture lessons learned • Identify areas for improvement • Conduct Management Review 	<ul style="list-style-type: none"> • Incorporate lessons learned • Update specific processes based on identified areas for improvement. 			
Responsibilities						
Department Head/ Division Heads	Division Heads/ Unit Heads	Division Heads/ Unit Heads	Division Heads/ Unit Heads			
References						
<ul style="list-style-type: none"> • Organization’s Sub Processes. • Corporate Sub-Systems (e.g. SMS; EMS; TPRM etc.) 	<ul style="list-style-type: none"> • OE Assessment Guidelines • OE Implementation Guide 					
Performance Measures						
<ul style="list-style-type: none"> • % of Specific Process Improvement Score 						

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1. EXPECTATIONS:

This process will support the Organization to:

- Identify, design, document, and implement Organizational Specific Processes.
- Measure, monitor, and continually improve Organizational Specific Processes.
- Identified and track Specific Process Key Performance Indicators (KPIs) for analysis and process improvement purposes.

2. RESPONSIBILITIES:

2.1. DEPARTMENT HEAD:

- 2.1.1. Allocate resources to identify, develop, implement and improve the Organization Specific Processes.
- 2.1.2. Review inputs to define Organizations Specific processes.
- 2.1.3. Approve all new Organization Specific Processes.

2.2. DIVISION HEADS/ UNIT HEADS:

- 2.2.1. Develop and document organization specific processes and sub processes.
- 2.2.2. Assign clearly defined roles, responsibilities and accountabilities.
- 2.2.3. Develop clear and logical specific processes performance measures.
- 2.2.4. Communicate the specific processes/ changes to all employees and affected stakeholders.
- 2.2.5. Review the compliance of the specific processes implementation in the Organization.
- 2.2.6. Analyze performance-critical processes gaps to come up with an action plan for Specific Processes enhancement and development.
- 2.2.7. Incorporate lessons learned from all identified sources
- 2.2.8. Revise and continually improve Organization specific processes

3. PROCESS STEPS:

The following is the overall process developed to meet the intent of the OE expectation described above:



The following subsections will describe each step of the process in details:

3.1. Define Specific Processes:

3.1.1. Review inputs to define Organizations Specific processes:

- Internal and External Customer requirements.
- Scope of product and or service to be delivered.
- Organization Vision, Mission and Strategic Objectives.
- Applicable legal requirements.
- Current Functions.
- Required capabilities and competencies.

3.2. Develop Specific Processes:

3.2.1. Consult SMEs in the development and review of the Organizations Specific Processes.

Take into consideration:

- Organization's Sub processes (e.g. Manuals, Operating Instructions, and Procedures etc.).
- Corporate Sub-Systems (e.g. SMS; EMS; TPRM etc.).
- Supporting processes.

3.2.2. Utilize various tools and techniques to analyze the specific process and evaluate its effectiveness (e.g. bottlenecks, capacity, throughput, cycle time, waste etc.) such as:

- Supplier-Input-Process-Output-Customer (SIPOC)
- Flow Charting / Process Mapping.
- Value Stream Mapping.

3.2.3. Document the Organizations Specific Processes using the OE process format that shall include the following:

- Expectations.
- Process Owner.
- Processes steps.
- Process steps details.
- Responsibilities.
- Performance Measure.

- 3.2.4. Identify and document the sub-processes according to document control practices.
- 3.2.5. Assign clearly defined roles and responsibilities.
- 3.2.6. Develop clear and logical specific processes performance measures.
- 3.2.7. Communicate organizations specific processes and sub processes to all applicable stakeholders.

3.3. Deploy and Assess Specific Processes:

- 3.3.1. Implement the Organization's specific processes.
- 3.3.2. Track, monitor and analyze specific process performance measures.
- 3.3.3. Conduct annual assessment for each specific process.
- 3.3.4. Capture lessons learned.
- 3.3.5. Identify areas for improvement.
- 3.3.6. Conduct Management Reviews.

3.4. Enhance processes:

- 3.4.1. Incorporate lessons learned
- 3.4.2. Update specific processes based on execution plan from identified areas for improvement.

4. PERFORMANCE MEASURE:

Below table provides measurement KPIs.

Performance Measures	Formula	Source	Frequency
% of Specific Process Improvement Score	Current year performance score vs previous year performance score	Organization	Annually

OPERATIONAL EXCELLENCE MANAGEMENT SYSTEM

Process # OE –5.2 Environmental Protection		Process Owner: Environmental Coordinator	Issue Date: MM/DD/YYYY	
Note: This process is “Conditional” and addresses expectation: <ul style="list-style-type: none"> Environmental Protection (Enabling Element # 5) 			Revision: 03	
Process Steps				
Implement Environmental Policy	Develop Action Plan	Implement Operational Control	Monitor Performance and Control	Review and Correct Actions
Process Steps Details				
<ul style="list-style-type: none"> Implement Corporate Environment Policy to address: Commitment to comply with Company and government regulations. Continuous Improvement. Pollution Prevention. Worker Protection Environmental Health and Public Health Protection. 	<ul style="list-style-type: none"> Review Legal and Corporate Requirements. Identify Aspect and Impact. Identify workplace Environment protection requirements. Set Objectives and Target. Establish approved Environment Action Plan. Develop Occupational/ Environment Health Procedures. 	<ul style="list-style-type: none"> Define Roles and Responsibilities. Provide Training. Establish: <ul style="list-style-type: none"> Communication. Document control system Operational controls. Emergency controls Implement Occupational/ Environment Health procedures. Identify/manage third party service providers. 	<ul style="list-style-type: none"> Acquire Required Certificate and maintain licenses. Conduct periodic monitoring. Determine Findings and Actions from internal audits. Close Gaps from external assessment. Maintain Environment and radiation sources records. Implement related standards. 	<ul style="list-style-type: none"> Establish Internal Assessment Procedures and conduct the programs. Conduct Compliance Evaluation. Conduct Management Periodic Review. Review and Update Organization environment procedures. Participate in investigating incidents.
Responsibilities				
Department Head	OME/Environmental Coordinator/ Radiation Protection Officer	OME	OME / Environmental Coordinator/ Radiation Protection Officer	Dept./Div./Unit Head / Environmental Coordinator/ Radiation Protection Officer
References				

• GI-0002.714.	• GI 151.006.	• GI-0002.104/400/401.	• Internal Procedures.	• Internal Procedures.
• SA EP Policy Statement (INT-5).	• GI-150.005/006/007.	• SAES-A-007/102/103/104.		• SAEP-32.
• GI-0430.001.	• SAEP-370/1141/0358.	• SAES-S-007/010/20/30.		• SAEP-340.
• SA EMS.	• SAEP-0358/105A.	• SAEP-327/339.		• SAEP-1661.
• GI-150.000/003.	• GI-150.001/100.			
Performance Measures				
• EPA Findings	• Wastewater Compliance			
• HAZCOM	• Water reuse			
• OHHA Findings	• CCEHI Compliance			
• CEHA Findings	• SO2 Emissions			
• RPA Findings	• Hydrocarbon to Marine Discharge			
• Volume of Gas Flared	• Env. Management Systems (EMS)			
• Water Sustainability	• Water Conservation			

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1. EXPECTATIONS:

This process will help the Organizations to comply with the Environmental Protection Policy by:

- Maintaining a fully functioning Environmental Management System
- Maintaining compliance with environmental standards and regulations
- Mitigating environmental and occupational health Impact
- Controlling waste, occupational related illnesses/injuries and operating cost
- Increasing employees' environmental and occupational health awareness and involvement

2. RESPONSIBILITIES:

2.1. DEPARTMENT HEAD:

- 2.1.1. Provide adequate resources for Environmental Management including human resources, specialized skills, infrastructure, technology and finance.
- 2.1.2. Assign Environmental Coordinator and, if needed, Radiation Protection Officer with responsibilities and authorities to ensure the system requirements have been established and implemented.
- 2.1.3. Ensure employees (and contractors) within the Organization are aware of the Environmental Protection and occupational health requirements including the

conformance to policy and procedures, roles and responsibilities and consequences of deviation.

2.2. DIVISION HEADS/ UNIT HEADS:

- 2.2.1. Assign Operations, Maintenance and Engineering Team (OME) to implement the Environmental corrective and preventive actions.
- 2.2.2. Monitor and support the Environmental action plan implementation.
- 2.2.3. Monitor and support closing of all assessment findings.

2.3. ENVIRONMENTAL COORDINATOR:

- 2.3.1. Develop environmental objectives and policies in coordination with other divisions/units that should include responsibilities, methods and time frames.
- 2.3.2. Develop Internal Assessment program that includes scope, frequency, methodology, responsibilities and requirements for conducting Assessments and reporting results
- 2.3.3. Develop and conduct Environmental Awareness Program.
- 2.3.4. Report the Organization performance including tracking recommendations for improvement.
- 2.3.5. Control and manage documents related to Environmental Management System.

3. PROCESS STEPS:

The following is the overall process developed to meet the intent of the OE expectation described above:



The following subsections will describe each step of the process in details:

3.1. Implement Environmental Policy:

Implement the Corporate Environmental Policy in accordance with GI-0002.714, "Environmental Protection Policy Implementation." The policy should address the following:

- Commitment to comply with regulations.
- Continuous Improvements.
- Pollution Prevention.
- Worker protection.
- Environmental and Public Health Protection.

3.2. Develop Action Plan:

The environmental protection plan can be developed according to the below steps:

3.2.1. Review Legal Requirements:

- Identifying Legal and Other Environmental Requirements using matrix that include the following:
 - Environmental aspect.
 - Legal requirements.
 - References.
- Review and update matrix annually to reflect changes

3.2.2. Identify Aspect and Impact:

- Identify all Organization activities, products and services
- Identify environmental and occupational health hazard aspects for all activities, products and services such as air emissions, water discharges, solid waste and use of or production of hazardous materials.

- Identify the impact of each environmental aspect such as depletion of natural resources, air pollution, hazardous waste generation, and worker health and soil and water contamination.
- Determine Significant Environmental Aspects and Impacts.

3.2.3. Identify workplace Environment protection requirements.

3.2.4. Set Objectives and Targets:

Use the identified significant environmental aspects, impacts and legal requirements to set environmental objectives and targets that include the following:

- Environmental objectives.
- Performance targets.
- Timescales.
- Responsibilities.
- Monitoring and Measurement protocols.

3.2.5. Establish Environmental Action Plan:

- Translates objectives and targets into action plan with milestones that direct the Organization towards achieving results.
- Allocate and approve required resources to implement environmental action plan and implementation of assessment findings.

3.2.6. Develop Occupational/Environmental Health Procedures.

3.3. Implement Operational Control:

3.3.1. Define roles and responsibilities

Assign environmental action plan responsibilities and authorities to the appropriate OME team or units.

3.3.2. Provide training:

Provide required training/awareness to implementation teams (employees and contractors) to clarify policy, significant aspects, roles and responsibilities, controls and noncompliance consequences.

3.3.3. Establish communication mechanisms:

Establish internal and external communication mechanisms using OE-9.1 “Communication of Information.”

3.3.4. Establish document control system:

Establish documentation system for environmental information using OE-9.2, "Data Protection Program."

3.3.5. Establish operational controls:

Establish operational control procedure to manage significant environmental aspects and ensure environmental impacts are mitigated or controlled

3.3.6. Establish emergency controls:

Establish environmental emergency response plan using OE-11.3 "Emergency Preparedness.

3.3.7. Implement Occupational/Environment Health procedures.

3.3.8. Identify and manage 3rd party service providers.

3.4. Monitor Performance and Control:

3.4.1. Acquire Required Certificate and maintain licenses

3.4.2. Conduct periodic monitoring

Establish a procedure to guide monitoring and measuring activities of Environmental management system action items. This procedure should include various means such as sampling and analysis, tracking performance, monitoring operational controls, assessing compliance to legal and other requirements, reviewing status of objectives and targets, etc.

3.4.3. Determine Findings and Conduct Actions

Establish internal procedure to identify and track noncompliance items from internal and external Assessments, and implement corrective and preventive actions.

3.4.4. Close Gaps from external assessment

3.4.5. Maintain Environmental Records

Record Environmental documents according to Processes OE-9.2, "Data Protection Program"

3.4.6. Implement related standards

3.5. Review and Correct Actions

3.5.1. Establish Internal EMS Assessment Procedures and conduct the Program

3.5.2. Conduct Compliance Evaluation

3.5.3. Conduct Management Periodic Review

3.5.4. Review and Update Organization environmental procedures

3.5.5. Participate in investigating incidents

4. PERFORMANCE MEASURE:

Below table provides measurement KPIs:

Performance Measures	Formula	Source	Frequency
Wastewater Compliance	WW Compliance Index	Corporate environmental KPIs	Quarterly
HAZCOM	No. of recommendations	Corporate environmental KPIs	Annually
EPA Findings	Total No. of findings	Corporate environmental KPIs	Annually
OHHA Findings	No. of Major findings	Corporate environmental KPIs	Annually
CEHA Findings	No. of Major findings	Corporate environmental KPIs	Annually
CCEHI Compliance	Contractor Camp Index Score	Corporate environmental KPIs	Quarterly
RPA Findings	No. of Major findings	Corporate environmental KPIs	Annually
SO2 Emissions	Performance against internal targets	Corporate environmental KPIs	Quarterly
Volume of Gas Flared	Performance against internal targets	Corporate environmental KPIs	Quarterly
Hydrocarbon to Marine Discharge	Performance against EPD approved targets	Corporate environmental KPIs	Quarterly
Env. Management Systems (EMS)	EMS Level Rating	Corporate environmental KPIs	Annually

Water Conservation	<p>Updated & Approved WC Roadmap</p> <ul style="list-style-type: none"> - Maintain and Calibrate Flow Meters - Submit WC Qata Quarterly and Timely - Completed WC initiatives/Technology items 	Corporate environmental KPIs	Quarterly
Water reuse	Amount of sanitary and industrial waste water that is reused per year (MMCm)	Corporate environmental KPIs	Annually

OPERATION EXCELLENCE MANAGEMENT SYSTEM			
Process # OE-5.3 Energy Efficiency	Process Owner: To be defined by Organization	Issue Date: MM/DD/YYYY Revision : 04	
Note: This process is “Conditional” and addresses expectation: <ul style="list-style-type: none"> • Energy Efficiency (Enabling Element # 5) 			
Process Steps			
Develop	Implement	Monitor	Continuous Improvement
Process Steps Details			
Establish energy policy. Define Responsibilities: <ul style="list-style-type: none"> • Department Head. • Energy Coordinator. • Energy Team. Appoint Energy Coordinator and Energy Team Plan for Energy Actions: <ul style="list-style-type: none"> • Identify Saudi Arabia and Saudi Aramco standards requirements. • Conduct energy use analysis. • Establish energy baseline(s). • Define energy Performance Indicators (EnPIs). • Establish energy objectives, targets and energy plans. 	Raise awareness. Build competency through training. Communicate energy plans. Establish documentation program. Execute energy optimization activities; <ul style="list-style-type: none"> • Operational control. • Design. • Procurement of energy services, products, equipment and energy. 	Monitor, measure and analyze effectiveness of EnMP. Conduct periodical internal assessments of the EnMP. Take preventive and corrective actions.	Conduct management review. Recognize achievements.
Responsibilities			
Department Head / Energy Coordinator	Energy Coordinator	Energy Coordinator	Department Head
References			
<ul style="list-style-type: none"> • Corporate Energy Performance Improvement Policy: INT-10 • SABP-A-044 • SABP-A-011 • SABP-A-005 • SABP-A-030 • SABP-A-012 • SABP-Z-034 • SABP-A-004 • SABP-A-066 	<ul style="list-style-type: none"> • SABP-A-044 • Operating manuals for SEUs 	<ul style="list-style-type: none"> • SABP-A-048 • SABP-A-044 	<ul style="list-style-type: none"> • SABP-A-044
Performance Measures			
<ul style="list-style-type: none"> • Corporate Energy Intensity (EI) KPI, for industrial facilities (e.g. refineries, gas plants etc.) • Energy Use Intensity (EUI), for non-industrial facilities (e.g. houses, buildings and community services) • Energy Performance Indicators (EnPIs) for identified Significant Energy Users (SEUs) 			

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1. EXPECTATIONS
2. RESPONSIBILITY
3. PROCESS STEPS
4. PERFORMANCE MEASURES

1. EXPECTATIONS:

- Deployment of a site Energy Efficiency Program or Energy Management Program (EnMP) is in alignment with the Corporate Policy Statement - Energy Performance Improvement (INT-10), Energy Management Steering Committee (EMSC) expectations and international recognized' Energy Management Systems (ISO50001:2011).
- Full integration of EnMP into applicable Saudi Aramco organizations, including promoting awareness of energy efficiency throughout respective employees and contractors.

2. RESPONSIBILITIES:

2.1 DEPARTMENT HEAD:

The Department Head is the overall sponsor of the entire EnMP. Other responsibilities include:

- 2.1.1 Define, establish, implement and maintain an Organization level energy policy.
- 2.1.2 Communicate EnMP at all levels within the Organization.
- 2.1.3 Appoint a competent Energy Coordinator at all times.
- 2.1.4 Provide the resources needed to establish, implement, maintain and improve EnMP.
- 2.1.5 Form a departmental Energy Team.
- 2.1.6 Conduct periodical management review.
- 2.1.7 Assess the progress of the energy team and EnMP.
- 2.1.8 Approve relevant energy objectives and targets.
- 2.1.9 Approve annual energy plans.

2.2 ENERGY COORDINATOR:

The Energy Coordinator's key duties shall include:

- 2.2.1 Act as a single point of contact in regard to Organization's related energy activities.
- 2.2.2 Coordinate energy related studies and assessments.
- 2.2.3 Prepare, maintain and support implementation of energy policy including objectives and targets.
- 2.2.4 Establish, implement, maintain and continually improve energy performance.

- 2.2.5 Measure, track, evaluate, and communicate energy utilization and efficiency including establishment of EnPIs (Energy Performance Indicators).
- 2.2.6 Report energy performance to Department Head and EMSC at the required frequency.
- 2.2.7 Establish documentation and record keeping system.
- 2.2.8 Propose achievements for recognition of energy efficiency initiatives.
- 2.2.9 Conduct EnMP internal assessment/audit.
- 2.2.10 Update the status of EnMP implementation during periodical management review.
- 2.2.11 Coordinate the activities of the Energy Team.

3. PROCESS STEPS:



3.1 Develop:

Organization shall establish an energy policy, define responsibilities and plan for appropriate energy actions as illustrated in the following sub-steps.



3.1.1 Establish Energy Policy:

The Department Head or his/ her designee(s) is responsible to establish and implement the energy policy and to make it accessible within the Organization (Refer to OE Process 8.1 for Maintain Internal Controls). This will ensure commitment and adherence to energy efficiency as part of normal business. Energy Policy shall cover the following but not limited to:

- Indicates a commitment to continuous improvement in energy related performance.
- Appropriate to the nature and scale of the Organization's energy utilization.
- Includes a commitment to ensure the availability of information and necessary resources to achieve objectives and targets.
- Provides a commitment to comply with applicable Kingdom and other requirements to which the Organization subscribes related to its energy use, consumption and efficiency.

- Provides a suitable foundation for setting performance goals and integrating energy management into an Organization's culture and operations.
- Supports the purchase of energy-efficient products and services, and design for energy performance improvement.
- Document and communicate at all levels within the Organization.
- Periodically reviewed, and updated as necessary.
- The distribution of energy policy shall be kept to maintain its traceability and validity.

3.1.2 Define Responsibility:

- Department Head (Refer to Section 2.1)
- Energy Coordinator (Refer to Section 2.2)
- Energy Team (Refer to Section 2.3)

3.1.3 Appoint Energy Coordinator:

- The Energy Coordinator shall have an appropriate knowledge of energy systems, EnMP steps/ sub-steps and understand how EnMP assists the Organization to achieve its operational objectives and targets and energy plans.
- Required skills and competencies of Energy Coordinator can be determined by the size of Organization, culture and complexity, legal and/ or other requirements. Key duties of Energy Coordinator are defined in Section 2.2.

3.1.4 Establish a Departmental Energy Team

- The team members shall be decided among the organization level and will include experienced staffs who add values to the energy conservation efforts.
- Energy Team members shall have an appropriate knowledge on EnMP steps/ sub-steps.

3.1.5 Plan Energy Actions:

The Organization shall conduct and document an energy planning process. The energy plan shall be consistent with the established energy policy and shall make for continuous improvement in energy performance. The planning shall include a review of the Organization's activities that can affect energy performance. The following figure shows an outline of energy planning sub-steps:

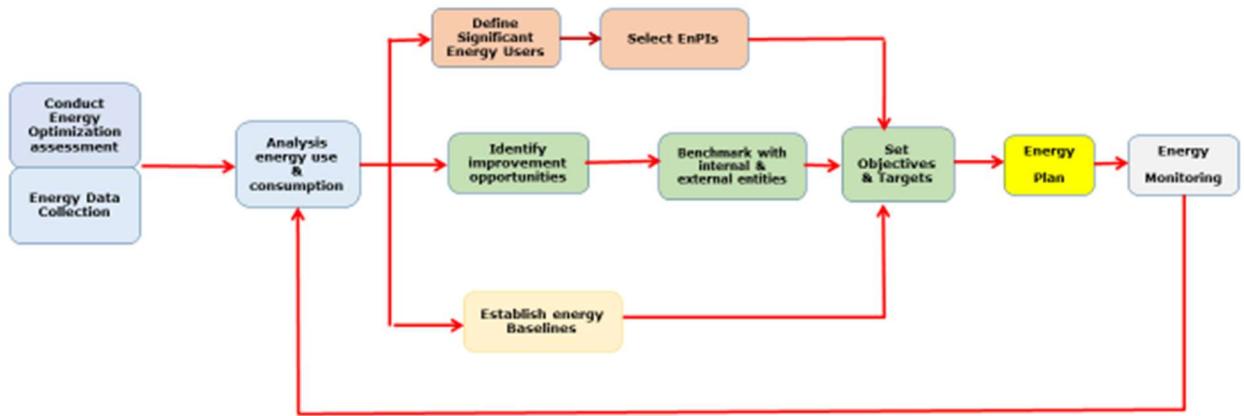
- Identify Saudi Arabia and Saudi Aramco Requirements:
 - The Organization shall develop a list of Saudi Arabia's energy related requirements

as well as Saudi Aramco requirements, and determine how to address these requirements. SABP-A-011 provides some of the references of Saudi Aramco engineering standards.

- The Organization shall investigate how these requirements affect operations and take it into consideration for establishing, implementing and maintaining the EnMP.
- List of these requirements shall be recorded and regularly reviewed.
- Conduct Energy Use Analysis:
 - The Organization shall conduct an energy optimization assessment study to gather data related to energy consumption for the overall Organization at defined intervals. Energy assessment study shall cover:
 - I. Analysis of energy use and consumption based on measured and other data to identify current energy sources and evaluate past and present energy consumption. The first attempt of the study is also call an initial energy review.
 - II. Identification of Significant Energy Users (SEUs) and factors affecting them.
 - III. Identification of priorities and recording opportunities for improving energy performance. Related energy performance benchmarking data shall be referred and consequently setting of energy objectives and targets discussed in following sections. Detailed benchmarking process is described in Process # OE-12.3 (Benchmarking).
 - IV. The methodology and criteria used to conduct energy optimization study and SEUs identification shall be documented. The study shall be updated at defined intervals in response to major changes in organization equipment and infrastructures. (Refer to SABP-A-005, SABP-Z-34 or any other applicable best practices)
- Establish Energy Baseline:
 - After collecting all required data for energy consumption and generation, Organization shall establish an energy baseline(s) using the information identified in previous section (initial energy review) considering a data period suitable to the organization's energy use and consumption.
 - The energy baseline is also used for calculation of energy savings, as a reference

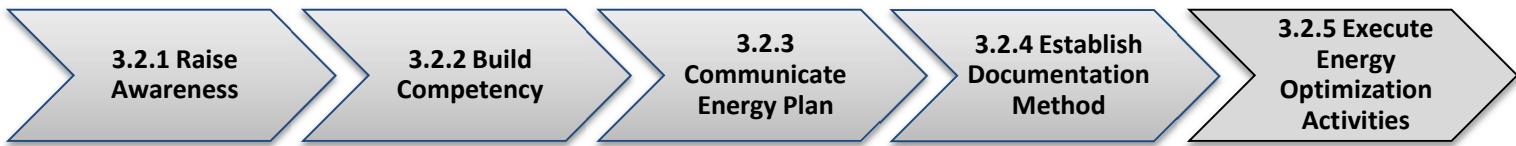
- before and after implementation of energy plan.
- Adjustment to energy baseline(s) is acceptable under the following conditions:
 - EnPIs no longer reflect organizational energy use and consumption, or
 - I. There have been major changes to the process, operational or
 - I. According to a predetermined method.
 - II. The energy baseline(s) shall be documented, approved and updated at defined interval.
 - Define Energy Performance Indicator (EnPI):
 - The Organizations shall identify appropriate EnPIs for monitoring and measuring its energy performance. Refer to SABP-A-004 & SABP-A-066 for more details.
 - Methodology for determining and updating the EnPIs shall be recorded and regularly reviewed.
 - Define Energy Objectives, Targets and Energy Plans:
 - The Organization shall establish, implement and maintain documented energy efficiency objectives and targets at the relevant functions, levels, processes or facilities within the organization.
 - The established energy objectives and targets shall be consistent with the Organizations' energy policy.
 - The Organization shall also take into account legal, standards and other requirements, SEUs, opportunities to improve energy performance, financial, operational, business conditions and other relevant subjects, when establishing objectives and targets.
 - The Organization shall establish, implement and maintain appropriate energy plan for achieving its objectives and targets. The energy plan shall consist of the following but not limited to:
 - I. Designation of responsibility i.e. resources allocation.
 - II. Time frame to achieve the energy objectives and targets.
 - III. A statement of the method by which improvement in energy performance shall be verified.
 - IV. A statement of the method of verifying the results.
 - V. The energy plans shall be documented, and updated at a well-defined

interval. Overview of the suggested Energy Plan establishment process is as per following diagram.



3.2 Implement:

- Organization shall implement the agreed upon energy plan.
- The following figure shows an outline of implementation sub-steps:



3.2.1 Raise Awareness:

- The Organization shall identify the need for awareness events to boost the knowledge of energy efficiency for all personnel working for or on its behalf in the following subjects:
 - Their roles, responsibilities and authorities as stated in energy policy, procedures and the requirements of the EnMP.
 - The benefits of improved energy performance.
 - The impact, actual or potential, with respect to energy use and consumption, of their activities and how their activities and behavior contribute to the achievement of energy objectives and targets, and the potential consequences of departure from specified procedures.
- The size and nature of awareness events depend on the need and availability of the resources, therefore the Organization shall establish a list of events and to provide

detailed description on its purpose, target group, proposed date and evaluation criteria.

- Appropriate records of awareness events and its implementation shall be maintained for reference.

3.2.2 Build Capacity through Training:

- The Organization shall ensure that any person(s) working for or on its behalf, related to SEUs, are competent on the basis of appropriate education, training, skills or experiences.
- The Organization shall identify training needs associated with the control of its SEUs and the operation of its EnMP. The Organization shall provide training or take other actions to meet these needs.
- Appropriate records shall be maintained.

3.2.3 Develop a Communication Plan:

- The Organization shall establish an effective plan to communicate all energy related activities. (Reference to Process # OE-9.1 Communication of Information).
- The communication shall take part both with internal and external stakeholders depending on the needs and company external communication policy. (Reference to Process # OE-9.1 Communication of Information).
- The Organization shall establish and implement a process by which any person working for, or on behalf of the Organization can make comments or suggest improvements to the EnMP.

3.2.4 Establish a Documentation Method:

- The Organization shall establish, implement and maintain information in any common medium to describe the method of the EnMP and their interaction. (Reference to Process # OE-9.2 Data Protection Program).
- The EnMP documentation shall include:
 - I. The EnMP framework.
 - II. The energy policy.
 - III. The energy objectives, targets, and energy plan.
 - IV. The documents, including records such as energy demand and consumption, training record required by this process.

V. Other documents determined by the organization to be necessary.

- All these documents (I-V) shall be controlled and retained as per retention timeframe defined by Organization, where appropriate. (Reference to Process # OE-9.2 Data Protection Program).
- The Organization shall establish, implement and maintain procedure(s) to:
 - I. Approve documents for adequacy prior to issue.
 - II. Review and update documents as necessary.
 - III. Identify changes and the current revision status of documents.
 - IV. Confirm that relevant versions of applicable documents are available at points of use.
 - V. Confirm that documents remain legible and readily identifiable.
 - VI. Maintain documents of external origin determined by the organization for the planning and operation of the EnMP.
 - Prevent the unintended use of obsolete documents, and suitably identify those to be retained for any purpose.
 - Identify an appropriate retention time for records or any applicable documents.

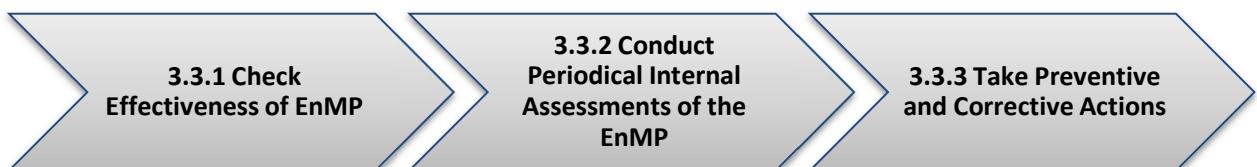
3.4.5 Execute Energy Optimization Activities:

- Energy optimization activities fall under three different areas – operational control, design and procurement. (Reference to Process # OE-4.1 Design, Procurement & Construction).
- This section describes how energy efficiency measures are incorporated in each of the three areas as mentioned in the followings sections.
 - Operational Controls:
 - I. The Organization shall identify and plan operation and maintenance activities related to its SUEs, which are consistent with its energy policy, objectives, targets and energy plans. Such activities will include the following:
 - Establishing and setting criteria for the effective operation and maintenance of SEUs, where their absence could lead to a significant deviation from effective energy performance.
 - Operating and maintaining facilities, processes, systems and equipment, in accordance with optimum operational criteria.

- Communicating the operational controls to personnel working for, or on behalf of, the organization.
- Design:
 - I. The Organization shall consider energy performance improvement opportunities and operational control in the design of new, modified and renovated facilities, equipment, systems and processes that can have a significant impact on its energy performance. (Refer to SAEP-1350).
 - II. The results of the energy performance evaluation shall be incorporated where appropriate into the specification, design and procurement activities of the relevant project(s). Refer to SAEP-42, SAEP-A-502 and other relevant Saudi Aramco standards.
 - III. The results of the design activity shall be recorded.
 - Procurement of Energy Services, Products, Equipment and Energy:
 - I. The organization shall establish and implement the criteria for assessing energy use, consumption and efficiency over the planned or expected operating lifetime when procuring energy related products, equipment and services which are expected to have a significant impact on the Organization's energy performance. Refer to SAES-F-001 and SAES-A-503 for efficiency requirement for fired heater and combined heat and power (CHP), respectively.
 - II. The Organization shall define and document related energy purchasing specifications, as applicable, for effective energy use for new or existing projects.

3.3 Monitor:

- Organization shall monitor and measure processes and the key characteristic of operations that determine energy performance against the energy policy, objectives, targets, energy plan, and report the results.
- The following figure shows elements of the energy program monitoring:



3.3.1 Checking Effectiveness of EnMP:

- The Organization shall ensure that the key characteristics of its activities that determine energy performance are monitored, measured and analyzed at well planned intervals (Refer to OE Process # 12.4 “Performance Monitoring”).
- Key characteristics shall cover:
 - Significant energy users and other outputs of the energy assessment.
 - The relevant variables related to significant energy users.
 - Established EnPIs including EnMP implementation progress.
 - The effectiveness of the energy plan in achieving objectives and targets.
 - Evaluation of actual versus expected energy consumption.
 - Evaluation of compliance with legal and other requirements to which it subscribes related to its energy use and consumption.
 - Significant evidence to demonstrate that all respective records are adequately controlled and maintained.
- The results from monitoring and measurement of the key characteristics shall be recorded.
- An energy plan, appropriate to the size and complexity of the Organization and its monitoring and measurement equipment, shall be defined and implemented.
- The Organization shall define and periodically review its measurement needs.
- The Organization shall ensure that the equipment used in monitoring and measurement of key characteristics provides data which are accurate and reliable.
- Records of calibration and other means of establishing accuracy and reliability shall be maintained.
- The Organization shall investigate and respond to significant deviations in energy performance.
- Results of these activities shall be documented and maintained.

3.3.2 Conduct EnMP Internal Assessment/ Audit:

- The Organizations shall conduct periodic EnMP internal assessment to gauge their conformance to the agreed on EnMP requirements, objectives and targets.
- This assessment will be conducted at least once a year by its internal EnMP assessors.

- The main objective of the internal assessment is to identify any improvement opportunities and to correct them as soon as reasonably practical or possible.
- Recommended internal EnMP assessment methodology is described in the best practice SABP-A-048 “Energy Management Program Assessment Guidelines”.

3.3.3 Take Preventive and Corrective Actions:

- The Organization shall address actual and potential nonconformities by making corrections, and by taking corrective and preventive actions, including the following:
 - Reviewing nonconformities or potential nonconformities.
 - Determining the causes of nonconformities or potential nonconformities.
 - Evaluating the need for action to ensure that nonconformities do not occur or recurrence.
 - Determining and implementing the appropriate actions needed.
 - Maintaining records of corrective and preventive actions.
 - Reviewing the effectiveness of the corrective or preventive actions taken.
- Corrective and preventive actions shall be appropriate to the magnitude of the actual or potential problems and the energy performance consequences encountered.
- The Organization shall ensure that any necessary changes are made to the EnMP.
- Reference to OE Process 12.2 Root Cause Analysis.

3.4 Continuous Improvement Step:

- Each Organization shall take all necessary actions to ensure all steps and sub-steps of EnMP are implemented and continuously improved.
- Refer to OE Process 12.6 “Continuous Improvement”.
- The following figure contains the sub-steps:



3.4.1 Conduct Management Review:

- The Department Head shall conduct EnMP review at planned and well defined intervals with minimum once a year.

- During each of the management review, organization will cover the following agenda but not limited to:
 - Review the relevancy of the energy policy, objectives, targets, and energy plan.
 - Review status of achievements against the agreed EnPIs.
 - Review status of compliance to Saudi Arabia and Saudi Aramco requirements (related to energy efficiency).
 - Review of all action items generated from previous meetings.
 - Review effectiveness of Organization' internal energy management assessment/ audit program.
 - Review effectiveness of methodology for gathering, tracking and managing energy saving initiatives.
 - Discussion of major obstacles in implementing EnMP.
 - Recognition of achievements.
- Expected feedbacks from Management Review are as follows:
 - Agreement on energy policy.
 - Agreement of EnPIs.
 - Allocation of adequate resources.
 - Endorsement of energy plan, awareness and training event(s) and EnMP assessment schedule.
 - Identification of opportunities for improvement.
- Records of management review shall be maintained.

3.4.2 Recognize Achievement

- Organization will recognize individual or team for successful energy initiatives, suggestions or ideas.
- Depending upon the needs and availability of resources, following are some of the categories to be considered for recognition:
 - Best energy saving idea of the year.
 - Best answer for energy quiz.
 - Best poster design for energy efficiency.
 - Best team effort towards energy efficiency.

4. PERFORMANCE MEASURES:

Below table provides performance measurement for this process:

Performance Measures	Formula	Source	Frequency
*Energy Intensity (EI) KPI	EI KPI = E/P, where: E = Total energy consumption in 1,000 (MBTU) P = Total production in barrels of oil equivalent except for several organizations using other type of dominator i.e. water etc.)	EMSC	Quarterly
*Energy Use Intensity (EUI) KPI	EUI = E/A, where: E = Net energy consumption "kWh" annual A = Gross Floor Area in "m ² "	EMSC	Quarterly
*Energy Performance Indicators (EnPIs) for identified Significant Energy Users (SEUs)	Energy Performance Indicators (EnPIs) for specific SEUs	Internal	To be defined by organization

* For Energy Intensity (EI) KPI: (Refer to SABP-A-066 for more details)

* For Energy Use Intensity (EUI) KPI: (Refer to SABP-A-052 for more details)

* For Energy Performance Indicators (EnPIs) for identified Significant Energy Users (SEUs): (Refer to SABP-A-004 for more details)



OE Element No. 6

Financial Resources

Financial resources are managed to provide the greatest value for money in all aspects of our business. These resources are to yield direct and significant impact on the OE performance objectives, reflecting effective utilization of Company financial capabilities and strengthening our cost competitive advantage

OPERATIONAL EXCELLENCE MANAGEMENT SYSTEM

Process # OE – 6.1 Efficient Resource Utilization

Process Owner:
To be defined by
Organization

Issue Date:
MM/DD/YYYY
Revision:
04

Note: This process is “Mandatory” and addresses expectation:

- Efficient Resource Utilization (Enabling Element # 6)

Process Steps

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graph LR
    A[Identify Business Plan Items] --> B[Develop Business Plan]
    B --> C[Execute & Monitor Business Plan]
    C --> D[Adjust Business Plan]
  
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Identify Business Plan Items

Develop Business Plan

Execute & Monitor Business Plan

Adjust Business Plan

Process Steps Details

<ul style="list-style-type: none"> Translate Organization's strategic objectives to Business Plan initiatives. 	<ul style="list-style-type: none"> Apply documented guidelines to assure accurate cost estimation Re-assess resources utilization. Plan and Forecast required resources. Develop Business Plan internal guideline to efficiently utilize resources. Re-assess targets for validation and adjustment Assign accountability. Approve Business Plan. 	<ul style="list-style-type: none"> Communicate Business Plan. Assign Business Plan Initiatives to Champions and execute the plan. Monitor progress. Report OE Benefits. Report in MIS, QBR, MYA and YEA Justify Variances Capture Lessons Learned. 	<ul style="list-style-type: none"> Take corrective and preventive actions. Incorporate Lessons Learned.
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Responsibilities

Department Head/ Division Head/ P&P Head	Department Head/ Division Head/ P&P Head	Division Heads/ P&P Head / Unit Head	P&P Head
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References

<ul style="list-style-type: none"> GI 021.201 “Approval Authority.” GI 250.001 Controllable Cost Review and Approval. GI 0020.014 Accountability Process 	<ul style="list-style-type: none"> Finance Business Plan Instructions. OCD Workload Driven Manpower Models (WMM) Cost estimation internal procedure/guideline
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Performance Measures

<ul style="list-style-type: none"> % Controllable Cost Variance % Demand Labor Gap % Workforce Headcount Variance 	<ul style="list-style-type: none"> \$ OE Benefits % Unplanned Initiatives Expenditure
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1. EXPECTATIONS:

This process will provide guideline for Organizations to translate business strategic objectives into Business Plan to ensure efficient resources utilization. These resources are to yield direct and significant impact on the OE performance objectives, reflecting effective utilization of Company financial capabilities and strengthening our cost competitive advantage.

2. RESPONSIBILITIES:

2.1. DEPARTMENT HEAD:

- 2.1.1. Develop and communicate the Organization's strategic objectives (long-term action plan)
As per Operational Excellence expectation OE-1.1, Vision, Mission and Strategies.
- 2.1.2. Understand and communicate the Company guidelines and General Instructions related to Business Plan, and Resources to all Division Heads and key members in the Organization.
- 2.1.3. Assign roles and responsibilities to division heads, unit heads and key members in accordance to GI 021.201 to translate the strategies to operational goals and objectives.
- 2.1.4. Provide required resources for the Organization to achieve the operational goals and objectives.
- 2.1.5. Control the Organization's utilization of resources and expenditures. Capture OE Benefits through implementation of Operational Excellence.

2.2. DIVISION HEADS/ UNIT HEADS:

- 2.2.1. Understand Saudi Aramco Guidelines and General Instructions related to developing the Business Plan and the allocation of resources.
- 2.2.2. Translate the Organization strategies to long-term goals and objectives.
- 2.2.3. Forecast the required resources to achieve the Organization goals and objectives.
- 2.2.4. Implement the Organization BP and provide feedback to management in progress.
Identify OE Benefits for Mid-Year and Year-End accountability.
- 2.2.5. Monitor the Organization expenditures and utilization of resources. Provide justification

for over run/under run and the needed adjustment.

2.3. PLANNING & PERFORMANCE DIVISION HEAD/ UNIT HEAD:

- 2.3.1. Issue the Business Plan and Accountability Instructions
- 2.3.2. Consolidate the department/divisions/units input for the accountability reports.
- 2.3.3. Monitor the financial resources utilizations.
- 2.3.4. Report any deviation from the original plan.
- 2.3.5. Report OE Benefits in Mid-Year and Year-End Accountability Reports.
- 2.3.6. Issue the final accountability reports.

3. PROCESS STEPS:

The following is the overall process developed to meet the intent of the OE expectation described above:



The following subsections will describe each step of the process in details:

3.1. Identify Business Plan Items:

- 3.1.1. Translate Organization's strategic objectives to Business Plan initiatives.

3.2. Develop Business Plan:

- 3.2.1. Apply documented guidelines to assure accurate cost estimation for Business Plan items.
- 3.2.2. Re-assess resources utilization for cost optimization and efficiency improvement.
- 3.2.3. Plan and Forecast required resources to achieve the organization's goals and objectives.
- 3.2.4. Plan manpower resources based on workload and business drivers using Workload Driven Manpower Models (WMM) or equivalent manpower planning tool
- 3.2.5. Develop Business Plan internal guideline to efficiently utilize resources.
- 3.2.6. Re-assess targets for validation and adjustment
- 3.2.7. Assign accountability through communicating expectations and assigning roles and responsibilities to Division Heads, Unit heads and key members.
- 3.2.8. Approve Business Plan

3.3. Execute & Monitor Business Plan:

- 3.3.1. Communicate Business Plan to all members to ensure awareness, accountability and commitment.

- 3.3.2. Assign Business Plan Initiatives to Champions and execute the plan.
- 3.3.3. Monitor progress.
- 3.3.4. Report and monitor the financial resources utilization in MIS, QBR, MYA and YEA
- 3.3.5. Report OE Benefits.
- 3.3.6. Justify Variances:
 - Review and communicate the deviations from the approved Business Plan.
 - Identify root causes of not meeting the approved Business Plan.
- 3.3.7. Capture Lessons Learned.

3.4. Adjust Business Plan:

- 3.4.1. Take corrective and preventive actions to address root causes of deviations.
- 3.4.2. Incorporate Lessons Learned.

4. PERFORMANCE MEASURE:

Below table provides measurement KPIs:

Performance Measures	Formula	Source	Frequency
% Controllable Cost Variance	(Actual – Plan) / Plan * 100	Department	Quarterly
% Demand Labor Gap	Variance between Business plan headcount to OCD WMM Full Jobs or equivalent	Dept. & OCD	Annually
% Workforce Headcount Variance	(Actual – Plan) / Plan * 100	Department	Quarterly
\$ OE Benefits	Quantified dollar savings obtained via OE implementation and initiatives vs Plan	Department	Mid-Year and Year End Accountability
% Unplanned Initiatives Expenditure	Unplanned expenditures / planned Budget	Department	Quarterly



OE Element No. 7
External Services

Contractors and suppliers are managed to ensure that products and/or services delivered on behalf of Saudi Aramco are delivered in a manner consistent with OE System objectives, expectations, and standards. The various external services rendered by contractors, suppliers, and other commercial agents directly impact the Company's performance, ability to deliver commitments, HSE goals, and reputation at large.

OPERATIONAL EXCELLENCE MANAGEMENT SYSTEM			
Process # OE – 7.1 Service Contract Procurement & Administration	Process Owner: To be assigned by organization	Issue Date: MM/DD/YYYY	
Note: This process is “Conditional” and addresses expectation: Service Contract Procurement & Administration (Enabling Element # 7)			Rev: 02
Process Steps			
Plan for New Procurements	Procure & Administer Service Contracts	Monitor Performance	Adjust Service Procurement Plan
Process Steps Details			
<ul style="list-style-type: none"> Develop necessary Internal Processes & Guidelines Forecast and reflect it in the business plan Develop complete procurement package (Budgetary Estimate, comprehensive and well-defined SoW, Technical Evaluation, Special T&C. Develop healthy Bid Slates Review previous lessons learned 	<ul style="list-style-type: none"> Develop Purchase Requisition Supplement (PRS) Procure and Administer Services Contracts according to SCM Manuals Policies and Procedures Procure the services as per the business plan requirements Implement the developed internal processes and guidelines Administer Sub-contractors 	<ul style="list-style-type: none"> Monitor and report performance measures Avail the required Contract Administration Team Capabilities and Competencies Ensure adherence to SA Procurement Manual's Policies and Procedures and Contracts T&Cs Ensure adherence to general and site-specific HSE requirements Track closure of all highlighted issues Capture lessons learned and improvement opportunities 	<ul style="list-style-type: none"> Take corrective actions Share lessons learned with concerned personnel Update internal processes and guidelines Avail required resources and competencies Adjust Business Plan Requirements
Responsibilities			
Department Head / Contracts Administration Unit Head	Department Head / Contracts Administration Unit Head	Department Head / Contracts Administration Unit Head	Department Head / Contracts Administration Unit Head
References			
<ul style="list-style-type: none"> Department Business Plan SMS Element 7, Expectation 1 	<ul style="list-style-type: none"> SA Procurement Manual 		
Performance Measures			
<ul style="list-style-type: none"> # MFC/SFC Procurement Time # Single Source % IKTVA Score % Budget Management # Suppliers Performance # Suppliers Evaluations 	<ul style="list-style-type: none"> # Invoice Processing Time # Deviations Avoidance # Claims Mitigation # LFC Procurement Time (Optional) # Bid Slate Health (Optional) # Successful Procurement (Optional) 		

TABLE OF CONTENTS:

1. EXPECTATIONS
2. RESPONSIBILITIES
3. PROCESS STEPS
4. PERFORMANCE MEASURE.

1. EXPECTATIONS:

This process will provide guideline for Organizations to:

- Provide the department with a timely service contract procurement through effective and efficient procurement processes.
- Ensuring contract administration activities and personnel comply with procurement manual guidelines, and contract terms and conditions in order to reduce cost and minimize deviations and potential claims.

2. RESPONSIBILITIES:

2.1. DEPARTMENT HEAD:

- 2.1.1. Approve purchase orders with their authority.
- 2.1.2. Avail the resource to ensure efficient contracts management is in place.
- 2.1.3. Monitor the KPIs for contract administration.
- 2.1.4. Respond to the Contracting Department CAPI Assessment (when applicable).

2.2. CONTRACTS ADMINISTRATION UNIT HEAD:

- 2.2.1. Ensure the implementation of all services procurements requirements as per the Business Plan.
- 2.2.2. Perform and implement all the Contract Administration Processes.

Note: This section might be further detailed to identify and segregate the responsibilities between the Admin Area Contracts Admin Unit and the Departments own the contracts.

3. PROCESS STEPS:

The following is the overall process developed to meet the intent of the OE expectation described above:



The following subsections will describe each step of the process in details:

3.1. Plan for New Procurement:

3.1.1. Develop Purchase Requisition Supplement (PRS) including complete procurement package.

3.1.2. Develop the following Internal Processes & Guidelines that indicates clear Roles and Responsibilities and set logical Performance Measures:

- Internal Administration Procedures (IAPs)
- Processes' guidelines to guide the implementation of the below services contracts procurements and administration processes:
 - Initiation of Services Procurement
 - Bid slate Development
 - SFC/MFC Procurement
 - Purchase Order Development
 - Invoice & Cache-Flow Management
 - Supplier Performance Management (for LFC, MFC, SFC and Sub-Contractors)
 - Saudization Management
 - IKTVA Management
 - Subcontractor Administration
- Compliance Guidelines to ensure the following:
 - Contracts' Administration teams' awareness of Contracts T&Cs.
 - Contractor Awareness of newly awarded Contracts T&Cs.
 - Prompt resolution of disputes between Saudi Aramco and Contractors to minimize claims.
 - Contract Advisors and Contract Administration Awareness of SA Procurement Manual and its updates.
- Workforce Maturity Guidelines to ensure the following:
 - Set the required personnel count and qualifications for Contract Advisors and personnel involved in Contract Administration.
 - Identify training & development plans for Contract Advisors and personnel involved in Contract Administration.

3.1.3. Generate Annual Forecast and reflect it in the Business Plan:

- Identify the services contracts/amendments requirements during the upcoming Business Plan cycle.
- Reflect the requirements in the Business Plan.
- Communicate the Long Form Contracts/Amendments requirements with the corresponding Contracting Department Unit Head.

3.1.4. Early and Proper Plan for new Procurement:

- Early submission of procurement actions requires SRC approval particularly for contracts amendments.
- Early submission for contract re-bid procurements action to avoid unnecessary contract extensions.

3.1.5. Develop complete procurement package that includes:

- Budgetary Estimate.
- Comprehensive and well-defined Scope of Work.
- Technical evaluation (if applicable).
- Special T&Cs.
- Six Point Justification for Single Source contracts.
- Cost Escalation Risk Matrix.

3.1.6. Develop healthy bid slates.

3.1.7. Review previous lessons learned.

3.2. Procure & Administer Service Contracts:

3.2.1. Procure and Administer Services Contracts according to SCM Manuals, Policies and Procedures.

3.2.2. Procure the services as per the Business Plan requirements.

3.2.3. Ensure the consistent implementation of the developed internal processes and guidelines.

3.2.4. Ensure that all sub-contractors are tracked in SAP and periodically evaluate them through the supplier performance evaluations system.

3.3. Monitor Performance:

3.3.1. Monitor and report performance measures associated with services contracts' procurement and administration. This includes the following:

- The performance measures associated with the internal processes developed by the department as per section 3.1.2 of this OE Process.
- The performance measure denoted in section 4 of this OE Process.

3.3.2. Ensure the required Contract Administration Team capabilities and competencies are availed.

3.3.3. Ensure adherence to SA Procurement Manual's Policies, Procedures and Contracts T&Cs.

3.3.4. Ensure adherence to general and site-specific HSE requirements.

3.3.5. Track closure of all highlighted issues.

3.3.6. Capture lessons learned and improvement opportunities.

3.4. Adjust Service Procurement Plan:

3.4.1. Track corrective actions.

3.4.2. Share lessons learned with concerned personnel.

3.4.3. Update internal processes and guidelines.

3.4.4. Avail required resources and competencies.

3.4.5. Adjust Business Plan requirements.

4. PERFORMANCE MEASURE:

Below table provides measurement KPI for this process:

Performance Measures	Formula	Source	Frequency
# MFC/SFC Procurement Time	Average Time Taken from the initiation of PR & Bid Slate Approval to PO Release.	P&SCM Reporting Profiles	TBD
# Single Source	Value of SS Actions vs. Value of all Procurements by Category (LFC/MFC & SFC).	P&SCM Reporting Profiles	TBD
% IKTVA Score	Percentage of actual YTD IKTVA reported on quarterly basis to target Planned IKTVA.	E-Sight	TBD
% Budget Management	Average percentage of total value of AEL extensions (AEL Revisions) done to Department Active Contracts	P&SCM Reporting Profiles	TBD
# Suppliers Performance	Average performance on SPE for all suppliers of currently active contracts	SAP-PRC (Trx. ZSV128)	TBD

Performance Measures	Formula	Source	Frequency
# Suppliers Evaluations	Number of completed evaluations (LFC, MFC, SFC and Subcontractors) vs. the number of due evaluations.	SAP-PRC (Trx. ZSV125)	TBD
# Invoice Processing Time	Average time taken from contractors' submittals of their invoices (through ESV) to SES approval.	P&SCM Reporting Profiles	TBD
# Deviations Avoidance	# of Deviation requests initiated by the Department	Department Internal Log	TBD
# Claims Mitigation	# of Claims received against Saudi Aramco for Contracts under the Department	Department Internal Log	TBD
# LFC Procurement Time (Optional)	Average time taken from Purchase Requisition Supplement (PRS) Approval to Awarding for all LFCs excluding consultants' contracts.	SCM Reporting & Applications (CRM Request)	TBD
# Bid Slate Health (Optional)	Average # of Bidders for all procured LFCs excluding consultants' contracts.	SCM Reporting & Applications (CRM Request)	TBD
# Successful Procurement (Optional)	Number of successfully completed LFC Procurements vs. Number of the initiated Procurements.	SCM Reporting & Applications (CRM Request)	TBD

OPERATIONAL EXCELLENCE MANAGEMENT SYSTEM			
Process # OE – 7.2 Material Procurement & Administration		Process Owner: To be assigned by organization	Issue Date: MM/DD/YYYY
Note: This process is “Conditional” and addresses expectation: Material Procurement & Administration (Enabling Element # 7)		Rev: 01	
Process Steps			
Develop Material Procurement Plan	Request Material	Monitor Status	Adjust Procurement Plan
Process Steps Details			
<ul style="list-style-type: none"> Identify a need to procure Materials Develop list of required material Update material catalog Select proper Procurement Method Estimate material cost Establish/update department inventory tracking system Generate material forecast Reflect the forecast in the business plan 	<ul style="list-style-type: none"> Set and communicate Expectations: <ul style="list-style-type: none"> Delivery Time & Location Technical Specifications HSE Requirements Performance expectations and measures Develop and process material request Conduct material technical evaluation 	<ul style="list-style-type: none"> Track procurement Receive material Track and reconcile Suppliers Administration & Payments Check material quality Report quality findings to Supplier Performance Unit (SPU) Track closure of all highlighted material quality issues Report analyze performance measure data Capture lesson learned 	<ul style="list-style-type: none"> Take corrective actions Incorporate lessons learned into new material procurement plan Reconcile material Update inventory Records
Responsibilities			
Department Head / Maintenance Engineer / Maintenance Planner	Material Control Man/ Maintenance Planner/ Material Expeditor	Division Head / Unit Head / Material Control Man / Maintenance Planner /	Maintenance/Project Engineer / Maintenance Planner
References			
<ul style="list-style-type: none"> SAEP-31 Corporate Equipment and Spare Parts Data Requirements Supply Chain Management Manual (SCMM) section 4.1.1 MG 	<ul style="list-style-type: none"> Supply Chain Management Manual SAEP-1151 Inspection Requirements for Contractor Procured Materials and Equipment AI SAEP-3101 		
Performance Measures			
<ul style="list-style-type: none"> Emergency Purchase Requisitions BOM Linkage % Material Cataloging % Material Cost Variance (Forecast Accuracy) GR IQR 	<ul style="list-style-type: none"> Purchase Requisitions under Technical Evaluation Deleted Reservations Overdue Staged Material Aged Inventory Order Development Index FDN Count 		

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1. EXPECTATIONS
2. RESPONSIBILITIES
3. PROCESS STEPS
4. PERFORMANCE MEASURE.

1. EXPECTATIONS:

This process will provide guideline for Organizations to:

- Provide the department with an accurate and timely material procurement services through effective and efficient Forecasting, Cataloging, Ordering and Expediting processes.
- Ensure full compliance with Supply Chain Manual guidelines in all procurement, logistics, inventory and warehousing aspects.

2. RESPONSIBILITIES:

2.1. DEPARTMENT HEAD:

- 2.1.1. Approve purchase requisition with their authority.
- 2.1.2. Avail the resource to ensure efficient material management is in place.
- 2.1.3. Monitor the KPIs for material.

2.2. DIVISION HEADS/UNIT HEADS:

- 2.2.1. Approve purchase requisition with their authority.
- 2.2.2. Avail the resource to ensure efficient material management is in place.
- 2.2.3. Monitor the KPIs for material.
- 2.2.4. Ensure the proper training is conducted for key employees.

2.3. MAINTENANCE/PROJECT ENGINEER:

- 2.3.1. Ensure that the ordered material are in line with the approved single Business Plan.
- 2.3.2. Contact the vendor/manufacturer for material clarification of existing equipment after PO placement.
- 2.3.3. Contact Engineering for material clarification of new equipment/upgrade.
- 2.3.4. Create direct charge PR (purchase requisition) for material.
- 2.3.5. Coordinate cataloging frequent used material.

2.4. MAINTENANCE PLANNER:

- 2.4.1. Identify the required material and ensure it's in line with drawings, datasheet, engineering standards, BOM etc.

- 2.4.2. Identify the long lead items (9COM, Re-orderable on request (ZR/ZM), Chemicals and Catalysts).
- 2.4.3. Check material availability in SAP-PRC using transaction MMBE.
- 2.4.4. Ensure the un-availability of the material in 9CAT & B2B through the e-catalog/SAP-PRC: MM03 before proceeding with 9COM material.
- 2.4.5. Perform an article check after receiving the material.
- 2.4.6. Issue a discrepancy report to P&SCM In case of any findings.
- 2.4.7. Classify the excess material according to their condition.
- 2.4.8. Initiate the request for excess material return.
- 2.4.9. Coordinate with the P&SCM storehouse Customer Services to get the material.
- 2.4.10. Follow up with P&SCM to initiate and process the Purchase Requisition (P.R.).
- 2.4.11. Coordinate between P&SCM, Vendor Inspection, and end user.
- 2.4.12. Track the purchase requisitions (P.R.) development until P.R. placement and purchase order (P.O.) creation within 45 days of P.R. initiation.
- 2.4.13. Issue a bi-weekly material tracking report.
- 2.4.14. Contact the Expedite center: via email: expeditor@aramco.com or call on: 8002470055.

2.5. MATERIAL CONTROL MAN:

- 2.5.1. Ensure correct materials quantity, quality and condition of received material before signing on the Material Delivery Document (MDD) & Material Notes by performing an article check.
- 2.5.2. Sign the MDD & Material Note for received material.
- 2.5.3. Complete the Electronic Good Receipt (e-GR) workflow through SAP-PRC system.
- 2.5.4. Stage the material according to SA Logistic Inventory and Warehousing Manual (3.3.3 Material Storing) & Chemical Hazard Bulletin (CHB).
- 2.5.5. Update the staging yard inventory to include all newly arrived or consumed material.
- 2.5.6. Release the material to the execution site and update the inventory accordingly.
- 2.5.7. Classify the material according to their condition, age and criticality.
- 2.5.8. Facilitate the returns of material to warehouse or reclamation.

2.6. MATERIAL COORDINATION UNIT HEAD:

- 2.6.1. Ensure quality of DC requests.
- 2.6.2. Process the 9COM requests in the system.

2.6.3. Facilitate the cataloging process of 9COM material.

3. PROCESS STEPS:

The following is the overall process developed to meet the intent of the OE expectation described above:



The following subsections will describe each step of the process in details:

3.1. Develop Procurement Plan:

3.1.1. Identify a need to procure Materials.

- Department Business Plan Expense Projects.
- Planned Projects (Capital & BI-19 Projects).
- Maintenance Plan.

3.1.2. Develop list of required material.

3.1.3. Update material catalog.

3.1.4. Select proper procurement method:

- Reservation (9 CAT).
- Direct charge (9 COM):
 - Saudi Aramco cataloged materials:
 - Competitive bidding.
 - Single source requisitions.
 - Procurement and Installation.

3.1.5. Estimate material cost.

3.1.6. Establish/update department inventory tracking system.

3.1.7. Generate material forecast.

3.2. Procure Material:

3.2.1. Set and communicate expectations:

- Delivery Time & Location.
- Technical Specifications.
- HSE Requirements.
- Performance expectations and measures.

3.2.2. Develop and Process material request.

3.2.3. Conduct material technical evaluation.

3.3. Monitor Status:

3.3.1. Track procurement.

3.3.2. Track and reconcile Suppliers Administration & Payments.

3.3.3. Check material quality.

3.3.4. Report quality findings to Supplier Performance Unit (SPU):

- Material shortages.
- Damaged, substitute, incomplete and incorrect Materials.
- Materials that fail in use while still under warranty period.

3.3.5. Track closure of all highlighted material quality issues.

3.3.6. Report status.

3.3.7. Capture lesson learned.

3.4. Adjust Procurement Plan:

3.4.1. Take corrective actions.

3.4.2. Incorporate lessons learned into new material procurement plan.

3.4.3. Reconcile surplus material.

3.4.4. Update inventory Records.

4. PERFORMANCE MEASURE:

Below table provides measurement KPI for this process:

Performance Measures	Formula	Source	Frequency
Purchase Requisitions under Technical Evaluation	Average of processing time for all current PR line items under technical evaluation.	SCP&SD	Quarterly
Emergency Purchase Requisitions	Number of emergency requisitions placed on order against total consumption.	SCP&SD	Quarterly
BOM Linkage %	Floating 9boms against total 9boms	SCP&SD	Quarterly
9CAT and 9COM Consumption	Measures number of catalogued material (9CAT) PR consumption against number of total consumption for strategic commodities.	SCP&SD	Quarterly

Material Advisors Competency Index	Average competency score of material advisors	Training & Development	Quarterly
Deleted Reservations	Measures value of deleted reservations over total reservations value.	SCP&SD	Quarterly
Overdue Staged Material	All current staged material and ready for issue (against a reservation) with a requirement date in the past over the total value of staged materials.	SCP&SD	Quarterly
Material Cost Variance (Forecast Accuracy)	Demand Forecasting Accuracy = (Prop Materials Consumption "\$") / Prop Materials Forecast "\$"	SCP&SD	Quarterly
Aged Inventory	Non-critical and non-insurance material aged more than 5 years (non-moving) over total inventory value. The ending balance for the period is used.	SCP&SD	Quarterly
IQR	Inventory Quality Ratio (IQR) = (Active Inventory Value) / Total Inventory Value. The ending balance for the period is used.	SCP&SD	Quarterly
GR	Number of open POs over total POs	SCP&SD	Quarterly
FDN Count	Count of number of FDN against a customer DPC	TMS BW	Quarterly



OE Element No. 8

Policies & Strategies

The Organization ensures that its policies and strategies are aligned with vision, mission, and business objectives as well as reflect the Organizational structure and culture in which they operate. Plans, objectives, and processes are developed and deployed to implement the strategy.

OPERATIONAL EXCELLENCE MANAGEMENT SYSTEM

Process # OE – 8.1 Maintain Internal Controls		Process Owner: To be defined by Organization	Issue Date: 12/31/2018	
Note: This process is “Mandatory” and addresses expectation:			Revision: 03	
Process Steps				
Identify Applicable Policies	Develop, Communicate, and Deploy Policies	Review and Conduct Assessments	Adjust and Close Gaps	
Process Steps Details				
<ul style="list-style-type: none"> Identify all applicable: <ul style="list-style-type: none"> Policies and procedures related to the organization function. Policies and procedures owned by the organization (custodianship). Internal policies and procedures. Develop a matrix for identified policies and procedures Develop annual plan for policy development and reviews Develop communication plan Develop internal review plan 	<ul style="list-style-type: none"> Develop Company Policy (custodianship) or organization internal policies & procedures. Communicate policies and procedures to organization. Deploy the policies and procedures. 	<ul style="list-style-type: none"> Review the policies and procedures Matrix. Conduct a survey to assess the understanding of policies. Conduct periodic assessments (compliance self-review (CSR)). Consolidate the results of reviews conducted by other compliance entities, e.g., Internal Auditing, Loss Prevention, etc. Communicate and assess the results, e.g., quarterly audit/compliance review meeting, quarterly performance dialogue, etc. Capture Lesson Learned 	<ul style="list-style-type: none"> Close any reported gaps in communication, understanding, or compliance. Adjust the Matrix as applicable. Adjust both, internal policies and procedures as well as owned Company policies and procedures (custodianship) if required. Recommend adjustment to corporate policies, procedures, GIs, and standards as required. 	
Responsibilities				
Department Head	Dept. Head/Division Heads/ Unit Heads	Dept. Head/ Division Heads	Dept. Head/Division Heads	
References				
<ul style="list-style-type: none"> Saudi Aramco Corporate Policies & GIs HR/SMS/DPP/Procurement Manual Mandatory Saudi Aramco Engineering Standards (SAES) CP-20 “Management Controls” CP-15 “Records Management Policy” 	<ul style="list-style-type: none"> Compliance Self-Review Guidelines Quarterly Audit Review Meetings GI 289.000 Audit Reporting Procedures G.I. 0006.006 Loss Prevention Compliance Reviews Document Management Procedure 			
Performance Measures				
<ul style="list-style-type: none"> % Level of Understanding % Compliance Index 	<ul style="list-style-type: none"> # Overdue Documents to Review % Findings Closure Time 			

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- 1. EXPECTATIONS**
- 2. RESPONSIBILITIES**
- 3. PROCESS STEPS**
- 4. PERFORMANCE MEASURE**

1. EXPECTATIONS

This process will provide guidelines for organizations to adhere to the highest standards of corporate governance including their system of internal controls by assuring that related policies and procedures: exist and identified, communicated, understood, and adhered to.

This will be achieved by:

- Identify, communicate, understand and deploy the company policies.
- Review and update the organizational internal policies and share feedback with concerned organizations in the company to review and adjust the company policies, procedures, GIs, and standards

2. RESPONSIBILITIES:

2.1. DEPARTMENT HEAD:

- 2.1.1. Approve the policies matrix prior to being published.
- 2.1.2. Approve the awareness communication plan to the targeted employees.
- 2.1.3. Approve the internal review plan.
- 2.1.4. Avail all resources required to deploy the company policies related to the organization functions.
- 2.1.5. Conduct annually Compliance Self-Review (CSR)
- 2.1.6. Ensure closure of any reported gaps in timely manner.

2.2. DIVISION HEAD:

- 2.2.1. Comply with the company policies related to the organization functions.
- 2.2.2. Avail all resources required to comply with the company policies related to the division/unit functions.
- 2.2.3. Ensure that all policies and procedures are understood and admitted by the subjected employees.
- 2.2.4. Support the internal review to assure the communication, understanding and compliance.

2.2.5. Follow up the implementation of internal and external review reports recommendations.

2.3. PROCESS OWNER:

- 2.3.1. Facilitate, through OE processes coordinators / SMEs, the identification of company policies and internal procedures related to the organization functions.
- 2.3.2. Maintain up-to-date and approved department policy matrix.
- 2.3.3. Develop criteria to define the scope of annual communication and compliance plans.
- 2.3.4. Obtain Department Head approval of policy matrix, optimal process PMs, KPIs, communication plan, and compliance plan.
- 2.3.5. Facilitate the development of Company Policy (custodianship) or organization internal policies & procedures as per the approved plan
- 2.3.6. Conduct the surveys, developed by the OE processes coordinators / SMEs, to assess the understanding level of policies and procedures.
- 2.3.7. Facilitate the annual compliance self-review.
- 2.3.8. Consolidate the result of reviews conducted by other Compliance entities.
- 2.3.9. Track process PMs and KPIs.
- 2.3.10. Capture Lesson Learned.
- 2.3.11. Coordinate the closure of any identified gaps and the implementation of any identified improvement opportunities.

2.4. OE PROCESSES SMEs:

- 2.4.1. Identify company policies and internal procedures related to the assigned OE process.
- 2.4.2. Inform Process Owner with any updates on policies related to the assigned OE process.
- 2.4.3. Propose the communication and compliance plans based on the defined criteria
- 2.4.4. Execute the approved communication plan for policies and internal procedures related to the assigned OE process.
- 2.4.5. Assess in developing the knowledge level survey and track related PMs for policies and procedures related to assigned OE processes.

3. PROCESS STEPS:

The following is the overall process developed to meet the intent of the OE expectation described above:



The following subsections will describe each step of the process in details:

3.1. Identify Applicable Policies:

3.1.1. Determine all policies and procedures related to the organization function through the assigned OE coordinators, SMEs of each OE process or Programs Owners/ Champions.

3.1.2. Develop Policies and Procedures Matrix to include the following:

- Type (e.g. Legal requirement, adopted international standard, Company Policy, (Owned) Company Policy, Internal Policy, etc.)
- Category (e.g. Operations, Maintenance, HR, Finance, Energy Efficiency, etc.).
- Responsible Division/Unit.
- Level of sensitivity. (Data Classification)
- Level of communications.
- Communication means.
- Communication cycle (e.g. one time, annually, two years, etc.)
- Understanding confirmation method. (Survey, eLearning, Certificate, Meeting, Internal Review, External Review, etc.)
- Link to applicable processes. (e.g. OE process 5.1.1, 10.1, 11.1)
- URL link to the document (if available)

3.1.3. Develop annual plan for policy development and reviews for selected policies and procedures.

3.1.4. Develop annual communication plan for selected policies and procedures.

3.1.5. Develop annual internal review plan for selected policies and procedures.

3.2. Develop, Communicate, and Deploy Policies:

3.2.1. Develop Company Policy (custodianship) or organization internal policies and procedures as per the approved plan in 3.1.3. Refer to Document Management Procedure.

3.2.2. Communicate the company related policies and procedures to organization's employees as per the plan developed in step # 3.1.4 and refer to OE-9.1 "Communication of Information" process.

3.2.3. Deploy the policies and procedures.

3.3. Review and Conduct Assessments:

3.3.1. Review the Policies and Procedures Matrix for completeness and validity.

3.3.2. Conduct a survey to assess the understanding of policies as per the communication plan.

3.3.3. Assess understanding of communication method as per the communication plan.

- 3.3.4. Conduct periodic assessments (Compliance Self-Review (CSR)).
- 3.3.5. Obtain the results of reviews conducted by other Compliance entities, i.e., Internal Auditing, Loss Prevention, etc.
- 3.3.6. Communicate and assess the results, i.e., quarterly audit review meeting, quarterly performance dialogue, etc.
- 3.3.7. Capture Lesson Learned.

3.4. Adjust and Close Gaps:

- 3.4.1. Close any reported gaps in communication (through OE Process 9.1), understanding or compliance.
- 3.4.2. Adjust the Policies and Procedures Matrix as applicable.
- 3.4.3. Adjust both, internal policies and procedures as well as owned Company policies and procedures (custodianship) if required.
- 3.4.4. Recommend adjustment to corporate policies as required.

4. PERFORMANCE MEASURE:

Below table provides measurement KPIs:

Performance Measures	Formula	Source	Frequency
% Level of Understanding	Survey feedback average level of understanding to a policy	Department	Annually
% Compliance Index (CI):	Organization compliance level that is calculated based on the percentage of compliance to the defined set of controls.	Department	Annually
	<ul style="list-style-type: none"> • CI Confidence Value 	Department	Annually
	<ul style="list-style-type: none"> # of assessed policies/total # of identified policies • CI Validity Value 	Department	Annually
% Average Findings Closure Time	Sum of time to close each finding / total number of closed items.	Department	Annually
# Overdue document reviews	% of Overdue document (Internal or Company Owned) to review	Department	Annually



OE Element No. 9

Information & Document Management

Current, accurate, complete, and timely information is essential for effectively managing our diverse operations

OPERATIONAL EXCELLENCE MANAGEMENT SYSTEM

Process # OE – 9.1 Communication of Information Note: This process is “Mandatory” and addresses expectation: <ul style="list-style-type: none"> • Communication of Information (enabling element # 9) 	Process Owner: To be defined by Organization	Issue Date: MM/DD/YYYY
		Revision: 03

Process Steps



Process Steps Details

<ul style="list-style-type: none"> • Identify the information to be communicated (i.e., reports, letters, conference calls, alerts, etc.). • Classify information type (external/internal). • Classify sensitivity of information. 	<ul style="list-style-type: none"> • Develop Communication Matrix for internal and external communication which include: <ul style="list-style-type: none"> • Information type. • Receivers. • Senders. • Communication tools. • Frequency of communications. 	<ul style="list-style-type: none"> • Implement communication process. • Assess communication effectiveness. • Adjust Communication Matrix as applicable.
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Responsibilities

Department Head/ Division Head	Department Head/ Division Head / Unit Head	Department Head/ Division Head / Unit Head
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References

<ul style="list-style-type: none"> • GI 0710_002 Classification and Handling of Sensitive Information. • GI 710.012 Dealing with Communicated Threats and Suspect items. • GI 850.006 Review and Approval of Information for Public Release. • GI 887,001 Communications With Non-Saudi Aramco Agencies (External Communication). 	<ul style="list-style-type: none"> • Organization Internal Procedure. • SMS Element 3, Expectation 3 – Safety Meeting Process. 	<ul style="list-style-type: none"> • GI 299.225 Cybersecurity Acceptable Use Policy.
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Performance Measures

<ul style="list-style-type: none"> • % Communication Effectiveness

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1. EXPECTATIONS
2. RESPONSIBILITIES
3. PROCESS STEPS
4. PERFORMANCE MEASURE

1. EXPECTATIONS:

This process will provide guideline for Organizations to:

- Identify the information that needs to be communicated.
- Identify information recipients, communicating entity, time frame.
- Means of communication.
- Metrics for measuring communication effectiveness.

2. RESPONSIBILITIES:

2.1. DEPARTMENT HEAD:

- 2.1.1. Establish Organization Communication Matrix
- 2.1.2. Monitor Communication Matrix implementation.
- 2.1.3. Maintain information confidentiality and sensitivity.

2.2. DIVISION HEAD/ UNIT HEAD:

- 2.2.1. Develop Communication Matrix for his Division/ Unit.
- 2.2.2. Review and update the Communication Matrix.
- 2.2.3. Measure communication effectiveness.
- 2.2.4. Conduct feedback surveys for further communication improvement.

3. PROCESS STEPS:

The following is the overall process developed to meet the intent of the OE expectation described above:



The following subsections will describe each step of the process in details:

3.1. Identify Information:

The Organization should identify the information to be communicated through the following steps:

3.1.1. Identify information type:

- The Organization shall identify the information to be communicated, e.g., reports, letters, conference calls, alerts, etc.

3.1.2. Classify information:

Classify information depending on whom it will be shared with as follows:

- External information: Information shared with community, contractors, customers, and government agencies and shall be handled in accordance to GI 887.001 Communication with Non-Saudi Aramco Agencies (External Communication) and GI 850.006 Review and Approval of Information for Public Release.
- Internal information: Information shared within SA Organizations and with Company employees.

3.1.3. Classify sensitivity of information:

Categorize the sensitivity level of the information as per GI 0710_002 Classification and Handling of Sensitive Information. Information sensitivity classifications include:

- **Public information** is information intended for general distribution inside and outside the Company.
- **Company General Use information** is information that may be distributed outside the Company with prior approval.
- **Restricted information** where access and usage is limited to authorized Company employees and some consultants/ contractors with prior preapproval.
- **Confidential information** is only accessible to a limited number of Company employees on a need-to-know basis with prior preapproval.
- **Government Confidential information** is information which has been identified by Saudi Aramco Affairs, Industrial Security or other Company Organizations, as important to interests or security of the Kingdom and which requires special attention to prevent unauthorized disclosure.

3.2. Develop and Update Communication Matrix:

The Organization's Communication Matrix shall be developed through the following steps:

3.2.1. Develop Communication Matrix:

Communication Matrix shall be developed by the Organization for internal and external communications. The Communication Matrix shall at minimum include:

- Information type.
- Information classification.
- Information sensitivity.
- Information receivers.
- Information senders.
- Communication means or tools.
- Frequency of communication.

3.3. Deploy and Measure Communication Effectiveness:

Organizations shall deploy, review and measure the effectiveness of the communication by the following steps:

3.3.1. Implement communication process.

3.3.2. Measure communication effectiveness.

- Establish KPIs for measuring communication information effectiveness. The KPIs can be internally developed using OE-12.4 “Performance Monitoring”.
- Measure effectiveness periodically using the selected KPIs.

3.3.3. Update Communication Matrix and enhance communication plans to improve KPI results.

4. PERFORMANCE MEASURE:

Below table provides measurement KPIs:

Performance Measures	Formula	Source	Frequency
% Communication Effectiveness	<ol style="list-style-type: none"> 1. # of Internal Compliance Review Findings on the implementation of the Communication Matrix. 2. % of Information communicated/ the total number of information in the communication matrix 	Organization	Annual

OPERATIONAL EXCELLENCE MANAGEMENT SYSTEM

Process # OE – 9.2 Data Protection Program (DPP)

Process Owner:
To be defined by
Organization

Issue Date:
MM/DD/YYYY

Note: This process is “Mandatory” and addresses expectation:
Communication of Information (enabling element # 9)

Revision:
00

Process Steps

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graph LR
    A[Plan DPP] --> B[Execute & Manage DPP]
    B --> C[Review DPP]
    C --> D[Adjust DPP]

```

Plan DPP

Execute & Manage DPP

Review DPP

Adjust DPP

Process Steps Details

<ul style="list-style-type: none"> Sign the DPP Internal Policy Form DPP team Define scope of the DPP Customize the DPP Manual Plan and prepare for DPP functions 	<ul style="list-style-type: none"> Implement & manage DPP functions Implement the risk treatment controls 	<ul style="list-style-type: none"> Conduct compliance checks Conduct DPP Reviews Check DPP performance Capture lessons learned Identify opportunities for improvements 	<ul style="list-style-type: none"> Incorporate lessons learned Take corrective and preventive action Update DPP based on improvement opportunities identified
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Responsibilities

Department Head / ISA

ISA

Department Head / ISA / Compliance Team Members

ISA

References

- | | |
|--|---|
| <ul style="list-style-type: none"> Data Protection and Retention Policy (INT-7) DPP Manager Handbook | <ul style="list-style-type: none"> DPP Implementation Handbook |
|--|---|

Performance Measures

- | |
|--|
| <ul style="list-style-type: none"> Data Protection Program Maturity Level Completion of Information Protection (IP) Essential Course Percentage of Phishing Emails Reported Number of Information Security Observations Reported by Staff Rate of Compliance Management |
|--|

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1. EXPECTATIONS
2. RESPONSIBILITIES
3. PROCESS STEPS
4. PERFORMANCE MEASURE

1. EXPECTATIONS:

The process aims to maintain the required level of data protection within the Organization by implementing the Data Protection Program (DPP).

2. RESPONSIBILITIES:

2.1. DEPARTMENT HEAD:

- 2.1.1. Act as the key sponsor of overall DPP in the respective organization (Policy INT-7).
- 2.1.2. Review, enforce, and ensure implementation of Data Protection Internal Policy.
- 2.1.3. Appoint DPP Lead.
- 2.1.4. Appoint ISA & Assistant ISA to execute and manage the program.
- 2.1.5. Ensure explicit assignment of Data Protection roles and their associated responsibilities, providing necessary resources required (such as human resources, tools and equipment, training and awareness, Statement of Applicability (SOA), authorization and access of applications, and so on).
- 2.1.6. Ensure that employees, contractors and external party users adhere to the established policies and procedures of the organization.
- 2.1.7. Review status and results of DPP on regular basis.
- 2.1.8. Authorize new information processing facilities or changes to existing facilities and organization within a department, and consulting with ISA if these affect DPP, such as:
 - Site (Information Processing/Storage).
 - Hardware (Information Processing/Storage).
 - Software.
 - Organizational Changes.

2.2. DEPARTMENT ISA:

- 2.2.1. Responsible for the execution and management of all Data Protection elements.
- 2.2.2. Reports performance results and status to the Department Head as per GI 0710.015: Information Security Analyst Program.

2.3. COMPLIANCE TEAM MEMBERS:

- 2.3.1. The members of this team are appointed by the Department Head, and these members are not involved in implementing and managing the DPP.
- 2.3.2. Plan and conduct data protection internal compliance checks across the organization on a defined regular interval and document findings.
- 2.3.3. Follow-up on the findings and make sure that all noncompliance issues are addressed.

3. PROCESS STEPS:

The following process is developed to meet the intent of the OE expectation described above.



The following subsections will describe each step of the process, for further details refer to DPP Implementation Handbook:

3.1. Plan DPP:

3.1.1. Sign DPP Internal Policy

- Internal data protection policies should be aligned with INT-7 (Data Protection and Retention Policy) and GI-299.223 (Saudi Aramco Information Protection Management).
- By signing the policy, Department Head is responsible for enforcing the Data Protection Internal Policy to state the commitment to implementing DPP across the organization.

3.1.2. Form DPP team

- Champion
- Project Lead
- Primary & Assistant ISA (To execute later)
- SMEs

3.1.3. Define scope of the DPP:

- The organization must define the scope and strategy to implement the DPP. This includes defining the necessary framework (resources, locations covered, dependent organizations as well as roles and responsibilities).
- The implementation scope is established for the DPP using the “Scope of Data Protection Program Template”.

3.1.4. Customize the DPP Manual:

- Consider the specific needs of the organization, the resources and the DPP requirements to customize the DPP manual. This includes, but not limited to, identifying the team members such as the management forum, the compliance team, the awareness team, etc.
- This is in addition to identifying the frequency of conducting particular functions such as the compliance checks/walkthroughs, access reviews, awareness, etc.
- The DPP Manual can be customized using both the DPP Sample & Template which can be found at DPP.aramco.com.sa

3.1.5. Plan and prepare for DPP Functions:

- The organization may use the available resources/templates at DPP.aramco.com.sa to plan for DPP functions which are:
 - Information Asset Management & Risk Management (refer to Information Asset Inventory).
 - Data Protection Awareness.
 - Reporting Information Security Observations.
 - Access Control & Access Reviews.
 - Data Backup and Retention.
 - Business Continuity Planning.
 - Software Management.
 - Data Protection Reviews.
 - Compliance Management.
 - Corrective and Preventive Action.
 - Physical Security.
 - External 3rd Party Security.

3.2. Execute and Manage DPP:

3.2.1. Implement & manage DPP functions:

- The organization must implement and manage the below DPP functions for ongoing operations:
 - Data Protection Awareness.
 - Reporting Information Security Observations.
 - Access Control & Access Reviews.

- Data Backup and Retention.
- Business Continuity Planning.
- Software Management.
- Data Protection Reviews.
- Compliance Management.
- Corrective and Preventive Action.
- Physical Security.
- External 3rd Party Security.

3.2.2. Implement the risk treatment controls:

- The organization must ensure that respective controls are implemented to decrease the impact and probability of the risks associated with information assets.

3.3. Review / Check DPP:

3.3.1. Conduct compliance check:

- The organization must conduct Data Protection Internal Compliance Checks and External Compliance Checks to verify the level of awareness, compliance, and effectiveness of implemented DPP processes and information asset controls through periodic checks.

3.3.2. Conduct DPP reviews:

- The organization may conduct frequent overall reviews to the systems available. These DPP reviews aim to assess the completeness and compliance against critical functions and implement controls of DPP. For instance, conducting the access reviews which are carried out to make sure that logical access to information is controlled on the basis of business requirements.

3.3.3. Check DPP performance:

- DPP performance checks should be conducted frequently and reported to the management. This is to provide the management with an insight to the implementation, adequacy and the effectiveness of the DPP.

3.3.4. Capture lessons learned:

- The organization may identify the lessons learned by identifying the comments and recommendations that could be valuable for DPP implementation. Then document

and analyze them for evaluation in an attempt to enhance the implementation of DPP within the organization.

3.3.5. Identify opportunities for improvements:

- Based on the ISA team and management reviews of the results and status, the organization may identify opportunities for improvement and the need for changes, if any.

3.4. Adjust DPP:

3.4.1. Incorporate lessons learned:

- The organization may apply the lessons learned identified in the DPP review stage. This is to bring together any insights gained during the implementation of DPP that can be usefully applied to further enhance the organization's DPP implementation.

3.4.2. Take corrective and preventive action:

- Corrective and Preventive Actions are being taken to resolve any IP problem, prevent its recurrence, or to prevent it before it occurs.
- The organization must ensure that necessary corrective actions endorsed by department management are taken against the problem being reported. This is to prevent issues from re-occurring in the future or potential issues / problems from occurring.

3.4.3. Update DPP based on improvement opportunities identified.

- Ensure reflecting the updates to the DPP Manual in the annual cycle of updates along with all DPP functions and the correlated DPP plans including the following:
 - Information Asset Management & Risk Management (refer to Information Asset Inventory).
 - Data Protection Awareness.
 - Reporting Information Security Observations.
 - Access Control & Access Reviews.
 - Data Backup and Retention.
 - Business Continuity Planning.
 - Software Management.
 - Data Protection Reviews.
 - Compliance Management.

- Corrective and Preventive Action.
- Physical Security.
- External 3rd Party Security.

4. PERFORMANCE MEASURE:

Below table provides measurement KPIs for Data Protection:

Performance Measures	Formula	Source	Frequency
Data Protection Program Maturity Level	Refer to DPP Maturity Level at Data Protection Program webpage: DPP.aramco.com.sa	ISA Dashboard	Annually
Completion of Information Protection (IP) Essential Course	Refer to ISA dashboard for the completion rate of IP essential course	ISA Dashboard	Annually
Percentage of Phishing Emails Reported	(Number of phishing emails reported / Overall number of employees in the phishing test result) * 100	ISA Dashboard	Monthly
Number of Information Security Observations Reported by Staff	The total number of Information Security Observations Reported	ISA Dashboard	Quarterly
Rate of Compliance Management	(Number of compliance checks, walkthroughs and access reviews conducted / Number of compliance checks, walkthroughs and access reviews required) * 100	ISA Dashboard	Annually
Data Protection Program Maturity Level	Refer to DPP Maturity Level at Data Protection Program webpage: DPP.aramco.com.sa	ISA Dashboard	Annually



OE Element No. 10

Management of Change

Sound Management of Change is essential for achieving desired benefits while minimizing negative impact and adverse consequences of changes. Management of Change shall be applied for changes in operations, procedures, technology, and organizations.

Important Clarification:

- The Management of Change (MOC) process described in the following document is fairly typical and predominantly focuses upon identifying the change and how to manage it. Whilst, MOC is applicable to all scenarios, on occasion there is the need to apply additional “Change Management” activities and tools to help with communicating and embedding a change. In these scenarios, the “Change Management” process and tools should be reviewed for use.
- OE Element 10.1 covers the MOC process. The following are typical examples:
 - Technical change at a facility. This could be minor (e.g. replace a valve with different type of valve) or major (adding a new process to a refinery).
 - Office based changes – Movement of offices or changes in office layout.
 - Document changes – Newly established or updates to existing documents (Policy, manuals, procedures, instructions etc.).
 - Organizational changes – e.g. revising the organizational structure, number of job holders etc.

Appendix I: Introduces the “Change Management” process and tools to help with communication and embedding of a change. The following are typical examples for when these tools should be applied:

- Employees introduced to a new IT system.
- Introducing a new corporate program.

OE recommends a comprehensive approach to change utilizing both MOC and Change Management.

OPERATIONAL EXCELLENCE MANAGEMENT SYSTEM

Process # OE – 10.1 Management of Change (MOC)

Process Owner:
To be defined by Organization

Issue Date:
MM/DD/YYYY

Note: This process is “Mandatory” and addresses expectation:

- Management of Change (Enabling Element # 10)

Revision:
Rev. 05

Process Steps



Process Step Details

<ul style="list-style-type: none"> • Identify the change, (e.g. changes to process technology, material, equipment, procedures, facilities, buildings or organizations set-up). • Provide brief Justification. • Identify Type of Change (Temporary or Permanent). 	<ul style="list-style-type: none"> • Obtain preliminary approval. • Initiate MOC Form: <ul style="list-style-type: none"> ○ Attach relevant documents. ○ Submit to MOC Coordinator. ○ Review MOC. 	<ul style="list-style-type: none"> • Change Review Team (CRT) to review the idea for the change with respect to: <ul style="list-style-type: none"> ○ Safety. ○ Basis for change. ○ Benefits. ○ Feasibility. • Assign Change Design Team (CDT). 	<ul style="list-style-type: none"> • CDT develops the change idea. • CDT performs relevant risk assessments to determine the risks with the change as well as plan for the implementation to be as risk free as possible. • CDT develop plans to manage change. 	<ul style="list-style-type: none"> • CDT present the change to the CRT. • CRT determine if the change is designed and risk assessed sufficiently to approve for proceeding to implementation. • Approvals for implementation. • Execute the plans for change (communication, training, document updates, etc.). 	<ul style="list-style-type: none"> • Execute plan for change requirements • Complete and update all documents related to MOC. • MOC Coordinator recommends to Division Head to close MOC. • Approve MOC closure by Division Head. • Evaluate the effectiveness of the change and adjust where necessary.
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Responsibilities

Change Originator	Change Originator / Change Originator Supervisor	MOC Coordinator / Change Review Team	Change Design Team / Implementation Agency	Change Design Team / Change Review Team / Implementation Agency	Change Design Team / MOC Coordinator / Training Coordinator /
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References

<ul style="list-style-type: none"> • SMG 05-001-2017 Safety Management Guide. • SMS Element 5, Asset Integrity, Management of Change. • SMS Element 2, Risk Assessment and Management 	<ul style="list-style-type: none"> • GI 2.710 “Mechanical Completion and Performance Acceptance of Facilities.” • SMG-05-001-2006 Safety Management Guide. Change Management Appendix I
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Performance Measures

<ul style="list-style-type: none"> • Pre-Start Up Safety Review (PSSR) • Extended Temporary MOCS 	<ul style="list-style-type: none"> • Overdue Temporary MOCS • Overdue MOCS
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- 1. EXPECTATIONS**
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- 4. PERFORMANCE MEASURES**

1. EXPECTATIONS:

This document outlines the Management of Change (MOC) framework at Saudi Aramco that supports planning processes and decision making in the organization and across all levels. It is intended to provide guidance on how the MOC process is performed and how it is to be applied throughout the Company.

This process will provide guidelines to effectively manage permanent and temporary changes based on sound change management principles and practices, including:

- Involvement of all stakeholders (e.g. leadership, experts and others).
- Assessing the impact of the change on the organization, its people and other internal and external stakeholders.
- Proper approval authority.
- Development, tracking, implementation, and close out of change management plans.
- Monitoring and tracking of implementation and expiration of temporary changes.
- Training on, and communication of, changes and change impacts.

2. RESPONSIBILITIES:

2.1. DEPARTMENT HEAD:

2.1.1. Establish a local MOC procedure in line with the Safety Management Guide (SMG) for MOC to manage change effectively. The procedure must include:

- All changes – permanent and temporary.
- Documented in a format to administratively facilitate the processing of change within each facility.
- Be a structured review process.

2.1.2. Assign organization MOC Coordinator, who has thorough knowledge of MOC and its

implications to the organization.

2.1.3. Coordinate with the MOC Coordinator to develop a CRT, who will have the experience, knowledge, and authority to review and approve changes.

2.1.4. Make available the required resources to implement the changes.

2.1.5. Ensure implementation of MOC is audited annually.

2.2. Change Originator:

2.2.1. Identify change.

2.2.2. Identify type of change (Temporary or Permanent).

2.2.3. Identify what the change will affect (impact) and the expected benefits.

2.2.4. Complete a Change Request Form.

2.2.5. Attach related documents.

2.2.6. Discuss the change with supervisor and obtain supervisor's approval. This discussion should be based upon the technical basis of the change, as well as benefits.

2.2.7. Submit Change Request Form and associated documents to MOC Coordinator.

2.3. MOC Coordinator:

2.3.1. Coordinate the MOC process from initiation to completion/closure.

2.3.2. Document receipt of Change Request.

2.3.3. Track all MOC to completion/closure.

2.3.4. Initial validity of the change request (i.e. has it been done or considered in the past).

2.3.5. With the Department Head (CRT Chairman can be delegated for this role) select the CRT.

2.3.6. Coordinates when the Change Review Team meet to review an idea for change.

2.4. Change Review Team (CRT):

2.4.1. Review change request as a conceptual idea in terms of technical basis and also potential impact (e.g. Health, safety, security, environmental, cost, organizational etc.).

Note: The CRT should consult and obtain the concurrence of others, if the change impacts their area.

- 2.4.2. Approve the change to proceed to design stage if it is considered to be suitable or reject idea if considered to be unsuitable. Document reasons for rejecting change ideas.
- 2.4.3. Assign Change Design Team. The CRT can assign the Change Design Team if one has not been assigned so far.
- 2.4.4. After the design stage is complete the CRT review its outcome to determine if the proposed change can proceed to implementation and if so what other actions are also required.
- 2.4.5. Approve change for implementation.

2.5. Change Design Team (CDT):

- 2.5.1. Develop the concept for the change to the point where it can be implemented.
- 2.5.2. Perform required risk assessments.
- 2.5.3. Perform any additional required design studies (e.g., review the technology being suggested and ensure it is the best available technique to be proposed).
- 2.5.4. Develop a plan for change (e.g. implementation; communication; awareness; training, documentation updates etc.).
- 2.5.5. Present completed design to the CRT for approval of implementation, with plan for change.
- 2.5.6. Work with Training Coordinator to develop the training material when required.

2.6. Division Head (note this refers to the originator's Division Head):

- 2.6.1. Verify that MOC steps (e.g. risk assessments and associated actions) have been completed and that MOC is ready for implementation.
- 2.6.2. Final approval for change to be implemented.

Note: Approval for change to be implemented may require escalating should the scope of the change extend beyond the Division Head's remit.

- 2.6.3. Ensure changes are communicated to employees (e.g. through identified actions from plan for change).
- 2.6.4. Approve the MOC for closure.
- 2.6.5. Check if change benefits are realized through analysis, findings, conformance to objectives, etc.

3. PROCESS STEPS:

The following is the overall process developed to meet the intent of the OE expectation described above:



The following subsections describe each step of the process in detail:

3.1. Identify Change:



Identify the change (e.g. changes to process technology, material, equipment, procedures, facilities, buildings or organizations set-up), and the change type as follows:

3.1.1. Identify change type:

- The first step in the MOC process is to identify if there is a change. To help with identifying this, a review against a replacement-in-kind is performed. The definition for a replacement-in-kind is an identical or an equivalent change that would not require any modification to the system or organization structure set-up. A Replacement in Kind does not require MOC and is not covered in this process.
- The basis for the change must also be captured (i.e. why or what is the need for the change).

3.1.2. Provide Justification; Identify priority and describe the required change (Description; Justification; Present Situation; Proposal and Work Scope). Identify stakeholders affected by the change, type of impact.

Note: For major changes a sponsor may be required. A sponsor would be a senior member of staff with overview of organization operations, who has ability to influence change throughout the organization.

3.1.3. Assign a Permanent or Temporary Category:

- The change can be either temporary or permanent as per the below definitions:
 - Temporary Change is implemented with the intent that the change is applied for a fixed duration (e.g. until the next planned facility shutdown or until a date predetermined by the Manager), in conjunction with the MOC Coordinator. Temporary changes that remain in place for longer than six months should be subject to review confirming they meet their intent. Note temporary changes that are in place for longer than 6 months will commonly lead to a permanent change, and must be considered for the full permanent MOC procedure.
 - Permanent Change is one, which once implemented, will be a permanent feature of the design, operation or procedural control of the plant/facility or organization.

3.2. Initiate MOC Request:



The MOC request shall be initiated for any change that meets the requirements of 3.1.2. The following are the steps to be followed to initiate the MOC request:

The change initiation and initial approval shall follow the following steps:

3.2.1. Obtain preliminary approval:

- The change originator discusses the proposal with their supervisor to determine whether the proposed change is a Replacement-In-Kind or requires the utilization of the MOC process and obtain approval.

3.2.2. Initiate Change Request Form:

- Initiate the Change Request Form for processing of the MOC. An example of a Change Request Form can be found in the Appendix of the SMG.

3.2.3. Attach relevant documents:

- Attach all the change related documents that will clearly identify the change purpose such as:
 - Drawings.
 - Data sheets.
 - Organization chart.
 - New program; new or revised procedure etc.

3.2.4. Submit to MOC Coordinator:

- The Change Originator complete and submit the change request form along with the related documents to the MOC coordinator for review and further processing.

3.3. Review MOC Request:

Organizations shall ensure any new change to be reviewed as follows:



3.3.1. Reviews basis of proposed change:

- The change originator presents the idea for the proposed change to the CRT, which should include:
 - A description and purpose of the change.
 - Technical basis for the change.
 - Health, Safety, Security and Environmental considerations.
- The CRT review the basis of the proposed MOC at a high level to determine:
 - The potential impact upon Health, Safety, Security, Environmental, cost, organizational etc.
 - The basis for the change.
 - If the proposed change idea will achieve the intended benefit.
 - If the proposed change is feasible.

Note: The Division Head may take part in the CRT deliberations, in order to determine if they are also satisfied with this change to take place.

- The CRTs first review of the proposed MOC is to determine whether the MOC

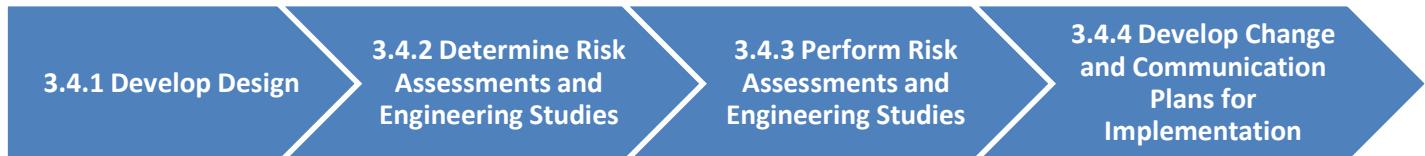
should proceed from the conceptual idea stage to design. The intent of this review is to ensure that the proposed MOC is beneficial to the company at the time of review.

Note: Should the proposed change be agreed to proceed, the CRT may also assign the Change Design Team (CDT) and provide direction to the CDT as to the type of risk assessment or the type of engineering or feasibility study required to be performed.

3.3.2. Document MOC:

- Update the Change Request Form after completing the review by either:
 - Processing the form to proceed to design stage (if CRT recommends the change).
 - Archiving the change form (if CRT does not recommend the change).

3.4. MOC Development:



3.4.1. Develop design:

- The CDT are to develop the design of the proposed change ensuring that they deliver on the original intent.

3.4.2. Determine Risk Assessments and Engineering Studies:

- All proposed changes should be assessed for risks. The CDT need to determine which type of risk assessments (e.g. PHA/ HAZOP etc.) are suitable for the type of change being proposed. The assessment for risk should also consider items which are sometimes not as obvious (e.g. how the proposed change may affect the organization).

Note: Consideration should be given to the implementation phase of the change to ensure hazards are controlled. This may mean that the implementation stage is risk assessed to allow for continued safe operation while the change is taking place.

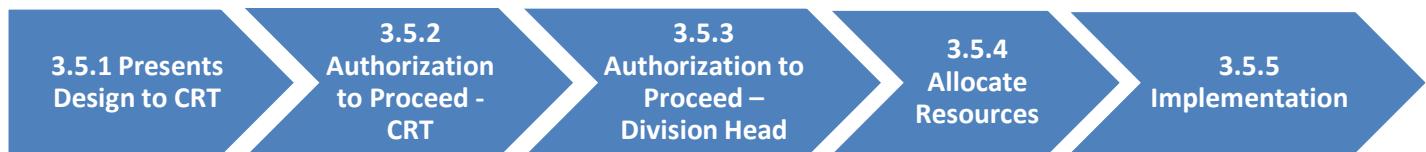
3.4.3. Perform the Risk Assessments and Engineering Studies:

- Perform the risk assessments and engineering studies ensuring that all actions from the risk assessments and engineering studies are addressed.

3.4.4. Develop plans for implementation:

- The CDT develop plans for implementation, which must include the conclusions from the risk assessments and engineering studies performed. The plans should be specific, measurable, achievable, realistic, and time bound (SMART). The implementation plan should also include a communication plan which includes (e.g. types of communication, awareness, training, documentation updates etc.), as applicable to ensure the change is understood and accepted effectively & efficiently.

3.5. Approve & Implement Change:



3.5.1. Present design to CRT:

- At this meeting the CDT presents the design / plan and also the outcomes from risk assessments and engineering studies performed.

Note: In some circumstances more than one option for change may be presented to the CRT.

- CDT prepares the following documentations as applicable prior to the meeting:
 - Cost Estimate.
 - Detailed scope of work/procedure.
 - Detailed schedule.
 - Impact analysis.
 - Manpower requirements.
 - Plan for change (e.g. needed communication; awareness; training, etc.)
 - Documentation updates.

3.5.2. Authorization to proceed – CRT:

- At the presentation of the design / plan the CRT has an opportunity to review and

determine if the design meets the original intent of the proposed change.

Documentation may be sent to the CRT in advance of the meeting for review.

- CRT gives authorization to proceed to implementation.

3.5.3. Authorization to proceed – Division Head:

- With the authorization from the CRT, the CDT can now take the detailed design package to the Division Head for final authorization to implement the change.
- The Division Head has the final authorization to proceed with implementation.

3.5.4. Allocate resources:

- Refer to **OF-6.1 “Financial Resources”** for allocating the required resources to plan and implement the change.

3.5.5. Implementation:

- Carry out the change as per the detailed scope of work. All required safety precautions and measures shall be detailed and followed during implementation such as JSA, heavy lift plan and work permit.

3.6. Document, Update and Close MOC:



3.6.1. Implement plan for change requirements:

- The change will be communicated to all affected personnel. Note: Implementation plan will identify the type of communication required.
- Awareness and Training may be required. Note: Implementation plan will identify the type of awareness and training required. The CDT must liaise with the training coordinator to prepare awareness and training material.
- The training coordinator confirms training completion of those targeted for training.

3.6.2. Update all documents:

- The CDT must have all documentation updated. This may involve liaison with

Drawing Offices, Corporate Entities and SMEs. The CDT must inform the MOC Coordinator when this is complete.

3.6.3. Confirmation of completion:

- The MOC Coordinator verifies that all the design documentation, MOC activities have been completed and updated and that the MOC is ready for closure. Once this verification is complete the MOC Coordinator can recommend to the Division Head that the MOC be closed.

3.6.4. MOC closure:

- Once confirmation that the change is complete and that the documentation and MOC activities have been completed and up to date, then the Division Head approves the MOC closure.

3.6.5. Review MOC after Implementation:

- Evaluate the MOC after implementation to determine if the change is meeting its intent.
- Implement corrective actions for next change and build on lessons learned.
- Document results and share knowledge.

4. PERFORMANCE MEASURES:

The following table provides measurement key performance indicators (KPIs).

Performance Measures	Formula	Source	Frequency
Pre-Start Up Safety Review (PSSR)	No. of PSSR conducted / total no. of implemented changes that require PSSR) * 100	Department	Quarterly
Overdue Temporary MOCs	No. of overdue Temporary MOCs /Total no. of Temporary MOCs) * 100	Department	Quarterly
Extended Temporary MOCs	No. of extended Temporary MOCs with control measures verified /Total no. of Extended Temporary MOCs) * 100	Department	Quarterly
Overdue MOCs	(no. of overdue MOCs /Total no. of MOCs) * 100	Department	Quarterly

*Office based organizations should identify the applicable performance measures, track and monitor as stipulated.

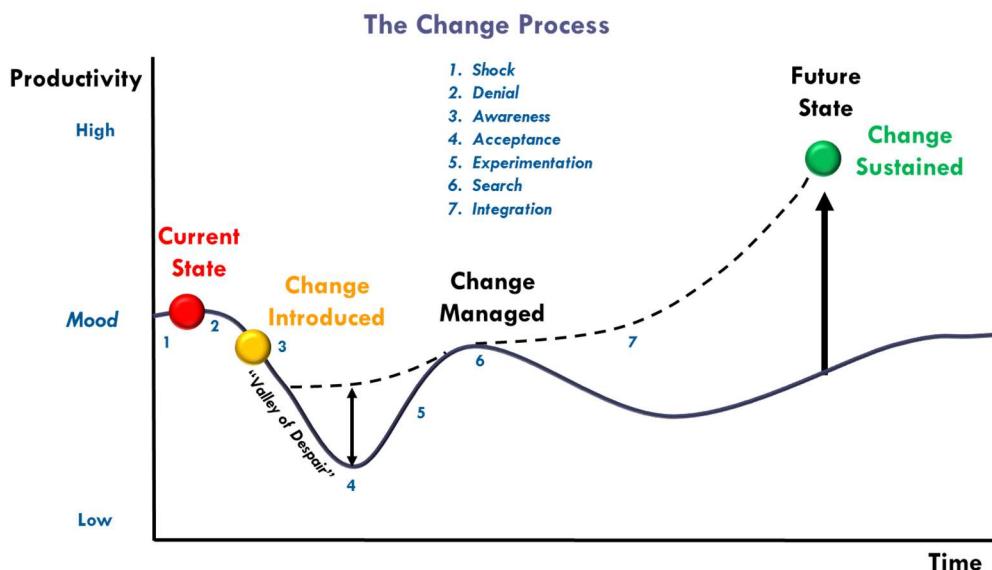
Appendix I: Change Management

What is Change Management?

Change management is a process and a set of tools for leading the people side of change to achieve a desired outcome. Many changes within a corporate setting require change management support to increase buy in, minimize resistance, and speed up implementation. Examples include:

- **Organizational Changes:** the creation of new organizations such as new Saudi Aramco owned companies (subsidiaries, spin-offs, and joint-ventures) or new Admin Areas, departments or divisions within the company.
- **Process Changes:** changes to how a certain process is performed and, changes to who performs which steps within the process.
- **System Changes:** process changes where most or all steps are performed in a new or revised system.

Change only occurs when the people impacted utilize the new ways of working and adopt the behaviors needed to achieve the desired outcome. A system may be designed, built and launched, but only becomes a change when people use that system as it was intended to be used. Employees affected by change (impacted stakeholders) typically go through the change curve displayed below. The purpose of “Change Management” is to minimize productivity losses and keep the time from step 3 to step 6 as short as possible.



Why Implement Change Management?

The following are the three primary benefits of implementing Change Management on a project:

Change Management Return On Investment (ROI)	What does it mean?
Speed of adoption	<p>How quickly do people adopt the change?</p> <ul style="list-style-type: none"><i>Example for OE Process 1.1 – Vision, Mission and Strategies: How long is it taking the organization to translate the mission and vision into reality?</i><i>Typical CM Performance Measure for OE Process 1.1: Time between dissemination of mission and vision to all employees and realization of the mission and vision.</i>
Ultimate utilization	<p>How many people engage in the change?</p> <ul style="list-style-type: none"><i>Example for OE Process 5.1 – Process Management: How many people are using the new optimized processes vs. the old way of performing the same process?</i><i>Typical CM Performance Measure for OE Process 5.1: Number of employees utilizing new organization/process/system compared to old one.</i>
Proficiency	<p>How well are people performing?</p> <ul style="list-style-type: none"><i>Example for OE Process 6.1 – Efficient Resource Utilization: How well is the organization managing and saving money?</i><i>Typical CM Performance Measure for OE Process 6.1: Number of dollars saved for given financial resource.</i>

How to implement “Change Management”?

There are many effective Change Management methodologies that can be used including Kotter’s Eight step Model, PROSCI® ADKAR, among others. However, all of these methodologies share common approaches and themes that are summarized in the table below:

High Level Change Management Implementation Phases

Note: Bold underlined indicates critical path items that must be completed on most projects		
1- Prepare for Change Initial 2-4 weeks on project	2 – Manage Change Most of project lifespan	3 – Reinforce Change Post go live of change
<p>1.1 Assess readiness for change:</p> <ul style="list-style-type: none"> a. <u>Complete Impact Index for comprehensive assessment including Stakeholder Analysis, PROSCI Change Triangle (PCT), etc.</u> b. Assess organizational resistance to project: <ul style="list-style-type: none"> • How much resistance will your project face? • Assess the scope of change (high level) • Assess your organization's readiness for change (quantitative) • Assess your organization's readiness for change (qualitative) c. Assess project and sponsor's readiness: <ul style="list-style-type: none"> • Assess team members' CM readiness 	<p>2.1 Create change management plan:</p> <ul style="list-style-type: none"> a. <u>Fill out the Stakeholder Analysis Tab</u> b. <u>Fill out the Communication Tab</u> c. <u>Fill out the Sponsor Roadmap</u> d. <u>Fill out the Resistance Plan</u> e. Fill out the Training Plan f. Define Risk and Issues Management plan g. Define coaching plan using: <ul style="list-style-type: none"> • Coaching group template • Coaching individual template • Coaching plan template • Coaching training template <p><u>2.2 Ensure there is a steering committee (or alternative</u></p>	<p>3.1 Implement sustaining mechanisms</p> <ul style="list-style-type: none"> a. <u>Disable old processes, systems, etc.</u> b. Create PMP goals to incentivize adoption and use of new processes, systems, policies, etc. c. Update and publish changes to policies, processes, and regulations to the affected stakeholders to formally embed them into new way of working. <p><u>3.2 Monitor and review progress:</u></p> <ul style="list-style-type: none"> a. <u>Create and use feedback assessments</u> b. <u>Present and publish findings as appropriate</u> c. <u>Plan corrective action based on data</u> <p><u>3.3 Celebrate success</u></p>

<ul style="list-style-type: none"> • Assess Primary sponsor's CM competency (quantitative) • Assess Primary sponsor's CM competency (qualitative) <p>1.2 Establish CM Strategy:</p> <ol style="list-style-type: none"> <u>Outline your assessment findings and CM strategy</u> <u>Present assessment findings and CM strategy to project team and sponsor</u> <u>Determine appropriate implementation strategy (pilot, phased/incremental steps, big bang)</u> 	<p><u>governance structure for lower level projects)</u></p> <p>2.3 Identify & train Extended Change Team representing key stakeholders:</p> <ol style="list-style-type: none"> Core team, change champions and/or Change Agents Support leaders to be communicators and coaches <p>2.4 Identify & establish measures for success: Set Key Performance Indicators (KPIs)</p> <p>2.5 Design Materials & Implement Plans</p> <ol style="list-style-type: none"> <u>Design Toolkit (FAQs, flyers, tips and techniques, etc.)</u> <u>Create email circulation lists for announcements</u> <u>Design website (if required)</u> <u>Plan events (road shows, town hall meetings, etc.)</u> 	<ol style="list-style-type: none"> <u>Publish articles e.g. Arabian Sun, Al-Qafilah, etc.</u> <u>Report in weekly highlights, business/operating plan updates and end of year reports</u> <u>Thank team members and recognize individual contributions</u> <u>Encourage sponsor recognition</u> <u>Organize team celebration events</u>
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Who to contact for Change Management Support?

The Organization Consulting Department (OCD) provides “Change Management” consulting services via their Change Management group (OCD-CM). OCD-CM provides the following services:

- CM consulting services. These services are delivered through one or more of the following:
 - OCD-CM coaches personnel from your organization.
 - CM consultants from OCD-CM join your project team.
 - OCD Management Consulting (OCD-CM and the OCD Consultant Management group) work with you to contract external CM consultants to support your project.

- CM workshops.
- Bespoke surveys tailored to your project. These survey enable you to track your progress against your KPIs.

To contact the OCD-CM group, send an email to ***OCD Change Management Group**.



OE Element No. 11
Risk Management

Risk is a future event with the ability to impact the Organization's mission, strategic and business plans, projects, routine operations, processes, objectives, assets, reputation or the delivery of stakeholder expectations. Risk management reduces and controls the impact of undesirable events on all Focus Areas. Applying sound risk-based assessment and management proactively addresses and mitigates business threats.

OPERATIONAL EXCELLENCE MANAGEMENT SYSTEM

Process # OE – 11.1 Risk Management

Note: This process is “Mandatory” and addresses expectation:

- Risk Management (Enabling Element # 11)

Process Owner:
To be defined by
Organization

Issue Date:
MM/DD/YYYY
Revision:
03

Process Steps



Process Steps Details

<ul style="list-style-type: none"> • Assign Risk Management (RM) Administrator • Identify relevant Department objectives • Understand internal and external context • Prepare Risk Management implementation plan 	<ul style="list-style-type: none"> • Identify risks to Dept. objectives • Articulate risks, including causes and consequences 	<ul style="list-style-type: none"> • Identify existing controls • Evaluate effectiveness of controls • Analyze risk consequence and likelihood using ERM Risk Assessment Matrix (RAM) • Assign Risk Owner and Coordinator 	<ul style="list-style-type: none"> • Determine objective and strategy for managing the risk 	<ul style="list-style-type: none"> • Develop treatment plan • Assign treatment plan actions and dates • Implement treatment plan 	<ul style="list-style-type: none"> • Define and execute monitoring plan for each risk • Define and execute a monitoring and review plan for risk management process • Provide reporting as appropriate
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Responsibilities

Department Head, RM Administrator	Department Head, RM Administrator	Risk Owners, Risk Champions, Risk Coordinators	Department Head, Risk Owners, Risk Coordinators	Department Head, Risk Owners, Risk Coordinator	Department Head, RM Administrator, Risk Owners, Risk Coordinators
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References

<ul style="list-style-type: none"> • Risk Management Corporate Policy (CP11) • GI 0020.002 Enterprise Risk Management • Business Plan Instructions and templates; Mid-Year and Year-End Accountability Instructions and templates; 	<ul style="list-style-type: none"> • ERM Risk Register standard tool and associated templates. • Risk Management Process User Guide • Risk Assessment Matrix
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Performance Measures

<ul style="list-style-type: none"> • Risk Management Plan activities not completed on time • Analysis • Evaluate and Treat • Proportion of overdue treatment actions 	<ul style="list-style-type: none"> • Proportion of risk with monitoring plan in place • OE 11.1 process KPI report • OE 11.1 Adjust: Annual Process Review • OE 11.1 Process Adjust Action Plan progress
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1. EXPECTATIONS
2. RESPONSIBILITIES
3. PROCESS STEPS
4. PERFORMANCE MEASURES

1. EXPECTATIONS:

Department-level risk management is a key building block of the Saudi Aramco's Enterprise Risk Management (ERM) framework. This document outlines the minimum expectations for a Department's alignment with the Enterprise Risk Management (ERM) Policy Statement (INT-13). It summarizes the Risk Management Process developed by the corporate ERM group, and should be applied to all ERM-led activities including the annual Business Planning risk assessment, management of Top Corporate Risks, and proposals brought before the Management Committee. Its use is also encouraged in other applicable business and decision-making contexts.

The Risk Management Process is intended to complement specialist risk management disciplines and processes that already operate in the Company, such as the Safety Management System (SMS), process hazards analysis, project risk management, financial risk management, information security risk management, etc.

2. RESPONSIBILITIES:

The following functional descriptions refer to the main responsibilities related to Department risk management activities. There are two types of responsibilities:

- (i) Execution of the Department's overall risk management framework
- (ii) Management of specific risks owned by the Department

Overall Department risk management framework

2.1. DEPARTMENT HEAD/RISK OWNER:

The Department Head is responsible for:

- Effective execution of the risk management framework and processes in accordance with Company policy and guidance;
- Providing visible risk leadership, promoting risk awareness, and communicating the value of risk management within the organization, project or initiative;
- Providing advice and guidance on the identification and management of Dept. risks, and approving strategies and plans for managing these risks
- Allocating sufficient resources are available to manage the risks.

2.2. RISK MANAGEMENT ADMINISTRATOR:

Appointed by the Department Head, the Risk Management Administrator is responsible for:

- Coordinating execution of the entity's overall risk management framework and processes;
- Providing a central point of contact for communications between the entity and the various risk management functions and stakeholders across the Company; and
- Ensuring that risk management activities, including monitoring, review and reporting, are performed on a timely basis.

Management of specific Department risks

2.3. RISK CHAMPIONS:

For risks to Department objectives, the Risk Owner will, by default, be the Department Head. The Risk Owner may appoint one or more Risk Champions to assist him/her in his oversight and managerial responsibility for that risk.

The Risk Champion responsibilities include ensuring that:

- The risk has been appropriately defined, articulated and analyzed.
- Sufficient and appropriate resources (including the appointment of a Risk Coordinator) are allocated so that the identified risk can be managed effectively.
- Actions for the treatment of the risk are assigned and completed in a timely manner.
- Ensure information pertaining to the risk is relevant, up-to-date, and appropriately reported.

2.4. RISK COORDINATORS:

The Risk Coordinator supports the Risk Owner or Champion through facilitation and coordination of activities related to a specific risk. The role is not to be confused with the Risk Management Administrator, who coordinates the Department's overall risk management framework and activities.

- Facilitate and coordinate risk management process activities for a specific risk on behalf of the Risk Owner/Champion.

2.5. ALL RELEVANT DEPARTMENT PERSONNEL:

- Participate in the risk identification, analysis, evaluation of any existing controls, treatment and monitoring as requested by the Risk Owner/Champions and Risk Coordinators.

3. PROCESS STEPS:

The following process is developed to meet OE expectations as described above.



Details on the process and associated requirements, along with relevant tools and guidance, are included in the Risk Management Process User Guide available at:

<https://sharek.aramco.com.sa/Orgs/30026205/erm/Pages/ERM%20Home.aspx>

The Risk Management Process User Guide include general requirements and guidance for the application of Risk Management in most context. Below are requirements specific to OE 11.1 Risk Management implementation in a Department.

3.1. Establish Context:



3.1.1. Appoint Risk Management Administrator:

Ensure that the context of the risk management activities is fully understood, including external and internal factors.

3.1.2. Identify relevant Department objectives:

Identify and articulate the Department's business objectives that will form the basis of the risk assessment.

3.1.3. Articulate roles and responsibilities:

Identify the individuals responsible to lead and support risk management activities, including the Risk Management Administrator and relevant stakeholders.

3.1.4. Document Risk Management Plan:

Prepare Risk Management Plan, as appropriate: purpose and scope of the exercise; business objectives; key roles and responsibilities; and activity schedule.

3.2. Identify Risks:

The purpose of risk identification is to generate an inventory of risks that could significantly affect the achievement of objectives.

3.2.1 Identify Risks to Business Objectives

3.2.2 Articulate risks

Identify risks to business objectives:

Identify risks to the business objectives articulated in 3.1 above using appropriate techniques, such as workshops, interviews, and surveys. Consider all risk types:

strategic, operational, compliance, and financial. For each risk, identify possible causes and potential consequences.

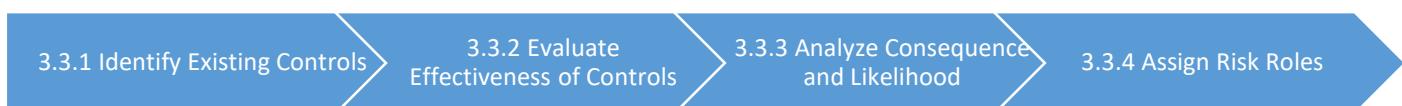
3.2.1. Articulate risks:

Carefully articulate the identified risks using clear concise and descriptive language that conveys the risk event(s), the cause(s) and the consequence(s) (see Six-Step process User Guide).

- Systematically assess and evaluate risks associated with existing facilities and operations as well as modifications and future development.
- Manage unacceptable risks using proper measures to reduce and control them.
- Ensure that all documentation related to hazard identification, risk assessment, and risk management is complete, up-to-date, and easily retrievable.
- Initiate and sustain communication of risks with managers, employees, and contractors.
- Regularly review risk management processes to ensure goals and targets are well-defined, processes are functioning properly, and measures are identified for continuous improvement

3.3. Analyze Risks:

Risk analysis requires the controls related to a risk to be identified and their effectiveness assessed. It also requires the consequence and likelihood of occurrence of the risk to be assessed for the purpose of prioritizing risk and their treatment.



3.3.1. Identify existing controls:

Identify the formal controls currently in place to reduce the likelihood and/or consequence of the risk event.

3.3.2. Evaluate control effectiveness:

Rate the overall effectiveness of the controls using the Control Assessment Criteria (Six-Step Risk Management Process).

3.3.3. Analyze consequence and likelihood:

- (i) Analyze the potential consequence of the risk event occurring based on a “credible worst case scenario”. Rate the consequence by reference to the Risk Assessment Matrix (RAM).
- (ii) Analyze the likelihood of the defined credible worst case scenario occurring and assign a rating by reference to the RAM.
- (iii) Identify the risk’s severity by reference to the Heat Map.

3.3.4. Assign risk roles and responsibilities:

Assign roles and responsibilities associated with specific risks, including Risk Owner, Risk Champion (optional), and Risk Coordinator.

3.4. Evaluate Risks:

Risk evaluation is about identifying the objective for the risk, and then devising a strategy to achieve it.

3.4.1. Determine Risk Objective and Strategy

3.4.1. Determine Risk objective and strategy:

Decide the Department's objective in terms of managing the risk and how that will be achieved (accept, reduce, eliminate, etc.), taking into account risk appetite, control effectiveness, manageability of the risk, and cost/benefit.

3.5. Treat Risks:

Risk treatment is about developing and implementing an action plan to achieve the objectives and strategy defined in risk evaluation.

3.5.1 Develop Treatment Plan

3.5.2 Assign Treatment Plan Actions and Dates

3.5.3 Implement Treatment Plan

3.5.1. Develop treatment plan:

Prepare a detailed treatment plan for the risk that specifies the actions to be taken in support of the strategy, how they will be implemented, when, and by whom. The treatment plan actions should be “SMART”.

3.5.2. Assign treatment plan actions and dates:

Once approved, the treatment plan should be implemented, actions should be assigned to action owners with deadlines and should be accompanied by action tracking and review.

3.5.3. Implement treatment plan:

Once approved, the treatment plan should be implemented, accompanied by action tracking and review.

3.6. Monitor, Review and Report:

3.6.1. Monitor and Review Individual Risks:

Define responsibilities and schedule for the periodic re-application of Six-Step Process activities. Each risk should have review and action dates that require monitoring. Monitoring and review should be scheduled activities that occur monthly, quarterly,

semi-annually, or (as a minimum) annually depending on the nature and severity of the risk. Monitoring and review should also happen whenever there has been a significant change in the external or internal context of a risk.

3.6.2. Monitoring and Review of RM Process:

The Department should, at least annually:

- Define or review indicators that measure risk management performance;
- Measure progress against, and deviation from, the risk management framework;
- Periodically review whether the risk management processes are still appropriate; and
- Report on progress with the risk management plan, and how well the risk management plan is being followed.

3.6.3. Risk Reporting:

Risk reporting should be concise and capture the important information and trends relevant to management's needs. In addition to department internal business process and reporting, risk management information will need to be included in various Company reporting processes, as defined in relevant instructions, e.g., Business Planning Instructions, Mid-Year Accountability Reporting, etc.).**Risk Management Plan:**

The Risk Management Plan should include key deliverables, milestones and responsibilities to implement and maintain risk management in the Department.

Mandatory: The Risk Management Plan should include as a minimum the following annual milestones:

- Business Plan, Mid-Year and Year-End risk management submissions:
 - Risk management submission requirements are communicated through relevant Admin Area instructions.
 - Dept. risk management plan shall be timed to ensure the Department submits required risk information for these corporate processes in a timely manner.
- OE 11.1 Process KPI reporting milestones:
 - Process KPIs have to be collected and reported to the Department Head at least once a year
- Annual OE 11.1 Process Effectiveness review with Department Head as part of the Check and Adjust elements of OE 11.1 implementation

Recommended: The following milestones are recommended for inclusion into the annual Risk Management Plan:

- Periodic review, follow up and update of risk register (recommended frequency: Quarterly)
- Integration of risk register review as part of Performance Dialogue and MIS (Quarterly Management Information Report)
- Inclusion of risk management activities for major Department initiatives or projects.

3.7. Specialist Risk Management Systems:

Specialist risk management systems (e.g.: SMS, AIMS, IT Security) focus on specific risk categories or areas. OE 11.1 does not intend to replace but to complement these systems with the objective of supporting a Dept. level operation of these specialist risk management systems.

The linkage of the specialized risk register aim to provide 2 benefits:

- Provide a complete view of the significant risk exposures to Department objectives.
- Provide Dept. management with a platform to support direct and effective supervision of the specialist risk management systems.

These systems may include their own risk registers. The risks contained in these registers maybe sufficiently significant, either individually or in aggregate, to warrant inclusion in the Dept. OE 11.1 Risk register:

These specialist risk registers will be each reflected through a single risk item in the OE 11.1 risk register

- Key risks of the specialist risk register, either individually (e.g. a significant H2S release risk from a particular asset) or in aggregate (e.g. H2S release from group of asset or production processes, personnel exposure to H2S) risk register will be translated into relevant causes and consequences.
- The existing controls will include the relevant specialized risk management system.

3.8. Linkage with OE Enablers:

Whenever possible, efforts should be made to explicitly link or reference controls and treatment plans activities of OE 11.1 risk register with the relevant OE Enablers.

- Relevant OE Enablers stakeholders should be formally engaged

- Treatment objectives and actions should be reflected whenever possible in objectives or deliverables for the relevant OE Enablers

4. PERFORMANCE MEASURE:

The following table provides a list of possible performance measures that may be used to monitor risk management application. The proposed KPI can be used as described or combined into combined KPIs.

Performance Measures	Formula	Source	Frequency
Risk Management Plan activities not completed on time	Proportion of Annual Risk Management Plan Activities not completed on time or as scheduled	Organization	Quarterly
Analysis	Proportion of Dept. risks with step 3 analysis completed and reviewed by Department Head	Organization	Quarterly or Lower
Evaluate and Treat	Proportion of Dept. risks with Step 4(Evaluate) and 5 (Treat) completed, reviewed and approved by Department Head	Organization	Quarterly or Lower
Proportion of overdue treatment actions	Proportion of treatment actions overdue by more than 1 month.	Organization	Quarterly or Lower
Proportion of risk with monitoring plan in place	Proportion of Dept. risks with monitoring plan developed, reviewed and approved by Dept. Head and implemented	Organization	Quarterly or Lower
Risk Champions & Coordinators	Number of Dept. risks with risk Owner/champion and Risk Coordinator appointed	Organization	Quarterly
Proportion of Risk Management Administrator and Risk Coordinator trained on ERM methodology	Proportion of Dept. Risk Management Administrator and Risk Coordinators trained on ERM Methodology	Organization	Annually
OE 11.1 process KPI reports	Planned OE 11.1 Process KPI reports and related analysis generated and communicated to Dept. Head.	Organization	Quarterly

Performance Measures	Formula	Source	Frequency
OE 11.1 Adjust: Annual OE 11.1 process review	Annual OE 11.1 process review completed/done at least once a year	Organization	Annually
OE 11.1 Process Adjust Action Plan progress	OE 11.1 Adjust Actions completed	Organization	Quarterly

OPERATIONAL EXCELLENCE MANAGEMENT SYSTEM

Process # OE – 11.2 Business Continuity Management (BCM)

Note: This process is “Mandatory” and addresses expectation:

- Business Continuity Management (Enabling Element # 11)

Process Owner:
To be defined by
Organization

Issue Date:
MM/DD/YYYY
Revision:
04

Process Steps



Process Steps Details

<ul style="list-style-type: none"> • Appoint Business Continuity Coordinator (BCC) • Appoint Subject Matter Experts (SMEs) • Develop BC proficiencies • Determine the scope of BC Program • Define BC Program schedule • Milestone checkpoint 	<ul style="list-style-type: none"> • Identify main processes • Conduct Business Impact Analysis (BIA) • Conduct Threat Evaluation / Risk Assessment • Identify minimum resource requirements for critical processes • Create and Evaluate recovery profiles • Milestone checkpoint 	<ul style="list-style-type: none"> • Identify suitable strategy options • Analyze the strategy options for effectiveness and cost • Provide management with an evaluation of strategy options and recommendations • Milestone checkpoint 	<ul style="list-style-type: none"> • Develop BCP • Train employees • Implement BC strategies • Review and analyze BCP with stakeholders • Obtain management approval 	<ul style="list-style-type: none"> • Develop BC exercise/drill • Conduct BC exercise/drill • Generate post-exercise report • Milestone checkpoint 	<ul style="list-style-type: none"> • Determine areas for improvement • Update BCP • Develop a schedule for next cycle • Sign-off and communicate to stakeholders
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Responsibilities

Department Head, BCC, SMEs	BCC, SMEs	Department Head, BCC, SMEs, Supporting Organizations	BCC, SMEs, Supporting Organizations	BCC, SMEs	Department Head, BCC
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References

<ul style="list-style-type: none"> • BC Guide • BC Gantt Chart • RRT Guide • Recovery Requirements Tool (RRT) 	<ul style="list-style-type: none"> • Business Continuity Plan (BCP) Template • Contingency Plans • Emergency Response Plans
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Performance Measures

<ul style="list-style-type: none"> • Management Update on BC Program Status by Utilizing BC Gap Assessment Tool • BC Program Maintenance (Steps 1 to 4 are reviewed and updated) 	<ul style="list-style-type: none"> • BC Exercise/ Drill • BCP Reviews and Updates Post-Exercise
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1. EXPECTATIONS
2. RESPONSIBILITIES
3. PROCESS STEPS
4. PERFORMANCE MEASURES

1. EXPECTATIONS

This document will support the organization in developing, communicating and implementing business continuity plans for responding to and recovering from incidents and unplanned events that will affect the critical functions of the organization. This includes identifying all resources required to manage business disruptions during incidents such as personnel, workplace, facilities, information technology and communication, supply chain and vital records.

2. RESPONSIBILITIES

2.1 DEPARTMENT HEAD:

- 2.1.1 Initiate BC program.
- 2.1.2 Allocate resources, i.e. Business Continuity Coordinators (BCCs) and Subject Matter Experts (SMEs) to develop, implement and manage the BC program.
- 2.1.3 Endorse the scope of the BC program and the schedule.
- 2.1.4 Review and endorse Recovery Requirements Toolkit (RRT) findings.
- 2.1.5 Review and approve BC strategies.
- 2.1.6 Approve BCP.
- 2.1.7 Review and approve exercise results and corrective actions.

2.2 BUSINESS CONTINUITY COORDINATOR (BCC):

- 2.2.1 Coordinate all BCM activities within program scope which entails the following:
 - Establishing the timeline.
 - Performing gap assessment
 - Facilitating workshops to complete Recovery Requirements Tool (RRT)
 - Coordinating development of BC strategies with Subject Matter Experts (SMEs)
 - Coordinating development of BCPs with SMEs
 - Developing and facilitating BC exercises

- Communicate with supporting organizations that could potentially impact the BCM Program

2.3 SUBJECT MATTER EXPERT (SME)

- 2.3.1 Define the scope of the BC program collectively with BCC and other SMEs of the department
- 2.3.2 Determine the critical processes of the department and minimum requirements to maintain these processes
- 2.3.3 Participate in the development of the department's Business Continuity Plan (BCP) which entails writing Tactical Response Plans (TRPs)
- 2.3.4 Participate in the exercises
- 2.3.5 Participate in execution of the BCP collectively with other members of the BC Team once activated

2.4 SUPPORTING ORGANIZATIONS

Supporting organizations could potentially include Information Technology, Procurement and Supply Chain Management, Office Services, Human Resources, Finance, etc.

- 2.4.1 Provide options addressing recovery requirements identified by the BC team
- 2.4.2 Implement and maintain approved recovery options supporting BC strategy

3. PROCESS STEPS

The process includes the following six steps:



3.1. Phase 1: Initiate BC Process:



3.1.1. Appoint BCC:

- BCC and alternate BCC are appointed by Department Head.

3.1.2. Appoint SMEs:

- SMEs are appointed by Department Head.

3.1.3. Develop BC Proficiencies:

- All members of BC Team to participate in relevant training sessions delivered by Corporate Emergency Management and Continuity (CEMAC) or any other accredited training provider.

3.1.4. Determine the Scope of BC Program:

- Department Head and BC team members to determine the participating functions within the organization.

3.1.5. Define BC Program Schedule:

- BC team to develop or review the timeline for implementation of the BCM process.

3.1.6. Milestone Checkpoint:

- The scope, deployment timeline and gap assessment results should be presented to Department Head for approval.

3.2. Identify Critical Processes and Resource Requirements.



3.2.1. Identify Main Processes:

- BC Team to collectively review the organization's mission and identify main processes of the organization.

3.2.2. Conduct Business Impact Analysis (BIA):

- BC Team to utilize the BIA section of the Recovery Requirements Tool (RRT) to assess impacts of unavailability of each process identified in step 3.2.2.
- Impacts are measured as per the following four categories:
 - Financial.
 - Business Interruption.
 - Health, Safety and Security / Environment.
 - Reputation.
- Reviewing the level of impacts, critical business processes are identified and a Recovery Time Objective (RTO) is assigned to each process accordingly

3.2.3. Conduct Threat Evaluation / Risk Assessment:

- BC Team to review the output of the ERM process for credible risks to business that should be addressed within the scope of BC Program.

- BC Team to utilize the RA section of the RRT to evaluate dependency of each critical process on the five key assets/resources:
 - People.
 - Facilities.
 - Information Technology (IT).
 - Supply Chain.
 - Vital Records.
- The RA section of the RRT is then utilized to evaluate the risk associated with each individual critical business process from the perspective of:
 - People.
 - Facilities.
 - Information Technology (IT).
 - Supply Chain.
 - Vital Records.

3.2.4. Identify minimum resource requirements for critical processes:

- BC Team to use the remaining tabs of the RRT to collect minimum resource requirements associated with critical processes including:
 - People.
 - Facilities.
 - Information Technology.
 - Supply Chain.
 - Vital Records.
 - Internal Dependencies.

3.2.5. Create and Evaluate Recovery Profiles:

- BCC to collect all RRT outputs and create all necessary recovery profiles for:
 - People.
 - Facilities.
 - Information Technology.
 - Supply Chain.
 - Vital Records.
 - Internal Dependencies.

- BC team to collectively analyze recovery profiles and to ensure recovery profiles are reasonable and consistent with the predefined minimum operational level of the organization.

3.2.6. Milestone Checkpoint:

- BCC should obtain Department Head's approval for the accuracy and completeness of the recovery profiles before proceeding to the next step.

3.3. Design Strategies:



3.3.1. Identify Credible Strategy Options:

- BCC deliver recovery profiles to relevant support functions/organizations to collect strategy options available to address organization's requirements.
- BC team to review and identify suitable strategies to continue and/or to recover critical business processes.
- BC team, where appropriate, to identify threat/risk mitigation strategies that would:
 - Reduce the likelihood of a business disruption.
 - Shorten the period of disruption.
 - Limit the impact of the disruption on key products / services.

3.3.2. Analyze the Strategy Options for Effectiveness and Cost:

- BC team to perform cost / benefit analysis of each new or proposed measure / option to develop a recommended strategy for BC.
- BC team to ensure BC strategies are adequate to address minimum business requirements (RTO and RPO).

3.3.3. Provide Management with an Evaluation of the Strategy Options and Recommendations:

- BC team to present BC strategies to management in order to obtain approval of preferred strategies.

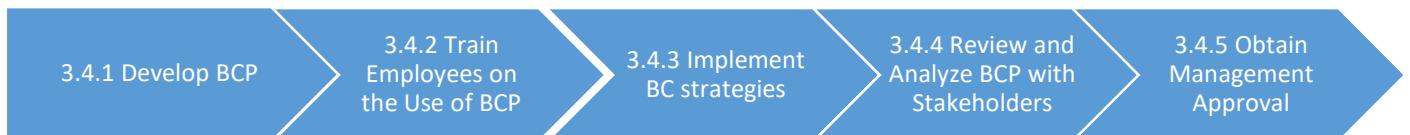
3.3.4. Milestone Checkpoint:

- BCC to obtain Department Head's agreement on the strategies to be deployed. This should include the endorsement of the expected capital and operational expenditure

as well as resource provisions required to deliver the products or services to the agreed service levels.

- Following the approval of the management, the projects should be established for implementing the agreed strategies.

3.4. Build Business Continuity Plan (BCP):



3.4.1. Develop BCP:

- BC team to review the status of implementation of agreed BC strategies.
- BC Team to develop BCP using the template developed by CEMAC.
- BCC to work with relevant SMEs to document the Tactical Response Plans (TRP) consisting of the following phases:
 - Respond.
 - Maintain critical operations.
 - Return to normal.
- BCC to ensure documentation is completed and validate TRPs with SMEs.

3.4.2. Train Employees on the Use of BCP:

- Department Head to ensure that various level of business continuity trainings are received by employees of the department:
 - Awareness sessions are delivered to all employees.
 - More advanced sessions are delivered to members of the BC organization to enhance their knowledge, skills, and abilities to execute and maintain the plan.

3.4.3. Implement BC Strategies:

- BCC to continuously monitor the implementation of the agreed strategies:

3.4.4. Review and Analyze BCP with Stakeholders:

- BCC to engage with relevant stakeholders to ensure the plan fulfills their minimum operational requirements.

3.4.5. Obtain Management Approval:

- BCC to obtain Department Head's approval of the following items before proceeding to "Exercise, Maintain, and Review" phase:

- The accuracy and comprehensiveness of the BCP's content.
- The training program and its implementation schedule.
- The completion of the implementation of agreed strategies (Department Head may decide to proceed to the next phase only for the strategies that have been fully implemented if the implementation of pending strategies will significantly delay the entire BC program.).

3.5. Exercise:



3.5.1. Develop BC Exercises:

- BCC to utilize CEMAC's recommended exercise template as a baseline for preparation and execution of exercises and drills.

3.5.2. Conduct BC Exercises:

- BCC to schedule BCP validation exercises and ensure participation of SMEs.

3.5.3. Generate Post-Exercise Report:

- BC team to generate post-exercise report including:
 - Defining actions to correct identified gaps.
 - Prioritizing corrective action.
 - Assigning responsibility and due date for all gap closure actions.
 - Identifying resources needed to address each gap.

3.5.4. Milestone Checkpoint:

- BCC to obtain Department Head's approval on post-exercise report:

3.6. Maintain and Adjust Business Continuity Plan:



3.6.1. Determine Areas for Improvement:

- BCC to identify improvement activities through:
 - Post-exercise report findings and actions.
 - Changes in the environment in which the organization operates.
 - A review, particularly an audit.

- A real incident.

3.6.2. Update BCPs:

- BC team to update the BC plan in order to include all improvement activities identified in the previous step.

3.6.3. Develop a Schedule for Next Cycle:

- BCC to define activity plan for the next 12 months.

3.6.4. Sign-off and Communicate to Stakeholders:

- Department Head to sign-off the BCP and to communicate to stakeholders the completion of the annual OE 11.2 process and activity plan for the next year cycle

4. PERFORMANCE MEASURES

KPI	Measure	Source	Target
Management update on BC Program status by utilizing BC Gap Assessment Tool	Number of updates	Organization	One per quarter
BC program maintenance (Steps 1 to 4 are reviewed and updated)	Number of reviews	Organization	One per year
BC Exercise/drill	Number of exercises/drills	Organization	At least one per year
BCP reviews and updates post-exercise	Number of BCP updates	Organization	At least one per year

OPERATIONAL EXCELLENCE MANAGEMENT SYSTEM

Process # OE – 11.3 Emergency Preparedness

Process Owner:
To be defined by
Organization

Issue Date:
MM/DD/YYYY
Revision: 03

Note: This process is “Mandatory” and addresses expectation:

- Emergency Preparedness (Enabling Element # 11)

Process Steps

Emergency Risk Assessment

Develop Response Organization

Develop Emergency Response Plan

Conduct Training

Conduct Exercises and Drills

Evaluate and Improve

Process Step Details

<ul style="list-style-type: none"> • Appoint Emergency Preparedness Coordinator (EPC) • Assign planning personnel • Develop credible scenarios • Develop pre-incident plans 	<ul style="list-style-type: none"> • Develop response organizational structure • Assign roles and responsibilities • Identify and provide resources • Develop communication methods 	<ul style="list-style-type: none"> • Develop local emergency response plan (ERP) • Provide for escalation criteria 	<ul style="list-style-type: none"> • Evaluate and identify training needs • Train personnel in required skills, roles, and responsibilities • Evaluate and confirm skills 	<ul style="list-style-type: none"> • Plan and schedule exercises and drills • Design exercises and drill scope and objectives • Implement exercises and drills 	<ul style="list-style-type: none"> • Evaluate drills • Assign and track recommendations • Conduct ERP review • Conduct overall program management review
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Responsibilities

<ul style="list-style-type: none"> • OE 11.3 Process Owner • EPC • Planning Team 	<ul style="list-style-type: none"> • EPC • Emergency Response (ER) Planning Team • Response Organizations 	<ul style="list-style-type: none"> • OE 11.3 Process Owner • EPC 	<ul style="list-style-type: none"> • OE 11.3 Process Owner • EPC • Proponent Div. Head • Support Organization Div. Head 	<ul style="list-style-type: none"> • OE 11.3 Process Owner • EPC • ER Planning Team • Proponent Response Team • Response Support Organization Team 	<ul style="list-style-type: none"> • OE 11.3 Process Owner • EPC • Proponent Response Team • Response Support Organizations • Critique Team
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References

<ul style="list-style-type: none"> • LP SMG, Emergency Preparedness • SMS Element 8, Emergency Preparedness 	<ul style="list-style-type: none"> • SA Safety Handbook • SA Safety Policy • LPD SMG, Qualitative Risk Assessment
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Performance Measures

<ul style="list-style-type: none"> • SMS Element 8 Loss Prevention Compliance Review (LPCR) Score • Internal Management System Review Element 8 Score 	<ul style="list-style-type: none"> • Annual planned drills vs. actual drills conducted • Number of Drill and Incident Critique Recommendations Closed vs. Total Number Issued
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TABLE OF CONTENTS:

1. EXPECTATIONS
2. RESPONSIBILITIES
3. PROCESS STEPS
4. PERFORMANCE MEASURES

1. EXPECTATIONS:

This document will support organizations developing, communicating, and implementing plans for responding to incidents and unplanned events that will negatively affect the safety of personnel, environment, and assets. This will include identifying qualified personnel and assigning adequate resources to manage response and recovery during emergencies. Recovery in terms of this document does not include elements normally associated with Business Continuity, but up to and including the point where the emergency event has been mitigated and the area involved has been made safe such that steps required to resume normal business activities can be initiated.

2. RESPONSIBILITIES:

2.1. OE 11.3 PROCESS OWNER:

- 2.1.1. Assigns organization Emergency Preparedness Coordinator (EPC) and backup, who should have a thorough knowledge of the organization's activities and the authority to obtain commitments.
- 2.1.2. Coordinates with the EPC to develop an emergency management organization and establish a response team to operate during emergencies using the structure of an incident command system (ICS).
- 2.1.3. Ensures that this process is implemented, and personnel assigned to, an emergency management organization that is tasked to properly plan for, respond to, and recover from emergency events that may have a negative impact on personnel, environment, assets, or company reputation.
- 2.1.4. Allocates resources required to maintain the emergency management organization.
- 2.1.5. Ensures that the organization's emergency response plan (ERP) is in place and is reviewed/updated at least once a year and that partial updates are made after significant changes in processes or equipment; after drills and incidents; updates to telephone numbers and emergency equipment lists; and to address personnel changes.
- 2.1.6. Participates in a periodic (minimum every 3 years) overall program review to evaluate the

effectiveness of the program.

2.1.7. Ensures there are methods for effective internal and external ongoing communications during emergencies.

2.1.8. Ensures that personnel involved in the emergency management organization are trained to ensure they possess the adequate skills to fulfill their roles and responsibilities as described in the ERP and the Saudi Aramco (SA) Safety Management Guide (SMG) Emergency Preparedness, and the respective organization training matrix/plan as required by OE Process 3.2 Employee Development.

2.1.9. Ensures that nonemergency response personnel receive training in the actions to take during an emergency event in accordance with OE Process 9.1 Communication of Information.

2.1.10. Ensures that emergency exercises and drills are conducted to evaluate the effectiveness of training and adequacy of the ERP.

2.1.11. Review and ensure corrective actions are initiated for recommendations generated from drill critique meetings as well as analyze, develop and ensure an action plan is developed to address repeated recommendations and trends.

2.2. EMERGENCY PREPAREDNESS COORDINATOR (EPC):

2.2.1. Oversees development, implementation, and maintenance of the emergency management program and the ERP under direction of the OE 11.3 Process Owner.

2.2.2. Coordinates with management (OE 11.3 Process Owner) to develop the emergency response organization using a structure based on the ICS.

2.2.3. Oversees implementation of the process that is used to plan for emergencies.

2.2.4. Coordinates with management (OE 11.3 Process Owner) to identify and assign key personnel to be involved in the emergency management planning process (i.e., planning team personnel).

2.2.5. Ensures the distribution of emergency event credible scenarios to response organizations.

2.2.6. Ensures emergency response equipment is readily available.

2.2.7. Reviews the capabilities of the personnel who will perform emergency response functions. Determines if their skills and knowledge meet the needs of identified credible scenarios and the proposed tactics for responding to emergency events.

2.2.8. During an emergency, functions as a member of the command staff as assigned in the

respective ERP.

- 2.2.9. Coordinates with the OE 11.3 Process Owner to develop a mechanism to ensure there is an effective means of internal and external communications during an emergency.
- 2.2.10. Coordinates an annual review, update, and distribution of the organization's ERP.
- 2.2.11. Periodically reviews Management of Change (MOC) documentation and coordinates partial updates to the ERP that are required after significant changes in processes or equipment; after drills and incidents; updates to telephone numbers and emergency equipment lists; and to address personnel changes.
- 2.2.12. Coordinates communication of any changes in the roles and responsibilities of response personnel and/or functions to support response agencies.
- 2.2.13. Selects and chairs a team to develop, plan, and schedule annual exercises and drills.
- 2.2.14. Ensures critique meetings are held following exercises and drills.
- 2.2.15. Revises existing ERPs and procedures, or develops new plans/procedures to reflect lessons learned from exercises, drills, or incident responses.
- 2.2.16. Monitors and follows up on action items identified and assigned during exercises, drills, and incident response critique meetings.

2.3. EMERGENCY MANAGEMENT PLANNING PERSONNEL (PLANNING TEAM):

2.3.1. Identify site/facility hazards:

- Review data sources that identify site/facility hazards (e.g., hazardous material lists, process hazard analyses [PHAs], What If studies, chemical compatibility and reactivity data, incident reports, and data related to external threats and natural disasters).

2.3.2. Assess risk of identified hazards:

- Review site/facility risk register.
- Assign and prioritize risks per SA SMG, Qualitative Risk Assessment.
- Evaluate intolerable risks to people, environment, assets, and company reputation, and develop potential mitigation measures that will lower the risks to an acceptable level.

2.3.3. Develop credible scenarios:

- Use SMG Emergency Preparedness to develop credible emergency scenarios that may adversely affect SA personnel, environment, assets, and company reputation, and are based on the prioritized risk assessments.

2.3.4. Develop a written ERP:

- Write a site/facility specific ERP, based on credible scenarios, that complies with SA SMG Emergency Preparedness.

2.3.5. Coordinate with the EPC, proponent division heads, and support organization division heads to plan and schedule emergency exercises and drills.

2.4. PROPONENT RESPONSE ORGANIZATION DIVISION HEAD:

- 2.4.1. Maintains updated copies of the organization's ERP.
- 2.4.2. Coordinates with the OE 11.3 Process Owner, support organization division heads, and EPC to develop an emergency response organization.
- 2.4.3. Coordinates with the EPC to provide key personnel to support the emergency response planning phase of the process.
- 2.4.4. Ensures that emergency credible scenarios are developed by planning personnel in accordance with SMG Emergency Preparedness.
- 2.4.5. Designates the roles and responsibilities of response organization personnel and, along with additional support organizations and the proponent EPC, develops the emergency response chain of command.
- 2.4.6. Maintains and tests hazard detection and emergency alarm systems.
- 2.4.7. Develops methods and processes for communications within the overall response organization during emergencies.
- 2.4.8. Ensures that proponent response personnel are trained as per Section 2.1.8 and that competency in the skills and tactics required to respond to an emergency event is evaluated.
- 2.4.9. Ensures that nonemergency response personnel receive training in the actions to take during an emergency event as per section 2.1.9.
- 2.4.10. Coordinates with the EPC and support organizations in designing and planning emergency exercises and drills.
- 2.4.11. Conducts debriefings with response organization members upon the completion of emergencies and exercises/drills.
- 2.4.12. Attends critique meetings upon the completion of emergencies and exercises/drills.
- 2.4.13. Implements recommendations assigned during emergency and exercise/drill critique meetings.

2.4.14. Participates in the annual ERP review and periodic overall emergency management program review (every 3 years).

2.5. RESPONSE SUPPORT ORGANIZATION DIVISION HEAD:

- 2.5.1. Maintains updated copies of ERPs from proponent organizations where emergency response support is provided.
- 2.5.2. Organizes the support organization emergency response personnel to allow them to function within the proponent response structure using the ICS.
- 2.5.3. Ensures that there is an effective means of communication allowing support organization emergency response personnel to communicate both internally and within the proponent's emergency response organization during emergencies.
- 2.5.4. Develops emergency response preplans based on credible scenarios provided by the proponent organization that require emergency response support.
- 2.5.5. Trains and evaluates the competency of support organization response personnel in the skills and tactics required to respond to proponent organization emergency credible scenarios.
- 2.5.6. Participates in emergency event drill planning with proponent organizations.
- 2.5.7. Ensures that support organization response personnel participate in proponent organized exercises and drills.
- 2.5.8. Establishes a mechanism of communication with proponent organizations whereby changes in response roles and responsibilities and/or response functions are captured.
- 2.5.9. Conducts debriefings with response organization members upon the completion of emergencies and exercises/drills.
- 2.5.10. Attends proponent critique meetings upon the completion of emergencies and exercises/drills.
- 2.5.11. Tracks progress and addresses recommendations assigned during emergency and exercise/drill critique meetings.

2.6. EMERGENCY RESPONSE ORGANIZATION MEMBERS:

- 2.6.1. Understand their roles and responsibilities within the overall emergency management organization.
- 2.6.2. Understand their roles and responsibilities outlined in the respective organization's ERP.
- 2.6.3. Participate in necessary training to develop the skills and tactics required to respond to

an emergency event.

- 2.6.4. Understand and are proficient in the methods of communication used within the emergency response organization and those used to communicate with external organizations.
- 2.6.5. Participate in emergency exercises and drills.
- 2.6.6. Attend response team debriefings upon the completion of emergencies or exercises/drills.

3 PROCESS STEPS:

The following process was developed to meet the intent of the OE expectation described above and align with SMS Element 8 and SMG, *Emergency Preparedness*.



The following subsections describe each step of the process in detail:

3.1 EMERGENCY RISK ASSESSMENT



3.1.1 Appoint emergency preparedness coordinator (EPC):

- Appointing an EPC (a person with knowledge of the organization's activities and authority to obtain commitments) is critical to successful emergency management. This person must be familiar with the organization's operations and surrounding areas in order to identify potential internal and external emergency situations. The EPC, with assistance from key response personnel, line management, and support groups, oversees development, implementation, and maintenance of the emergency management program and the ERP.

3.1.2 Assign planning personnel:

- Planning begins with identification of principal hazards such as fire, explosion, and hazardous material release. These hazards, their risks, and associated scenarios must be assessed to determine both probability of occurrence and consequences. The process owner will appoint a planning team, overseen by the EPC that is knowledgeable regarding organization processes and procedures to conduct these assessments.

3.1.3 Develop credible scenarios:

- After identifying and evaluating hazards, credible incidents that present serious threats must be determined. Emergency planners will implement a structured process including hazard identification, risk assessment, and incident prioritization to identify scenarios that are credible and suitable for emergency planning. The planning team will consult with the owner of Process 11.1 *Risk Management* to ensure continuity of results.

3.1.4 Develop scenario pre-incident plans:

- A pre-incident plan provides essential information necessary for developing tactical response actions at the beginning of the emergency. Each primary response organization that makes up the overall response team will have a pre-incident plan for each credible scenario. These plans can be referenced in the appendix of the ERP but are not contained in the body of the ERP. They will be updated and revised as required.

3.2 DEVELOP RESPONSE TEAM:

3.2.1 Develop Response Organization Structure

3.2.2 Assign Roles/Responsibilities

3.2.3 Identify and Provide Resources

3.2.4 Develop Communication Methods

3.2.1 Develop the emergency response team structure:

- Personnel within the emergency management organization that are tasked with responding to emergency events (response team) will be organized to respond within the ICS structure. Specific equipment resources required for response personnel to be able to mitigate the credible scenario emergency events will be identified and provided. Communication methods are required that enable response personnel to communicate with each other as well as across organizational lines if the incident escalates.

3.2.2 Assign roles and responsibilities

- The emergency response team is the organization that is tasked with implementing steps necessary to respond to emergency events. Duties, responsibilities, roles, and actions will be assigned. Lines of authority and communication must be identified, direct, and clearly defined.

3.2.3 Identify and provide resources

- Both human and material resources will be identified and made available that can enable the response organization to function. Specific equipment resources required for personnel to be able to mitigate the events described in credible scenarios will be provided as well as equipment and resources necessary to make the area impacted by the emergency event safe and ready for Business Continuity activities to commence.

3.2.4 Develop communication methods

Communication methods to be used during an emergency will be developed and specified. Key components include:

- Methods used to notify response and support personnel in the event of an emergency.
- Standard terminology to be used by response personnel.
- Methods for in plant/facility and external communication.
- Compatibility with communication methods used by outside agencies and organizations, i.e., Civil Defense.

3.3 DEVELOP ERP:

3.3.1 Develop local ERP

3.3.2 Provide for Event Escalation Criteria

3.3.1 Develop local ERP:

An ERP essentially documents what an organization does to plan for and execute a response to an emergency event. The ERP will be developed based on what is required for the overall emergency preparedness organization to respond to emergency events outlined by the developed credible scenarios. An ERP will be:

- Concise and adaptable for use in the emergencies that it covers.
- Compatible with existing plans from adjacent facilities, contingency plans, and crisis management plans.
- Properly researched and resourced.
- Contain all essential information necessary for an effective response to foreseeable credible scenarios.

3.3.2 Provide for event escalation criteria:

- Should an emergency escalate to a contingency or crisis situation, transition of the ERP to subsequent contingency or crisis plans and integration with other organizations involved in those plans needs to be accomplished. These plans will not be included in

local ERP; however, procedures will be included that describe the process required for transition to a contingency or crisis event and criteria for escalation.

3.4 Conduct Training:

3.4.1 Evaluate Training Needs

3.4.2 Train Personnel in Skills and Roles/Responsibilities

3.4.3 Evaluate and Confirm Skills

All emergency management organization personnel will be trained to know their roles and responsibilities. This includes personnel that have support roles, management, and planning team members. Individuals that are assigned activities that involve responding to the emergency will also be trained specifically in the ERP contents and in the skills required to perform their assigned response function. Training is not the same as conducting drills and exercises. Training imparts individual and organizational skills and competencies. Drills and exercises evaluate if those skills and competencies can be successfully implemented to meet the goals of the ERP.

3.4.1 Evaluate training needs:

- Personnel are required to be trained according to the roles and responsibilities assigned within the emergency management organization and according to the ERP. The process owner, along with the EPC, planning personnel, and response organization division heads will:
 - Conduct a training needs analysis.
 - Develop a specific training plan.
 - Provide a written training program.
 - Develop and implement a training schedule.

3.4.2 Train personnel in skills and roles/ responsibilities:

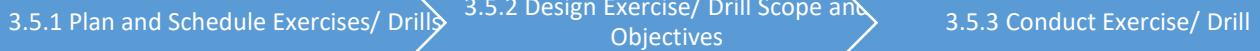
- Training will be implemented so that personnel understand their duties and to provide the skills required to perform those duties. Training will include at minimum:
 - Alarms/emergency notifications/emergency reporting.
 - Communications systems/equipment.
 - Incident command system (ICS).
 - Pre-incident plans/emergency action plans/emergency checklists.
 - All procedures in the emergency response plan.
 - Specific skills required to successfully fulfill the duties assigned in the emergency

management organization.

3.4.3 Evaluate and confirm skills:

- Mechanisms to confirm adequacy of skills and competency will be developed and implemented. These will include testing and/or specific field exercises.

3.5 Conduct Drills:



- Exercises and drills will be based on developed credible scenarios and conducted to test the adequacy of the ERP and emergency preparedness organization. Drills and exercises are not training events. They are designed and implemented to test the strengths and weaknesses of every part of the ERP including organization, incident command, communication, event control and mitigation, and recovery as defined in Section 1 of this process.

3.5.1 Plan and schedule exercises/drills

- Drills will be planned and scheduled by assembling a small team (usually from the response team personnel) and meeting to work out the details.

3.5.2 Design the exercise/drill scope and objectives

- Drills and exercises will be designed to test specific components of the ERP such as communication, alarm recognition and response, event mitigation techniques, and skills assessment. The design will be accomplished by a small number people including the EPC and response/support organization division heads. The design will be reviewed and approved by the process owner.

3.5.3 Conduct exercises/drills

- The exercise or drill will be conducted per the organization's schedule. All personnel should know that the event is a simulation but that they will respond according to the ERP. Personnel assigned to evaluate the drill will be in place and ready to document activities as they happen.

3.6 Evaluate And Improve:



3.6.1 Evaluate exercises/drills:

- Evaluation of a drill, exercise, or response to an actual incident will be conducted using a systematic examination of the effectiveness of the ERP and the overall emergency management program. This evaluation will include what was to be achieved in the drill. Clearly stated drill objectives will be used as a yardstick and the evaluation will be conducted to determine if those objectives have been achieved. SMG, *Emergency Preparedness*, provides details on evaluating drills.

3.6.2 Assign and track recommendations:

- Prioritized recommendations for improvement will be captured during each drill, exercise, and incident evaluation. These recommendations will be assigned to an actionable party and tracked in a formal monitoring system that includes an estimated time for completion. Trend analysis on repeated major recommendations will be conducted and analyzed and reported to the Process Owner. Results will be used as a planning tool for conducting drills.

3.6.3 Conduct ERP review:

- The ERP will be reviewed at least annually to ensure that the emergency risks identified in the plan remain valid, that it reflects the current organization structure, and that the response strategies and tactics remain appropriate. Partial updates are required after significant changes in process or equipment; after drills and incidents; to update telephone numbers and emergency equipment lists; and to address personnel changes. A process will be in place to communicate ERP changes and distribute updated exercise copies to all plan holders. Significant changes will be tested as soon as possible through a drill or exercise.

3.6.4 Conduct overall emergency preparedness program review:

- A management review will be conducted regularly (minimum every 3 years) at the organization level to assess overall emergency preparedness. This will be a comprehensive review and examination of plan documentation and records (e.g., planning documentation, credible scenarios, training records, exercises, and drills), lessons learned implementation, and industry benchmarks to identify and implement improvements.

4 PERFORMANCE MEASURES:

The following table provides measurement key performance indicators (KPIs).

PERFORMANCE MEASURES	FORMULA	SOURCE	FREQUENCY
Loss Prevention SMS Compliance Review	Element 8 Score	LPD	Every 5 years
Internal Management System Review Element 8 Score	SMG Internal Safety Management System Review	LPD	Annually
Exercise/Drills tracking report	Planned vs. actual drills conducted	Admin Area	Annually
Exercise/Drill Critique recommendation tracking	Closed vs. total recommendations	Admin Area	Monthly



OE Element No. 12

Innovation, Learning and Continuous Improvement

Organizations promote innovation, technology, learning, and continuous improvement to remain competitive in an ever-changing business environment. A learning Organization is one in which people at all levels, individually and collectively, identify, evaluate, develop, and promote adoption of best practices and lessons learned to continually improve performance and increase their capacity to produce the desired results.

OPERATIONAL EXCELLENCE (OE) MANAGEMENT SYSTEM

Process # OE – 12.1 Innovation and Technology Deployment

Process Owner:
To be defined by
Organization

Issue Date:
MM/DD/YYYY
Revision:
03

Note: This process is “Mandatory” and addresses expectation:

- Innovative Idea Generation, Development and Implementation (Enabling Element # 12)

Process Steps



Process Step Details

<ul style="list-style-type: none"> • Establish/ enhance internal Innovation and Technology Deployment Program in line with industry best practice • Identify organizations' challenges, business needs and technology gaps • Allocate resources to support Innovation and Technology deployment activities • Conduct innovation and technology deployment training and awareness sessions • Communicate roles and responsibilities • Adopt Corporate targets for innovation participation rate and set targets for technology deployment and implemented innovation idea value realization KPI's 	<ul style="list-style-type: none"> • Launch targeted Innovation Campaigns • Collaborate with internal technology programs and external technology vendors to identify applicable technologies • Conduct technical and economic evaluation • Develop deployment plans for innovative ideas • Develop department technology deployment roadmaps 	<ul style="list-style-type: none"> • Identify and apply for innovation idea and technology deployment funding • Include department Technology Deployment Roadmaps into Facility Masterplans • Develop technology related capital projects submittals • Implement innovative ideas and deploy technologies • Assess implemented innovative ideas and deployed technology performance and impact • Capture and record benefits from innovative ideas and technology deployments 	<ul style="list-style-type: none"> • Recognize and reward implemented innovative ideas and technology deployments • Track, monitor and analyze innovation and technology deployment performance • Support rollout of innovative ideas and technology for wider deployment • Identify and implement improvement opportunities • Share best practices • Develop action plan to resolve identified issues related to process performance
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Responsibilities

Department Head/ Division Head/ Innovation and Technology Champion(s)/ Innovation & Technology Contributors and SME's	Department Head/ Division Head/ Innovation and Technology Champion(s)/ Campaign Administrator/ Innovation & Technology Evaluation Committee/ Innovation &	Department Head/ Division Head/ Innovation and Technology Champion(s)/ Campaign Administrator/ Innovation & Technology Contributors and SME's	Innovation and Technology Champion(s)/ Innovation & Technology Contributors and SME's
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	Technology Contributors and SME's		
References			
<ul style="list-style-type: none"> • Innovation Community of Practice • IMS 2.0 Training Material • Innovation Management Committees e-learning • Innovation Portal e-learning for innovators • Technology Planning SAEP-89 • Technology Deployment SAEP-74 • Campaign Request Form • TOC Stage Gate Process • R&DC Graduated Technologies • Technology Mapping Matrix 			<ul style="list-style-type: none"> • SAEP-60 Masterplan Development Procedure • FPD Business Plan Project Submittal Guidelines • GI-5.007 Safety Recognition and Incentive Programs (SRIPS) • Final Engineering reports of completed technologies • TS Technology Domains • FPD Economic Model • Idea Technology Readiness Level (Appendix I) • Corporate Proven Technology Database
Performance Measures			
<ul style="list-style-type: none"> • Employee Innovation Participation Rate (%) • Innovation Idea Implementation Realized Value 		<ul style="list-style-type: none"> • Technologies Deployed • Technology Deployment Value Realization 	

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1. EXPECTATIONS
2. RESPONSIBILITIES
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1. EXPECTATIONS:

This document provides guidelines for organizations to address technical challenges and business opportunities through innovation and technology deployment.

2. RESPONSIBILITIES:

2.1. DEPARTMENT HEAD / DIVISION HEAD:

- 2.1.1. Establish/ enhance internal Innovation and Technology Deployment program in line with industry best practice.
- 2.1.2. Assigns Innovation and Technology Deployment Sponsor to lead the organization's innovation program and technology deployment activities.
- 2.1.3. Assigns innovation and technology deployment Champion(s) to execute the organization's innovation program and technology deployment activities.
- 2.1.4. Identifies high level organization challenges, business needs, and technology gaps that are aligned with Department/ Division imperatives.
- 2.1.5. Adopt Corporate targets for innovation participation rate and set targets for technology deployment and implemented innovation idea value realization KPI's.
- 2.1.6. Review Department innovation and technology deployment performance.
- 2.1.7. Reward and recognizes owners of approved innovation ideas and deployed technologies.
- 2.1.8. Promotes the culture of innovation and technology deployment within the organization.
- 2.1.9. Endorses technology roadmaps.

2.2. INNOVATION AND TECHNOLOGY SPONSOR(S):

- 2.2.1. Designated Chief Position Holder (CPH) (Preferably at Manager Level) who leads the targeted innovation campaigns and technology deployment.
- 2.2.2. Allocates budget and resources for idea review, implementation, training and technology deployment.
- 2.2.3. Plans for implementation of approved innovation ideas.

2.3. INNOVATION AND TECHNOLOGY CHAMPION(S):

- 2.3.1. Conducts innovation and technology deployment awareness sessions with employees.
- 2.3.2. Develops and launch targeted innovation campaigns.
- 2.3.3. Assigns the Innovation Campaign Administrator (who runs the campaign) on a campaign-by-campaign basis.
- 2.3.4. Appoints Innovation & Technology Evaluation Committee members.
- 2.3.5. Provides resources for technology identification and deployment.
- 2.3.6. Supports the development of department technology deployment roadmaps.
- 2.3.7. Encourages employees to participate in the Innovation CoP and use Innovation Portal engagement features.
- 2.3.8. Disseminates technology knowledge through CoPs.
- 2.3.9. Track, monitor and analyze innovation and technology deployment performance to Innovation and Technology Deployment Sponsor.
- 2.3.10. Develops and includes detailed technical and commercial proposals for idea and technology implementation in Business Plans.
- 2.3.11. Identifies and implements improvement opportunities.
- 2.3.12. Collaborates with internal technology programs and external technology vendors to identify applicable technologies to solve the technical challenges and close technology gaps.
- 2.3.13. Identify and apply for innovation idea and technology deployment funding
- 2.3.14. Include department Technology Deployment Roadmaps into Facility Masterplans
- 2.3.15. Develop technology related capital projects submittals
- 2.3.16. Captures lessons learned and shares best practices for process improvements.

2.4. INNOVATION CAMPAIGN ADMINISTRATORS:

- 2.4.1. Manages and runs the targeted innovation campaign.
- 2.4.2. Provides necessary training to Innovation & Technology Evaluation Committee members.
- 2.4.3. Monitors the innovation campaign and generates KPI reports.
- 2.4.4. Encourages collaboration and idea building.
- 2.4.5. Manages the evaluation process and runs evaluation sessions.
- 2.4.6. Presents the top ranked ideas to the innovation campaign sponsor.
- 2.4.7. Develops detailed technical and commercial packages for idea implementation.

2.5. INNOVATION & TECHNOLOGY EVALUATION COMMITTEE:

- 2.5.1. Evaluates submitted ideas and technology proposals.
 - 2.5.2. Supports the Innovation and Technology Champion(s) and the Innovation Campaign Administrator.
 - 2.5.3. Supports idea implementation and technology deployment.
- 2.6. INNOVATION & TECHNOLOGY CONTRIBUTORS AND SUBJECT MATTER EXPERTS (SMEs):
- 2.6.1. Works and collaborates with Companywide Technology Programs to identify new technology solutions available for deployment.
 - 2.6.2. Supports innovative idea submissions through the Innovation Portal.
 - 2.6.3. Maps technical challenges with proposed technologies to identify potential technology deployment opportunities.
 - 2.6.4. Supports Innovation & Technology Evaluation Committee for innovative ideas and technology evaluation.
 - 2.6.5. Supports innovation idea implementation and technology deployment.
 - 2.6.6. Monitors and tracks technology deployment and the associated financial return.
 - 2.6.7. Develops the department technology deployment roadmap that includes scope, benefits, costs and resource requirements.
 - 2.6.8. Identifies potential facilities for rollout and wider deployment.
 - 2.6.9. Captures lessons learned and standardize as required.
 - 2.6.10. Issues the post technology deployment performance report.

Note: The following roles are applicable to the Corporate Entity Coordinators and the support they provide in terms of the overall process:

- 2.7. TECHNOLOGY MANAGEMENT DIVISION (TMD) ASSIGNED COORDINATOR:
- 2.7.1. Assigned Corporate Entity for OE-12.1 process.
 - 2.7.2. Facilitate Innovation and Technology deployment programs.
 - 2.7.3. Maintain Technology deployment Saudi Aramco Engineering Procedure (SAEP-74).
 - 2.7.4. Maintain Technology planning Saudi Aramco Engineering Procedure (SAEP-89).
 - 2.7.5. Publish list of proven technologies in a central database.
 - 2.7.6. Coordinate Technical Services technology domains and support technology domain leaders.
 - 2.7.7. Identify, evaluate and deploy new technologies in partnership with technology domains.

- 2.7.8. Work with operating facilities to identify technical challenges.
- 2.7.9. Lead deployment of selected technologies through the technology master appropriation and mass technology deployment Bls.
- 2.7.10. Develop and support innovation awareness campaigns and training sessions.
- 2.7.11. Create targeted Innovation campaigns in the Innovation Portal.
- 2.7.12. Maintain the Innovation Portal system.
- 2.7.13. Provide 2nd level support for Innovation portal users.
- 2.7.14. Coordinate Innovation Board Meetings.
- 2.7.15. Manage Innovation Community of Practice website.
- 2.7.16. Manage the Corporate Innovation Center.
- 2.7.17. Communicate corporate innovation targets to all organizations within Saudi Aramco.
- 2.7.18. Support proponent Admin Areas to set challenging implemented innovation idea targets based on trends or benchmarking data.
- 2.7.19. Issue quarterly Innovation KPI performance benchmarking reports to Admin Areas.
- 2.7.20. Develop and issue technology mapping matrix for each facility and corporate entity.

2.8. TECHNOLOGY OVERSIGHT AND COORDINATION (TOC) ASSIGNED COORDINATOR:

- 2.8.1. Establish and own technology deployment KPIs (# of Technologies Deployed and Technology Value Realization) in this process.
- 2.8.2. Support proponent Admin Areas to set challenging technology deployment targets based on trends or benchmarking data.
- 2.8.3. Measure and report technology performance periodically using the selected KPIs.
- 2.8.4. Issue post technology deployment performance reports to the Technology Council, steering committees, and proponent Admin Areas.
- 2.8.5. Revise the technology deployment KPIs methodology and formula based on the OE assessment, identify improvement opportunities and coordinate with concerned organizations as applicable.

2.9. FACILITIES PLANNING DEPARTMENT (FPD) ASSIGNED COORDINATOR:

- 2.9.1. Assess technology related capital project submittals.
- 2.9.2. Include technology roadmaps into Facility Masterplans.
- 2.9.3. Support Facility Masterplans.

3. PROCESS STEPS:

The following is the overall process developed to meet the intent of the OE expectation described above:



The following subsections will describe each step of the process in details:

3.1. Establish Innovation and Technology Deployment Program:

3.1.1. Establish/ enhance internal Innovation and Technology Deployment Program in line with industry best practice:

- Adopt best practices from the Corporate Innovation team and other Departments based on the following definitions for Innovation and Technology:
 - **Innovation** is defined as the successful implementation of novel ideas including products, services and processes. The output from innovation can be considered as technology.
 - **Technology** is defined as a piece of equipment, a process unit, a software, proprietary chemical formulations or materials, or an instrument, and shows benefits in technical, economic, safety, and/or environmental areas that improve or exceed the capabilities achievable by current solutions or systems. The solution can be acquired from a technology provider, involve modification of an existing proven commercially available solution or derived from in-house or collaborative research and development.

Develop idea and technology selection criteria and evaluation criteria

- Develop idea and technology selection criteria and evaluation criteria
 - Utilize the Innovation Portal Evaluation Wizard to establish idea screening criteria

3.1.2. Assign Innovation and Technology Sponsor and Champion(s):

- Identify and appoint a Sponsor for Innovation and Technology Deployment
- Assign an Innovation and Technology Champion(s) for the Department/Division

3.1.3. Assign Innovation Campaign Administrator on a campaign-by-campaign basis

- 3.1.4. Identify organizations' challenges, business needs and technology gaps for driving innovation and technology deployment e.g. obsolete technologies in use, aging assets, equipment inefficiencies and process inefficiencies, etc.
- 3.1.5. Allocate resources to support Innovation and Technology deployment activities
 - Resource allocation and funding to undertake activities
- 3.1.6. Conduct innovation and technology deployment training and awareness sessions
 - Utilize training material and resources available from the Corporate Innovation team e.g. [Innovation Portal e-learning for Innovators](#), [Innovator's Guide 2018](#), [How to Submit an Idea](#), [Innovation Portal Help Page](#), etc.
- 3.1.7. Communicate roles and responsibilities to ensure accountability of key functions
- 3.1.8. Adopt Corporate targets for Innovation Participation Rate
- 3.1.9. Set targets for implemented innovation idea value realization (\$MM/year)
- 3.1.10. Set targets for technology deployment:
 - Number of Technology deployed (#)
 - Technology Deployment value realization (\$MM/year)

3.2. Launch Innovation Campaigns and Identify/Evaluate Ideas and Technologies:

- 3.2.1. Launch Targeted Innovation Campaigns:
 - Develop targeted innovation campaigns addressing organizations' challenges or business needs
 - Develop and publish idea selection criteria for each targeted innovation campaign launched
 - Communicate Innovation Program and launch targeted innovation campaigns
- 3.2.2. Collaborate with internal technology programs and external technology vendors to identify applicable technologies to solve the technical challenges and close technology gaps, including:
 - Corporate wide Proven Technology Database (<https://sharek.aramco.com.sa/Cop/boe/wiki/ProvenTechnologies.aspx>).
 - Technology mapping matrix, which maps potential technologies for each facility and corporate entity.
- 3.2.3. Assign innovation idea evaluator(s) and technology owner(s)
 - Identify and appoint campaign evaluation team on a campaign-by-campaign basis

- 3.2.4. Conduct technical and economic evaluation for innovation ideas and technologies identified for deployment
- The department may utilize assigned idea evaluations in the Innovation Portal and apply idea selection criteria
- 3.2.5. Develop implementation plans for innovation ideas
- Select evaluated ideas for implementation
 - Assign implementation owner(s)
 - Finalize implementation plans for deployable ideas
- 3.2.6. Develop department technology deployment roadmaps
- Assign Technology Deployment owner(s)
 - For organizations that develop or deploy technologies, identify in-house and external technologies and develop a Technology Deployment Roadmap using their resources, companywide technology domains, subject matter experts, and the technology mapping matrices
 - The roadmaps should identify proven technologies for deployment, including locations, cost, qualitative and financial benefits, and suggested funding channels e.g. BI19, BI-10

3.3. Idea Implementation and Technology Deployment:

- 3.3.1. Identify and apply for innovation idea and technology deployment funding from Sponsor
- Develop detailed technical and commercial packages for implementation and request funding for idea implementation and technology deployment
- 3.3.2. Include department Technology Deployment Roadmaps into Facility Masterplans
- All department technology deployment roadmaps to be captured in the Facility Masterplans managed by FPD.
- 3.3.3. Develop technology related capital project submittals
- All new technology related capital projects submittals should be based on Facility Technology Roadmaps or Facility Masterplans as a means to solve critical technical challenges, achieve corporate strategic directions or achieve mandatory compliance requirements.
- 3.3.4. Implement innovative ideas and deploy technologies according to innovation's implementation plans and technology deployment roadmaps
- 3.3.5. Assess implemented innovation ideas and deployed technology performance and impact

- Capture and record benefits from innovation ideas and technology deployments
- Review innovation and technology KPI's, identify issues and their implications

3.3.6. Capture and record benefits from innovation ideas and technology deployments

3.4. Monitor and Adjust Performance:

3.4.1. Recognize and reward implemented ideas and technology deployments

- The reward and recognition shall be in accordance to OE-3.5 “Employee Reward & Recognition”

3.4.2. Monitor and report innovation and technology deployment performance

- Review Department innovation performance utilizing Innovation Portal reports and dashboards
- Work with proponent organization(s) to assess technology deployment performance

3.4.3. Support rollout of innovation ideas and technology for wider deployment

- Communicate successful high impact innovation ideas and deployed technologies to relevant organizations to encourage wider adoption of the ideas and technologies
- The department may utilize Idea Technology Readiness Level (TRL) in Appendix I, to evaluate the Technology Readiness for wider deployment.

3.4.4. Identify and implement improvement opportunities

- Issue post technology deployment performance reports and develop action plans to close feedback items

3.4.5. Share best practices with other organizations and the Corporate Innovation team

3.4.6. Develop action plan to resolve identified issues related to KPIs

- Review innovation and technology KPIs, identify issues and their implications
- Resolve identified issues related to KPIs

4. PERFORMANCE MEASURE:

The table below provides recommended measurement KPIs:

Performance Measures	Formula	Source	Frequency
Employees Innovation Participation Rate (%)	$\frac{\text{No. of Idea Submitters}}{\text{Organization Manpower}} \times 100$	Innovation Portal	Quarterly
Innovation Realized Value	Total Annual value (MM\$) generated from Implemented Innovation Ideas	Department/ Division	Annually
Technologies Deployed	# of Technologies deployed	Department/ Division	Annually
Technology Value Realization**	Total NPV (MM\$) value realization from commercially-deployed technologies	Department/ Division	Annually

Appendix I: Idea Technology Readiness Level (TRL)

TRL	Technology Readiness Level	Description
TRL 9	Fully Commercialized, implemented in multiple locations globally	Actual application of the idea in its final form such as those encountered in operational test and evaluation
TRL 8	Early Commercialization, limited implementation	Idea has been proven to work in its final form and under expected conditions. Represents the end of true system development. Examples include developmental test and evaluation of the system to determine if it meets design specifications
TRL 7	Prototype Installed in Operational Environment	Prototype close to an operational system. Requires the demonstration of an actual system prototype in an operational environment
TRL 6	Prototype Demonstrated in a lab environment/Vendor facility	Representative model or prototype system - tested in a relevant environment. A major step up in a idea's demonstrated readiness
TRL 5	Components developed to demonstrate a working pilot in a simulated environment	The basic technological components are integrated with reasonably realistic supporting elements so that the idea can be tested in a simulated environment
TRL 4	Basic components integrated and proven to work together	Basic technological components are integrated to establish that the pieces will work together
TRL 3	Active research and development to create idea	Active physical research and development is initiated. This includes analytical studies and laboratory studies to physically validate analytical predictions
TRL 2	Basic research to applied research	Invention begins. Basic principles are observed, practical applications can be invented. Basic research translated into applied research
TRL 1	Idea Concept or Formula	The application is speculative—no proof or detailed analysis to support the assumption

OPERATIONAL EXCELLENCE MANAGEMENT SYSTEM				
Process # OE-12.2 Root Cause Analysis (RCA)		Process Owner: To be defined by the Organization	Issue Date: MM/DD/YYYY	
Note: This process is “Mandatory” and addresses expectation: Root Cause Analysis (Enabling Element # 12)			Revision: 04	
Process Steps				
Identify Issues	Assess and Conduct Root Cause Analysis	Implement and Monitor Recommendations / Solutions	Verify Implementation and Communicate Lesson Learned	
Process Steps Details				
<ul style="list-style-type: none"> Identify performance, safety and compliance issues through: <ul style="list-style-type: none"> Assessments, reviews and audits, Failure to meet performance targets, Failure to meet compliance targets including internal or external sources, Equipment trips, failures and other breakdowns, Performance Trend analysis, OE Performance Dialogues, Unplanned events, Incidents or Near Misses, Safety incident reports. Identified improvement opportunity. Corporate and Senior Management concerns and special requests, 	<ul style="list-style-type: none"> Assess the need for conducting RCA. Assemble RCA team members. Collect required data as needed to perform the analysis. Conduct RCA using appropriate analysis method to identify the root cause of the problem or an issue. Develop corrective and preventive recommendations / solutions for implementation to address the root causes. Assign corrective/preventive recommendations/ solutions 	<ul style="list-style-type: none"> Prepare the final RCA report Implement corrective and preventive recommendations / solutions. Develop/ use a designated tracking mechanism for the corrective and preventive recommendations / solutions. Develop and monitor effectiveness plan for corrective and preventive recommendations/ solutions. Assign corrective/preventive recommendations/ solutions. 	<ul style="list-style-type: none"> Track and verify implementation of corrective and preventive recommendations / solutions. Monitor effectiveness of the implemented corrective and preventive recommendations/ solutions. Share Lessons Learned across the whole department, and with other organizations as applicable. 	
Responsibilities				
Chief Position Holder / RCA Coordinator/ Safety Coordinator /	Chief Position Holder/ RCA Coordinator/ RCA Team/ Safety Coordinator	Chief Position Holder/ RCA Coordinator RCA Team/ Safety Coordinator	RCA Coordinator RCA Team/ Safety Coordinator	
References				
<ul style="list-style-type: none"> LPD SMG-09-001-2009 Root Cause Analysis for Incident Investigation. SABP-G-012 A User Guide to Root Cause Analysis Guidelines and Procedures. Total Plant Reliability Management – Root Cause Analysis requirements and tips. 	<ul style="list-style-type: none"> SMS Element 9 Incident Reporting & Analysis. GI 6.003 Incident Investigation. Saudi Aramco RCA Methodology Guide: GD-LPD-12.2-002. 			

Performance Measures	
<ul style="list-style-type: none"> • Actual conducted RCA vs Identified • Rate of repeat performance/safety issues. 	<ul style="list-style-type: none"> • Implemented corrective and preventive recommendations/solutions. • RCA Training for Employees including CHP.

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1. EXPECTATIONS
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1. EXPECTATIONS:

This guideline will help the organization systematically identify, analyze and address the root causes of performance, operational and safety issues. Root Cause Analysis should be applied to identify, address, and properly communicate lessons learned from performance, operational and safety issues. The RCA outcome recommendations should be tracked until implemented and monitored for effectiveness.

Note: Organizations that provide services as part of their core functions to other SA organizations, should perform and document RCA for significant issues identified within these core functions.

Conducting RCA should be included as process step in either the organization's OE Specific Process or as a section in OE 12.2 Root Cause Analysis.

2. RESPONSIBILITIES:

2.1. CHIEF POSITION HOLDER (CPH):

- 2.1.1. Encourage and verify reporting of performance, operational, safety and compliance issues/problems/gaps promptly and openly across the department, while assuring employees and contractors that these are considered positive efforts.
- 2.1.2. Encourage and verify reporting of incidents, injuries and near misses into SAP EHSM across all department employees and contractors in compliance with SMS Element 9.
- 2.1.3. Support RCA investigations by availing required resources for performance, operational, safety and compliance issues/problems/gaps.
- 2.1.4. Approve corrective/preventive recommendations / solutions and monitoring

effectiveness plans.

- 2.1.5. Allocate required resources for implementing recommendations in a timely manner.
- 2.1.6. Allocate required resources for training of employees involved in reporting, investigating and conducting RCA (as per organization training matrix).
- 2.1.7. Process SAP EHSM workflows (such as near misses, injuries or recommendations) and assign accountabilities and deadlines for execution.
- 2.1.8. Verify all action items resulting from RCA investigations are implemented.

2.2. RCA COORDINATOR AND/OR SAFETY COORDINATOR:

(Note: This role could be assigned by CHP to multiple people broken-down into performance, operational, safety issues and/or compliance issues).

- 2.2.1. Encourage and verify highlighting/reporting performance, operational, safety and compliance issues.
- 2.2.2. Assess the need for conducting RCA based on new issue, previous lessons learned or other sources.
- 2.2.3. Verify RCAs are conducted for all required performance, operational and safety issues.
- 2.2.4. Appoint appropriate RCA team Leader in collaboration with CPH.
- 2.2.5. Select RCA Team / Member(s) to investigate performance, operational, safety or compliance issues.
- 2.2.6. Verify team members, including RCA team leader are adequately trained on selected RCA methodology or are the appointed technical SME related to the problem/issue.
- 2.2.7. Provide support during RCA.
- 2.2.8. Review the RCA conducted.
- 2.2.9. Verify development of implementation and monitoring plans for preventive and corrective recommendations/solutions.
- 2.2.10. Monitor performance to validate whether recommendations/solutions are effective.
- 2.2.11. Track RCA activities status.
- 2.2.12. Verify lessons learned are being communicated internally and externally (with other organizations as applicable).
- 2.2.13. Share with other organizations as applicable.
- 2.2.14. Provide or facilitate RCA tools training as needed.

2.3. RCA TEAM / MEMBERS:

- 2.3.1. Conduct the RCA for the identified issue.
- 2.3.2. Develop corrective/preventive recommendations / solutions from the RCA.
- 2.3.3. Facilitate and monitor recommendations/solution implementation.
- 2.3.4. Verify the completed RCA report is archived in the relevant share/document folder(s).

3. PROCESS STEPS:

The following is the overall process developed to meet the intent of the OE expectation described above:



The following subsections will describe each step of the process in details:

3.1. Identify Issues:

3.1.1. Identify performance, operational, safety and compliance issues/problems/gaps for safe and efficient performance of plant, property and equipment, processes, process steps, performance measures, targets and other challenges for Saudi Aramco business processes.

3.1.2. These issues/problems/gaps could be identified through any but not limited to the following:

- Assessments, reviews and audits (Internal and External),
- Failure to meet performance targets,
- Failure to meet compliance targets including internal or external sources
- Equipment trips, failures and other breakdowns,
- Performance Trend analysis,
- OE Performance Dialogues,
- Unplanned events,
- Incidents or Near Misses,
- Safety incident reports including internal and external sources: Incidents, fires, injuries, Motor Vehicles accidents (MVA), environmental and health etc.,
- Any other identified improvement opportunity through Business Plan Variances, Field Complaints Surveys, Customer Feedback, Lessons Learned, Best Practices and Idea Management Committee recommendations etc.
- Corporate and Senior Management concerns

3.2. Assess and Conduct Root Cause Analysis (RCA):

3.2.1. Monitor the performance as mentioned above 3.1.2 and initiate the need of RCA.

3.2.2. Assess the need for conducting RCA by:

- Evaluate the performance, operational, safety and compliance issues/problems/gaps at hand. This may require collaboration with other key stakeholders.
- Review problems/issues from available Lessons Learned /other resources to verify if any RCA was previously completed.
- Evaluate effectiveness of previous RCA / Lessons Learned recommendations/ solutions to address the current problem/issue or conduct new RCA.

3.2.3. Assemble RCA Team if needed:

- Appoint RCA Team Leader and other team members with CPH allocated resources. (Note: the organization should maintain a list of certified RCA practitioners).
- Expand/elaborate on the performance, operational, safety and compliance issues/problems/gaps at hand and establish a detailed context for RCA.

Note: A RCA team may be a single individual depending on the issue.

3.2.4. Collect required/ relevant data and the timeline sequence for the performance, operational, safety and compliance issues/problems/gaps issue being investigated and explore suitable tools for conducting the RCA.

- The data to be collected could include; interviews, field visits, photographs, equipment data, forensic analysis and other documentation such as flow charts, logs, records, reports etc.

3.2.5. Conduct RCA based on the collected data and timeline sequence.

- Select an appropriate root cause analysis methodology as applicable using the Saudi Aramco RCA Methodology Guide: GD-LPD-12.2-002.
- The RCA outcomes must include details to what happened (description of problem/issue, incident or failure), how it happened (identification of causal factors {immediate causes} with explanation/contextualization), and why (identification of the root causes with explanation/contextualization).

3.2.6. Develop corrective and preventive recommendations or solutions:

- Develop and assign corrective/preventive recommendations/solutions for implementation to address root causes and obtain approval from CPH.
- Use the SMART recommendation writing principles.

- Apply appropriate Management of Change (MOC) to recommendations/solutions where applicable at the event of modification of process or procedure.
- Assign corrective/preventive recommendations/solutions to specific entities/concerned process owners and/or coordinators for implementation.

3.3. Implement and Monitor Recommendations / Solutions:

- 3.3.1. Prepare the final RCA report. (Note: Follow any Saudi Aramco instruction or guide for report review process, such as GI 6.003 Incident Investigation).
- 3.3.2. Implement the corrective/ preventive recommendations /solutions.
- 3.3.3. Develop/ use a designated tracking mechanism for the corrective/ preventive recommendations /solutions.
- 3.3.4. Develop and monitor effectiveness plan for corrective/ preventive recommendations /solutions and obtain approval from CPH.

3.4. Verify Implementation and Communicate Lessons Learned:

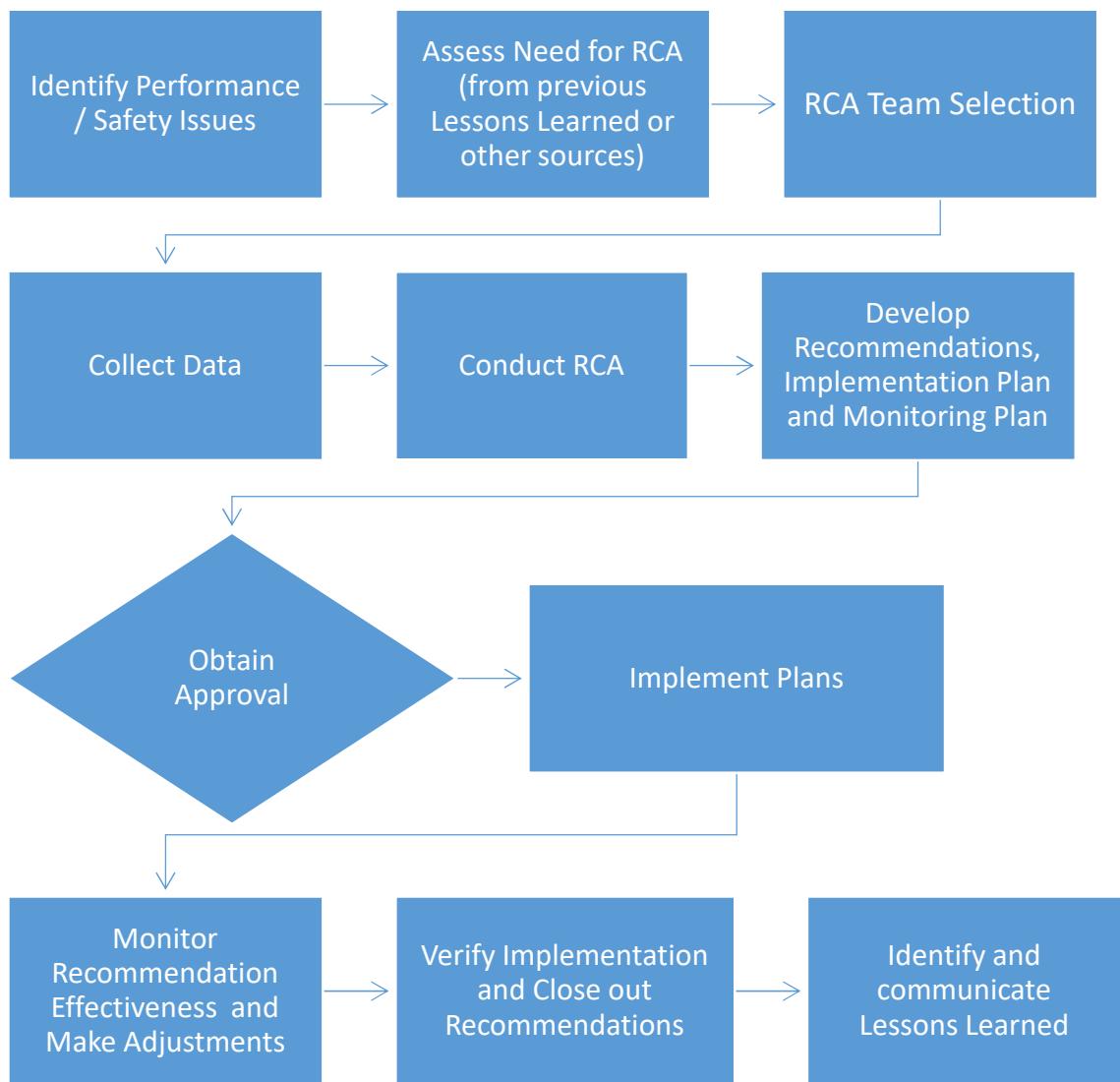
- 3.4.1. Track and verify implementation of the corrective/ preventive recommendations/ solutions.
- 3.4.2. Monitor effectiveness of the implemented corrective and preventive recommendations/ solutions.
- 3.4.3. Share the Lessons Learned across the whole department and with other organizations as applicable.

4. PERFORMANCE MEASURE:

The following table provides process measurement Key Performance Indices (KPI).

Performance Measures	Formula	Source	Frequency
Actual conducted RCA vs Identified issues	$\frac{\text{Actual RCA conducted} / \text{Total Identified Performance, operational and Safety Issues}}{x 100}$	Dept.	Quarterly
Rate of repeat issues.	$\frac{\text{No. of repeated safety issues/observations failure(s)}}{\text{Total Identified safety issues/observations issues}} \times 100$	Dept.	Quarterly
Implemented Recommendations.	$\frac{\text{Implemented recommendations /solutions by due date}}{\text{Total Recommendations /solutions developed}} \times 100$	Dept.	Quarterly
RCA Training for Employees including CHP.	Employees Trained on RCA	Dept.	Quarterly

PROCESS FLOW MAP



OPERATIONAL EXCELLENCE MANAGEMENT SYSTEM

<p>Process # OE-12.3 Benchmarking</p> <p>Note: This process is “Mandatory” and addresses expectation:</p> <ul style="list-style-type: none"> • Benchmarking (Enabling Element # 12) 	<p>Process Owner: (DIV HD or CPH is recommended)</p>	<p>Issue Date: MM/DD/YYYY</p>
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Process Steps



Process Steps Details				
<ul style="list-style-type: none"> • Review Business Performance & Objectives. • Form Benchmarking Team. • Develop Criteria for Partners. • Identify Potential Partners. 	<ul style="list-style-type: none"> • Select Measures & Enablers to Benchmark (i.e., Scope). • Select Benchmarking Type. • Select Benchmarking Partner. • Develop Benchmarking Project Charter. 	<ul style="list-style-type: none"> • Determine data collection method. • Collect Data from Partners. • Verify Data with partners. 	<ul style="list-style-type: none"> • Analyse Partners data. • Identify performance gaps. • Capture lessons learned / best practices. • Share results with Partners. • Set Performance Improvement Targets and Communicate Benefits. • Develop Action Plans. 	<ul style="list-style-type: none"> • Obtain Action Plan Approval. • Implement Action Plans. • Track Implementation. • Review need to benchmark during next business planning cycle.

Responsibilities

Department Head/ Division Heads/ Benchmarking Team	Benchmarking Team	Benchmarking Team	Benchmarking Team	Benchmarking Team/ Affected Process Owners
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References

<ul style="list-style-type: none"> • Business Plan Guidelines • Partner identification: • www.APQC.org 	<ul style="list-style-type: none"> • www.efqm.org • OE Assessment Results • Performance Dialogues
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Performance Measures

<ul style="list-style-type: none"> • % Improvement of Benchmarked Scope • % of Recommendations implemented 	<ul style="list-style-type: none"> • # of Benchmarks conducted vs planned
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1. EXPECTATIONS
2. RESPONSIBILITIES
3. PROCESS STEPS
4. PERFORMANCE MEASURE

1. EXPECTATIONS:

A process is in place to ensure regular and objective internal and external benchmarking of business results to identify improvement opportunities.

2. RESPONSIBILITIES:

2.1 DEPARTMENT HEAD:

- 2.1.1 Approval of benchmarking charter, partner, type and areas for benchmarking.
- 2.1.2 Selection of the benchmarking team, assessment team members (Department's Benchmarking Team).
- 2.1.3 Implementation of benchmarking recommendations action plans across the department.

2.2 DIVISION HEADS:

- 2.2.1 Identification of potential internal, or external benchmarking partners.
- 2.2.2 Incorporating the benchmarking charter in the department Business Plan.
- 2.2.3 Planning of funds and resources for the benchmarking initiative on coordination with other divisions.
- 2.2.4 Implement received benchmarking recommended action items in the Divisions/ Units.
- 2.2.5 Share implemented "Best Practices" with the other divisions in the department.
- 2.2.6 Monitor performance during and after implementation of benchmarking study recommendations.

2.3 DEPARTMENT BENCHMARKING TEAM:

- 2.3.1 Analyze the business for areas to benchmark performance.
- 2.3.2 Document benchmarking charter and confirm alignment with the organization's strategy.
- 2.3.3 Determine relevant, quantitative & qualitative KPIs for the benchmarking topic.
- 2.3.4 Identify potential benchmarking partners.
- 2.3.5 Forecast future performance goals.
- 2.3.6 Follow the benchmarking process as stipulated in this guideline.
- 2.3.7 Share "Lessons Learned" and "Best-Practices".

2.4 AFFECTED PROCESS OWNER:

- 2.4.1 Participate in developing action plan based on “Lessons Learned” from the benchmarking study.
- 2.4.2 Ensure proper execution of action plans following Change Management process.
- 2.4.3 Establish performance monitoring frequency for reporting benchmarking achievements.

3. PROCESS STEPS:

The following is a detailed description of the process steps developed to meet the earlier described process expectation:

3.1 Plan Benchmarking Initiative:



3.1.1 Review Business Objectives:

- Department management should consider a benchmarking initiative:
 - During fulfillment of expectations for OE Enabling Element #1
 - After reviewing the departments' performance against business targets
 - When all efforts to achieve targets have been exhausted.
- A workshop facilitated by OE Process 12.3 Benchmarking Process Owner or the department SME should be held with department management and key personnel to decide where benchmarking is needed most to help achieve business targets. SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis is an example of the tools that can be used in the workshop to identify areas to benchmark.
- Document and align business goals, contributing Focus Areas KPIs and Enabling Elements along with results, targets and processes to ensure benchmarking efforts impact organizational performance.

3.1.2 Form Benchmarking Team:

- Establish the department benchmarking team to ensure effective benchmarking implementation.
- The Department Head will appoint the benchmarking initiative Champion from the department leadership team.
- The Champion should work with OE Process 12.3 Process Owner and the department affected Process Owner to select the rest of the team.

- Team member roles and responsibilities should be clearly defined and accountabilities assigned to ensure benchmarking is objective.
- Assign maximum of 6 to 8 team members (which is considered best-practice).
- Effective benchmarking teams will have a good balance of the skills and qualities listed below:
 - Understanding of benchmarking process - should be familiar with the process of benchmarking.
 - Knowledge of the function – functional expertise in target area for benchmarking studies.
 - Credibility/ respect – demonstrable professionalism.
 - Communication skills – proficiency in written and oral business communication.
 - Team player – interpersonal skills and commitment to collaboration.
 - Interest/ motivation – dedication to process goals and broader OE initiative.
 - Project management skills – ability to organize, plan, execute a project and to deliver it on time, according to project specifications.

3.1.3 Develop Criteria for Benchmarking Partners:

- Department needs to determine whom they will benchmark with depending on type of benchmark and criterion defined during the benchmarking planning phase.
- Use the following criteria as a minimum requirement for determining potential benchmarking partners:
 - Performance of potential partner.
 - Accessibility to potential partner.
 - Culture similarity and compatibility.
 - Cost of participation.
- Add additional criteria based on the department specific needs.

3.1.4 Identify Potential Benchmarking Partners:

- Internal Benchmarking Partners are organizations within Saudi Aramco who agree to benchmark metrics and processes between each other to improve performance.
- Department identifies internal benchmarking partners in the following order starting with the:

Departments → Admin Areas → Business Lines → SA Corporation

- External Benchmarking Partners are organizations external to Saudi Aramco who agree to share specific process or competitive data for the purpose of improving performance.
- Identify potential external partners through analysis of researched organizations and industry recognized leaders.
 - Areas to consider include; industry publications, professional associations, industry experts and quality organizations such as; American Productivity and Quality Center (APQC), www.apqc.org and European Foundation for Quality Management (EFQM) www.efqm.org.
 - Additional sources may include industry consultant data bases. Note: consulting firms are not considered benchmarking partners.
 - List all potential benchmarking partners based on the scope and focus for benchmarking (do not consider criteria defined in 3.1.3 at this stage).

3.2 Identify Benchmarking Scope:



3.2.1 Select Focus Areas & Enablers to Benchmark:

- Based on the department most recent OE self-assessment or corporate assessment results, examine the departments' performance in the following order:

Focus Area KPIs → Core Processes → Generic Processes
- Select the Focus Area KPIs or Process Performance Measures that reflect the business objectives defined in step 3.1.1.
- Select Benchmarking Scope with priority given to Focus Area KPIs that are linked with Core Processes or Enablers.
- Ensure that Focus Areas and Enablers are properly assessed to identify and address Areas for Improvement (AFI) including:
 - Processes and sub-processes are in place and updated.
 - Performance is tracked, dialogues are held and corrective actions planned.
 - Capabilities and required competencies are in place.
- Focus Area or Enabling Elements are expected to have an OE Score around 2.5 to indicate maturity level of OE implementation and performance.

3.2.2 Select Benchmarking Type:

To ensure benchmarking in Saudi Aramco is efficient and cost effective, department should align selected KPIs and Enablers identified in 3.2.1 and through the following selection criteria:

- Select Internal Benchmarking Type to:
 - Compare and analyze KPI or process Performance Measures data between partners to identify performance gaps, improvement opportunities and establish targets.
 - Compare and analyze qualitative information about Enablers & Processes; i.e., What, Why and How of partner activities to identify best practices and improvement opportunities to improve process implementation and performance.
- Select External Benchmarking Type to:
 - Note: Department should first exhaust internal benchmarking options and fulfill requirements described in 3.2.1.5 prior to attempting external benchmarking for any selected KPIs or Processes.
 - Compare and analyze emerging trends in markets, processes, technology and distribution to identify opportunities for strategic change in Core Processes.
 - Study competitors' practices and performance to determine your departments' place within the industry of the core business.

3.2.3 Select Benchmarking Partner:

- To select internal benchmarking partner:
 - Review the benchmarking partner criteria described in step 3.1.3 and adjust as required.
 - Scan Saudi Aramco for internal partners. Refer to potential internal partners list developed in step 3.1.4.
 - Select partner from list starting with those having similar processes and targets as your departments, e.g., department in your Admin Area with the same Focus Area measures and targets.
- To select external benchmarking partner:
 - Review the benchmarking partner criteria described in step 3.1.3 and adjust as

required.

- Benchmarking team reviews the list of potential external partners and determines a mechanism for selecting the appropriate partner.
- The team should use a methodical approach and select the benchmarking partner(s) based on their ability to help the department improve performance.

3.2.4 Develop Benchmarking Project Charter:

- The Benchmarking team should document the benchmarking scope using a project charter approach and ensure the benchmarking charter includes the following:
 - Identification of Stakeholders.
 - Communication mechanisms (i.e., Performance Dialogues).
 - Clearly defined Role and Responsibilities.
 - Initiative Purpose or Justification.
 - Measureable Initiative Objectives (i.e., benchmarking scope KPIs).
 - High-level Initiative Requirements, Description and identified Risks.
 - Summary Milestone Schedule.
 - Summary Budget.

3.3 Collect Benchmarking Data:



3.3.1 Determine Data Collection Method:

- Prepare written surveys and interview questions designed to discover the Who, What and How about the partner's performance or process.
- Plan for site visits as needed.

3.3.2 Collect Data From Partners:

- Tabulate responses using a comparison approach to analyze performance data.
- If required, get more data, such as assessment reports, process, value-stream maps, videos or pictures of the process and or examples of how it is done.
- Conduct site visits as needed to get more insight of partner performance.

For External Data sources:

- Document and compare performance measures or lessons learned obtained through research using a comparison matrix and analysis.

- Document, communicate and adapt lessons learned as easy fixes.
- Note; the department may brainstorm for Areas for Improvement (AFIs) based on the research conducted.

3.3.3 Verify data with Partners:

- Screen the data carefully to ensure the quality and quantity of data collected meets the requirements of a successful study before investing time and resources to implement.
- In case of missing data, the team may choose to delete or estimate data based on observations or pursue more data to improve the study.
- Where possible, ask Who, What and How, to identify gaps and help build confidence in partner performance data.
- Rank and compare gaps identified during verification as needed.

3.4 Analyze Data & Report Findings:



3.4.1 Analyze Data:

- Compare the departments' data with data collected from partners using comparison analysis, process mapping and PDCA methodology.

3.4.2 Identify Performance Gaps:

- Identify gaps in performance by confirming *why* the organization is better by asking:
 - Who is conducting the process? (i.e., competency, experience, MP count).
 - What are they doing that we are not? (i.e., measures, dialogues, training, CI).
 - How are they doing it? (i.e., technology, manual, structured, frequency).

3.4.3 Capture Lessons Learned & Best Practices:

- Apply OE Process 12.5 to track and manage lessons learned to ensure communication, dissemination and implementation of improvement ideas and best practices obtained from the study.
- Communicate lessons learned, best practices and performance gaps with benchmarking partners.

3.4.4 Set Performance Improvement Targets:

- Review benchmarking data along with lessons learned and best practices obtained from benchmarking study and establish performance improvement targets for performance measure KPIs selected in 3.2.1 benchmarking scope.
- Confirm and communicate tangible and non-tangible benefits expected from the study against what was documented in 3.2.4 “Develop Benchmarking Charter”.
- Establish measurement systems for tracking performance achieved during implementation.

3.4.5 Develop Implementation Action Plans:

- Identify action items related to changes in technology or methods, training, human resources, process controls or performance measures.
- Document action plans with assigned owners, timelines and management review frequency.

3.5 Adapt Learnings & Close Gaps:

The following is a further breakdown of the process step details:



3.5.1 Obtain Action Plan Approvals:

- Initiative Champion, including department leadership, reviews and approves implementation plan.
- Plan action items with assigned owners, timelines and targeted improvement should be communicated across the organization to apply Management of Change.

3.5.2 Implement Action Plan:

- As applicable, apply Management of Change / OE Process 10.1 to manage and implement action plans.

3.5.3 Track Implementation:

- Track implementation using the departments defined process in conjunction with performance monitoring and dialogues.
- Communicate performance results “before” vs “after” benchmarking using performance monitoring and dialogues.

3.5.4 Re-measure Performance & Revisit Need To Benchmark:

- Recalibrate performance measures with improved processes and re-measure performance.
- During the next business planning cycle, the benchmarking team may return to step 1 to review need to benchmark and proceed through the entire benchmarking process, from selecting the area to benchmark through implementing improvements.

4. PERFORMANCE MEASURES:

Below table provides measurement KPIs:

Performance Measures	Formula	Source	Frequency
% Improvement of Benchmarked Scope (KPIs)	(Post KPI value - Prior KPI value) / (KPI value prior to benchmark) x 100	Department	Per benchmark initiative
% of Recommendations Implemented	(# of recommendations implemented / total number of recommendations) x 100	Department	Per benchmark initiative
# Benchmark Completion	# of benchmarks conducted vs planned	Department	Annually

OPERATIONAL EXCELLENCE MANAGEMENT SYSTEM

Process # OE – 12.4 Performance Monitoring

Process Owner:

To be defined by the
Organization

Issue Date:
MM/DD/YYYY

Revision:
03

Note: This process is “Mandatory” and addresses expectation:

- Performance Monitoring (Enabling Element # 12)

Process Steps



Process Steps Details

<ul style="list-style-type: none"> • Determine success factors from: • Organization processes. • Organization business objectives: <ul style="list-style-type: none"> • Operation efficiency. • Reliability. • Environment. • Safety. • HR. • Finance. • Energy. • Quality. 	<ul style="list-style-type: none"> • Select KPIs that address the success factors. • Develop new KPIs as needed to address the success factors. • Identify the following for each KPI: <ul style="list-style-type: none"> • Definition. • Calculation method. • Source of data. • Frequency. 	<ul style="list-style-type: none"> • Comply with predetermined Company KPI set targets. • Set challenging targets based on trends or benchmarking data. 	<ul style="list-style-type: none"> • Identify KPIs review frequency. • Track the performance and identify improvement opportunities. • Execute improvement opportunities.
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Responsibilities

Department Head

Department Head/ Division
Head/ Unit Head

Department Head/ Division
Head/ Unit Head

Department Head/ Division
Head/ Unit Head

References

- SMS Element 1, Expectation 8.

Performance Measures

- # OE Performance Review

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1. EXPECTATIONS:

This process will provide guidelines to the Organization to monitor performance using quantitative measurement and/ or KPIs.

2. RESPONSIBILITIES:

2.1. DEPARTMENT HEAD:

- 2.1.1. Provide required resources for Organization to apply an affective KPI dashboard.
- 2.1.2. Approve Organization KPI dashboard with selected owners.
- 2.1.3. Review Organization's KPIs and ensure Organization meet KPI targets.

2.2. DIVISION HEAD:

- 2.2.1. Review Division KPIs and identify improvement opportunities.
- 2.2.2. Assign KPI owners to develop Organization specific KPI(s).

2.3. UNIT HEAD (KPI owner):

- 2.3.1. Develop Organization specific KPIs and set targets.
- 2.3.2. Update KPI dashboard.

3. PROCESS STEPS:



The following subsections will describe each step of the process in details:

3.1. Determine Success Factors:

Determine Organization success factors in achieving OE. The success factors shall address short and long-term expectations derived from:

- 3.1.1. Organization processes.
- 3.1.2. Organization business objectives:
 - Operation efficiency.

- Reliability.
- Environment.
- Safety.
- Human Resources (HR).
- Finance.
- Energy conservation.
- Quality assurance.

3.2. Select/ Develop KPI:

3.2.1. Select KPIs that reflect the Organization success factors from predetermined Company KPI dashboard.

3.2.2. Develop new KPIs that reflect Organization specific success factors. These new KPIs shall be well defined and quantifiable, and shall clearly specify:

- Definition.
- Formula used for calculation.
- Data source.
- Frequency.

3.3. Set Performance Targets:

3.3.1. Establish performance targets for Organization specific KPIs to:

- Comply with predetermined Company KPI set targets.
- Set challenging targets based on trends or benchmarking data.

3.4. Monitor Performance:

3.4.1. Identify KPIs review frequency.

3.4.2. Track the performance and identify improvement opportunities.

3.4.3. Execute improvement opportunities.

4. PERFORMANCE MEASURE:

Below table provides measurement KPIs for this process

Performance Measures	Formula	Source	Frequency
# OE Performance Review	No. of conducted Review Meeting vs. Planned	Organization	Quarterly

OPERATIONAL EXCELLENCE MANAGEMENT SYSTEM

Process # OE – 12.5 Knowledge Management

Process Owner:
To be defined by the
Organization

Issue Date:
MM/DD/YYYY
Revision:
02

Note: This process is “Mandatory” and addresses expectation:

- Knowledge Management (Enabling Element # 12)

Process Steps

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graph LR
    A[Promote] --> B[Map & Embed]
    B --> C[Capture and Organize]
    C --> D[Share & Reuse]
    D --> E[Report & Improve]
  
```

Process Steps Details

<ul style="list-style-type: none"> Assign a Knowledge Officer & form a Knowledge Management (KM) Team Develop an organizational KM plan Conduct KM awareness 	<ul style="list-style-type: none"> Identify key business processes/activities Map the associated knowledge assets Identify and close gaps Embed KM practices within business processes 	<ul style="list-style-type: none"> Build the organization taxonomy Capture knowledge assets Label, categorize and organize knowledge assets Develop & capture Lessons Learned and Best Practices 	<ul style="list-style-type: none"> Check quality of developed knowledge assets Share knowledge assets Conduct knowledge events Reuse knowledge and Quantify KM business benefits 	<ul style="list-style-type: none"> Monitor KM plan implementation Track knowledge sharing activities Report Knowledge Management KPIs Identify and address areas for improvement
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Responsibilities

Department Head / Division Heads/ Knowledge Officer	Knowledge Officer / Department SMEs / Employees	Knowledge Officer / Department SMEs / Community of Practice leader / Employees	Knowledge Officer / Department SMEs / Community of Practice leader / Employees	Department Head/ Division Heads/ Knowledge Officer
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References

<ul style="list-style-type: none"> Communities of Practice (CoP) SABP-A-079 Knowledge Mapping Template Corporate Taxonomy Structure KM Quantifying Benefit Questionnaire APQC's template for determining document criticality APQC's Template for Identifying and Capturing Lessons Learned 	<ul style="list-style-type: none"> Knowledge Asset Quality Check Form KM Policy (INT-16) KM KPIs Guideline KM KPIs Calculation Sheet KM Meeting Template KM Essentials e-learning course
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Performance Measures

<ul style="list-style-type: none"> Knowledge Asset Index Knowledge Events Index Communities of Practice (CoP) Reputation Index (if applicable)

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1. EXPECTATIONS:

This process provides guidelines for organizations to establish a customized Knowledge Management (KM) program and ensure effective knowledge management by planning, capturing, organizing, storing, disseminating and reusing their knowledge assets for realizing economic benefits.

2. RESPONSIBILITIES:

The organization head (e.g. department manager) is accountable for successful implementation of the KM program through ensuring execution of the KM process. The Knowledge Officer (KO) is the process champion and is responsible for successful execution of the process within his/her organization. The KO is the focal point for the KM program at any given department level.

Engineering Knowledge & Resources Division (EK&RD) shall be considered only as an advisory/consultation entity for the KM process and program. The KO and all members of the KM team at each organization are the primary and first line of support for the KM process.

2.1. DEPARTMENT HEAD:

Provides the overall support to the KM program. The major responsibilities include:

- 2.1.1. Inspire, motivate and recognize employees.
- 2.1.2. Appoint Knowledge Officer (KO) (process champion) and a backup for the organization.
- 2.1.3. Endorse KM team member nominations proposed by the KO.
- 2.1.4. Allocate resources and funding for KM.
- 2.1.5. Provide active and visible support and presence to KM initiatives.
- 2.1.6. Monitor KM program performance and discuss areas for improvement.

2.2. KNOWLEDGE OFFICER (PROCESS CHAMPION):

The custodian of KM in a department who is responsible for successful KM process execution and KM program implementation, in addition to proper utilization of KM tools and approaches that support business goals.

He/she is recommended to be an energetic individual with good technical/business background and certified as a Knowledge Officer. The major responsibilities include:

- 2.2.1. Act as the KM single point of contact for his/her organization.
 - 2.2.2. Establish and align organizational KM strategy with the corporate KM program.
 - 2.2.3. Report the KM activities status and KPIs to department management on regular basis.
 - 2.2.4. Oversee and support the implementation of all KM activities.
 - 2.2.5. Support the departmental OE assessments for KM.
 - 2.2.6. Conduct regular awareness sessions on corporate KM program.
 - 2.2.7. Collect and report KM success stories and financial impact to the corporate KM team.
 - 2.2.8. Support and empower SMEs to execute KM related activities.
 - 2.2.9. Ensure healthy CoPs in coordination with the CoP Leader within the department, as applicable.
- 2.2.10. Ensure internal KM reward and recognition program is in place.

2.3. COMMUNITY OF PRACTICE (COP) LEADER:

The primary individual who is accountable for the success of any CoP (if sponsored by the organization). The major responsibilities include:

- 2.3.1. Establish the objectives and purpose of the CoP.
- 2.3.2. Ensure the CoP stays active with a growing number of members and discussions.
- 2.3.3. Conduct regular awareness sessions for members.
- 2.3.4. Manage CoP content and keep it updated.
- 2.3.5. Recognize top contributors and encourage participation.
- 2.3.6. Report the performance of the CoP to the Knowledge Officer.

2.4. SUBJECT MATTER EXPERTS (SME):

Individuals who provide the knowledge and expertise in a specific subject and promote the KM culture. The major responsibilities include:

- 2.4.1. Provide answers to questions in Ask Expert system.
- 2.4.2. Participate in CoP discussions.
- 2.4.3. Participate in face-to-face knowledge sharing meetings.
- 2.4.4. Capture knowledge in the designated KM Corporate system.

2.5. EMPLOYEES:

- 2.5.1. Capture, organize, share, and reuse available knowledge when starting a new project, assignment, task, or study.
- 2.5.2. Develop lessons learned and best practices and share knowledge in the designated KM

repository systems.

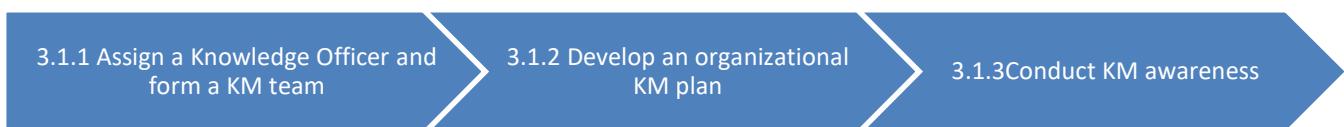
- 2.5.3. Participate in knowledge sharing events.
- 2.5.4. Submit new discussions in CoPs as applicable.
- 2.5.5. Update his/her MySite profile in ShareK.
- 2.5.6. Engage with the Knowledge Officer.
- 2.5.7. Classify and tag files as per Saudi Aramco GI 710.002.

3. PROCESS STEPS:



The following subsections will describe each step of the process in details.

3.1. Promote:



3.1.1. Assign a Knowledge Officer (KO) and form a KM team.

- Establish a KM team for the organization, led by the KO and supported by subject matter experts.

3.1.2. Develop an organizational Knowledge Management plan.

- Develop the organization's KM plan in line with the KM Policy (INT-16) and include the following:
 - Annual KM goals specific to the organization
 - Recognition criteria
 - KM-internal systems used to capture, organize, share and re-use knowledge.
 - KPIs

3.1.3. Conduct KM awareness

- Provide awareness about KM practices, tools and systems by:
 - Conducting a KM awareness workshop (EK&RD-KM team can be contacted to schedule a session)
 - Encouraging completion of the Knowledge Management Essentials e-learning

course by all employees.

3.2. Map & Embed:

The Knowledge Officer (KO) along with SMEs will work with the various entities within the organization to analyze current business processes and map business and knowledge to identify gaps, develop an action plan and embed KM practices within business processes by completing the knowledge mapping exercise using the Knowledge Mapping Template as a guide.



3.2.1.Identify Key Business Processes/ Activities:

- List all the major processes and activities supporting the organization

3.2.2.Map the Associated Knowledge Assets:

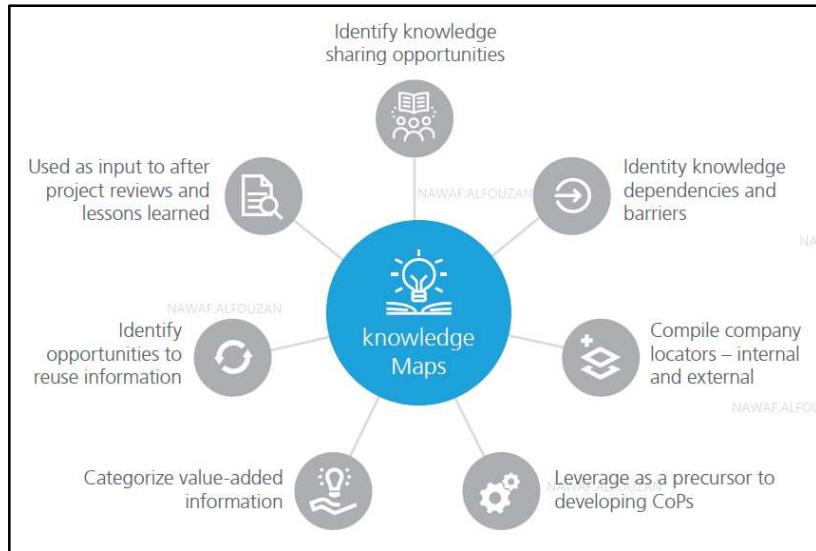
- Identify the required knowledge assets for each process/activity (e.g. best practices, lessons learned, technical reports, procedures etc.) and its properties using the Knowledge Mapping Template.

3.2.3.Identify and Close Gaps:

- For each identified knowledge asset, answer the following questions to identify any gaps:
 - Who owns the knowledge? Who needs that knowledge? Who can validate that knowledge? Is the knowledge documented? Where is the knowledge located? Is the knowledge available when needed?
- Based on the identified gaps, develop an action plan with clear deadlines to close all gaps ranked by criticality and assigned to each business process's SME.

3.2.4.Embed KM Practices within Business Processes:

- As part of closing the identified gaps, improve the steps of implementing work activities by including KM practices and creating knowledge assets (e.g. manuals, handbooks, guidelines, etc.) as needed.
- Common uses of Knowledge Mapping include:



3.3. Capture & Organize

Capturing and organizing knowledge is vital in order to store it and make it available, accessible and usable to users and search engines alike and is the responsibility of the contributors, department SMEs, Knowledge Officers and CoP Leaders.

This can be achieved through the following steps:



3.3.1. Build the Organization Taxonomy:

- Identify organization business domains. Refer to the corporate structure.
- Identify disciplines based on the previous step.
- Identify sub-disciplines based on the previous two steps.
- Identify key words for each sub-discipline.
- Define each key word and include acronyms if applicable.
- Collect & upload all key words and their associated definitions and acronyms in aramcoPedia.
- Build the organizations' knowledge repository (e.g. shared folder, e-cabinet, ShareK, etc.) based on the completed taxonomy structure.

3.3.2. Label, Categorize and Organize Knowledge Assets:

- Classify and organize knowledge assets based on the taxonomy structure in order to enable knowledge discoverability.

3.3.3. Capture Knowledge Assets:

- Store knowledge assets in the systems identified in the KM plan and ensure accessibility for the right users.

3.3.4. Develop & Capture Lessons Learned and Best Practices:

- Develop Lessons Learned and Best Practices documents:
 - A lesson learned is knowledge gained from experience, successful or otherwise, for the purpose of improving future performance. It is a reflection on what was done right, an adverse situation to avoid, what one would do differently, and how one could be more effective in the future. A lesson learned could also be a solution to a problem or corrective action to a situation, or a tip to enhance performance of future projects. Develop lessons learned using the guide -APQC's Template for Identifying and Capturing Lessons Learned
 - A best practice is a methodology or approach to a certain task that delivers measurably better outcomes. Develop best practices using the sample best practice that maybe customized to suit the organizations need.
- Capture Lessons Learned (LL) and Best Practices (BB):
 - Upload the developed documents in the organization specified repository
- Identify applicable Lessons Learned and Best Practices:
 - Organizations shall evaluate the collected lessons learned and best practices to determine their applicability based on the relation to their business.
- Implement and communicate Lessons Learned and Best Practices:
 - Use the applicable documents to enhance organization processes, functions, procedures, and policies.
 - Develop an implementation plan with responsibilities and deadlines.
 - Communicate internally within the organization.
- Track the implementation of Lessons Learned and Best Practices using the Quantifying KM Benefits Questionnaire. Update progress, and take corrective actions as needed.

3.4. Share & Reuse:



3.4.1. Check Quality of Developed Knowledge Assets:

- Critical knowledge assets (use guide - APQC's template for determining document criticality) should be peer-reviewed to check their quality. The Knowledge Asset Quality Check Form could be used to conduct the peer review.

3.4.2. Share Knowledge Assets:

- Share developed knowledge assets (e.g. best practices, lessons learned, technical reports,

presentations, etc.) through face to face meetings and by using the identified knowledge sharing systems (e.g. ShareK, shared folder, e-cabinet, etc.).

3.4.3. Conduct Knowledge Sharing Events:

- The purpose of these knowledge sharing events (workshops, conferences, seminar, roundtable meetings etc.) that are conducted internally or inter-organizationally is to maximize knowledge sharing and prevent recurrence of issues encountered during operations of similar projects. All organizations should identify business critical topics to share at these events. Topics can include, but not limited to:
 - Best Practices and Lessons Learned.
 - New technologies, trends, updates etc.
 - Corporate or technical challenges.
 - Innovative solutions.

3.4.4. Re-Use Knowledge and Quantify KM Business Benefits:

- Re-use the existing knowledge and quantify the success of implementing the corporate KM strategy and its associated practices on business processes in re-using knowledge and in terms of dollar value by completing the Quantifying KM Benefits Questionnaire.

3.5. Report & Improve

Once the KM program is up and running, its progress must be monitored, assessed and improved by applying the following steps:



3.5.1. Monitor KM Goals Implementation:

- The KO shall monitor the progress of the KM goals identified in the KM plan and ensure completion with the desired results and within the timeframe.

3.5.2. Track Knowledge Sharing Activities:

- Collect and track the KM activities against the identified Knowledge Management KPIs. It helps highlighting efforts done in developing knowledge assets, delivering presentations and actively participating in the Communities of Practice (CoP). Refer to the KM KPIs Guideline.

3.5.3. Report Knowledge Management KPIs Regularly:

- Report the identified KM KPIs on quarterly basis to management. KPIs should have clear targets in order to address areas for improvement and recognize high achievers.

3.5.4. Identify Areas of Improvement and Address them:

- Identify opportunities to improve business processes by reviewing the reported KM KPIs during the performance dialogue meetings, identifying areas for improvement and setting plans to address them accordingly.

4. PERFORMANCE MEASURES

Below table provides measurement KPIs for this process:

Performance Measures	Formula	Source	Frequency
Knowledge Asset Index (KAI)	= [Actual Knowledge Assets / Planned Knowledge Assets] * 100% *refer to the guideline for target settings	Organization	Quarterly
Knowledge Event Index (KEI)	= [Actual Event Hours/ Planned Event Hours] * 100% *refer to the guideline for target settings	Organization	Quarterly
CoP Reputation Index (if applicable)	= [(Actual Reputation Score) / (Year End target)] * 100% *refer to the guideline for target settings	Organization	Quarterly

OPERATIONAL EXCELLENCE MANAGEMENT SYSTEM

Process # OE – 12.6 Continuous Improvement

Process Owner:
To be defined by the
Organization

Issue Date:
MM/DD/YYYY
Revision:
03

Note: This process is “Mandatory” and addresses expectation:

- Continuous Improvement (Enabling Element # 12)

Process Steps

Identify and
Prioritize
Improvement
Opportunities

Select
Improvement
Approach and Plan
Improvement

Implement
Improvement &
Evaluate Results

Communicate
Achievements and
Sustain
Improvement

Process Steps Details

<ul style="list-style-type: none"> • Identify improvement opportunities & improvement targets from: <ul style="list-style-type: none"> • FA (Focus Areas) KPI's • RCA (Root Cause Analysis) • compliance reviews • risk register • incidents reports • customer feedback. • Benchmarking • OE assessment • Prioritize opportunities using objective criteria considering: <ul style="list-style-type: none"> ◦ Impact ◦ Ease of implementation 	<ul style="list-style-type: none"> • Select appropriate improvement approach/model e.g: <ul style="list-style-type: none"> • Process Mapping • Root Cause Analysis • Pareto Analysis • Lean Six Sigma • Value Stream Mapping/ Timing Analysis • Plan-Do-Check-Adjust • Kaizen (Just-Do-It) • Establish improvement team based on improvement approach and competency. • Get buy-in from stakeholders affected by improvements. • Develop initiative/action plan to track improvement implementation. 	<ul style="list-style-type: none"> • Implement improvement plan. • Monitor improvement implementation • analyze results by comparing 'before' and 'after' improvement performance • Validate and approve results using best practice approach • Revise and Update OE processes and Internal procedures 	<ul style="list-style-type: none"> • Communicate achievements and benefits realized • Utilize improvement benefits to update business plan accountability report and e-Sight as appropriate. • Sustain improvement by: <ul style="list-style-type: none"> ◦ Monitoring/ assessing improved processes performance. ◦ Capturing and re-using lessons learned from change process. ◦ Taking corrective action as necessary. ◦ Recognizing achievements. ◦ Developing department capabilities to actively capture, channel and specify new opportunities.
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Responsibilities

Department Head/ Division Head/ C.I Team/ OE Representative	Department Head/ Division Head/ CI Team/	Department Head/ Division Head/ CI Team/ OE Representative	Department Head/ Division Head/ CI Team / OE Representative/
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References

- | | |
|---|--|
| <ul style="list-style-type: none"> • OE Self- Assessment Guide • OE Corporate Assessment Protocol • OE Governance Guidelines Module • Audit Reports | <ul style="list-style-type: none"> • Benchmarking Reports • Customer Feedback Analysis • Accountability Reports • Compliance Reviews |
|---|--|

Performance Measures

- | | |
|--|---|
| <ul style="list-style-type: none"> • % Areas For Improvement (AFI) Completion Rate • % CI Project On-Time Completion | <ul style="list-style-type: none"> • \$ Realized Benefits • % CI Capability Utilization |
|--|---|

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1. EXPECTATIONS
2. RESPONSIBILITIES
3. PROCESS STEPS
4. PERFORMANCE MEASURE

1. EXPECTATIONS:

This process will provide guidelines to continually identify improvement opportunities by reviewing enabling elements and processes against best practices, new technologies, innovations, suggestions and lessons learned. Thereby enable the organization to perform improvement activities continuously and routinely to achieve excellent performance and sustain continuous improvement culture.

2. RESPONSIBILITIES:

2.1. DEPARTMENT HEAD:

- 2.1.1. Assign CI Team including the department OE Representative and key SME.
- 2.1.2. Assign OE Assessment Team to conduct self-assessment for the OE processes implementation using the OE governance structure.
- 2.1.3. Communicate the importance of process review to employees.
- 2.1.4. Ensure the health of OE processes and conduct frequent review.
- 2.1.5. Encourage employees to participate in process improvement review and enhancement.
- 2.1.6. Sponsor workshops to have department review team.
- 2.1.7. Approve the OE process improvement plan.
- 2.1.8. Approve all resources required to conduct improvement review.
- 2.1.9. Ensure all team members received enough training to conduct OE assessment.
- 2.1.10. Follow up the action plan of process development and improvement.
- 2.1.11. Approve the OE processes revision/updates.
- 2.1.12. Set stretched targets for department CI program.
- 2.1.13. Creates energy to generate new improvement ideas by engaging the organization.

2.2. DIVISIONS HEADS/ UNIT HEADS/ PROCESS OWNERS/ PROCESS COORDINATORS:

- 2.2.1. Identify OE process improvements opportunities.
- 2.2.2. Communicate the importance of process improvements from top downward.

- 2.2.3. Invite the SMEs to participate in the OE process review workshops.
- 2.2.4. Actively promote and participate in process review events.
- 2.2.5. Act/track the action plan of process improvements to closure.
- 2.2.6. Institutionalize common CI processes and language in the organization e.g., idea generation, problem solving, knowledge and best practice sharing.

2.3. OE REPRESENTATIVE:

- 2.3.1. Ensure the CI Team is aware of department Areas for Improvements and performance gaps.
- 2.3.2. Be an active member of the department CI Team.

2.4. CI TEAM:

- 2.4.1. Ensure focused and effective approach to department improvements
- 2.4.2. Coach department on CI approach and application of CI tools

3. PROCESS STEPS:

The following is the overall process developed to meet the intent of the OE expectation described above:



3.1. Identify and Prioritize Improvement Opportunities:



3.1.1 Establish Department CI Team:

- Establish the department Continuous Improvement (CI) team to facilitate CI activities and ensure effective implementation of CI process through the following:
 - Collect improvement opportunities.
 - Categorize improvements.
 - Plan and facilitate improvement prioritization workshops.
 - Select improvement approach.
- The Department Head should appoint the CI Team considering the following:
 - CI Team must include the department OE Representative.
 - The CI Team must include key SMEs of the OE Implementation.

3.1.2 Identify Improvement Opportunities Resulting from OE Assessment:

- Plan and conduct OE Self-Assessment in alignment OE 1.2."Commitment to Operational Excellence".
- Capture improvement opportunities from OE assessment.

3.1.3 Identify Improvement Opportunities from the following:

- Reviews of Focus Area (FA) KPIs:
 - Performance dialogue review in alignment with OE 12.4 "Performance Monitoring".
- Root Cause Analysis (RCA):
 - Outcome of RCA in alignment with OE 12.2 "Root Cause Analysis".
- Business reviews:
 - Performance of department specific processes as per OE 5.1.x.
 - Department Vision and Mission in alignment with OE 1.1. "Vision, Mission & Strategies".
 - Business plan review in alignment with **OE 6.1 "Efficient Resource Utilization"**.
 - Customer feedback in alignment with OE 2.1. Customer Focus.
 - Compliance audits in alignment with OE 8.1 "Maintain Internal Controls".
 - Risk register in alignment with OE 11.1 "Risk Management".
 - Incidents reports.
- Other Sources:
 - Innovations in alignment with OE 12.1 "Innovation and Technology Deployment".
 - Benchmarking reports in alignment with OE 12.3 "Benchmarking".
 - Knowledge Management in alignment with OE 12.5 "Knowledge Management".
 - Research and development.

3.1.4 Categorize Improvement Opportunities:

- Use a defined process improvement approach to categorize improvements into:
 - Action Items:
 - Single few tasks "Just-Do-It" (JDI).
 - Assign to one person.
 - Can be completed within short duration
 - Initiative:

- Project approach.
- Assign to team.
- Require further study analysis.
- Completed over several months.

3.1.5 Prioritize Improvement Opportunities Using Objective Criteria:

- Use “Impact vs. Easiness” matrix to prioritize initiative as following:
 - Impact criteria should have; strategic alignment, revenue generation, cost saving, HSSE, stakeholders, risks, customers, stakeholders and employees satisfaction.
 - Ease of implementation criteria should have; cost, resources, timeframe and risk.
- Use PDCA as the prioritization criteria for Action Items (i.e. highest priority given to “Plan” then “Do”, “Check” and “Adjust”).

3.2. Select Improvement Approach and Plan Improvements:



3.2.1. Select Appropriate Best Practice Improvement approach:

- Select the most suitable approach to the business improvement based on decision tree (i.e. new opportunity/ process, process failure, gap in performance, known solution and defect type (efficiency or quality)).
- Select appropriate best practice improvement approach e.g:
 - Process Mapping.
 - Root Cause Analysis.
 - Pareto Analysis.
 - Lean Six Sigma.
 - Value Stream Mapping/ Timing Analysis.
 - Plan-Do-Check-Adjust.
 - Kaizen (Just-Do-It).

3.2.2. Establish Improvement Team based on Approach and Competency:

- Identify improvement team based on selected improvement approach.
- Review proposed improvement team considering other entities involvement and finalize team members based on; competency, previous performance and management directions.

- Secure management approval of members' assignment.
- Finalize improvement champion with Department Head.
- Communicate team member assignment.
- Plan and conduct initial kick-off meeting with team members.
- Develop improvement charter with improvement team.
- Approve improvement charter.

3.2.3. Get Buy-In from Stakeholders Affected by the Improvements:

- Identify potential stakeholders affected by the improvement in alignment with OE 2.1 "Identify Customers, Needs, and Measure Satisfaction"
- Inform the affected stakeholders about the improvements and the potential impact.
- Obtain stakeholder feedback about the improvements.
- Review stakeholder feedbacks and address concerns or suggestions.
- Finalize the improvements outlook.
- Communicate the improvement to stakeholders and department employees as part of OE 3.4 "Employee Engagement".

3.2.4. Develop Initiative/ Action Plan to Track Improvement Implementation:

- Develop high level improvement plan with accountabilities based on selected improvement approach.
- Develop the initiative plan timeframe and activities schedule.
- Communicate improvement plan to management to get buy-in.

3.3. Implement Improvements and Evaluate Results:



3.3.1. Implement Improvement Plan:

- Apply structured improvement approach and implement improvement actions while adhering to defined milestones and timeframe.

3.3.2. Monitor Improvement Implementation and Maintain Regular Communication:

- Monitor progress of improvement action implementation and communication to stakeholder.

- Conduct regular improvement workshops to communicate progress to stakeholders as appropriate.

3.3.3. Evaluate Results:

- Analyze results by comparing ‘before’ and ‘after’ improvement performance i.e. comparison of ‘actual’ process performance to targets or improvement goal.

3.3.4. Validate and Approve Results:

- Validate and approve results using best practice approach as appropriate for; cost savings, cycle time reduction, revenue improvement, productivity savings, waste reduction, audit findings reduction, customer satisfaction etc.

3.3.5. Revise and Update Processes or Procedures based on;

- Department management of change process for updating OE processes and internal procedures and in alignment with OE 10.1 “Management of Change” and OE 8.1 “Maintain Internal Controls”.
- Implemented improvement.
- Capture lessons learned from improvement implementations.
- Recommendations from assessments, audits and compliance reviews.

3.4. Communicate Achievements and Sustain Improvement:



3.4.1. Communicate achievements and benefits

- Highlight improvement achievements to department employees during planned events i.e. performance dialogues, engagement and recognition events.
- Share lessons learned in alignment with OE process 12.5 Knowledge Management.

3.4.2. Utilize Realized Benefits to Update Accountability Reports, Business Plan and other Benefit Exhibits:

- Update the accountability reports with benefits realized from implemented improvements.
- Update the Business Plan(s) as appropriate.

- Update e-Sights with benefits realized from implemented improvements.
- Update other Benefit Exhibits e.g Business Plan Exhibit I, OE President Award Template, other prestigious awards templates.
- Utilize the outcome and lesson learned from the implemented improvement to identify further improvement opportunities to be added to the Business Plan.

3.4.3. Communicate Realized Benefits to Planning & Performance Management Department

- Inform Finance the validated cost savings in Year End Accountability reports in order for Finance to update their validated cost savings in the Business Plan(s).

3.4.4. Sustain improvement:

- Continuously practice and make CI day-to-day activities in the organization to achieve and sustain excellence by:
 - Monitoring performance and assessing processes to identify improvement opportunities.
 - Reviewing and enhancing performance measures and targets for department continuous improvement process.
 - Setting stretched target as appropriate.
 - Applying structured approach to implement improvements.
 - Capturing and effectively utilizing lessons learned from improvements.
 - Take corrective action as necessary.
 - Include process optimization in subsequent business plan.
 - Explicitly communicate achievements.
 - Recognize achievements.
 - Develop department capabilities to actively capture, channel and specify new opportunities.

4. PERFORMANCE MEASURE:

Below table provides measurement KPI for this process:

Title of Performance Measure	Description/Formula	Source	Frequency
% Areas For Improvement Completion Rate	Number of AFI Completed divided by Total number of AFIs Identified multiply by 100	Assessment Reports Audit Reports Dashboards Smart Track	Quarterly

		CI Tracker	
% CI Project On-Time Completion	Percentage of Approved CI Projects completed on-time	CI Tracker	Quarterly
\$ Realized Benefits	Value (\$) realized from completed CI Projects	e-Sights/ Accountability Report/ OE Exhibits CI Tracker	Quarterly
% CI Capability Utilization	Percentage of Certified Employees in CI Methodology Leading or Member of Approved CI Projects	Training History CI Tracker	Quarterly

OPERATIONAL EXCELLENCE MANAGEMENT SYSTEM

Process # OE –12.7 Knowledge Transfer

Process Owner:
To be defined by the
Organization

Issue Date:
MM/DD/YYYY
Revision:
03

Process Steps



Process Steps Details

<ul style="list-style-type: none"> Establish the department's Knowledge Transfer Program. Assign Knowledge Transfer Champion (KTC) Provide required orientation and training to KTC. 	<ul style="list-style-type: none"> Conduct gap analysis to identify Knowledge gaps in each discipline Identify & Select Knowledge Providers (KP). Identify Knowledge Recipients (KR) to KPs. Ensure different program guidelines as listed in the process text are followed. 	<ul style="list-style-type: none"> Conduct Knowledge Transfer (KT) training for KPs. Develop the appropriate Knowledge Transfer Gap Closure plans Match and assign KR(s) with the KP(s). 	<ul style="list-style-type: none"> Implement KT plan Monitor KT implementation progress to identify improvement opportunities or enhance intervention strategies through quarterly checkup meetings. Implement improvements based on effectiveness analysis. Sustain KT activities.
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Responsibilities

Department Head / Division Head / Unit Head	KP/ KTC	KP/ KTC	KP/ KTC
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References

<ul style="list-style-type: none"> Service Level Agreement (SLA). PKTP Functions and Activities. IKTP Crafts Knowledge Transfer Plans (CKTP). Demographical Analysis document. 	<ul style="list-style-type: none"> Talent Management System. Knowledge Transfer Gap Closure Plans.
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Performance Measures

<ul style="list-style-type: none"> Critical Gap Closure Qualitative KT Measure
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4. PERFORMANCE MEASURE

1. EXPECTATIONS:

This process will provide guidelines for organizations to ensure effective knowledge transfer by bridging knowledge gaps through transferring knowledge, best practices and skills between the experienced and developing employees in a sustainable manner.

2. RESPONSIBILITIES:

2.1. DEPARTMENT HEAD:

- 2.1.1. Sign Service Level Agreement with Learning Solutions & Services Department (LSSD).
- 2.1.2. Assign a coordinator to establish the department knowledge transfer program.
- 2.1.3. Provide needed resources.
- 2.1.4. Assign responsibilities.
- 2.1.5. Motivate employees for active participation in the KT processes.

2.2. DIVISION HEAD/ UNIT HEAD:

- 2.2.1. Ensure effective participation of employees in the KT program.
- 2.2.2. Approve knowledge assessment matrices.
- 2.2.3. Support KP in developing intervention strategy and provide resources as needed.
- 2.2.4. Monitor KT progress and provide feedback.

2.3. KNOWLEDGE TRANSFER COORDINATOR (KTC) :

- 2.3.1. Contact with Knowledge Transfer Unit (KTU) to plan and implement the department's KT program.
- 2.3.2. Conduct knowledge gap analysis.
- 2.3.3. Coordinate with Unit/ Division Head to identify experienced employees as KPs.
- 2.3.4. Establish a shared folder or a SHAREK space for managing program documents.
- 2.3.5. Oversee the implementation, evaluation, and promotion of the department's KTP.
- 2.3.6. Prepare reports and arrange Advisory Committee meetings and quarterly checkup meetings.
- 2.3.7. Report the number of employees completed knowledge transfer vs. planned.

2.3.8. Communicate the program implementation progress to department management periodically.

2.4. KNOWLEDGE PROVIDERS (KP):

- 2.4.1. Share knowledge and skills with the assigned KR's as per the IKTP or intervention plan.
- 2.4.2. Monitor and measure KR's performance throughout the entire cycle.
- 2.4.3. Liaise with KTC and provide feedback on monthly basis.
- 2.4.4. Share improvement suggestions/ interventions with the KTC.

2.5. KNOWLEDGE RECIPIENTS (KR):

- 2.5.1. Commit to the KT activities.
- 2.5.2. Provide honest feedback about their knowledge.
- 2.5.3. Adhere to scheduled meetings or interviews needed for knowledge evaluation and transfer.

2.6. KNOWLEDGE TRANSFER UNIT (KTU):

- 2.6.1. Provide training to assigned KTC.
- 2.6.2. Provide consultancy to KTC on program implementation.

3. PROCESS STEPS:

The following is the overall process developed to meet the intent of the OE expectation described above:



The following subsections will describe each step of the process in details:

3.1. Establish Knowledge Transfer Program:

3.1.1. Identify KT need for the department:

- Initiate either the Professional or Industrial Knowledge Transfer Program (PKTP or IKTP) according to the following criteria:
 - For a department with 70% professional workforce, the department is recommended to implement the PKTP.
 - For a department with 70% industrial workforce, the department is recommended to implement the IKTP.
 - For a department with near-matching industrial and professional

workforces, the department has the choice to either implement the IKTP, the PKTP, or both.

3.1.2. Identify and assign Knowledge Transfer Champion (KTC) considering:

- Communication, coordination, organizational and interpersonal skills.

3.1.3. Train/ Orient selected KTC:

- Provide training by using PKTP/ IKTP and OE resources.
- Enhance KTC capabilities to implement and oversee the program.

3.2. Assess Employees' Knowledge and Skills:

The organization shall build its knowledge inventory or tasks lists to identify at-risk critical ones, experienced employees possessing required knowledge, and developing employees who need it (Knowledge Gap).

3.2.1. For PKTP:

- Conduct Gap Analysis based on demographics in the department.
- Select KPs considering experience, job-related skills and communication coaching and behavioral skills.
- Identify KRAs as per knowledge gaps.

3.2.2. For IKTP:

- Select KP considering experience, certification in current job, job-related skills and communication coaching and behavioral skills, and any additional requirements provided by learning Solutions and Services Department.
- Identify employees participating as KRAs.
- Conduct technical competency assessments for all participating employees.
- Identify knowledge gaps based on assessment results.

3.3. Plan Knowledge Transfer:

Organization shall plan on closing identified knowledge gaps using the following:

3.3.1. Conduct KT training to KP to understand their role and function.

3.3.2. Develop the appropriate KT plans to close identified gaps:

- For PKTP, create Individual Knowledge Transfer Plans (IKTP) for KRAs in activities identified as needing KT. These activities are the organization's gaps:
- For IKTP:
 - Create Craft Competency-Map (C-Map) for participants in industrial

crafts.

- Create a Craft Knowledge Transfer Plan (CKTP) for KR in industrial crafts.
Tasks that have less than 50% of the KR population at the skilled and mastery level are considered gaps.

3.3.3. Match and assign KR's to work with KP as per IKTP/ C-Map.

3.4. Apply and sustain Knowledge Transfer:

Organization shall conduct KT activities to transfer knowledge from KP to those who need the knowledge as follows:

- 3.4.1. Implement KT plan by coaching KRs as per their development plans (i.e. IKTP/ C-Map).
- 3.4.2. Monitor KT progress through quarterly triad check-ups, KT Consultant meetings and/or supervisor feedback to identify opportunities for enhancing department's KTP.
- 3.4.3. Implement program improvements based on identified opportunities.
- 3.4.4. Sustain the program by closing-out the current implementation cycle and establishing a new one.

4. PERFORMANCE MEASURE:

Below table provides process performance measures:

Performance Measures	Formula	Source	Frequency
Critical Gap Closure % Targets: 2020 = 42% 2021 = 43.1%	# of Closed Gaps / # of Identified Gaps	Department	Monthly (Departments in Implementation Phase)
Qualitative KT Measure	Percentage of completed KR Supervisors Feedback forms with satisfactory rating	Department	Annually



OE Element No. 13

Corporate Social Responsibility

Saudi Aramco has been, throughout its history, and will continue to be a major contributor to the social and economic development of our communities and the Kingdom. Corporate citizenship is a fundamental Corporate Value and corporate social responsibility is the systematic expression of that value in our operations and activities, and, therefore, a key element within our OE System.

The Organization continuously supports the social and economic development of its local community and the Kingdom and serves as a role model for others.

OPERATIONAL EXCELLENCE MANAGEMENT SYSTEM

Process # OE – 13.1 Corporate Social Responsibility

Process Owner:
To be defined by the
Organization

Issue Date:
MM/DD/YYYY
Revision:
03

Note: This process is “Optional” and addresses expectation:

- Corporate Social Responsibility (Enabling Element # 13)

Process Steps



Process Steps Details

<ul style="list-style-type: none"> • Identify citizenship activity • Ensure alignment with citizenship approved themes • Conduct feasibilities studies • Estimate cost • Get approval from appropriate Committees • Forecast in the business plan. 	<ul style="list-style-type: none"> • Ensure compliance to company polices and producers (finance, safety, etc.) • Assign citizenship project team • Coordinate with the assigned working group • Set performance measures • Execute citizenship project/program 	<ul style="list-style-type: none"> • Report citizenship project/program progress • Collect feedback • Analyze performance measure data and feedback • Capture lessons learned 	<ul style="list-style-type: none"> • Take corrective actions • Adjust and calibrate • Incorporate lessons learned in the citizenship plan
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Responsibilities

Department Head./ Division Head / Citizenship Team			
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References

<ul style="list-style-type: none"> • Citizenship GI • Internal procedure • SMS Element 10, Expectation 4 – Off-the-Job Safety Program • Citizenship Division/ Corporate Affairs Corporate Citizenship Division (CCD)/ Public Relations Operations Organization(PROD) 	<ul style="list-style-type: none"> • GI 0850.006 Review and Approval of Information for Public Release. • GI 221.990 Payments For Special Services.
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Performance Measures

- Citizenship Project/ Program/Activity
- Survey result
- Forecast accuracy
- Schedule control

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1. EXPECTATIONS:

The organization and its leadership actively, visibly, systematically, and continuously support the socio-economic development and environmental stewardship of its local community and the Kingdom and serves as a role model for others. Expectations associated with this element include having formalized programs, processes, and practices in place to promote and facilitate:

- Local content and business development
- Protection and preservation of workplace and public health, safety, and environment
- Sustainable energy and resource development, conservation, and utilization
- Volunteerism, community awareness and education, and community outreach/service

2. RESPONSIBILITIES:

2.1. DEPARTMENT HEAD:

- 2.1.1. Support the program implementation.
- 2.1.2. Communicate the programs to employees and encourage effective participation in citizenship activities.
- 2.1.3. Assemble a team to assess issues of public/ local community concerns, and identify means to address them.
- 2.1.4. Recognize achievements and reward contributors.
- 2.1.5. Approve funding through appropriate channels.
- 2.1.6. Provide an overall leadership support.

2.2. DIVISION / UNIT HEAD:

- 2.2.1. Plan for citizenship activities as appropriate and in accordance to the Company's Business Plan timeline.
- 2.2.2. Coordinate approval for planned citizenship activities with Corporate Citizenship Division of Corporate Affairs.
- 2.2.3. Include approved citizenship activities it in the department Business Plan.
- 2.2.4. Arrange for media campaigns and promotional events with the Corporate

Communications Department and Corporate Citizenship division and ensure proper financial allocation by his/ her own org. or as agreed within concerned parties.

2.3. CITIZENSHIP TEAM:

- 2.3.1. Review, assess and give recommendations for proposed activities.
- 2.3.2. Coordinate with SA concerned orgs to ensure alignment and concentrate resources.
- 2.3.3. Ensure financial control (with finance and assigned committees, Company authorities) in terms of allocation, compliance and reporting.

3. PROCESS STEPS:

The following is the overall process developed to meet the intent of the OE expectation described above:



The following subsections will describe each step of the process in details:

3.1. Develop Citizenship Plan:

- 3.1.1. Identify citizenship activities.
- 3.1.2. Ensure alignment with citizenship approved themes.
- 3.1.3. Conduct feasibility studies.
- 3.1.4. Estimate cost.
- 3.1.5. Get approval from appropriate committees.
- 3.1.6. Forecast in the Business Plan.

3.2. Execute Citizenship Event:

- 3.2.1. Ensure compliance to company policies and producers (finance, safety, etc.).
- 3.2.2. Assign citizenship project team.
- 3.2.3. Coordinate with the assigned working group.
- 3.2.4. Set performance measures.
- 3.2.5. Execute citizenship program/ project.

3.3. Monitor Citizenship Plan:

- 3.3.1. Report citizenship program/ activity progress.
- 3.3.2. Collect feedback from the citizenship programs' beneficiaries via several means such as (questionnaires, random surveys, interviews, etc....).

3.3.3. Analyze feedback data and measure impact:

- Identify strengths and areas of improvements to be implemented in the next offerings by:
 - Conducting a thorough review of completed programs/ projects/ activities.
 - Measure impact created against set targets.
 - Analyzing collected feedback.

3.3.4. Capture lessons learned

3.4. Adjust Citizenship Plan:

3.4.1. Take corrective actions:

- Develop an action plan to enhance ongoing or upcoming citizenship offerings.

3.4.2. Adjust and calibrate.

3.4.3. Incorporate lessons learned the citizenship plan.

4. PERFORMANCE MEASURE:

Below table provides measurement KPIs for this process:

Performance Measures	Formula	Source	Frequency
Citizenship Project/ Program/Activity	Number of beneficiaries, social return per \$ invested, jobs created, saved lives or others as applicable	Department/Concerned Technical Org	Annually
Survey result	Analysis of the survey outcomes compared to the objective	Department	Annually
Forecast accuracy	Budget Plan vs actual	Department	Annually
Schedule control	Project/ program schedule control	Department	Annually

Revision Control Purpose Only (Do not Print)**Current Revision:**

Document No: GL-OED-1.3-001 Appendix-I		
Revision Date: 12/23/19	Revision: 05	Approval: OE&ESSD Manager

Change History:

Rev. no.	Date	Revision Details
00	01/31/14	Original Document
01	01/31/16	Process Updates
02	01/12/17	Comprehensive Revision – MOC-DOC-OED-16-007
03	12/28/17	MOC-CRM- 4041805381: <ul style="list-style-type: none">• Updated References in the document to reflect updated OE Processes• Updated OE Process 5.3• Replaced OE Processes 7.1; 7.2; 7.3; 7.4 with two (2) newly developed OE Processes 7.1 “Service Contract Procurement & Administration” and 7.2 “Material Procurement & Administration”.• Replaced OE Processes 9.2 and 9.3 with one (1) newly developed OE Process 9.2 “Data Protection Program”.• Updated OE Process 10.1• Combined OE Process 12.5 and 12.8 into new OE Process 12.5 “Knowledge Management”• Added either “Mandatory”; “Conditional” or “Optional” to the process summary sheets of all processes.

04	12/28/18	<p>MOC-CRM- 4042346446:</p> <p>The below OE processes were updated with minor changes, see changes highlighted in “Yellow”:</p> <ul style="list-style-type: none"> OE Processes: 1.1; 1.2; 3.1; 3.2; 3.3; 4.1; 4.2; 4.3; 5.1; 5.3; 6.1; 7.2; 9.1; 10.1; 11.1; 11.2; 11.3; 12.3; 12.4 and 12.7 <p>The below OE processes were comprehensively updated:</p> <ul style="list-style-type: none"> OE Processes 3.4; 7.1; 8.1; 12.1; 12.2; 12.5; 12.6 and 13.1
05	12/23/19	<p>MOC-CRM- 4042924147:</p> <p>The below OE processes were updated with minor changes, see changes highlighted in “Yellow”:</p> <ul style="list-style-type: none"> OE Processes: 2.1; 3.1; 5.2; 7.1; 10.1; 11.1; 12.4; 12.5; 12.6 <p>The below OE processes were comprehensively updated:</p> <ul style="list-style-type: none"> OE Processes 1.1; 1.2 & 6.1 Merged; Old 1.3 retitled 1.2 and comprehensively revised; 5.1