ENERGISTICS E&P BUSINESS PROCESS REFERENCE MODEL
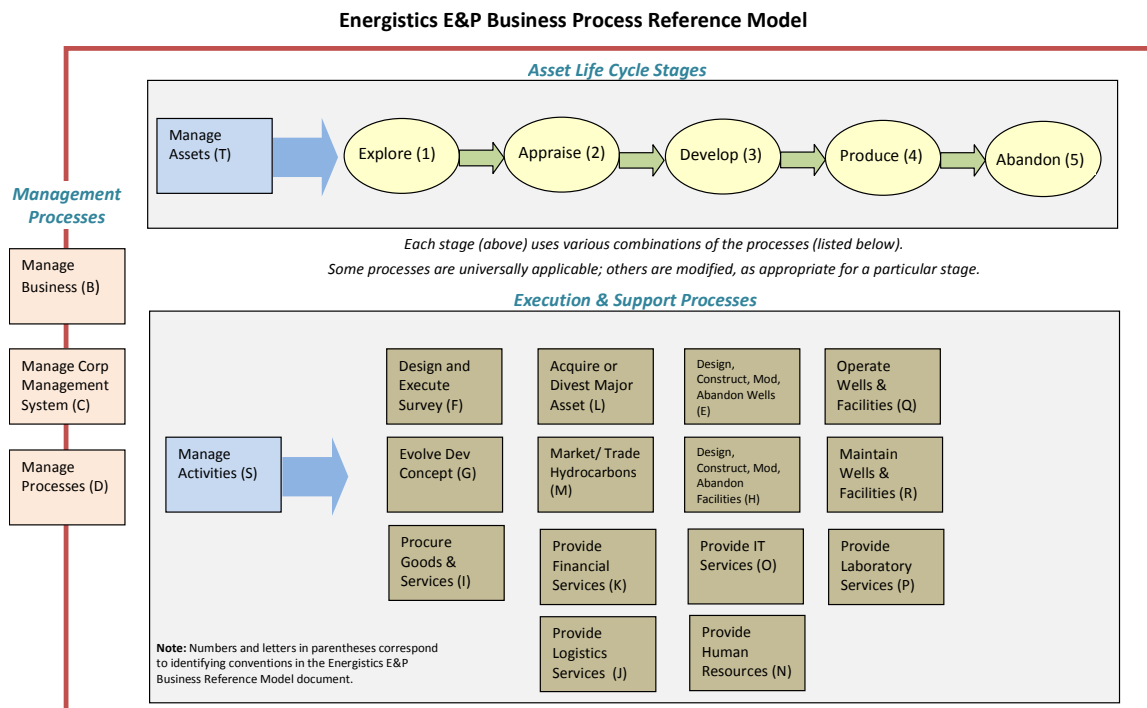
Table of Contents

Introduction

The Energistics E&P Business Process Reference Model (Business Process Reference Model) identifies the asset life cycle stages and the main business, operational, and management processes used to execute the work in those stages.

The figure below provides a high-level overview of the model.

The current version of this model is based on one that is used by a major energy company. The model does not depend on nor promote any specific organizational structure or technical tools.

The Business Process Reference Model is itself an Energistics standard. As such, it is subject to updates and enhancements. To find out more about updating the model, contact Energistics.

Energistics E&P Business Process Reference Model

Asset Life Cycle Stages

Manage Assets (T) → Explore (1) → Appraise (2) → Develop (3) → Produce (4) → Abandon (5)

Each stage (above) uses various combinations of the processes (listed below).
Some processes are universally applicable; others are modified, as appropriate for a particular stage.

Management Processes

Manage Business (B)

Manage Corp Management System (C)

Manage Processes (D)

Execution & Support Processes

Manage Activities (S)

Design and Execute Survey (F) — Acquire or Divest Major Asset (L) — Design, Construct, Mod, Abandon Wells (E) — Operate Wells & Facilities (Q)

Evolve Dev Concept (G) — Market/ Trade Hydrocarbons (M) — Design, Construct, Mod, Abandon Facilities (H) — Maintain Wells & Facilities (R)

Procure Goods & Services (I) — Provide Financial Services (K) — Provide IT Services (O) — Provide Laboratory Services (P)

Provide Logistics Services (J) — Provide Human Resources (N)

Note: Numbers and letters in parentheses correspond to identifying conventions in the Energistics E&P Business Reference Model document.

Purpose of the Model

The Business Process Reference Model serves as a source for defining common processes, concepts and vocabulary for which standards are developed and applied.

Benefits of the Model

The key benefits of maintaining and using this standard Business Process Reference Model include:

- Saves time in developing standards and best practices because business process context does not have to be defined for each standards development cycle.

- Facilitates development, understanding, and application of standards to business processes because of clear, common definitions of processes, concepts, and vocabulary.

- Can serve as a starting point for defining innovative new workflows, including alternate approaches enabled by newer Internet-based technologies such as real-time communication and collaboration.

- Provides basis for requirements for automating workflows within application software and interoperability among applications.

- Facilitates industry and cross-industry business process standards development activities, and enhances the strength and credibility of the E&P industry in such endeavors.

Asset Life Cycle Stages

The asset life cycle is composed of 5 stages, which are described in this section. Stages include: Explore (1), Appraise (2), Develop (3), Produce (4), and Abandon (5).

The Business Process Reference Model does not prescribe the component processes of each of the five asset life cycle stages, so as to allow an appropriate plan to be devised and defined for each asset. The driving process for each asset in each stage is Manage Asset (T). Service process instances are embedded to complete the process instance definition. The management of each service process instance comes from Manage Activity(S).

Note: The processes described in this document pertain to *all* assets (such as facilities, equipment, etc.) But the focus of this document is on hydrocarbon-producing assets.

Explore (1)

The scope of this stage spans the initial conception of an asset through exploration activities to the demonstration of the viability of the asset with a positive decision to progress to the second stage, appraisal. This stage is also known as the discovery stage.
Thread: 1, Version: 0, Date: 2007-04-23, Status: draft
Internal Id: (pending), Successor Version: 0, User: Energistics, Comment: draft

Typical Service Processes

The service processes that are generally used in this stage are:

- Acquire-Divest Asset (L) - if appropriate to enable this stage

- Execute Survey (F) - for site surveys, geophysical surveys, etc.

- Develop Concepts (G) - for processing, analysis, and interpretations

- Maintain (R) - for facilities and equipment used in this stage

- Construct Wells (E) - for exploration wells

Universally Applicable Service Processes:

- Provide Goods-Services (I)

- Provide Logistics (J)

- Provide Finance (K)

- Provide HR (N)

- Provide IT (O)

- Provide Lab (P)

Appraisal (2)

This scope of this process spans the post-exploration processing, analysis, and interpretation leading to static and dynamic models and production and facility plans before starting the third stage, develop. This stage is also known as the definition stage.

Thread: 2, Version: 0, Date: 2007-04-23, Status: draft
Internal Id: (pending), Successor Version: 0, User: Energistics, Comment: draft

Typical Service Processes

The service processes that are generally used in this stage of the asset life cycle are:

- Execute Survey (F) - for additional geophysical surveys, well log surveys, site surveys, etc.
- Develop Concepts (G) - for processing, analysis, and interpretations
- Construct Facilities (H) - for support of field activities in this stage
- Construct Wells (E) - for appraisal wells
- Maintain (R) - for facilities and equipment used in this stage
- Acquire-Divest Asset (L) - if additions or reductions are needed during this stage

Universally Applicable Service Processes

- Provide Goods-Services (I)
- Provide Logistics (J)
- Provide Finance (K)
- Provide HR (N)
- Provide IT (O)
- Provide Lab (P)

Develop (3)

This scope of this process spans the pre-production development activities, including well and facility construction through to commissioning and preparation for fourth stage, produce. This stage is also known as the construction stage.
Thread: 3, Version: 0, Date: 2007-04-23, Status: draft
Internal Id: (pending), Successor Version: 0, User: Energistics, Comment: draft

Typical Service Processes

The service processes that are generally used in this stage of the asset life cycle are:

- Construct Facilities (H) - for direct and indirect support of the planned production activities
- Maintain (R) - for facilities and equipment used in this stage
- Construct Wells (E) - for development wells
- Execute Survey (F) - for initial production logging, well log surveys, etc.
- Develop Concepts (G) - for processing, analysis, and interpretations
- Acquire-Divest Asset (L) - if additions or reductions are needed during this stage

Universally Applicable Service Processes:

- Provide Goods-Services (I)

- Provide Logistics (J)
- Provide Finance (K)
- Provide HR (N)
- Provide IT (O)
- Provide Lab (P)

Produce (4)

This scope of this process spans the production development activities, including well and facility construction through to commissioning and preparation for fourth stage, produce. This stage is also known as the exploitation stage.
Thread: 3, Version: 0, Date: 2007-04-23, Status: draft
Internal Id: (pending), Successor Version: 0, User: Energistics, Comment: draft

Typical Service Processes

The service processes that are generally used in this stage of the asset life cycle are:

- Operate (Q) - Production operations activities
- Trade Hydrocarbons (M) - Associated hydrocarbon trading and marketing
- Construct Facilities (H) - if new or upgraded facilities are needed
- Maintain (R) - for facilities and equipment used in this stage
- Construct Wells (E) - for in-fill wells
- Execute Survey (F) - for real-time data collection, testing, and logging
- Develop Concepts (G) - for processing, analysis, and interpretations of existing and new data
- Acquire-Divest Asset (L) - if additions or reductions are needed during this stage

Universally Applicable Service Processes:

- Provide Goods-Services (I)
- Provide Logistics (J)
- Provide Finance (K)
- Provide HR (N)
- Provide IT (O)
- Provide Lab (P)

Abandon (5)

This scope of this process addresses the post-production disposition of the asset, whether through sale or site restoration. This stage is also known as the dispose stage.
Thread: 5, Version: 0, Date: 2007-04-23, Status: draft
Internal Id: (pending), Successor Version: 0, User: Energistics, Comment: draft

Typical Service Processes

The service processes that are generally used in this stage of the asset life cycle are:

- Acquire-Divest Asset (L) - if disposition is through sale in whole or part
- Construct Wells (E) - Plug and abandon activities

- Wells Execute Survey (F) - for site condition surveys
- Construct Facilities (H) - if needed to support plug & abandon and site restoration activities
- Maintain (R) - for facilities and equipment used in this stage

Universally Applicable Service Processes:

- Provide Goods-Services (I)
- Provide Logistics (J)
- Provide Finance (K)
- Provide HR (N)
- Provide IT (O)
- Provide Lab (P)

Execution and Support Processes

 [Number of instances = 515]

Explore and Produce (A)

[/] Perform the activities necessary to explore for and exploit hydrocarbon resources.
A, Version: 0, Date: 2002-07-12, Status: original

Manage Company (B)

[/company] Manage the company. Analyze the business environment and stakeholder requirements. Define business direction including business issues (opportunities, concerns, and risks), policies, mission, vision, objectives, strategies, business principles and planning assumptions. Manage the business plan for all company assets.
B, Version: 0, Date: 2002-07-12, Status: original

Manage Relationships (B01)

[/company/relationships] Identify all stakeholders. Discuss and agree with them on their requirements and needs, specifically with respect to key business issues. Maintain regular contacts to sense changes to business environment. Ensure feedback is received and used to improve business performance.
B01, Version: 0, Date: 2002-07-12, Status: original

Manage Owner Relationships: [/company/relationships/owners] Discuss and agree on the shareholder requirements. Ensure that communications with shareholders are carried out at the appropriate level.
B0101, Version: 0, Date: 2002-07-12, Status: original

Manage Partner Relationships: [/company/relationships/partners] Discuss and agree on the partner requirements. Ensure that communications with partners are carried out at the appropriate level.
B0102, Version: 0, Date: 2002-07-12, Status: original

Manage Government Relationships:
[/company/relationships/governments] Discuss and agree on the host government agency requirements. Ensure that communication with

government agencies and local authorities are carried out at the appropriate level and in such a way that the company's relationship with the government is protected and improved.
B0103, Version: 0, Date: 2002-07-12, Status: original

Manage Public Relationships: [/company/relationships/public] Manage issues with the media and public at large including providing public relations collateral material containing information on the company's objectives, operations and performance to outside parties (through informing the media, the provision of procedural information, company visits, publications and presentations). Analyze and report on social developments, defined business issues, and public opinion and their possible impact on company's objectives and operations.
B0104, Version: 0, Date: 2002-07-12, Status: original

Manage Customer Relationships: [/company/relationships/customer] Maintain a clear relationship with external customers. Discuss and agree on external customer requirements specifically to defined business issues. Analyze and report on new developments that may impact on the company's objectives and operations.
B0105, Version: 0, Date: 2002-07-12, Status: original

Manage Industry Relationships: [/company/relationships/industry] Maintain relationships with the industry as a whole and with organizations that represent segments of the industry.
B0106, Version: 0, Date: 2002-07-12, Status: original

Manage Suppliers Relationships: [/company/relationships/suppliers] Pursue and maintain a partnership with suppliers and contractors. Discuss and agree on supplier requirements specifically related to defined business issues. Analyze and report on new developments that may impact on the company's objectives and operations.
B0107, Version: 0, Date: 2002-07-12, Status: original

Manage Staff Relationships: [/company/relationships/staff] Manage a support infrastructure to communicate, consult and advise on employment and defined business issues. Disseminate and provide guidance concerning employment policies and procedures for employees, line management and contractors within the organization. Define an interface to inform, confer and negotiate with outside sources of labor and/or employee representatives.
B0108, Version: 0, Date: 2002-07-12, Status: original

Manage Subsidiary Relationships: [/company/relationships/subsidiaries] Mange the activities of subsidiary companies. Appoint a company representative responsible for overseeing the affairs of each subsidiary company. Influence the setting of strategies, plans and targets; agree allocation of capital and appraisal controls, and business performance.
B0109, Version: 0, Date: 2002-07-12, Status: original

Define Strategy (B02)

[/company/strategy] Analyze the business environment (including technology development) and review stakeholder requirements. Provide an impact and opportunity assessment. Define company policy towards business risks. Define or revisit the company mission, vision

and critical success factors. Execute strategic studies on key company issues. Develop company objectives and strategies and prepare planning assumptions. Assess the organization's capability to meet objectives and strategies and update accordingly.
B02, Version: 0, Date: 2002-07-12, Status: original , [=> /company/plan]

Analyze Owner Requirements: *[/company/strategy/requirements] Analyze the impact of the changes in the local and business environment and the stakeholder requirements. Review and analyze technology developments. Provide a business environment impact and opportunity assessment.*
B0201, Version: 0, Date: 2002-07-12, Status: original, [=> /company/strategy/risks]

Assess Risks: *[/company/strategy/risks] Identify risk domains and provide a risk assessment for risks that require a corporate policy and other specific controls, e.g. health, safety and environment (HSE); financial and commercial; information and communication integrity; asset integrity; reputation or image; security; quality of deliverables; Human Resource competence and skills.*
B0202, Version: 0, Date: 2002-07-12, Status: original, [=> /company/strategy/principles]

Define Principles: *[/company/strategy/principles] For each key risk domain, define the company policy which guides management's course of action. Define and provide the company's business policies and principles, including code of conduct and responsibilities to stakeholders.*
B0203, Version: 0, Date: 2002-07-12, Status: original, [=> /company/strategy/mission]

Define Mission: *[/company/strategy/mission] Define or revisit the company mission and vision in light of the changes to environment or company policies. Identify what changes have occurred and what influence these will have on the mission and vision.*
B0204, Version: 0, Date: 2002-07-12, Status: original, [=> /company/strategy/csf]

Define CSFs: *[/company/strategy/csf] Define company critical success factors (CSFs) which are the issues, challenges and concerns essential to meet the company's mission and vision. These provide focus to establish the company direction including the objectives and strategies.*
B0205, Version: 0, Date: 2002-07-12, Status: original, [=> /company/strategy/alignment]

Verify Strategic Alignment: *[/company/strategy/alignment] Match the stakeholders' requirements, needs and expectations against the company CSFs to identify where there is agreement, gaps and conflicts. Align the company mission, vision and policies to those of the stakeholders. Identify gaps and/or conflicts which will need to be managed. As appropriate, revisit the mission, vision, policies, adding CSFs or creating processes to manage each conflict.*
B0206, Version: 0, Date: 2002-07-12, Status: original, [=> /company/strategy/studies]

Conduct Strategic Studies: [/company/strategy/studies] Carry out strategic planning studies and produce strategic planning study reports.
B0207, Version: 0, Date: 2002-07-12, Status: original, [=> /company/strategy/assumptions]

Establish Business Planning Assumptions: [/company/strategy/assumptions] Establish and document business planning assumptions. Define the planning premises valid for the business environment to be used for operating unit portfolio analysis in addition to any defined company-wide scenarios.
B0208, Version: 0, Date: 2002-07-12, Status: original, [=> /company/strategy/integration]

Achieve Strategic Integration: [/company/strategy/integration] Review and update business policies and principles, mission and vision, etc. to ensure strategic integration.
B0209, Version: 0, Date: 2002-07-12, Status: original, [=> /company/strategy/objectives]

Define Objectives: [/company/strategy/objectives] Define company objectives (what the company wants to do) in line with the mission, vision and the business environment, for the objective horizon (e.g., 5 years). Prepare company strategies (how will the company do it) to achieve these objectives. Cascade objectives and strategies throughout the organization including support areas, e.g., Information Technology, Human Resources, Finance, Contracting and Procurement.
B0210, Version: 0, Date: 2002-07-12, Status: original, [=> /company/strategy/capabilities]

Define Capabilities: [/company/strategy/capabilities] Identify the required organizational capabilities (structures, systems, values, style, and people) which enable the company to accomplish its business objectives and strategies. Identify the core competencies of the company.
B0211, Version: 0, Date: 2002-07-12, Status: original, [=> /company/strategy/gaps]

Close Capability Gaps: [/company/strategy/gaps] Assess the degree to which the organization capabilities requirements currently exist, and define the nature and size of the gaps, if any. Determine the actions to be taken to close the gap. Re-evaluate the strategies if the full gap cannot be bridged in the required time frame. Update required organizational capabilities to reflect gaps and related actions.
B0212, Version: 0, Date: 2002-07-12, Status: original

Manage Plan (B03)

[/company/plan] Maintain a ranked opportunity portfolio. Update and review the hydrocarbon integrated resource plan including reserves. Prepare and optimize the activity and financial program, including budgets. Gain support, endorsement and approval from shareholders and partners for the plans and budgets. Review performance and changes to business plan and opportunity portfolio.
B03, Version: 0, Date: 2002-07-12, Status: original

Maintain Opportunities*: [/company/plan/opportunities] Update and review the company ranked opportunity portfolio; including exploration, production, technology opportunities for process and asset improvement. Screen and rank the portfolio according to the latest planning assumptions. Derive a list of ranked investment opportunities. Create an integrated opportunities list to initiate coordinated new technology opportunities and new scouting initiatives. If required, discuss preliminary program descriptions with advisers and/or shareholders and gain their advice and support.*
B0301, Version: 0, Date: 2002-07-12, Status: original, [=> /company/plan/hydrocarbonplan]

Maintain Hydrocarbon Resource Plan*: [/company/plan/hydrocarbonplan] Update and review the company hydrocarbon integrated resource plan commensurate with the corporate objectives. Optimize the hydrocarbon resource plans based over the medium (1 to 5 years) and long term (5 to 20 years). Identify sensitivities, risks and liabilities. Prepare a petroleum resources report on the basis of the changes in producing asset parameters (based on asset revisions), in the cumulative production and in economic variables.*
B0302, Version: 0, Date: 2002-07-12, Status: original, [=> /company/plan/assetprograms]

Maintain Asset Programs*: [/company/plan/assetprograms] Review the asset reference plans for the proposed program quantified in terms of hydrocarbon volumes, resources, cash flows etc. Consolidate these plans and optimize the hydrocarbon volumes, resources, cash flows etc., to meet the required objectives, strategies and constraints e.g. financial, staffing levels, production levels.*
B0303, Version: 0, Date: 2002-07-12, Status: original, [=> /company/plan/businessplan]

Maintain Business Plan*: [/company/plan/businessplan] Prepare and update the business plan (objectives, strategies for each element): (a) Activity Program; (b) Performance Forecasts and Targets; (c) Budgets; (d) Financial Program.*
B0304, Version: 0, Date: 2002-07-12, Status: original, [=> /company/plan/approvals]

Obtain Approvals*: [/company/plan/approvals] Obtain approval of business plan from the shareholders and partners.*
B0305, Version: 0, Date: 2002-07-12, Status: original, [=> /company/plan/publication]

Publish Strategy & Plans*: [/company/plan/publication] Disseminate the plans, objectives, strategies, forecasts and targets for the program period to all staff. Set specific organizational (e.g. asset) and staff targets and tasks according to the plan.*
B0306, Version: 0, Date: 2002-07-12, Status: original, [=> /company/plan/monitoring]

Monitor Strategy & Plans*: [/company/plan/monitoring] Compile regularly a company performance report summarizing the performance of the company's business (es), assets and activities.*

*B0307, Version: 0, Date: 2002-07-12, Status: original, [=>
/company/plan/assessment]*

Assess Performance: *[/company/plan/assessment] Review company
performance against plans and targets. Review changes to asset reference
plans (refer to ""Manage Assets"") that effect the company hydrocarbon
integrated resource plan and to process improvement plans (refer to
""Manage Processes""). This includes the review of potential acquisitions and
divestments which affects the company portfolio of opportunities and new
opportunities offered by the application of new technology.*
B0308, Version: 0, Date: 2002-07-12, Status: original

Manage Accountability (C)

[/accountability] Describe approach to overall accountability, i.e. management structure
and controls. Implement and deploy the accountability approach in the organization. Define
and appraise company business controls.
C, Version: 0, Date: 2002-07-12, Status: original

Maintain Controls (C01)

[/accountability/controls] Create/update the company accountability approach that provides
a documented structured framework to ensure compatibility, coordination and control of
processes and assets.
C01, Version: 0, Date: 2002-07-12, Status: original, [=> /accountability/deployment]

Maintain Process Model: *[/accountability/controls/processmodel] Define
the key processes (use the reference business plan as a basis). Identify and
agree for each process the customers, outputs/deliverables, inputs and
suppliers. Ensure that the boundaries between various processes are
unambiguous; and that appropriate linkages between processes are in place.
Assign ownership for each process.*
*C0101, Version: 0, Date: 2002-07-12, Status: original, [=>
/accountability/controls/assetownership]*

Define Asset Ownership: *[/accountability/controls/assetownership] Define
and describe the company assets and assign ownership.*
*C0102, Version: 0, Date: 2002-07-12, Status: original, [=>
/accountability/controls/organization]*

Define Organization: *[/accountability/controls/organization] Define
organization, roles, responsibilities and authorities and the general
organizational procedures that apply to the management of all processes and
assets.*
*C0103, Version: 0, Date: 2002-07-12, Status: original, [=>
/accountability/controls/documents]*

Manage Documents: *[/accountability/controls/documents] Establish the
company document structure including the hierarchy between laws, policies,
standards, procedures, and task instructions. Define standard classification
taxonomy. Implement in a document management system.*
*C0104, Version: 0, Date: 2002-07-12, Status: original, [=>
/accountability/controls/controlframework]*

*Manage Control Framework: [/accountability/controls/controlframework]
Establish a framework of controls for each risk domain as part of the
company accountability program based on the business policies and
principles (see Define Principles). Ensure that the following risk controls are
integrated in the process and asset management program (refer to Manage
Processes and Manage Asset): (a) Organizational controls. Refer to ""Define
Capabilities"". (b) Policy controls. Refer to ""Define Policies and Principles"";
(c) Procedural controls. Standards and procedures to be deployed in the
process and asset management programs; contingency plans and
procedures. (d) Supervisory controls: setting performance targets and
investigating incidents. (e) Review and Appraisal controls. Adequate review
and appraisal mechanisms at company, process and key asset levels.
C0105, Version: 0, Date: 2002-07-12, Status: original, [=>
/accountability/controls/publication]*

*Publish Control Documents: [/accountability/controls/publication] Compile
the company accountability program documentation including accountability
manual, asset registers, authorities manual, organization structure, HSE
management program manual, and contracting and procurement guidelines.
Describe transition and deployment requirements.
C0106, Version: 0, Date: 2002-07-12, Status: original*

Deploy Control (C02)

[/accountability/deployment] Implement and deploy the company accountability program.
Review implementation. Induct all new or re-assigned staff members in the company
accountability program.
C02, Version: 0, Date: 2002-07-12, Status: original

*Plan Controls Deployment: [/accountability/deployment/preparation]
Prepare a company accountability program implementation plan, covering the
key deployment activities including training, system installation, data
migration, commissioning of new program, and decommissioning of old
program. Identify review milestones.
C0201, Version: 0, Date: 2002-07-12, Status: original, [=>
/accountability/deployment/implementation]*

*Implement Controls Changes:
[/accountability/deployment/implementation] Execute the company
accountability program implementation plan. Initiate the training and
installation of tools and systems. Disseminate the process performance
indicators.
C0202, Version: 0, Date: 2002-07-12, Status: original, [=>
/accountability/deployment/review]*

*Review Controls Deployment: [/accountability/deployment/review] Review
the implementation. Create or update a registry of lessons learned. Record
business performance experiences. Initiate appropriate improvements.
Disseminate experiences.
C0203, Version: 0, Date: 2002-07-12, Status: original*

Appraise Controls (C03)

[/accountability/assessment] Ensure all processes, assets, risk domains are periodically
subjected to audits and reviews. Plan and conduct audits and reviews to verify the

performance and the appropriateness of the company accountability program. Assess and initiate improvements.
C03, Version: 0, Date: 2002-07-12, Status: original

> *__Prepare Assessment__: [/accountability/assessment/preparation] Based upon the assessment of the overall company accountability program, review the mandate, strategies and standards for the audit and review bodies.*
> *C0301, Version: 0, Date: 2002-07-12, Status: original, [=> /accountability/assessment/planning]*

> *__Plan Assessment__: [/accountability/assessment/planning] Based on the criticality of processes/assets/risk domains and perceived levels of control, identify audit subjects and the focus, scope and expertise requirements. Prepare an integrated plan for audits and reviews.*
> *C0302, Version: 0, Date: 2002-07-12, Status: original, [=> /accountability/assessment/reviews]*

> *__Conduct Assessment__: [/accountability/assessment/reviews] Carry out audits and reviews. Evaluate the company accountability program for each subject and recommend actions for improvement. Agreed actions become part of the asset or process improvement plan of the area concerned.*
> *C0303, Version: 0, Date: 2002-07-12, Status: original, [=> /accountability/assessment/improvements]*

> *__Improve Controls__: [/accountability/assessment/improvements] Based on (internal and external) audit reports and other information on controls (e.g. investigations, letter of representation) maintain an overview of the condition of the company accountability program, identify control strengths and weaknesses and initiate improvements.*
> *C0304, Version: 0, Date: 2002-07-12, Status: original*

Manage Process Program (D)

[/processes] For key processes, create/update and deploy a management program that provides a documented structured framework of controls from management level down to task level. Appraise process performance and identify improvements.
D, Version: 0, Date: 2002-07-12, Status: original

Maintain Process Program (D01)

[/processes/procedures] Define, analyze and document the purpose, objectives, responsibilities, controls, measurements and standards/procedures to support company processes.
D01, Version: 0, Date: 2002-07-12, Status: original, [=> /processes/deployment]

> *__Define Process Model__: [/processes/procedures/processmodel] Define and analyze each process of the company process model: (a) Identify the affected asset type(s); (b) Define and agree products and services with customer processes (output) and supplier processes (i.e. Supply chain management); (c) Identify / define sub-processes (d) Design and Optimize the process flows; (e) Identify technologies used; (f) Identify and assign roles and responsibilities; (g) Validate with respect to the reference business process model; (h) Identify best practices; assess / revisit expected process performance; (i) Identify process improvements options, evaluate and assess impact on existing organization.*

*D0101, Version: 0, Date: 2002-07-12, Status: original, [=>
/processes/procedures/activities]*

Define Activities*: [/processes/procedures/activities] Identify critical
activities of a process from the company process model, establish controls
and minimum requirements for competency, performance measurement and
technology. (a) Identify critical activities / critical events and their causes
(e.g. hazards and threats); Note: Refer also to the identified risk domains
(See ""Define Policies and Principles"" and ""Manage Control Framework"").
(b) Assess criticality; (c) Identify the controls and recovery measures to
manage risks; (d) Define the competency required to carry out the critical
activity. Establish the attitude, discipline skills and knowledge required to
ensure that the critical activity is carried out effectively and efficiently; (e)
Develop job descriptions; define purpose, accountabilities, responsibilities
and competence levels for each job; (f) Identify what measurements
(performance indicators) are required to monitor the performance; (g) Check
against the company control program (See ""Maintain Controls"") and resolve
deficiencies.*
*D0102, Version: 0, Date: 2002-07-12, Status: original, [=>
/processes/procedures/standards]*

Define Standards*: [/processes/procedures/standards] Select standards and
prepare the procedures associated with a process from the company process
model, specifically those for critical activities.*
*D0103, Version: 0, Date: 2002-07-12, Status: original, [=>
/processes/procedures/itportfolio]*

Define Information Technology Portfolio*:
[/processes/procedures/itportfolio] Define or revisit the information
technology portfolio (applications, databases and infrastructure) supporting a
defined business process from the company process model. This includes: (a)
Develop or revisit information technology portfolio architecture and strategy.
(b) Formulate, evaluate and select information technology portfolio
development concepts.*
*D0104, Version: 0, Date: 2002-07-12, Status: original, [=>
/processes/procedures/performancetargets]*

Set Performance Targets*: [/processes/procedures/performancetargets]
Set performance targets (these are approved in ""Manage Plan"") and service
level requirements supporting a defined business process from the company
process model.*
*D0105, Version: 0, Date: 2002-07-12, Status: original, [=>
/processes/procedures/publication]*

Publish Process Program Documents*:
[/processes/procedures/publication] Compile and document a process
management program. This includes a glossary of terminology, definitions of
organization and roles, and minimum review and appraisal requirements.
Define and describe the transition and deployment requirements. Consolidate
the process information in the company accountability program, as
appropriate.*
D0106, Version: 0, Date: 2002-07-12, Status: original

Deploy Process Program (D02)

[/processes/deployment] Implement and deploy the process management program. Review implementation. Induct all new / re-assigned staff members in the process management program.
D02, Version: 0, Date: 2002-07-12, Status: original, [=> /processes/improvement]

Plan Process Program Deployment*: [/processes/deployment/planning] Prepare a process management program implementation plan covering the key deployment activities including training, system installation, data migration, commissioning of new program, and decommissioning of old program. Identify review milestones.*
D0201, Version: 0, Date: 2002-07-12, Status: original, [=> /processes/deployment/implementation]

Implement Process Program Changes*:*
[/processes/deployment/implementation] Implement the process management program changes. Initiate the training and installation of tools and systems. Disseminate the process performance targets. Establish new service level requirements. Review progress.
D0202, Version: 0, Date: 2002-07-12, Status: original, [=> /processes/deployment/review]

Review Process Program Deployment*: [/processes/deployment/review] Review implementation. Create or update a registry of lessons learned. Collect comments, suggestions, record business performance experiences. Initiate appropriate improvements in the processes. Disseminate experiences.*
D0203, Version: 0, Date: 2002-07-12, Status: original

Appraise Process Performance (D03)

[/processes/improvement] Monitor and analyze process performance against the set targets. Identify improvements to process performance and prepare a process improvement plan.
D03, Version: 0, Date: 2002-07-12, Status: original

Monitor Process Performance*: [/processes/improvement/monitoring] Monitor the performance of a process on a regular basis. The performance monitoring requirements for each business process and its critical activities have been established in ""Maintain Process Program"".*
D0301, Version: 0, Date: 2002-07-12, Status: original, [=> /processes/improvement/analysis]

Analyze Process Performance*: [/processes/improvement/analysis] Analyze performance against company and process forecasts and targets (set in "Manage Plan") highlighting trends and deviations. Prepare and submit process performance reports, as agreed for internal or external review purposes. As appropriate, benchmark the process against industry norms.*
D0302, Version: 0, Date: 2002-07-12, Status: original, [=> /processes/improvement/improvementareas]

Identify Improvement Areas*:*
[/processes/improvement/improvementareas] Identify process improvement areas based upon analysis of business performance and opportunities available (e.g. through new technology). Prepare process improvement

proposals with terms of reference to action the improvement including cost,
time and resources required, and identify benefits.
D0303, Version: 0, Date: 2002-07-12, Status: original, [=>
/processes/improvement/improvementplan]

Plan Performance Improvement*:*
[/processes/improvement/improvementplan] Optimize and prioritize process
improvement proposals and develop or update a business-driven
performance improvement plan for selected performance improvement areas.
Review as appropriate in ""Manage Plan"".
D0304, Version: 0, Date: 2002-07-12, Status: original

Develop Well (E)

[/well] Carry out all activities required to construct a new well or to modify, i.e. change the design intent of an existing well. This applies to all well types: exploration, appraisal or development. Activities include the preparation of preliminary and detailed designs, the preparation of the well program and the actual construction, modification or abandonment of the well. Note that any or all well activities may be contracted as a service. In this case, this process is a mixture of ""Procure Goods and Services"" and the sub-processes of ""Develop Well"".
E, Version: 0, Date: 2002-07-12, Status: original

Develop Preliminary Well Design (E01)

[/well/preliminarydesign] Carry out a technical review of the well proposal coming from ""Formulate Resource Development Concepts"". Prepare or update a preliminary design for a new well or a modified design for an existing well based on the well objectives. Identify the principal mechanical components of the well and the main features of the well operations design. Ensure that future well requirements (for life-cycle operation) are specified. Select from technology option(s) and identify the equipment and services required. Specify long lead time equipment and service items.
E01, Version: 0, Date: 2002-07-12, Status: original, [=> /well/detaileddesign]

Review Well Proposal*: [/well/preliminarydesign/review] Carry out a*
technical review. Ensure completeness of the well proposal. Confirm that the
well objectives can be met.
E0101, Version: 0, Date: 2002-07-12, Status: original, [=>
/well/preliminarydesign/structure]

Define Well Structure*: [/well/preliminarydesign/structure] Identify /*
update well structural components; make hole design and casing design,
carry out sufficient detailed design to specify long lead items; make wellhead
design; make preliminary well operations design; identify special
requirements.
E0102, Version: 0, Date: 2002-07-12, Status: original, [=>
/well/preliminarydesign/completion]

Define Well Completion*: [/well/preliminarydesign/completion] Identify or*
update well completion components; make tubing string design, carry out
sufficient detailed design to specify the long lead items; make artificial lift
design; make sand exclusion design; identify special requirements.
E0103, Version: 0, Date: 2002-07-12, Status: original, [=>
/well/preliminarydesign/construction]

***Define Well Construction Requirements**:*
[/well/preliminarydesign/construction] Identify well equipment and services requirements needed for well construction, well completion and for data acquisition.
E0104, Version: 0, Date: 2002-07-12, Status: original, [=> /well/preliminarydesign/longlead]

***Define Well Long Lead Requirements**: [/well/preliminarydesign/longlead]*
Assess the special requirements for materials and services. Define critical path for equipment procurement and prepare well long lead item requisitions.
E0105, Version: 0, Date: 2002-07-12, Status: original, [=> /well/preliminarydesign/publication]

***Publish Preliminary Well Design Documents**:*
[/well/preliminarydesign/publication] Define the detailed design envelope, i.e. the allowable extent of the optimized detailed design that fulfils the design intent. Ensure preliminary design has sufficient data for the preparation of well cost and duration estimates (""Estimate Cost, Time and Resources""). Publish the well preliminary design.
E0106, Version: 0, Date: 2002-07-12, Status: original

Develop Detailed Well Design (E02)

[/well/detaileddesign] Optimize the design of the new well or the modification of the existing well based upon the well proposal and the preliminary well design. The design will constitute the final well configuration and will form the basis of the well program. Finalize the well operations design, i.e. 'how' the well is constructed; drill string, well fluid requirements, etc. Specify all permanent well components, e.g. casing, well head, Xmas trees and completion equipment by material, size, type, manufacturer, supplier etc. Identify key equipment and service providers.
E02, Version: 0, Date: 2002-07-12, Status: original, [=> /well/program]

***Specify Well Structure**: [/well/detaileddesign/structure] Finalize the well structural design including the hole, casing and well head design. Finalize well operations design.*
E0201, Version: 0, Date: 2002-07-12, Status: original, [=> /well/detaileddesign/completion]

***Specify Well Completion**: [/well/detaileddesign/completion] Finalize the well completion design.*
E0202, Version: 0, Date: 2002-07-12, Status: original, [=> /well/detaileddesign/construction]

***Specify Well Construction Requirements**:*
[/well/detaileddesign/construction] Finalize specifications and source(s) for all well equipment and services requirements.
E0203, Version: 0, Date: 2002-07-12, Status: original, [=> /well/detaileddesign/dataacquisition]

***Specify Well Data Acquisition Requirements**:*
[/well/detaileddesign/dataacquisition] Finalize specifications and source(s) for all well construction acquisition data requirements.
E0204, Version: 0, Date: 2002-07-12, Status: original, [=> /well/detaileddesign/publication]

Publish Detailed Well Design Documents:
[/well/detaileddesign/publication] Publish the well detailed design. Ensure the design has sufficient data for the preparation of well cost and duration estimates (See ""Estimate Cost, Time and Resources"").
E0205, Version: 0, Date: 2002-07-12, Status: original

Develop Well Program (E03)

[/well/program] Prepare the well work program for the new well construction or modification activity for an existing well based upon the well detailed design. Finalize the well construction program, well completion program and well construction data acquisition program. List all tools and equipment to be used, e.g. logging tools, drill string assemblies, and identify all equipment and service suppliers.
E03, Version: 0, Date: 2002-07-12, Status: original, [=> /well/construction]

Define Well Construction Program: [/well/program/construction] Prepare the well construction program.
E0301, Version: 0, Date: 2002-07-12, Status: original, [=> /well/program/completion]

Define Well Completion Program: [/well/program/completion] Prepare the well completion program.
E0302, Version: 0, Date: 2002-07-12, Status: original, [=> /well/program/dataacquisition]

Define Well Construction Data Acquisition Program:
[/well/program/dataacquisition] Prepare the well construction data acquisition program. Review with involved parties.
E0303, Version: 0, Date: 2002-07-12, Status: original, [=> /well/program/publication]

Publish Well Program Documents: [/well/program/publication] Define the well construction / modification operating envelope, i.e. the limits for both well construction activities and the configuration of the constructed well necessary to ensure operational safety and well integrity. Compile final well work program document.
E0304, Version: 0, Date: 2002-07-12, Status: original

Construct Well (E04)

[/well/construction] Prepare to take over work site and well. Execute the programmed well activities in order to deliver a completed, tested, or suspended well meeting the required objectives. Acquire and report data. Secure site and prepare to handover well.
E04, Version: 0, Date: 2002-07-12, Status: original, [=> /well/modification]

Prepare Construction Well Site: [/well/construction/site] Prepare the site for well activities, e.g. site (seabed) survey. Ensure that adjacent wells, facilities and equipment have been isolated and made safe. Prepare to take over the well location or existing well. Position and rig-up the primary work unit.
E0401, Version: 0, Date: 2002-07-12, Status: original, [=> /well/construction/pressurecontrol]

Maintain Well Construction Pressure Control:
[/well/construction/pressurecontrol] Ensure well pressure control (maintain

integrity) at all times using mechanical well control equipment, the appropriate well fluids and the relevant well control standards. Minimize the HSE impact of any well fluid(s).
E0402, Version: 0, Date: 2002-07-12, Status: original, [=> /well/construction/task]

Perform Well Construction Task*: [/well/construction/task] Construct the well.*
E0403, Version: 0, Date: 2002-07-12, Status: original, [=> /well/construction/dataacquisition]

> **Drill Well***: [/well/construction/task/drilling] Drill Hole Section(s)*
> *E040301, Version: 0, Date: 2002-07-12, Status: original*

> **Secure Well***: [/well/construction/task/securing] Secure Hole Section(s): run and cement casing and/or liner equipment and test.*
> *E040302, Version: 0, Date: 2002-07-12, Status: original*

> **Complete Well***: [/well/construction/task/completion] Complete the well according to detailed design.*
> *E040303, Version: 0, Date: 2002-07-12, Status: original*

> **Perforate Well***: [/well/construction/task/perforation] Perforate reservoir zone(s) as required.*
> *E040304, Version: 0, Date: 2002-07-12, Status: original*

> **Secure Well***: [/well/construction/task/secure] Suspend Well: temporarily secure the well on completion of well activities.*
> *E040305, Version: 0, Date: 2002-07-12, Status: original*

Acquire Well Data*: [/well/construction/dataacquisition] Acquire data during the well construction activities.*
E0404, Version: 0, Date: 2002-07-12, Status: original, [=> /well/construction/handoverpreparation]

> **Acquire Integrity Test Data***: [/well/construction/dataacquisition/integritytestin] Maintain well and completion structural integrity records e.g. well pressure tests, well leak-off tests.*
> *E040401, Version: 0, Date: 2002-07-12, Status: original*

> **Acquire Well Path Data***: [/well/construction/dataacquisition/path] Acquire well directional data.*
> *E040402, Version: 0, Date: 2002-07-12, Status: original*

> **Acquire Formation Evaluation Data***: [/well/construction/dataacquisition/formationevalua] Acquire well formation evaluation data.*
> *E040403, Version: 0, Date: 2002-07-12, Status: original*

Acquire Core Data*: [/well/construction/dataacquisition/cores]*
Drill core sections.
E040404, Version: 0, Date: 2002-07-12, Status: original

Acquire Operational Test Data*:*
[/well/construction/dataacquisition/operationaltest] Perform
well tests.
E040405, Version: 0, Date: 2002-07-12, Status: original

Acquire Activity Duration Data*:*
[/well/construction/dataacquisition/activityduratio] Maintain
well activity duration records.
E040406, Version: 0, Date: 2002-07-12, Status: original

Acquire Activity Cost Data*:*
[/well/construction/dataacquisition/activitycosts] Maintain well
activity cost records.
E040407, Version: 0, Date: 2002-07-12, Status: original

Acquire Quality Control Data*:*
[/well/construction/dataacquisition/qualitycontrol] Confirm
quality of all well data.
E040408, Version: 0, Date: 2002-07-12, Status: original

Prepare Well Handover*: [/well/construction/handoverpreparation] Prepare*
/ update the well production operating envelope, i.e. the limits for well
production activities based on the 'as-built' well, ensuring integrity of the
producing / injecting well. This forms the basis to analyze asset (well)
performance under ""Appraise Asset Integrity"". Compile the well planning,
design and construction documents. Publish all data and documents related
to the well. Prepare for handover of the well.
E0405, Version: 0, Date: 2002-07-12, Status: original

Modify Well (E05)

[/well/modification] Prepare to take over work site and well. Execute the programmed well
activities in order to deliver a completed, tested, or suspended well meeting the required
objectives. Acquire and publish data. Secure site and prepare to handover well.
E05, Version: 0, Date: 2002-07-12, Status: original, [=> /well/abandonment]

Prepare Well Modification Site*: [/well/modification/site] Prepare the site*
for well activities, e.g. site (seabed) survey. Ensure that adjacent wells,
facilities and equipment have been isolated and made safe. Prepare to take
over the well location or existing well. Position and rig-up the primary work
unit.
E0501, Version: 0, Date: 2002-07-12, Status: original, [=>
/well/modification/pressurecontrol]

Maintain Well Modification Pressure Control*:*
[/well/modification/pressurecontrol] Ensure well pressure control (maintain
integrity) at all times using mechanical well control equipment, the
appropriate well fluids and the relevant well control standards. Minimize the
HSE impact of any well fluid(s).

E0502, Version: 0, Date: 2002-07-12, Status: original, [=> /well/modification/task]

Perform Well Modification Task*: [/well/modification/task] Modify the well.*
E0503, Version: 0, Date: 2002-07-12, Status: original, [=> /well/modification/dataacquisition]

> **Retrieve Well Equipment***: [/well/modification/task/retrieval] Retrieve Equipment from Well: enter and retrieve equipment from existing well.*
> *E050301, Version: 0, Date: 2002-07-12, Status: original*

> **Drill Well***: [/well/modification/task/drilling] Drill Hole Section(s)*
> *E050302, Version: 0, Date: 2002-07-12, Status: original*

> **Secure Well***: [/well/modification/task/securing] Secure Hole Section(s): run and cement casing and/or liner equipment and test.*
> *E050303, Version: 0, Date: 2002-07-12, Status: original*

> **Complete Well***: [/well/modification/task/completion] Complete Well: complete or re-complete the well.*
> *E050304, Version: 0, Date: 2002-07-12, Status: original*

> **Perforate Well***: [/well/modification/task/perforation] Perforate reservoir zone(s) as required.*
> *E050305, Version: 0, Date: 2002-07-12, Status: original*

> **Improve Well Performance***: [/well/modification/task/performanceimprovement] Improve Well Performance: improve reservoir/well connectivity through stimulation, additional / re-perforation, water shut-off, sand clean out, etc.*
> *E050306, Version: 0, Date: 2002-07-12, Status: original*

> **Improve Well Lift***: [/well/modification/task/liftimprovement] Improve well lift performance, e.g. install artificial lift.*
> *E050307, Version: 0, Date: 2002-07-12, Status: original*

> **Secure Well***: [/well/modification/task/secure] Suspend Well: temporarily secure the well on completion of well activities.*
> *E050308, Version: 0, Date: 2002-07-12, Status: original*

Acquire Well Modification Data*: [/well/modification/dataacquisition] Acquire data during the well modification activities.*
E0504, Version: 0, Date: 2002-07-12, Status: original, [=> /well/modification/handoverpreparation]

> **Acquire Integrity Test Data***: [/well/modification/dataacquisition/integritytestin] Maintain well and completion structural integrity records e.g. well*

pressure tests, well leak-off tests.
E050401, Version: 0, Date: 2002-07-12, Status: original

Acquire Well Path Data:
[/well/modification/dataacquisition/path] Acquire well directional data.
E050402, Version: 0, Date: 2002-07-12, Status: original

Acquire Formation Evaluation Data:
[/well/modification/dataacquisition/formationevalua] Acquire well formation evaluation data.
E050403, Version: 0, Date: 2002-07-12, Status: original

Acquire Core Data: *[/well/modification/dataacquisition/cores] Drill core sections.*
E050404, Version: 0, Date: 2002-07-12, Status: original

Acquire Operational Test Data:
[/well/modification/dataacquisition/operationaltest] Perform well tests.
E050405, Version: 0, Date: 2002-07-12, Status: original

Acquire Activity Duration Data:
[/well/modification/dataacquisition/activityduratio] Maintain well activity duration records.
E050406, Version: 0, Date: 2002-07-12, Status: original

Acquire Activity Cost Data:
[/well/modification/dataacquisition/activitycosts] Maintain well activity cost records.
E050407, Version: 0, Date: 2002-07-12, Status: original

Acquire Quality Control Data:
[/well/modification/dataacquisition/qualitycontrol] Confirm quality of acquired well data.
E050408, Version: 0, Date: 2002-07-12, Status: original

Prepare Well Handover: *[/well/modification/handoverpreparation] Prepare / update the well production operating envelope, i.e. the limits for well production activities based on the 'as-built' well, ensuring integrity of the producing / injecting well. This forms the basis to analyze asset (well) performance under ""Appraise Asset Integrity"". Compile the well planning, design and construction documents and data archive. Complete the well file. Prepare for handover of the well.*
E0505, Version: 0, Date: 2002-07-12, Status: original

Abandon Well (E06)
[/well/abandonment] Prepare to take over work site and well. Execute the programmed well activities in order to deliver an abandoned well meeting the required objectives. Acquire and report data. Secure site and prepare to handover well site.
E06, Version: 0, Date: 2002-07-12, Status: original

Prepare Abandonment Site: [/well/abandonment/sitepreparation] Prepare the site for well activities, e.g. site (seabed) survey. Ensure that adjacent wells, facilities and equipment have been isolated and made safe. Prepare to take over the well location or existing well. Position and rig-up the primary work unit.
E0601, Version: 0, Date: 2002-07-12, Status: original, [=> /well/abandonment/hsecontrols]

Maintain Well Abandonment Control: [/well/abandonment/hsecontrols] Ensure well pressure control (maintain integrity) at all times using mechanical well control equipment, the appropriate well fluids and the relevant well control standards. Minimize the HSE impact of any well fluid(s).
E0602, Version: 0, Date: 2002-07-12, Status: original, [=> /well/abandonment/task]

Perform Well Abandonment Tasks: [/well/abandonment/task] Abandon Well / Well Section(s)
E0603, Version: 0, Date: 2002-07-12, Status: original, [=> /well/abandonment/dataacquisition]

> **Retrieve Well Equipment**:
> [/well/abandonment/task/retrieval] Retrieve Equipment from Well: enter and retrieve equipment from existing well.
> E060301, Version: 0, Date: 2002-07-12, Status: original

> **Plugback Well**: [/well/abandonment/task/plugback] Plug back the well or sections of the well.
> E060302, Version: 0, Date: 2002-07-12, Status: original

> **Isolate Well**: [/well/abandonment/task/isolate] Isolate the well or sections of the well.
> E060303, Version: 0, Date: 2002-07-12, Status: original

> **Abandon Well**: [/well/abandonment/task/abandon] Permanently secure the well or sections of the well.
> E060304, Version: 0, Date: 2002-07-12, Status: original

Acquire Well Abandonment Data: [/well/abandonment/dataacquisition] Maintain well and completion structural integrity records e.g. pressure tests, leak-off tests. Acquire well directional data. Acquire well formation evaluation data. Drill core sections. Test well. Maintain activity duration and cost records. Confirm quality of all data.
E0604, Version: 0, Date: 2002-07-12, Status: original, [=> /well/abandonment/siterestoration]

> **Acquire Well Testing Data**:
> [/well/abandonment/dataacquisition/testing] Perform well tests.
> E060401, Version: 0, Date: 2002-07-12, Status: original

> **Acquire Quality Control Data**:
> [/well/abandonment/dataacquisition/qualitycontrol] Confirm

quality of all well data.
E060402, Version: 0, Date: 2002-07-12, Status: original

Restore Well Site: *[/well/abandonment/siterestoration] Rig-down and remove the primary work unit. Clear site of equipment, tools, surplus materials and waste. Return site to a safe condition.*
E0606, Version: 0, Date: 2002-07-12, Status: original

Conduct Area Survey (F)

[/survey] Execute all design, surveying and data processing activities required to measure and record surface and subsurface attributes of a specific area / volume. Note: Surveys include: seismic targets, Amplitude versus offset (AvO) requirements, shallow gas/hydrate hazard identification, site (seabed/oceanic) survey, geotechnical coring, gravity and magnetics, geographical coordinates, location integrity etc. Note: Survey data may be purchased or contracted as a service. In this case, this process is a mixture of ""Procure Goods and Services"" and the sub-processes of ""Conduct Area Survey"".
F, Version: 0, Date: 2002-07-12, Status: original

Design Area Survey (F01)

[/survey/design] Review area survey proposal. Conduct survey study. Design appropriate survey.
F01, Version: 0, Date: 2002-07-12, Status: original, [=> /survey/dataacquisition]

Review Area Survey Proposal: *[/survey/design/proposalreview] Technically review the area survey proposal with respect to method i.e. earth science, geodetic, remote sensing, 2D and 3D (time lapse) seismic etc. Define and identify area survey targets, i.e. geological/ geophysical/ HSE/ topographical. Check completeness and confirm that survey objectives can be met. Specify the area survey program commensurate with the area survey proposal from ""Formulate Asset Development Concepts"".*
F0101, Version: 0, Date: 2002-07-12, Status: original, [=> /survey/design/parameterdesign]

Design Area Survey Parameters: *[/survey/design/parameterdesign] Establish the survey target imaging / data resolution requirements. Establish survey spatial and temporal sampling criteria to acquire data with requisite attributes to satisfy survey objectives.*
F0102, Version: 0, Date: 2002-07-12, Status: original, [=> /survey/design/task]

Perform Area Survey Study Tasks: *[/survey/design/task] Perform area survey study tasks.*
F0103, Version: 0, Date: 2002-07-12, Status: original, [=> /survey/design/publication]

Scout Survey Area: *[/survey/design/task/scouting] Scout survey area.*
F010301, Version: 0, Date: 2002-07-12, Status: original

Assess Survey Environmental Impact: *[/survey/design/task/environmentalimpactassessment] Evaluate potential environmental impacts of proposed survey,*

executing an Environmental Impact Assessment, if necessary.
F010302, Version: 0, Date: 2002-07-12, Status: original

Model Survey Revisions*:*
[/survey/design/task/modelrevisions] Re-evaluate data models (economic, geophysical) inclusive of scouting & HSE considerations.
F010303, Version: 0, Date: 2002-07-12, Status: original

Design Survey Revisions*:*
[/survey/design/task/designrevisions] Refine survey specifications to be commensurate with technical, HSE, economic and regulatory constraints.
F010304, Version: 0, Date: 2002-07-12, Status: original

Ensure Regulatory Compliance*:*
[/survey/design/task/regulatorycompliance] Ensure the identification of, and compliance of design with all statutory regulations. Identify statutory approvals and permits for access (transport, personnel) construction (base camps), materials (fuel, explosives, radios) etc. Note external approvals are obtained in ""Acquire Asset Activity External Approvals"".
F010305, Version: 0, Date: 2002-07-12, Status: original

Publish Survey Documents*: [/survey/design/publication] Finalize method, parameters and survey extent. Establish input for HSE Case. Ensure the final survey program has sufficient data for the preparation of survey cost and scheduling (duration) estimates (refer to ""Estimate Cost, Time and Resources""). (note: the HSE Case is created/updated for Activity based operations in ""Establish Specific Business Controls"" and for Assets in ""Create/Update the Asset Reference Plan"")*
F0104, Version: 0, Date: 2002-07-12, Status: original

Acquire Area Survey Data (F02)
[/survey/dataacquisition] Execute the area survey ensuring the presence of proper control and support networks, pre-start up checks and correct Quality Controls and feedback.
F02, Version: 0, Date: 2002-07-12, Status: original, [=> /survey/dataprocessing]

Establish Survey Data Acquisition Networks*:*
[/survey/dataacquisition/networks] Establish the necessary networks to provide adequate resources and facilities for communications, logistics, geodetic control and materials support etc.
F0201, Version: 0, Date: 2002-07-12, Status: original, [=> /survey/dataacquisition/pre-startvalidations]

Conduct Survey Pre-Start Validations*: [/survey/dataacquisition/pre-startvalidations] Conduct pre-start up validations of risks associated with survey activities/deliverables. e.g. ensure survey HSE issues, survey instrument specifications, survey data quality requirements, survey co-ordinate information etc. match area survey specifications and expectations.*
F0202, Version: 0, Date: 2002-07-12, Status: original, [=> /survey/dataacquisition/execution]

Execute Survey Data Acquisition Program:
[/survey/dataacquisition/execution] Perform all operations necessary to acquire the area survey data as specified. Collate survey ancillary data for area survey report.
F0203, Version: 0, Date: 2002-07-12, Status: original, [=> /survey/dataacquisition/qualitycontrol]

Quality Control Survey Raw Data: *[/survey/dataacquisition/qualitycontrol]*
Check survey raw field data to ensure that the quality is commensurate with the area survey specifications. If necessary specify re-acquisition of data. Ensure operations are commensurate with socio-economic and environmental area survey expectations. Provide feedback and correct if necessary. This activity can also comprise a full blown data processing operation, in which case refer to ""Process Area Survey Data"".
F0204, Version: 0, Date: 2002-07-12, Status: original, [=> /survey/dataacquisition/publication]

Deliver Survey Data: *[/survey/dataacquisition/publication] Deliver area survey digital data and survey ancillary data for area survey reports.*
F0205, Version: 0, Date: 2002-07-12, Status: original, [=> /survey/dataacquisition/siterestoration]

Restore Survey Site: *[/survey/dataacquisition/siterestoration] Remove equipment and units. Return site to condition required to meet environmental requirements.*
F0206, Version: 0, Date: 2002-07-12, Status: original

Process Area Survey Data (F03)

[/survey/dataprocessing] Review survey proposal. Determine the data processing sequence for the various surveys. Check the quality of the processed data (compliance with specifications).
F03, Version: 0, Date: 2002-07-12, Status: original

Review Survey Data Processing Proposal:
[/survey/dataprocessing/proposalreview] Technically review the area survey data processing proposal. Check for completeness. Confirm that the area survey objectives can be met.
F0301, Version: 0, Date: 2002-07-12, Status: original, [=> /survey/dataprocessing/planning]

Determine Survey Data Processing Sequence:
[/survey/dataprocessing/planning] Determine the area survey data processing sequence in which raw survey data have to be processed in order to meet the area survey objectives.
F0302, Version: 0, Date: 2002-07-12, Status: original, [=> /survey/dataprocessing/processing]

Process Survey Data: *[/survey/dataprocessing/processing] Perform the necessary processing operations to convert 'raw' field data into area survey processed data that lends itself to geological, geophysical, meteorological, oceanic or topographical interpretation.*
F0303, Version: 0, Date: 2002-07-12, Status: original, [=> /survey/dataprocessing/qualitycontrol]

Quality Control Survey Processed Data*:*
*[/survey/dataprocessing/qualitycontrol] Check the quality of the area survey
processed data to ensure that data quality complies with area survey
specifications. If necessary re-process the data.*
F0304, Version: 0, Date: 2002-07-12, Status: original

Formulate Resource Development Concepts (G)

[/asset] Collate and prepare all existing data available for an existing or potential
hydrocarbon resource, corresponding to all or portions of one or more assets and
corresponding to a play, prospect, sedimentary basin, field or reservoir. Perform seismic
interpretation and build/update resource models and quantify uncertainties. Formulate
development concepts and evaluate for each concept the hydrocarbon resource
performance over the full life cycle. Perform cost engineering and economic analysis for the
range of development scenarios. Prepare activity proposals for acquisition or divestment,
seismic acquisition, design, construction, modification, abandonment of wells (i.e. well
proposal) and / or facilities etc. as appropriate.
G, Version: 0, Date: 2002-07-12, Status: original

Access Existing Resource Data (G01)

[/asset/existingdata] Collate and inventory all existing data for an existing or potential
hydrocarbon resource including resource geophysical data, resource well data. Process,
reprocess or digitize data as required. Quality control all data, confirm data access paths
and/or load into project data store, as appropriate.
G01, Version: 0, Date: 2002-07-12, Status: original, [=> /asset/model]

> ***Inventory Existing Resource Data****: [/asset/existingdata/inventory] Check
> resource well files, resource scouting information, resource reports, resource
> data stores, resource data tapes, etc. (originating from contractors,
> laboratories, partners etc.) for all existing data related to this hydrocarbon
> resource. Check quality (integrity, completeness, consistency) of data and
> identify where data should be entered, updated, (re-)processed, (re-
>)digitized, etc. Make use of appropriate reporting and inspection tools to
> check data in existing data stores. Store data in appropriate corporate
> resource data store(s).
> G0101, Version: 0, Date: 2002-07-12, Status: original, [=>
> /asset/existingdata/processing]*

> ***Process Existing Resource Data****: [/asset/existingdata/processing] (Re)
> process asset data to make results available for subsequent interpretation
> work. This may trigger ""Process Area Survey Data"" or ""Provide Laboratory
> Services"".
> G0102, Version: 0, Date: 2002-07-12, Status: original, [=>
> /asset/existingdata/assembling]*

> ***Assemble Existing Resource Data****: [/asset/existingdata/assembling]
> Facilitate data availability for analytical, processing, and interpretive
> application software. Select and download the required corporate resource
> data into project data store(s) converting and transforming the data as
> necessary.
> G0103, Version: 0, Date: 2002-07-12, Status: original*

Model Resource (G02)

[/asset/model] Build or update resource models within a given area representative for a play, prospect, sedimentary basin, field or reservoir, commonly referred to as the Static (Earth) Model or Shared Earth Model. Group sets of resource realizations for a resource compatible with the available data. In the resource model(s), describe the tectonic setting, hydrocarbon habitat, geological structure, reservoir architecture and rock and fluid characteristics. Quantify uncertainties and associated risks. Calculate hydrocarbons in place.

G02, Version: 0, Date: 2002-07-12, Status: original, [=> /asset/subsurfaceoptions]

Model Resource Structure: *[/asset/model/structure] Review the resource hydrocarbon habitat and resource tectonic model. Evaluate resource stratigraphy and resource sedimentology. Calibrate resource seismic data identifying key horizons for mapping. Establish a resource velocity model for subsequent time-to-depth conversion. Perform basic seismic interpretation correlating key horizons and faults. Inspect seismic data for direct detection (anomalous amplitudes, flat spots). Carry out quantitative studies including amplitude-variation-with-offset (AvO) studies, if warranted. Generate resource time and depth maps and resource sections. Derive information on resource structure, resource faults and resource natural fractures, resource stratigraphy and resource sedimentology from relevant well data. Produce a model for resource hydrocarbon generation and expulsion, and estimate resource cap rock and fault sealing potentials.*
G0201, Version: 0, Date: 2002-07-12, Status: original, [=> /asset/model/rockfluid]

Evaluate Resource Rocks & Fluids: *[/asset/model/rockfluid] Evaluate resource mud logs and resource core data. Interpret resource formation evaluation while drilling (FEWD) logs, resource wireline logs, and resource wireline formation pressure and sampling data. Analyze PVT data. Analyze geochemical data. Synthesize all data and results to produce a comprehensive resource rock and fluid characteristics description.*
G0202, Version: 0, Date: 2002-07-12, Status: original, [=> /asset/model/reservoir]

Model Resource Reservoir: *[/asset/model/reservoir] Identify resource key uncertainties in the subsurface data. Develop alternative resource hydrocarbon model(s). Dependent on available data, these model(s) may be based solely on analogues, or multiple scenarios covering, for example, uncertainty ranges in lateral reservoir extent, connectivity between reservoir bodies, reservoir architecture, aquifer support, rock parameters, and fluid composition.*
G0203, Version: 0, Date: 2002-07-12, Status: original, [=> /asset/model/hydrocarbonsinplace]

Calculate In-place Resource Hydrocarbons:
[/asset/model/hydrocarbonsinplace] Based on the uncertainties associated with each resource model, determine for each model the resource hydrocarbons in place expectation curve.
G0204, Version: 0, Date: 2002-07-12, Status: original

Define Resource Subsurface Development Options (G03)

[/asset/subsurfaceoptions] For each resource model, simulate and predict well and reservoir performance. Items to be addressed for each model are, for instance, well types and well density, pressure support, gas recycling. Calculate expectation of technically recoverable volumes and select the attractive development option(s) for further evaluation.
G03, Version: 0, Date: 2002-07-12, Status: original, [=> /asset/developmentconcepts]

Model Resource Fluid Dynamics:
[/asset/subsurfaceoptions/fluiddynamics] Using analogues, or resource production test data, resource build-up survey data, and resource reservoir fluid properties data, establish resource well inflow characteristics and (near wellbore) resource reservoir properties. Determine the resource reservoir fluids phase behavior and thermodynamic properties from resource reservoir fluid samples, commonly referred to a Dynamic (Earth) Model.
G0301, Version: 0, Date: 2002-07-12, Status: original, [=> /asset/subsurfaceoptions/evaluation]

Evaluate Resource Subsurface Development Options:
[/asset/subsurfaceoptions/evaluation] For each resource model, carry out analytical or numerical simulation of the subsurface fluid flow processes. Determine or establish the resource primary recovery mechanism, and possible resource secondary or enhanced oil recovery (EOR) recovery options. Establish resource subsurface development option(s) for each resource model including number and location of production and injection wells (vertical, deviated, horizontal) and predict gross and net production and injection forecasts.
G0302, Version: 0, Date: 2002-07-12, Status: original, [=> /asset/subsurfaceoptions/recoverables]

Quantify Resource Recoverables: [/asset/subsurfaceoptions/recoverables] Quantify resource technically recoverable volumes, in terms of resource model(s) and associated resource subsurface development option(s). Identify resource subsurface development concept(s) for further evaluation.
G0303, Version: 0, Date: 2002-07-12, Status: original

Define Resource Development Concepts (G04)

[/asset/developmentconcepts] Using the resource model(s) and subsurface development option(s) make design concept(s) for well(s) (vertical deviated, horizontal, slim) and facilities. For each concept, define and evaluate options for operating the field over the life of the development, including deferments and the call on supporting resources (manning). Carry out HSE analysis. Create and validate integrated (subsurface-surface) production system model(s).
G04, Version: 0, Date: 2002-07-12, Status: original, [=> /asset/evaluation]

Define Resource Well Design Concepts:
[/asset/developmentconcepts/welldesign] Identify well types (production/injection, vertical, deviated, horizontal, slim), configurations and total number of wells to meet the resource development concept(s). Items to be considered are typical tubing and production casing size and need to accommodate artificial lift, sand control and future re-completion and abandonment requirements. Propose a resource execution strategy for each concept.

*G0401, Version: 0, Date: 2002-07-12, Status: original, [=>
/asset/developmentconcepts/facilitydesign]*

Define Resource Facility Design Concepts:

*[/asset/developmentconcepts/facilitydesign] Prepare resource surface
facilities design concept(s), based on the resource subsurface development
scenario(s) (Note: This may initiate ""Develop Conceptual Facility Design"").
Propose a resource execution strategy for each concept.
G0402, Version: 0, Date: 2002-07-12, Status: original, [=>
/asset/developmentconcepts/productionsystem]*

Model Resource Production System:

*[/asset/developmentconcepts/productionsystem] For each resource
development concept, simulate and optimize the fluid flow process in the
subsurface-surface production/injection system combining reservoir
simulation, well performance, surface facilities and production /injection
processes. Determine resource full life-cycle produced hydrocarbons.
G0403, Version: 0, Date: 2002-07-12, Status: original, [=>
/asset/developmentconcepts/operatingoptions]*

Define Resource Operating Options:

*[/asset/developmentconcepts/operatingoptions] Define options for operating
each resource development concept. Develop a resource reference plan for
producing (functional) assets to evaluate the impact of each option on the
activities required to manage the wells, facilities and processing of produced
fluids. Examine the activity phasing, frequency, deferments, the call on and
use of supporting resources.
G0404, Version: 0, Date: 2002-07-12, Status: original, [=>
/asset/developmentconcepts/hseanalysis]*

Define Resource HSE Risk Analysis:

*[/asset/developmentconcepts/hseanalysis] Carry out resource HSE risk
analysis for each resource development concept e.g. hazard analysis on the
well and facility concept designs, and specific operating philosophy;
environmental impact assessment and risk analysis of emissions and
dispersions.
G0405, Version: 0, Date: 2002-07-12, Status: original*

Evaluation Resource Development Concepts (G05)

[/asset/evaluation] For each resource development concept, estimate well and facility
capital expenditure. Estimate operating expenditure over full life cycle identifying capital -
operational expenditure tradeoffs. Using the production forecast for each concept,
determine Unit Technical Costs (UTC's) and conduct economic analysis
G05, Version: 0, Date: 2002-07-12, Status: original, [=> /asset/proposal]

Estimate Resource Well Costs: *[/asset/evaluation/wellcosts] Prepare
resource cost estimates (including phasing) for well construction/
modification/abandonment based upon the resource well design concept(s) to
meet the requirements of the resource subsurface model(s).
G0501, Version: 0, Date: 2002-07-12, Status: original, [=>
/asset/evaluation/facilitycosts]*

Estimate Resource Facility Costs*: [/asset/evaluation/facilitycosts] Prepare resource cost estimates (including phasing) for the surface facilities including all aspects of the evacuation system from well head to point of sale based upon the resource facility design concept(s). In addition, determine resource infrastructure cost estimates including access roads, field offices, accommodation, and warehouses.*
G0502, Version: 0, Date: 2002-07-12, Status: original, [=> /asset/evaluation/operatingcosts]

Estimate Resource Operating Costs*: [/asset/evaluation/operatingcosts] Prepare resource operational expenditure estimates for the requirements of each resource development concept and the defined asset operating options. This involves building up a phased model of operating cost and deferments over the asset life cycle. Major items to be considered are workover frequencies/ costs, power requirements, maintenance expenditure, personnel costs, logistics costs, support base costs, insurance, taxes etc.*
G0503, Version: 0, Date: 2002-07-12, Status: original , [=> /asset/evaluation/economicanalysis]

Analyze Resource Economics*: [/asset/evaluation/economicanalysis] Using the relevant resource costs, resource production forecasts, resource applicable tax and tariffs, carry out economic analyzes for the various resource full life cycle scenarios. Derive resource key economic parameters (including unit technical costs (UTCs)). Show sensitivities and impact of risks and uncertainties. Evaluate value of additional information. Screen, rank and classify hydrocarbon resource plans and resource recoverable volumes in line with company and local guidelines.*
G0504, Version: 0, Date: 2002-07-12, Status: original

Propose Resource Development Concepts (G06)

[/asset/proposal] Make a proposed resource activity plan based on the life cycle evaluation, latest data and all the preliminary resource development concepts, highlighting the risks associated with the major uncertainties. Make resource activity proposals. Compile all necessary documentation.
G06, Version: 0, Date: 2002-07-12, Status: original

Propose Resource Development Activities*: [/asset/proposal /activities] Propose activities which update the asset reference plan(s) to maximize resource value and reduce risks and uncertainties associated with the resource development concept(s). e.g. for acquisition or divestment, for seismic acquisition, for design, construction, modification, reservoir management data (e.g. well tests), abandonment of wells (i.e. well proposal) and / or facilities etc. Define key milestones covering resource data acquisition and evaluation strategies, the hydrocarbon resource development strategy, and the resource operations strategy.*
G0601, Version: 0, Date: 2002-07-12, Status: original, [=> /asset/proposal /compilation]

Compile Resource Development Documents*: [/asset/proposal /compilation] Compile the hydrocarbon resource evolution description data and documents covering the full life cycle and both subsurface and surface aspects.*
G0602, Version: 0, Date: 2002-07-12, Status: original

Develop Facility (H)

[/facility] Carry out all activities concerning the design, construction, modification (change of design intent), commissioning and abandonment of a facility.
H, Version: 0, Date: 2002-07-12, Status: original

Develop Conceptual Facility Design (H01)

[/facility/conceptualdesign] Carry out all activities concerning a facility project technical scope definition, in sufficient detail to allow preparation of the firm budget proposal.
H01, Version: 0, Date: 2002-07-12, Status: original, [=> /facility/detaileddesign]

Define Facility Functional Requirements:
[/facility/conceptualdesign/requirements] Prepare a facility design basis report to catalog the functional requirements for the chosen facility concept for construction, modification or abandonment. This typically contains the location / oceanic details, process stream data, required unit operations, process flows, control philosophy, etc. and takes account of the company operating policies, HSE requirements, legislation, facility quality assurance requirements and facility user requirements.
H0101, Version: 0, Date: 2002-07-12, Status: original, [=> /facility/conceptualdesign/process]

Develop Facility Conceptual Process Design:
[/facility/conceptualdesign/process] Validate the facility design basis report. Prepare a facility process design description and facility system philosophy. Size process and utility systems and prepare heat and mass balance diagrams and process and utility flow diagrams. Prepare facility initial equipment / line lists and facility process data sheets. Undertake safety studies, including hazard analysis. Prepare input to facility control logic diagrams and facility cause and effect diagrams, layouts, other discipline deliverables and to capital and operational expenditure estimates.
H0102, Version: 0, Date: 2002-07-12, Status: original, [=> /facility/conceptualdesign/mechanical]

Develop Facility Conceptual Mechanical Design:
[/facility/conceptualdesign/mechanical] Validate the facility design basis report. Prepare a facility mechanical design philosophy. Perform studies (driver, equipment, mechanical handling, and materials selection). Prepare facility equipment and line/tie-in schedules and facility piping classes specification. Prepare input to facility layouts, facility equipment specifications, facility weight schedules, and other discipline deliverables and to capital and operational expenditure estimates.
H0103, Version: 0, Date: 2002-07-12, Status: original, [=> /facility/conceptualdesign/electrical]

Develop Facility Conceptual Electrical Design:
[/facility/conceptualdesign/electrical] Validate the facility design basis report. Prepare a facility electrical design philosophy. Perform studies to size equipment and cables and calculate fault levels. Prepare facility single line, schematic and interconnection diagrams, cable rack and switchroom layouts and facility hazardous area drawings. Prepare input to facility layouts, facility equipment specifications, facility weight schedules, other discipline deliverables, preliminary bulks, materials take-off, and input to capital and operational expenditure estimates.

H0104, Version: 0, Date: 2002-07-12, Status: original, [=>
/facility/conceptualdesign/control&instrumentation]

Prepare Facility Conceptual Control & Instrumentation Design:
[/facility/conceptualdesign/control&instrumentation] Validate the facility
design basis report. Prepare facility philosophies for process control,
emergency shutdown, fire and gas, metering, earthing, utility requirements.
Size control / relief valves and other flow instruments. Prepare facility
reference documents, including block diagrams, logic diagrams, layouts,
input/output and termination schedules. Prepare input to facility layouts,
facility equipment specifications, facility weight schedules, other discipline
deliverables, preliminary bulks material take off, and input to capital and
operational expenditure estimates.
H0105, Version: 0, Date: 2002-07-12, Status: original, [=>
/facility/conceptualdesign/itinfrastructure]

Prepare Facility Conceptual Information Technology Infrastructure
Design: *[/facility/conceptualdesign/itinfrastructure] Validate the facility*
design basis report. Prepare facility philosophies for telecoms and other
Information Technology infrastructure. Liaise with regulatory authorities and
network operators. Perform facility studies (e.g. feasibility, reliability, room
layouts, and antennae locations). Prepare facility reference documents,
including block diagrams, layouts, and schedules for equipment, cables and
termination. Prepare input to facility layouts, facility equipment specifications,
facility weight schedules, other discipline deliverables, preliminary bulks
material take off, and input to capital and operational expenditure estimates.
H0106, Version: 0, Date: 2002-07-12, Status: original, [=>
/facility/conceptualdesign/civilstructural]

Prepare Facility Conceptual Civil/Structural Design:
[/facility/conceptualdesign/civilstructural] Validate the facility design basis
report. Prepare facility design premise. Perform foundation, civil/structural
and architectural studies. Prepare facility civil/architectural specifications,
facility general arrangement and facility layout drawings. Perform studies and
analyses of structures including fabrication, transportation/installation and in-
place conditions. Prepare facility design of primary and secondary structural
steel and major appurtenances, including installation details. Prepare input to
facility layouts, facility equipment specifications, facility weight schedules,
other discipline deliverables, preliminary bulks material take off, and input to
capital and operational expenditure estimates.
H0107, Version: 0, Date: 2002-07-12, Status: original, [=>
/facility/conceptualdesign/pipelines]

Prepare Facility Conceptual Pipelines Design:
[/facility/conceptualdesign/pipelines] Validate the facility design basis report.
Prepare facility design premise. Perform pipeline sizing and other analyses
(e.g. hydraulic, stress and buckling, stability). Prepare facility datasheet and
facility operating philosophy. Perform studies to complete definition of
pipeline (e.g. route survey, materials selection, pigging and burial
requirements, environmental impact assessment). Prepare facility overall
pipeline schematic, facility bathymetric/topographical details, facility
alignment sheets. Prepare input to facility layouts, facility equipment
specifications, facility weight schedules, other discipline deliverables,
preliminary bulks material take off, and input to capital and operational

expenditure estimates.
H0108, Version: 0, Date: 2002-07-12, Status: original, [=>
/facility/conceptualdesign/subsea]

Prepare Facility Conceptual Subsea Design:
[/facility/conceptualdesign/subsea] Validate the facility design basis report.
Prepare facility design premise and facility philosophies for control and
emergency shutdown. Perform studies (e.g. control system integration,
loadout and installation, environmental impact assessment, material
selection), including calculations (e.g. hydraulic response times, valve closure
torques) and analyses (hydraulic fluids, chemical injection). Prepare facility
subsea/topsides block diagrams and facility process flow diagrams. Prepare
input to facility layouts and facility weight schedules, other discipline
deliverables, preliminary bulks material take off, and input to capital and
operational expenditure estimates.
H0109, Version: 0, Date: 2002-07-12, Status: original, [=>
/facility/conceptualdesign/preliminarylayouts]

Define Preliminary Facility Layouts:
[/facility/conceptualdesign/preliminarylayouts] Validate the facility design
basis report. Coordinate discipline input into 2D & 3D Computer Aided Design
(CAD) systems. Build a facility block model, incorporating preliminary
steelwork structure, equipment footprints, escape routes, buildings, rooms,
blastwalls, envelopes for piping, HVAC and cable racks, preliminary road
layouts, plinths, etc. Perform clash checks. Generate facility site/plot plans,
facility primary structural layouts, facility hazardous area layouts, facility
escape route layouts, facility cable rack layouts, facility HVAC layouts.
H0110, Version: 0, Date: 2002-07-12, Status: original, [=>
/facility/conceptualdesign/hserequirements]

Finalize Facility HSE Requirements:
[/facility/conceptualdesign/hserequirements] Validate the facility design basis
report. Identify facility regulatory HSE requirements. Prepare facility HSE
philosophies, covering risk control, loss prevention and evacuation systems.
Undertake technical risk and environmental impact assessments and prepare
facility hazard register. Prepare facility firefighting and safety equipment
schedule. Prepare input to facility layouts, facility equipment specifications,
facility weight schedules, other discipline deliverables, preliminary bulks
material take off, and input to capital and operational expenditure estimates.
H0111, Version: 0, Date: 2002-07-12, Status: original, [=>
/facility/conceptualdesign/operatingrequirements]

Finalize Facility Operating Requirements:
[/facility/conceptualdesign/operatingrequirements] Validate the facility design
basis report. Identify facility regulatory operational requirements. Define the
facility operations to be performed. Perform availability, reliability and
maintainability studies. Quantify facility manpower and logistical
requirements. Identify facility mechanical handling requirements. Prepare
facility philosophies for commissioning, operating and maintenance. Prepare
input to facility layouts, facility equipment specifications, other discipline
deliverables and input to capital and operational expenditure estimates.
H0112, Version: 0, Date: 2002-07-12, Status: original, [=>
/facility/conceptualdesign/specification]

Specify Facility: *[/facility/conceptualdesign/specification] After optimization, compile the facility conceptual design into the facility project specification, which forms the functional specification for the facility detailed design, materials specifications, construction /abandonment and (de-) commissioning for the project.*
H0113, Version: 0, Date: 2002-07-12, Status: original

Develop Facility Detailed Design (H02)

[/facility/detaileddesign] Carry out all discipline and inter-discipline activities necessary to prepare the detailed design of a new or modified facility or for facility abandonment. Satisfy HSE requirements.
H02, Version: 0, Date: 2002-07-12, Status: original, [=> /facility/construction&precommission]

Prepare Facility Detailed Process Design:
[/facility/detaileddesign/process] Prepare the facility piping and instrumentation diagrams (P&IDs) for all process and utility systems, facility process data sheets for equipment, facility control requirement specifications and facility operating procedures.
H0201, Version: 0, Date: 2002-07-12, Status: original, [=> /facility/detaileddesign/mechanical]

Prepare Facility Detailed Mechanical Design:
[/facility/detaileddesign/mechanical] Prepare or modify facility piping and mechanical equipment design, facility equipment handling systems design, facility detailed mechanical equipment specifications, facility mechanical maintenance procedures and define facility spares requirements.
H0202, Version: 0, Date: 2002-07-12, Status: original, [=> /facility/detaileddesign/electrical]

Prepare Facility Detailed Electrical Design:
[/facility/detaileddesign/electrical] Review and refine facility detailed electrical requirements. Prepare facility electrical equipment specifications, facility power distribution systems design, facility lighting and small power design, facility electrical cable routing and termination details, facility earthing (grounding) requirements, facility electrical environment control requirements and facility electrical maintenance procedures. Define facility electrical equipment spares requirements.
H0203, Version: 0, Date: 2002-07-12, Status: original, [=> /facility/detaileddesign/control&instrumentation]

Prepare Facility Detailed Control & Instrumentation Design:
[/facility/detaileddesign/control&instrumentation] Review and refine facility detailed instrumentation requirements. Prepare facility instrumentation specifications for measurement instruments, actuators, control systems, control panel/room ergonomics and facility instrumentation environmental control requirements, facility clean earthing requirements, facility instrumentation and control maintenance procedures. Define facility signal transmission pathways/ cable routing and termination details. Define facility instrumentation and control equipment spares requirements.
H0204, Version: 0, Date: 2002-07-12, Status: original, [=> /facility/detaileddesign/itinfrastructure]

Prepare Facility Detailed Information Technology Infrastructure Design: [/facility/detaileddesign/itinfrastructure] Review and refine the facility detailed Information Technology infrastructure service requirements. Prepare facility detailed Information Technology infrastructure design, including equipment specifications and infrastructure design, cable routing and termination details, environmental control requirements and maintenance procedures. Define facility Information Technology equipment spares requirements. Note: Information Technology infrastructure includes wide and local area networks; mainframe, mid-range, desktop, and hand-held computers, and telecommunication equipment such as radio, microwave, telephone, fax, and telex.
H0205, Version: 0, Date: 2002-07-12, Status: original, [=> /facility/detaileddesign/civilstructural]

Prepare Facility Detailed Civil/Structural Design: [/facility/detaileddesign/civilstructural] Initiate site survey and soil investigation. Prepare facility civil/structural designs, specifications and construction drawings, including line diagrams and details, and other appurtenances. Prepare facility detailed civil/structural design specifications for buildings/modules, containment systems, drainage systems and foundation/support structures. Produce facility painting and surface finish specifications, facility weight schedules and facility bills of quantities.
H0206, Version: 0, Date: 2002-07-12, Status: original, [=> /facility/detaileddesign/pipelines]

Design Facility Detailed Facility Pipelines: [/facility/detaileddesign/pipelines] Perform route survey and soil investigation, a risk assessment and environmental impact study. Prepare the facility detailed pipeline design of the pipeline and associated facilities, including alignment sheets and operating and maintenance procedures. Define facility pipeline spares requirements.
H0207, Version: 0, Date: 2002-07-12, Status: original, [=> /facility/detaileddesign/subsea]

Design Facility Detailed Subsea Facility: [/facility/detaileddesign/subsea] Initiate subsea survey and risk assessment and environmental impact study. Prepare facility detailed subsea specifications and construction drawings for subsea and associated wellhead equipment, flowlines, risers and production and workover control systems. Establish facility installation, operating and maintenance procedures. Define facility subsea spares requirements.
H0208, Version: 0, Date: 2002-07-12, Status: original, [=> /facility/detaileddesign/layout&construction]

Prepare Facility Detailed Layout & Construction Design: [/facility/detaileddesign/layout&construction] Prepare facility site layout drawings, facility 3D model and facility site construction and installation (or demolition) methodology and drawings. Coordinate interfaces between design areas. Define facility test and pre-commissioning (or de-commissioning) requirements.
H0209, Version: 0, Date: 2002-07-12, Status: original, [=> /facility/detaileddesign/hseassessment]

Prepare Facility Detailed HSE Assessment: [/facility/detaileddesign/hseassessment] Prepare facility risk assessment

design and specifications, including for risk control, loss prevention and evacuation systems. Update the facility hazard register, to reflect all HSE assessments performed during detailed design. Prepare input for HSE case (Refer Create/Update the Asset Reference Plan).
H0210, Version: 0, Date: 2002-07-12, Status: original, [=> /facility/detaileddesign/referenceplan]

Update Facility Reference Plan: *[/facility/detaileddesign/referenceplan]*
Initiate reliability-centered maintenance analysis via ""Determine Well or Facility Maintenance Requirements"", and modify/compile facility maintenance procedures accordingly. Initiate review of facility operating specifications via ""Plan Production Volumes and Capacities"". Define facility future activity requirements by type and frequency per asset and associated resources, together with identified uncertainties and assumptions. Prepare description of new/modified asset(s).
H0211, Version: 0, Date: 2002-07-12, Status: original, [=> /facility/detaileddesign/approvalpackage]

Compile Facility Construction Approval Package:
[/facility/detaileddesign/approvalpackage] For new or modified facility, the facility construction approval package will typically contain facility detailed equipment specifications, facility detailed piping and instrumentation diagrams (P&IDs), facility detailed 2D schematics, facility detailed 3D model, facility detailed construction drawings, facility detailed procedures for equipment installation, pre-commissioning and maintenance, facility detailed vendor drawings and facility spares lists. For abandonment, the facility abandonment approval package will typically contain the facility detailed abandonment methodology, with the necessary drawings and procedures to cover decommissioning, dismantling, transportation, disposal and site clean-up.
H0212, Version: 0, Date: 2002-07-12, Status: original, [=> /facility/detaileddesign/publication]

Publish Facility Commissioning & Operation Documents:
[/facility/detaileddesign/publication] Compile the facility commissioning plan documents, including procedures, specialist requirements and checklists, system drawings and design operating envelopes, alarm & trip settings, cause & effect diagrams and operating procedures.
H0213, Version: 0, Date: 2002-07-12, Status: original

Construct and Pre-Commission Facility (H03)

[/facility/construction&precommission] Carry out all activities involved in the construction and pre-commissioning of a facility.
H03, Version: 0, Date: 2002-07-12, Status: original, [=> /facility/commission&preparehandover]

Construct Facility: *[/facility/construction&precommission/building] Pre-fabricate packages and fabricate major components off-site. Install/ erect major components at site. Install the remaining items and complete hook-up and testing of all systems. Complete painting and special finishes (e.g. insulation, passive fire protection).*
H0301, Version: 0, Date: 2002-07-12, Status: original, [=> /facility/construction&precommission/asbuiltdrawin]

Prepare Facility As-Built Drawings:
[/facility/construction&precommission/asbuiltdrawin] Perform conformance checks. Produce facility as-built specifications and drawings. Identify facility unfinished work.
H0302, Version: 0, Date: 2002-07-12, Status: original, [=> /facility/construction&precommission/precomission]

Pre-Commission Facility:
[/facility/construction&precommission/precomission] Clean facilities for testing and commissioning. Prepare equipment for commissioning. Perform pre-commissioning tests and baseline survey.
H0303, Version: 0, Date: 2002-07-12, Status: original

Commission and Handover Facility (H04)

[/facility/commission&preparehandover] Carry out all activities involved in the commissioning and preparation for handover of the facilities.
H04, Version: 0, Date: 2002-07-12, Status: original, [=> /facility/abandonment]

Commission Facility: *[/facility/commission&preparehandover/commission] Perform alarm and trip testing, cold commissioning and hot commissioning. Tune control systems.*
H0401, Version: 0, Date: 2002-07-12, Status: original, [=> /facility/commission&preparehandover/acceptance]

Test Facility Acceptance:
[/facility/commission&preparehandover/acceptance] Measure plant performance envelope. Compare performance to specification. Identify corrective actions and responsible parties.
H0402, Version: 0, Date: 2002-07-12, Status: original, [=> /facility/commission&preparehandover/handoverprepa]

Prepare Facility Handover:
[/facility/commission&preparehandover/handoverprepa] Update facility operating and maintenance procedures. Prepare facility final regulatory agreements with regulatory bodies, if applicable. Prepare facility handover data and documentation.
H0403, Version: 0, Date: 2002-07-12, Status: original

Abandon Facility (H05)

[/facility/abandonment] Carry out all activities involved in the abandonment of a facility and site restoration.
H05, Version: 0, Date: 2002-07-12, Status: original

Demolish and Secure Facility:
[/facility/abandonment/demolition&securing] De-commission, dismantle/ demolish, remove and dispose of facilities. Secure remaining facilities.
H0501, Version: 0, Date: 2002-07-12, Status: original, [=> /facility/abandonment/siterestoration]

Restore Facility Site: *[/facility/abandonment/siterestoration] Restore site to meet environmental requirements or prepare the site for new facilities.*
H0502, Version: 0, Date: 2002-07-12, Status: original, [=> /facility/abandonment/handoverpreparation]

Prepare Facility Site Handover:
[/facility/abandonment/handoverpreparation] Archive facility demolition and site restoration records. Prepare facility final regulatory agreements with regulatory bodies, if applicable. Prepare site handover data and documentation.
H0503, Version: 0, Date: 2002-07-12, Status: original

Procure Goods and Services (I)

[/procurement] Perform all activities required to obtain and make available goods & services. Obtain the required goods and services. Receive the goods/ services and ensure that they comply with the order. Provide suitable storage for the goods and preserve them during storage. Dispatch the requested goods to the customer location.
I, Version: 0, Date: 2002-07-12, Status: original

Establish Procurement Contract (I01)

[/procurement/contract] Establish contracts (agreements) for the supply of goods and services to the company. Prepare the tendering or negotiating of the contract by producing a tender or negotiation package. Invite and evaluate bids or an offer for the contract on the basis of the tender or negotiation package. Award the contract. Renew or terminate the contract. Note: As an integral part of ""Manage Control Framework"" for contracting, a review should be conducted of the commerciality of the contracting strategy and proposed contract /agreements.
I01, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/acquisition]

Develop Procurement Tender Package:
[/procurement/contract/tenderpackage] Develop the procurement tender or negotiation package for tendering or negotiating the required procurement contract. Develop contract scope, establish contract terms, address currency risks, develop the preferred pricing mechanism and establish a cost estimate. Define procurement commercial and technical evaluation criteria and the procurement contract approval procedure. Develop and send a procurement request for information if additional information is needed. Finalize the procurement selection of sources which are invited to bid or negotiate for the contract. Finalize the compilation of the tender or negotiation package.
I0101, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/contract/bids]

Develop Procurement Contract Scope:
[/procurement/contract/tenderpackage/scope] Develop the scope of the procurement tender or negotiation package for the procurement contract, i.e. define the goods and services to be supplied by the supplier or contractor.
I010101, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/contract/tenderpackage/terms]

Establish Procurement Contract Terms:
[/procurement/contract/tenderpackage/terms] Establish procurement general contract terms for the supply of the goods or services. Select these from the company standard procurement contract terms established for the company. Decide on the range of variations which remain acceptable to the company.

I010102, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/contract/tenderpackage/currency]

Address Procurement Currency Risks:
[/procurement/contract/tenderpackage/currency] Determine the preferred currency for the contract. Decide whether, and to what extent, foreign currency risks will be hedged, taking into account the company's financial policies. Compile the procurement contract currency policy.
I010103, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/contract/tenderpackage/pricing]

Develop Procurement Contract Pricing Mechanism:
[/procurement/contract/tenderpackage/pricing] Develop the preferred pricing mechanism for the contractual supply of the appropriate goods and services. Decide on the range of acceptable variations to the pricing mechanism. Determine the preferred way in which the pricing mechanism will incorporate escalation of prices or rates. Compile the procurement contract pricing policy.
I010104, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/contract/tenderpackage/estimate]

Prepare Procurement Estimate:
[/procurement/contract/tenderpackage/estimate] Estimate the costs of goods or services as they will be supplied under the future contract. Establish a cost range which will remain acceptable to the company. Compile the procurement contract cost estimate.
I010105, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/contract/tenderpackage/criteria]

Define Procurement Evaluation Criteria & Approval Process: *[/procurement/contract/tenderpackage/criteria] Establish the commercial, technical and other criteria (e.g. safety, legal, financial, etc.) against which the bids or offers for the contract will be evaluated. Agree the approval route for the contract tendering or negotiating process. Decide when approval is needed and by whom (defined in the manual of authorities). Adapt the contracting schedule, if necessary. Compile the procurement contract evaluation criteria and the procurement contract approval procedure.*
I010106, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/contract/tenderpackage/requests]

Send Procurement Information Request:
[/procurement/contract/tenderpackage/requests] Develop a procurement information request package if further information is needed before initiating the tendering or negotiating process. Issue the request for information and obtain and analyze the responses. Change the procurement tender or negotiation package or the procurement source selection if the responses indicate that this would be appropriate.

*I010107, Version: 0, Date: 2002-07-12, Status: original, [=>
/procurement/contract/tenderpackage/publication]*

Publish Procurement Tender Package*:
[/procurement/contract/tenderpackage/publication] Compile all
relevant information into the procurement tender or
negotiation package which forms the basis for the contract
tender or negotiations. Approve the procurement tender or
negotiation package.
I010108, Version: 0, Date: 2002-07-12, Status: original, [=>
/procurement/contract/bids]*

Obtain Procurement Bids or Offer*: [/procurement/contract/bids] Prepare
procurement bid invitations or a procurement offer request for the contract
based on the procurement tender or negotiation package. Clarify details of
the procurement tender or negotiation package as necessary. Obtain bids
through tendering or obtain an offer through negotiating with the potential
supplier(s) or contractor(s). Assess the commercial, technical and legal
aspects of the bids or offer. Analyze the completeness of the procurement
bids or the procurement offer and finalize any remaining incomplete areas of
the bids or offer.
I0102, Version: 0, Date: 2002-07-12, Status: original, [=>
/procurement/contract/award]*

Invite Procurement Bids*:
[/procurement/contract/bids/invitations] Send the compiled
procurement tender or negotiation package to the selected
source(s), either for tendering or for negotiation, requesting a
procurement bid or procurement offer for supplying goods and
services in line with the scope, terms, pricing mechanism,
applicability and degree of commitment, as described in the
procurement tender or negotiation package.
I010201, Version: 0, Date: 2002-07-12, Status: original, [=>
/procurement/contract/bids/clarifications]*

Clarify Procurement Tender Package Details*:
[/procurement/contract/bids/clarifications] Clarify any details
on receipt of a tenderer information request from a tenderer.
Ensure that all other tenderers receive the same clarifications
at the same time.
I010202, Version: 0, Date: 2002-07-12, Status: original, [=>
/procurement/contract/bids/receiving]*

Obtain Procurement Bids*:
[/procurement/contract/bids/receiving] Receive, open, register
(in a procurement bid register) and distribute the procurement
bids according to the procurement contracting and tendering
procedures. Check the bids for completeness.
I010203, Version: 0, Date: 2002-07-12, Status: original, [=>
/procurement/contract/bids/negotiation]*

Negotiate Procurement Offer*:
[/procurement/contract/bids/negotiation] Obtain an acceptable*

*procurement offer for the procurement contract by negotiating
with the selected source. Initiate alterations to the
procurement tender or negotiation package following the
negotiation process, ensuring continuing compatibility with
company business requirements.*
*I010204, Version: 0, Date: 2002-07-12, Status: original, [=>
/procurement/contract/bids/commercialassessment]*

**Assess Commercial Aspects of Procurement Bids or
Offer**: *[/procurement/contract/bids/commercialassessment]
Assess the commercial aspect of the procurement bids or
procurement offer on the basis of a total cost of ownership
approach. Apply the procurement commercial selection criteria.
Compare the bids or offer with the procurement contract cost
estimate, with existing procurement contracts for similar goods
or services within the local organization or the company as a
whole. Rank procurement bids according to commercial
aspects.*
*I010205, Version: 0, Date: 2002-07-12, Status: original, [=>
/procurement/contract/bids/technicalassessment]*

Assess Technical Quality of Procurement Bids or Offer:
*[/procurement/contract/bids/technicalassessment] Assess the
technical integrity of the procurement bids or procurement
offer. Apply the defined procurement technical evaluation
criteria. Ensure that the technical and performance
requirements of the goods and services are met. Give technical
approval to the bids or offer and rank bids according to
technical aspects.*
*I010206, Version: 0, Date: 2002-07-12, Status: original, [=>
/procurement/contract/bids/legalassessment]*

Assess Legal Aspects of Procurement Bids or Offer:
*[/procurement/contract/bids/legalassessment] Assess the legal
aspects of the procurement bids or procurement offer. Give
legal approval to the bids or offer.*
*I010207, Version: 0, Date: 2002-07-12, Status: original, [=>
/procurement/contract/bids/preselection]*

Analyze Completeness of Procurement Bids or Offer:
*[/procurement/contract/bids/preselection] Make a pre-selection
of the best bids and identify areas where the bids are
incomplete and need to be clarified further. Identify areas
where the offer is incomplete and needs to be developed
further. Compile the procurement completeness analysis
report.*
*I010208, Version: 0, Date: 2002-07-12, Status: original, [=>
/procurement/contract/bids/finalizedetails]*

Finalize Details of Procurement Bids or Offer:
*[/procurement/contract/bids/finalizedetails] Finalize the details
of the selected best bids or offer by resolving the identified
incomplete areas with the respective potential supplier(s) or*

contractor(s). Update the procurement contract.
I010209, Version: 0, Date: 2002-07-12, Status: original

Award Procurement Contract: *[/procurement/contract/award] Award the procurement contract on the basis of an award recommendation. Obtain a legally binding procurement contract acceptance confirmation of the contract award. Adapt and establish a procurement contract management process. Communicate the contract award to all relevant parties.*
I0103, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/contract/followon]

> **Recommend Procurement Contract Award**: *[/procurement/contract/award/recommendation] Recommend to the relevant party (e.g. the tender reviewers / approvers, the joint-venture partner, the shareholder, etc.) the award of the procurement contract in line with the procurement contract approval process. Base the recommendation on the technical and commercial evaluation of the bids/offer and on the legal aspects of the proposed contract.*
> *I010301, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/contract/award/approval]*

> **Approve Procurement Contract Award**: *[/procurement/contract/award/approval] Approve the contract award recommendation according to the procurement contract approval process. Inform the awarded supplier or contractor and the unsuccessful bidders of the outcome of the evaluation and decision process.*
> *I010302, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/contract/award/acceptance]*

> **Confirm Procurement Contract Acceptance**: *[/procurement/contract/award/acceptance] Obtain legally-binding procurement contract acceptance confirmation that the supplier or contractor accepts the award. Arrange for the signing of the contract by the company and the supplier or contractor, resulting in an updated (awarded, approved and signed) procurement contract.*
> *I010303, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/contract/award/management]*

> **Establish Procurement Contract Management**: *[/procurement/contract/award/management] Define and establish the procurement contract management process by which to manage the contract with the supplier or contractor. Appoint a contract manager or custodian. Establish joint working practices and communication flows.*
> *I010304, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/contract/award/announcement]*

> **Announce Procurement Contract Award**: *[/procurement/contract/award/announcement] Inform the parties concerned of the awarded contract, especially of the*

longer-term supply agreements. Inform the rest of the
company of any special or major procurement contract that
has been awarded.
I010305, Version: 0, Date: 2002-07-12, Status: original

Renew or Terminate Procurement Contract*:*
[/procurement/contract/followon] Carry out all actions to renew or terminate
the contract. Identify the need for continuing the contract. Initiate renewal of
the contract or terminate the contract and settle any outstanding obligations.
Inform the parties involved of the contract renewal or termination. On
contract close out Guarantee, Retention and Evaluation processes should be
executed.
I0104, Version: 0, Date: 2002-07-12, Status: original, [=>
/procurement/contract/followon/continuingneed]

Identify Need for Continuing Procurement Contract*:*
[/procurement/contract/followon/continuingneed] Identify,
based on evaluation of the contract, whether there is a need to
continue the contract. Criteria are, for example, the fulfillment
of contractual obligations, the disappearance of the business
requirements, the under-performance of the
supplier/contractor to meet the contractual terms, etc. Compile
procurement contract renewal requirements.
I010401, Version: 0, Date: 2002-07-12, Status: original, [=>
/procurement/contract/followon/renewal]

Initiate Procurement Contract Renewal*:*
[/procurement/contract/followon/renewal] Define and initiate
the necessary procurement contract renewal actions for
contracts that should be continued beyond the termination
date.
I010402, Version: 0, Date: 2002-07-12, Status: original, [=>
/procurement/contract/followon/termination]

Terminate Procurement Contract*:*
[/procurement/contract/followon/termination] define and take
all required procurement contract termination actions to
terminate the identified agreements. Inform the supplier or
contractor of the wish to terminate the contract and identify
any outstanding obligations. Settle the outstanding contractual
obligations and terminate the contract.
I010403, Version: 0, Date: 2002-07-12, Status: original, [=>
/procurement/contract/followon/announcement]

Announce Procurement Contract Renewal or
Termination*:*
[/procurement/contract/followon/announcement] Inform the
parties involved (e.g. engineers, buyers, etc.) of the renewed
or terminated procurement contract. Inform the rest of the
company of any major or special contract which has been
renewed or terminated.
I010404, Version: 0, Date: 2002-07-12, Status: original

Obtain Goods & Services Order (I02)

[/procurement/acquisition] Review the procurement sources short-list, confirm the mode of shipment. Implement the acquisition of the goods and services by calling off against an existing agreement, by concluding a purchase order or service contract, or by initiating a new agreement. Schedule expediting and inspection tasks.
I02, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/receiving]

Review Preferred Sources for Order:
[/procurement/acquisition/preferredsources] Review the procurement sources short-list, as determined in the procurement plan, for supplying the required goods and services and select the potential sources or source, depending on the selected procurement strategy.
I0201, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/acquisition/source]

Select Source for Order: *[/procurement/acquisition/source] In the absence of acceptable sources, or in the absence of sufficient sources, initiate the activities necessary to identify, evaluate and select acceptable potential sources.*
I0202, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/acquisition/shippingmode]

Select Order Shipping Mode: *[/procurement/acquisition/shippingmode] Taking into account cost, required delivery and the nature of the requirement, determine whether the mode of shipment for the requirement i.e. air, sea, road or rail, as determined in the procurement plan, is still suitable.*
I0203, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/acquisition/order]

Initiate Order: *[/procurement/acquisition/order] Initiate the ordering of the goods and services by calling off against an existing procurement contract (agreement), by concluding a purchase order or service contract, or by initiating the conclusion of a new procurement contract (agreement).*
I0204, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/acquisition/expediting]

Expedite Order: *[/procurement/acquisition/expediting] Define and establish the supply process progress checking procedure, i.e. the points during the supply process at which progress should be checked and the frequency of the checking procedure. Identify such points, and the required frequency of the checking procedure, by considering all relevant factors. Such factors include principal production milestones, the required dates for having plans and documents (e.g. drawings) ready, and prior performance of the supplier or contractor. Detail the procurement schedule accordingly.*
I0205, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/acquisition/planinspection]

Plan Order Inspection: *[/procurement/acquisition/planinspection] Determine the supply process testing procedure, i.e. the degree of inspection or witness testing required within the supply process and the stages at which it is required. Allocate and schedule the resources required to perform these*

activities. Detail the procurement schedule accordingly.
I0206, Version: 0, Date: 2002-07-12, Status: original

Receive Goods and Services Order (I03)

[/procurement/receiving] Ensure that the goods/services received comply with the (purchase) order or the call-off against the procurement contract (supply agreement). Arrange shipment to the company and schedule the receipt. Check for compliance with the order. Accept or reject the goods and services. Prepare goods for storage and forward certificates to the relevant parties.
I03, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/storagepreservation]

Arrange Order Shipment*: [/procurement/receiving/shipment] Obtain the means necessary to transport the goods to their destination.*
I0301, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/receiving/schedulereceipt]

Schedule Receipt*: [/procurement/receiving/schedulereceipt] Ensure provision of required handling facilities at the time of arrival. Schedule storage requirements in terms of space, and the nature of the storage (e.g. air-conditioned). Arrange for the timely supply of site-access passes for the party effecting delivery.*
I0302, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/receiving/importation]

Arrange Importation*: [/procurement/receiving/importation] Establish importation documentation and other requirements to enable importation, and ensure their provision in time for delivery. Perform customs clearance of goods and arrange onward transportation to the next destination.*
I0303, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/receiving/checking]

Check order*: [/procurement/receiving/checking] Unpack received goods and check compliance with the purchase order or the call-off against the procurement contract (supply agreement) using criteria such as correct goods and quantities and correct documentation (e.g. certificates). Arrange goods inward inspection for selected goods.*
I0304, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/receiving/disposition]

Accept or Reject Order*: [/procurement/receiving/disposition] Determine whether or not the delivery is acceptable. Update the inventory records. Return goods or contact supplier for remedial action in instances where the goods are not in accordance with the purchase order or procurement contract (supply agreement). Place rejected but retained goods in a separate location. Raise and issue a delivery non-compliance note. Accept services.*
I0305, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/receiving/storagepreparation]

Prepare to Store Order*: [/procurement/receiving/storagepreparation] Repack goods and mark them with the required goods identification indicators.*

I0306, Version: 0, Date: 2002-07-12, Status: original, [=>
/procurement/receiving/distribution]

Distribute Order Certificates*: [/procurement/receiving/distribution]*
Ensure distribution of delivery certificates to the relevant parties.
I0307, Version: 0, Date: 2002-07-12, Status: original

Store and Preserve Goods (I04)

[/procurement/storagepreservation] Provide suitable storage for goods and preserve them during storage.
I04, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/issuance]

Confirm Goods Special Handling*: [/procurement/storage*
preservation/specailhandling] Reconsider the need for, and nature of, special
handling equipment and arrange for the provision of all necessary equipment
and documentation (e.g. lifting frames, chemicals handling sheets, etc.).
Compile goods special handling plan.
I0401, Version: 0, Date: 2002-07-12, Status: original, [=>
/procurement/storagepreservation/method]

Confirm Goods Storage Method*:*
[/procurement/storagepreservation/method] Reconsider the method and the
nature of storage required for the goods. Ensure the provision of the storage
facilities. Compile goods storage plan.
I0402, Version: 0, Date: 2002-07-12, Status: original, [=>
/procurement/storagepreservation/storage]

Store Goods*: [/procurement/storagepreservation/storage] Select the*
storage location for the goods and arrange movement to this location. Update
goods storage plan.
I0403, Version: 0, Date: 2002-07-12, Status: original, [=>
/procurement/storagepreservation/preservation]

Preserve Goods*: [/procurement/storagepreservation/preservation] Arrange*
for the periodic inspection of selected goods while in stock. Take the
measures necessary to ensure that all stock is preserved in an acceptable
condition. Update goods storage plan.
I0404, Version: 0, Date: 2002-07-12, Status: original

Issue Goods (I05)

[/procurement/issuance] Receive a request for issue of goods to a specific location. Retrieve the goods from the storage location and prepare them for issue. Issue the goods.
I05, Version: 0, Date: 2002-07-12, Status: original

Receive Goods Request*: [/procurement/issuance/request] Check the*
completeness of the goods issuance request. Check the goods inventory for
the availability of the requested goods. If necessary, consider alternatives to
the requested goods if the requested goods are not available. Update goods
inventory.
I0501, Version: 0, Date: 2002-07-12, Status: original, [=>
/procurement/issuance/retrieval]

Retrieve Goods from Storage: *[/procurement/issuance/retrieval] Identify the location where the goods are stored from the goods inventory. Check goods handling requirements and the goods handling equipment requirements. Arrange movement from the storage location.*
I0502, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/issuance/preparation]

Prepare to Issue Goods: *[/procurement/issuance/preparation] Check the condition of the goods. Review existing packaging and identification and determine whether or not it is adequate for the issue of the goods. Re-package & re-mark, if necessary.*
I0503, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/issuance/transportation]

Transport Goods: *[/procurement/issuance/transportation] Identify the delivery location and perform any required customs-related activities. Initiate transportation.*
I0504, Version: 0, Date: 2002-07-12, Status: original

Dispose of Goods (I06)

[/procurement/disposition] Assess the market for the goods which are to be disposed of, determine the method of disposal and arrange disposal.
I06, Version: 0, Date: 2002-07-12, Status: original

Identify & Evaluate Potential Goods Buyers:
[/procurement/disposition/buyers] Invoke 'buy-back' provisions of a procurement contract, or review the company approved buyer list for the type of goods earmarked for disposal. If necessary, source the market for potential buyers. Assess the suitability of potential buyers and establish a procurement approved buyer list based on compliance with HSE requirements, reputation and past performance.
I0601, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/disposition/disposalmethod]

Select Method of Goods Disposal:
[/procurement/disposition/disposalmethod] Determine the options for disposal (e.g. sell, scrap, donate, etc.) and select the preferred option. Determine the manner in which the selected option will be applied (e.g. if the goods are to be sold will the sale be by tender or by auction, etc.). Compose a goods disposal plan.
I0602, Version: 0, Date: 2002-07-12, Status: original, [=> /procurement/disposition/implementation]

Implement Goods Disposal: *[/procurement/disposition/implementation] Initiate disposal. Prepare the necessary documents, such as the goods disposal tender document, the goods disposal special handling procedures or the goods sales agreement. Agree terms and conditions for the disposal. Agree disposal. Arrange movement of the goods and the transfer of title and liability.*
I0603, Version: 0, Date: 2002-07-12, Status: original

Provide Logistics Services (J)

[/logistics] Execute logistics operations in accordance with prepared schedules and plans. Direct staff and equipment and enable the services to be brought to use effectively and efficiently. Execute handling operations and transportation.
J, Version: 0, Date: 2002-07-12, Status: original

Prepare for Journey (J01)

[/logistics/preparations] Prepare loading plans, checking equipment and cargo parameters. Adjust and finalize routes and journey preparation activities, including making checks on concurrent activities. Check that all equipment and manpower is correctly certified and licensed for the journey or (for specific operations) for a certain period of time, as appropriate. Allocate resources to transportation demands.
J01, Version: 0, Date: 2002-07-12, Status: original, [=> /logistics/handling]

> **Plan Journey Loading**: *[/logistics/preparations/documentation] Prepare a journey detailed loading plan (including weights, dimensions, stowage criteria and for supply-vessels provisions of ""safe-havens"").*
> *J0101, Version: 0, Date: 2002-07-12, Status: original, [=> /logistics/preparations/plan]*

> **Publish Journey Documents**: *[/logistics/preparations/publication] Prepare all necessary journey documentation (e.g. airway bill, bill of lading, manifest, etc.). Indicate hazardous areas and obtain necessary journey permits (e.g. work permits, permits from statutory bodies and external authorities for dangerous goods and waste etc.).*
> *J0102, Version: 0, Date: 2002-07-12, Status: original*

> **Plan Journey Management**: *[/logistics/preparations/plan] Prepare a journey plan indicating the most effective and efficient routes, including the provision for backloads and with special emphasis on communications and on HSE matters. The journey plan should take into account any special conditions (e.g. weather, detours, traffic density, etc.).*
> *J0103, Version: 0, Date: 2002-07-12, Status: original, [=> /logistics/preparations/certification]*

> **Confirm Journey Preparations**: *[/logistics/preparations/certification] In accordance with journey plan and its schedules, check that all required equipment is correctly certified and licensed for the task, journey or specific operation in hand, and for the required period of time. Allocate equipment to meet transportation requests.*
> *J0104, Version: 0, Date: 2002-07-12, Status: original*

> **Allocate Journey Staff to Equipment**: *[/logistics/preparations/allocation] Check that all required staff are suitably certified and licensed and allocate staff to equipment. Update the journey plan.*
> *J0105, Version: 0, Date: 2002-07-12, Status: original*

Conduct Handling Service (J02)

[/logistics/handling] Execute handling operation according to plans, carrying out both scheduled and unscheduled activities, as required. Provide the latest information on hazards and safety. Provide a briefing on tasks responsibilities, precautions, and procedures, as

necessary.
J02, Version: 0, Date: 2002-07-12, Status: original, [=> /logistics/transportation]

Precheck Handling Service: *[/logistics/handling/prechecking] Check equipment and the work environment, follow instructions and/or limitations on journey work permits (if applicable), check lifting capacities and indicated lifting points with journey detailed loading plan(s), and use certified slings/lifting gear.*
J0201, Version: 0, Date: 2002-07-12, Status: original, [=> /logistics/handling/implementation]

Implement Handling Service: *[/logistics/handling/implementation] Execute handling activities with due respect for HSE and other standing procedures and work instructions.*
J0202, Version: 0, Date: 2002-07-12, Status: original, [=> /logistics/handling/postchecking]

Postcheck Handling Service: *[/logistics/handling/postchecking] Complete handling operations, checking that goods are properly secured in accordance with journey company standard practice and journey statutory legislation, and that journey irregularities are reported in the appropriate manner.*
J0203, Version: 0, Date: 2002-07-12, Status: original

Conduct Transportation Service (J03)

[/logistics/transportation] Execute the transport operation (i.e. voyage, flight, and journey) according to plans, carrying out both scheduled and unscheduled transport activities as required. Provide the latest information on hazards and safety. Provide a briefing on tasks, responsibilities, precautions and procedures, as necessary.
J03, Version: 0, Date: 2002-07-12, Status: original

Plan Transportation Management: *[/logistics/transportation/preparation] Verify and become familiar with journey plan(s) and particulars, last minute information on hazards and safety and relevant precautions.*
J0301, Version: 0, Date: 2002-07-12, Status: original, [=> /logistics/transportation/prechecking]

Precheck Transportation Service: *[/logistics/transportation/prechecking] Make a final check of all transport equipment as well as the cargo to be transported before commencing the journey. Check for compliance with journey company standard practices, e.g. HSE, and other standing procedures and work instructions and ensure that equipment and staff are fit to perform the planned journey. When transporting people, brief personnel and perform drills, as appropriate.*
J0302, Version: 0, Date: 2002-07-12, Status: original, [=> /logistics/transportation/implementation]

Implement Transportation Service: *[/logistics/transportation/implementation] Execute transportation activities in accordance with the journey plan(s). Maintain journey record(s) such as logbooks and journals. Follow agreed communication / reporting instructions.*
J0303, Version: 0, Date: 2002-07-12, Status: original, [=> /logistics/transportation/postchecking]

Postcheck Transportation Service:
[/logistics/transportation/postchecking] On completion of the journey, finalize journey record(s) (e.g. logbooks, journals, etc.) in line with journey company standard practice and journey statutory legislation (company and/or statutory regulations). Report any journey irregularities.
J0304, Version: 0, Date: 2002-07-12, Status: original

Provide Financial Service (K)

[/financialservice] Provide financial services and advice to the company to demonstrate and assist in ensuring that the company is operating efficiently, effectively and profitably, and complies with external reporting obligations. Note: Refer to ""Manage Accountability"" for the establishment of financial and commercial controls. This includes adequate controls to manage the risk e.g. - policy (contracting policies and strategies to ensure a consistent and commercial approach in the company's relationship with contractors and suppliers); - organization structure (to support tender approval procedures); - standards/procedures (financial authorities, commercial guidelines).
K, Version: 0, Date: 2002-07-12, Status: original

Manage Funds (K01)

[/financialservice/fundsmanagement] Manage the financial resources of the company to ensure that funds are available in time to meet operating requirements or financial demands resulting from new investments.
K01, Version: 0, Date: 2002-07-12, Status: original

Define Financing Strategy:
[/financialservice/fundsmanagement/financingstrateg] Develop a target company financing strategy and test the impact of company investment plan(s) and the profitability of current operations against that target strategy.
K0101, Version: 0, Date: 2002-07-12, Status: original

Monitor Bank Relationships:
[/financialservice/fundsmanagement/bankrelations] Negotiate appropriate relationships with banks and monitor both their use and the quality of the banking service provided.
K0102, Version: 0, Date: 2002-07-12, Status: original

Monitor Liquidity: *[/financialservice/fundsmanagement/liquiditymonitor] Monitor the corporate liquidity position through regular cash flow projections in order to determine financing requirements/ funds surpluses. While medium term needs are identified through reviews of the financing strategy, short term projections are made to forecast working needs.*
K0103, Version: 0, Date: 2002-07-12, Status: original

Obtain Finance: *[/financialservice/fundsmanagement/fundsraising] Obtain finance to ensure that funds are available to execute operations and investment plans. The financing requirements can be met through own cash generation and cash calls to joint venture partners, through raising finance in the local market or from company funds (depending on existing partnership agreements, financing strategy and availability of funds). Optimize the return on short term surplus funds with due regard to security, liquidity and yield.*
K0104, Version: 0, Date: 2002-07-12, Status: original

Manage Foreign Exchange Risk:
[/financialservice/fundsmanagement/foreignexchangem] Develop the
company financial risk management strategy (and in conjunction with joint
venture partners where appropriate) which takes cognizance of any foreign
exchange exposure when commercial and financial decisions are made, and
ensure that appropriate action is taken in line with company treasury policies.
K0105, Version: 0, Date: 2002-07-12, Status: original

Process Payrolls: [/financialservice/fundsmanagement/payroll] Compute
gross pay using basic wages/salaries and incident - related data (e.g.
overtime). Compute net payroll, and pay employees, pension funds, and
relevant statutory authorities. Perform payroll accounting through allocation
of charges.
K0106, Version: 0, Date: 2002-07-12, Status: original

Process Accounts Payable:
[/financialservice/fundsmanagement/accountspayable] Process supplier and
contractor invoices and funds payments/receipts in accordance with agreed
contractual terms. This includes purchase invoice registration, validation and
payment. Control of payments is maintained during the authorization
process. Process expense claims.
K0107, Version: 0, Date: 2002-07-12, Status: original

Process Accounts Receivable:
[/financialservice/fundsmanagement/accountsreceivab] Monitor debtor
accounts and follow up overdue items.
K0108, Version: 0, Date: 2002-07-12, Status: original

Execute Accounting (K02)

[/financialservice/accounting] Process and maintain financial data in accordance with
generally accepted accounting principles for the company and the joint ventures it
operates. Maintain the account structure, process accounts receivable and payable, process
the payroll and account for hydrocarbons, fixed assets, etc.
K02, Version: 0, Date: 2002-07-12, Status: original

Maintain Account Structure: [/financialservice/accounting/structure]
Design the company accounts structure of the general and subsidiary ledgers.
The structure reflects the framework for budgetary control and external
accounting requirements imposed by company agreements and legal statute
in combination with the accounting system software used. This is usually a
one-time activity which takes place as part of the implementation of an
accounting system. Included is the formulation of tariff and reallocation rules.
Maintain the company accounts structure on an ongoing basis. The structure
is updated in response to changes in activities. This also includes maintaining
the files relating to business associates (e.g. suppliers, contractors, etc.).
K0201, Version: 0, Date: 2002-07-12, Status: original

Account for Hydrocarbons:
[/financialservice/accounting/hydrocarbonsinplace] Account for net
hydrocarbon production (on the basis of net liquid export/gas sales, net
hydrocarbon consumption, net liquid hydrocarbon stock changes throughout
the production system, tanks and terminals, net hydrocarbon losses and gas
re-injected and vented or flared) by keeping records on entitlements and

*proceeds in line with the venture and mineral agreements. Ensure correct
payment of taxes and royalties.*
K0202, Version: 0, Date: 2002-07-12, Status: original

Account for Fixed Assets*: [/financialservice/accounting/fixedassets]
Maintain accounts for completed assets and capital work in progress
according to established company accounting rules. This includes (a) asset
recording based upon movements (e.g. additions/disposals) and changes in
accounting practices and (b) calculating and booking depreciation charges on
assets.*
K0203, Version: 0, Date: 2002-07-12, Status: original

Account for Staff Time*: [/financialservice/accounting/stafftime] Process the
employee time usage records of individual employees to determine time
charges for projects and other activities and overhead allocations. Raise
financial charges for entry into the accounts. Ensure employee time usage
records are available for project control and the determination of project
cost, time and resource requirements for future projects.*
K0204, Version: 0, Date: 2002-07-12, Status: original

Account for Taxes*: [/financialservice/accounting/taxes] Account for taxes
payable to government authorities (e.g. royalties, corporation taxes). This
activity includes the calculation of current provisions (after making any
adjustments for disallowable expenditure and tax reliefs) and where relevant,
raising journal entries to allocate tax charges.*
K0205, Version: 0, Date: 2002-07-12, Status: original

Maintain General Ledger*: [/financialservice/accounting/generalledger]
Process on a regular basis accounting entries which originate from the
finance and other departments and close the accounts. This activity includes
creation of tariff charges, apportion costs as required for financial reporting,
tax and venture accounting purposes, execution of checks on the integrity of
the accounts, and ensuring the accounts are fairly stated (i.e. reflecting
accruals, abandonment and taxation provisions etc.).*
K0206, Version: 0, Date: 2002-07-12, Status: original

Provide Financial Reports (K03)

[/financialservice/reporting] Identify and comply with financial reporting obligations. These
obligations are met through a variety of financial reports (e.g. corporate accounts, tax
returns, partner reports, Group accounts).
K03, Version: 0, Date: 2002-07-12, Status: original

Provide Corporate Accounts*:
[/financialservice/reporting/corporateaccounting] Prepare statutory accounts
in accordance with the laws of a host government (and country of
incorporation if different) and other company accounts in accordance with
partnership / joint venture agreements.*
K0301, Version: 0, Date: 2002-07-12, Status: original

Provide Tax Returns*: [/financialservice/reporting/taxreturns] Prepare tax
returns (together with supporting information) for fiscal authorities.*
K0302, Version: 0, Date: 2002-07-12, Status: original

Provide Partner Reports*: [/financialservice/reporting/partnerreporting]
Prepare joint venture partner returns in the format required by the partners
in the venture.
K0303, Version: 0, Date: 2002-07-12, Status: original*

Provide Shareholder Reports*:
[/financialservice/reporting/shareholderreporting] Prepare shareholder
reports in the format required by the relevant regulatory organizations.
K0304, Version: 0, Date: 2002-07-12, Status: original*

Provide Specialist Service (K04)

[/financialservice/otherservice] Provide specialist services to support specific aspects of the
business activities of the company, such as insurance, taxation and legal services. These
activities may be performed locally or in conjunction with the company-wide service
organizations.
K04, Version: 0, Date: 2002-07-12, Status: original

Provide Insurance Service*: [/financialservice/otherservice/insurance]
Protect the company from loss through the use of insurance at competitive
cost and manage claims and any litigation. Undertake regular evaluations of
insurance coverage and where appropriate seek advice from the company-
wide insurance organization. This activity includes calculating the asset
replacement values using professional valuers and/or asset replacement
indices.
K0401, Version: 0, Date: 2002-07-12, Status: original*

Provide Pension Service*: [/financialservice/otherservice/pension] Ensure
that sufficient provision is made for future pension liabilities. The nature of
this activity depends on the pension scheme concerned. It includes
accounting for contributions / provisions, obtaining actuarial advice and in the
case of funded schemes, dealing with investment managers.
K0402, Version: 0, Date: 2002-07-12, Status: original*

Provide Tax Service*: [/financialservice/otherservice/taxes] Manage the tax
position of the company to minimize the impact of taxes and to ensure
compliance with statutory requirements. This includes forecasting the tax
impact on company-wide plans.
K0403, Version: 0, Date: 2002-07-12, Status: original*

Provide Commercial Service*: [/financialservice/otherservice/commercial]
Ensure that the company applies a consistent and commercial approach in its
relationship with suppliers and contractors. Provide support to the contract
reviewers / approvers and to contract / agreement holders on commercial
matters.
K0404, Version: 0, Date: 2002-07-12, Status: original*

Acquire or Divest Asset (L)

[/assettrading] Acquire or divest major assets to meet company objectives and plans.
Evaluate / value asset(s) and prepare strategies for their acquisition and divestment.
Develop and issue bid, negotiate and sign contracts. Note: major assets include: shares,
licenses, acreage, facilities (e.g. platforms, pipelines, terminals, power plants), and

production sharing agreements.
L, Version: 0, Date: 2002-07-12, Status: original

Evaluate/Value Asset (L01)

[/assettrading/evaluation] Evaluate/value Asset(s) for acquisition or divestment.
L01, Version: 0, Date: 2002-07-12, Status: original

Evaluate/Value Asset for Acquisition:
[/assettrading/evaluation/acquisitionvaluation] Evaluate and/or value the asset for acquisition, defining the target asset acquisition value statement. This may initiate or have already been triggered by ""Formulate Resource Development Concepts"". Determine target asset availability. Seek access to information and data room under confidentiality agreement to enable valuation of target asset. Evaluate upsides and downsides. Establish the asset acquisition scope and asset acquisition contract terms, including currency risks, the preferred pricing mechanism and a cost estimate. Define asset acquisition commercial and technical evaluation criteria and the asset acquisition approval procedure for the asset acquisition contract. Exercise due diligence to liabilities e.g. HSE, legal, financial, fiscal etc.
L0101, Version: 0, Date: 2002-07-12, Status: original, [=> /assettrading/acquisition]

Evaluate/Value Asset for Divestment:
[/assettrading/evaluation/divestmentvaluation] Evaluate and/or value the asset for divestment, defining the target asset divestment value statement. This may initiate or have already been triggered by ""Formulate Resource Development Concepts"". Assess potential liabilities e.g. HSE, legal etc.
L0102, Version: 0, Date: 2002-07-12, Status: original, [=> /assettrading/divestment]

Acquire Asset (L02)

[/assettrading/acquisition] Prepare a bid/negotiation strategy for acquisition. Develop bid. Negotiate and sign contract.
L02, Version: 0, Date: 2002-07-12, Status: original

Prepare Bid/Negotiating Asset Acquisition Strategy:
[/assettrading/acquisition/strategy] Prepare an asset acquisition negotiating strategy, including a fall-back plan with ranked fall-back steps and the position beyond which the company is not prepared to go. In addition:* define an unambiguous bid level and a price ceiling before the action starts (with partners if appropriate). Obtain mandates for negotiation.* establish the strengths and weaknesses of the vendor prior to any negotiation.* establish the requirements for outside advisers e.g. use of a merchant bank or other consultant services.; select and engage with clear definition of responsibilities. * establish a timetable to execute the acquisition and put in place confidentiality obligations.* prepare a post-acquisition plan before entering into any negotiations. The plan should cover restructuring, integration and post-acquisition management.* prepare a post-acquisition plan
L0201, Version: 0, Date: 2002-07-12, Status: original, [=> /assettrading/acquisition/bidpackage]

Develop & Issue Asset Acquisition Bid Package:
[/assettrading/acquisition/bidpackage] Develop the asset acquisition bid
package for negotiating the required asset. Compile and issue the bid
package. If required, seek partners, determine share, formulate, sign joint
bidding agreement, agree on operatorship, agree on work/program and
budget, and formulate joint bidding strategy.
L0202, Version: 0, Date: 2002-07-12, Status: original, [=>
/assettrading/acquisition/negotiation]

Negotiate Asset Acquisition: [/assettrading/acquisition/negotiation]
Negotiate asset acquisition contract terms and asset acquisition biddable
items. Negotiate within the guidelines and the mandate on price and other
economic criteria. Verify the pre-emptive rights period, if relevant.
L0203, Version: 0, Date: 2002-07-12, Status: original, [=>
/assettrading/acquisition/contracts]

Sign Asset Acquisition contract: [/assettrading/acquisition/contracts]
Review and sign asset acquisition contract (sales and purchase agreement)
and obtain any government consents and partner consents and approvals
e.g. the joint operating agreement with partners. Take possession of all
relevant asset acquisition data upon successful completion Note: Develop
post implementation plan. Refer to ""Analyze Asset"".
L0204, Version: 0, Date: 2002-07-12, Status: original

Divest Asset (L03)

[/assettrading/divestment] Prepare asset divestment strategy. Prepare asset divestment
invitation to bid documents. Initiate bidding. analyze and negotiate bid. Complete and sign
asset transfer.
L03, Version: 0, Date: 2002-07-12, Status: original

Prepare Asset Divestment Strategy: [/assettrading/divestment /strategy]
Determine the strategy for the divestment, defining the asset divestment
strategy document:* determine the retention value of the asset securing
company approvals and agreement with partners, as required.* define an
unambiguous bid level and a price ceiling before the action starts (with
partners if appropriate). Obtain mandates for negotiation.* establish the
requirements for outside advisers e.g. use of a merchant bank or other
consultant services. Select and engage with clear definition of responsibilities.
* carry out an analysis to identify potential purchasers, and to assess the
market's appetite for divestment at this time. * prepare a post-acquisition
plan
L0301, Version: 0, Date: 2002-07-12, Status: original, [=>
/assettrading/divestment /bidpackage]

Prepare Asset Divestment Invitation to Bid: [/assettrading/divestment
/bidpackage] Prepare asset divestment invitation to bid including; (a)
Confidentiality Agreement - the agreement is to prevent confidential
information being leaked to competitors, and to preclude the prospective
purchaser from using information from the data-room for anything other than
the evaluation of the asset or business for sale; (b) Information
Memorandum - this specifies and describes the property for sale, and the
process and indicative timetable that will be followed; and (c) Draft Sales and
Purchase Agreement - which describes the price, the assets and the date of

transfer of title to the asset, and the nature of transaction (asset and/or shares). It also defines how working capital is to be dealt with in the transaction, and specifies the warranties and indemnities.
L0302, Version: 0, Date: 2002-07-12, Status: original, [=> /assettrading/divestment /bidding]

Initiate Asset Divestment Bidding*: [/assettrading/divestment /bidding]*
Initiate asset divestment bidding to: (a) execute the confidentiality agreement and distribute the invitations to bid to potential buyers. (b) distribute the information memorandum. (c) prepare the data room procedures, and ensure that appropriate personnel are secured. (d) set up the data room, to provide the relevant legal, technical and financial information including a draft sales and purchase agreement. (e) co-ordinate scheduling of data room visits by potential buyers and record access to data. (f) organize the presentations to be given, and record the material presented. (g) prepare responses to questions (preferably in writing). (h) coordinate receipt of offers. There should be a specified bid submission date, before which bids must not be opened. Bids must be kept confidential.
L0303, Version: 0, Date: 2002-07-12, Status: original, [=> /assettrading/divestment /negotiation]

Analyze and Negotiate Asset Divestment Bid(s)*:*
[/assettrading/divestment /negotiation] Analyze the asset divestment bids received. Assess the commercial, technical and legal aspects (in terms of price, representations, warranties and indemnities). Identify the most attractive bid(s). analyze the completeness of the bids or offer and prepare to negotiate. (a) define the effective date and the closing date for the transaction. (b) update the valuation, and the ""no-regret price"", to the established effective date only if there is a substantial change to assumptions. (c) determine the negotiating strategy, including fall-back positions, with partners, if appropriate. (d) coordinate the negotiations and due diligence process. (e) verify the pre-emptive rights, if relevant.
L0304, Version: 0, Date: 2002-07-12, Status: original, [=> /assettrading/divestment /completion]

Complete the Asset DivestmentTransaction*: [/assettrading/divestment /completion] Co-ordinate the signature of the asset divestment contract (sales and purchase agreement). Review necessary partner and government consents and approvals. Prepare handover of all necessary asset divestment documentation and data to third party.*
L0305, Version: 0, Date: 2002-07-12, Status: original

Market and Trade Hydrocarbons (M)

[/hydrocarbontrading] Establish hydrocarbon trading marketing options. Prepare and evaluate development concept(s). Develop a plan and activity proposals for the marketing and trading of hydrocarbons. Market/trade the hydrocarbons. Balance the supply and demand, secure third-party (supplier)/ sales (customer)/ transportation contracts. Renegotiate contracts in the event of changes to price and business circumstance. Receive nomination for hydrocarbon gas supply, optimize supply and distribution, and sell to customer. Match supply and demand for liquid hydrocarbons and sell to customer. Note: This covers the market and trade of company produced hydrocarbons together with transportation of third party hydrocarbons. In addition it may cover the purchase and trade of third party hydrocarbons. Liquid hydrocarbons are either oil or NGL's or condensate. Gas

Hydrocarbons are either natural gas or LNG or LPG.
M, Version: 0, Date: 2002-07-12, Status: original

Plan Hydrocarbon Marketing Strategy (M01)

[/hydrocarbontrading/strategy] Establish hydrocarbon marketing (long-term) options based on scenarios. Prepare and evaluate development concepts. Prepare and marketing plan and activity proposal(s).
M01, Version: 0, Date: 2002-07-12, Status: original

Establish Hydrocarbon Marketing Options:
[/hydrocarbontrading/strategy/scenarios] Establish hydrocarbon marketing options including scenarios for own production, potential customers and suppliers, transport and storage and price. Prepare a hydrocarbon market forecast of the industry demand/supply (including inventory position for oil and storage position for gas). Evaluate regulatory regimes in markets, if required, competitor trends and consumption trends. Determine industry positioning.
M0101, Version: 0, Date: 2002-07-12, Status: original, [=> /hydrocarbontrading/strategy/conceptsdevelopment]

Prepare/Review Facility and Service Development Concepts:
[/hydrocarbontrading/strategy/conceptsdevelopment] Prepare / review facility and service development concepts for pipelines, storage, facilities etc. including concepts for contracts and other services. Forecast equity production, plant load factor and supply source (i.e. custody transfer). analyze customer base (type of customer, geography, price impacts, and terms). Identify and assess short and long-term marketing opportunities including using supplier market contacts.
M0102, Version: 0, Date: 2002-07-12, Status: original, [=> /hydrocarbontrading/strategy/conceptevaluation]

Evaluate Facility and Service Development Concepts:
[/hydrocarbontrading/strategy/conceptevaluation] Evaluate facility and service development concepts technically and economically including: (a) political and financial risks of companies & countries. (b) infrastructure (capacity, storage, fractionation plants, terminals) and distribution arrangements with associated third parties. (c) identification of availability / limitations e.g. quality (via process ""Operate Wells and Facilities""). This includes the technical status/ reliability (e.g. for compressors / pipelines). For each development concept, estimate capital and operating expenditure over full life cycle. Conduct an economic analysis.
M0103, Version: 0, Date: 2002-07-12, Status: original, [=> /hydrocarbontrading/strategy/plandevelopment]

Develop Strategic Hydrocarbon Marketing Plan:
[/hydrocarbontrading/strategy/plandevelopment] Prepare a strategic hydrocarbon marketing plan (related to the associated asset reference plans) for the suppliers / third-parties and customers / sales. Prepare hydrocarbon marketing activity proposals, e.g. for negotiation, development of transportation and storage systems etc.
M0104, Version: 0, Date: 2002-07-12, Status: original

Market Hydrocarbons (M02)

[/hydrocarbontrading/marketing] Prepare/review a supply and demand forecast. Identify shortfalls and surplus and quantify hydrocarbons. Secure supplier/customer/transportation contracts and set up accounts.
M02, Version: 0, Date: 2002-07-12, Status: original

Balance Hydrocarbon Supply/Demand:

[/hydrocarbontrading/marketing/supplydemandbalancin] Prepare a hydrocarbon supply forecast (determine company and third-party inventories and production) and demand. Compare commitments with potential production and capability. Evaluate ability to deliver and identify and exploit shortage / surplus. Find and re-evaluate hydrocarbon market opportunities and customers / suppliers. Quantify volumes. Identify locations and timings and capacity to meet customer requirements (e.g. quality).
M0201, Version: 0, Date: 2002-07-12, Status: original

Secure Hydrocarbon Gas Contracts:

[/hydrocarbontrading/marketing/gascontracts] Establish/review hydrocarbon gas contracts policies: (a) methods and terms for gas purchase and sales pricing; (b) gas transportation/storage tariffs, and payment terms; (c) take or pay levels and make-up procedures; Ensure compliance with HSE, legal, regulatory requirements; Negotiate or review hydrocarbon gas contracts: (a) Supplier/Sales/Transportation contracts including satisfactory back-to-back arrangements; (b) complete credit check, obtain approval to execute contract; (c) set up account and maintain contract (complete ongoing credit checks, customer calls, enhance business opportunities); (d) set up letter of credit for offshore business insurance (if required); (e) terminate contract. Book capacity in transportation system.
M0202, Version: 0, Date: 2002-07-12, Status: original

Secure Hydrocarbon Liquid Contracts:

[/hydrocarbontrading/marketing/liquidscontracts] Negotiate hydrocarbon liquids contracts (Supplier/Sales/Transportation contracts), including: (a) establish pricing method or other terms; (b) terms (30 day, 1 year, 5 year, 15 year); (c) take or pay levels with possibility of make up; (c) ensure HSE, legal, regulatory requirements are met; (d) complete credit check, obtain approval to execute contract; (e) set up account and maintain contract (complete ongoing credit checks, customer calls, enhance business opportunities); (f) set up letter of credit for offshore business insurance (if required); (g) terminate contract.
M0203, Version: 0, Date: 2002-07-12, Status: original

Deliver Gas Hydrocarbons (M03)

[/hydrocarbontrading/gasdelivery] Initiate order and receive nomination for gas hydrocarbons. Locate supply where required and optimize. Compare supply / demand to identify shortages / surpluses and commit supply. Handle supplier / customer inquiries. Sell gas and bill buyer according to trading arrangement payments.
M03, Version: 0, Date: 2002-07-12, Status: original

Receive Gas Nominations & Optimize:

[/hydrocarbontrading/gasdelivery/gasnominationrecei] Receive gas nomination and re-nominations for hydrocarbons. Locate supply where required. Nominate transportation and storage gas from non-operated fields.

Nominate gas from third parties. Evaluate and optimize costs and revenue. This may include in the substitution company gas by third-party gas. Handle gas nominations supplier / customer inquiries.
M0301, Version: 0, Date: 2002-07-12, Status: original, [=> /hydrocarbontrading/gasdelivery/gastrading]

Buy & Sell Gas*: [/hydrocarbontrading/gasdelivery/gastrading] Sell gas to customer (via process ""Operate Wells and Facilities""). Buy gas and/or remove gas from storage. Reconcile delivery, production, purchases, transported and stored volumes.*
M0302, Version: 0, Date: 2002-07-12, Status: original

Bill Gas Buyer*: [/hydrocarbontrading/gasdelivery/gasbilling] Initiate customer billing and supplier payment based on product measurement and pricing via process ""Provide Financial Service""*
M0303, Version: 0, Date: 2002-07-12, Status: original

Deliver Liquid Hydrocarbons (M04)

[/hydrocarbontrading/liquiddelivery] Initiate order and receive nomination for liquid hydrocarbons. Locate and optimize supply. Compare supply and demand to identify shortages/surplus and commit supply. Handle supplier/customer inquiries. Sell liquid hydrocarbons and arrange payments.
M04, Version: 0, Date: 2002-07-12, Status: original

Match Hydrocarbon Supply and Demand*:*
[/hydrocarbontrading/liquiddelivery/supplydemandbal] Initiate order and receive hydrocarbon nomination. Locate available product and optimize costs and revenue. Determine destination and amount (optimize). Identify shortage and surplus and commit supply. Handle hydrocarbon nomination supplier/customer inquiries
M0401, Version: 0, Date: 2002-07-12, Status: original, [=> /hydrocarbontrading/liquiddelivery/liquidsales]

Sell Liquid Hydrocarbons*: [/hydrocarbontrading/liquiddelivery/liquidsales] Reconcile delivery. Initiate customer billing and supplier payment based upon product measurement and pricing via process ""Provide Financial Service"". Note the delivery of liquid hydrocarbons is via process ""Operate Wells and Facilities"".*
M0402, Version: 0, Date: 2002-07-12, Status: original

Provide Human Resources (N)

[/humanresources] Resource the company; develop staff; communicate the desired organizational values and style/ behavior; and administer appropriate employment and compensation policies.
N, Version: 0, Date: 2002-07-12, Status: original

Resource the Organization and Develop Staff (N01)

[/humanresources/organizationalstaff] Meet company manpower requirements by recruitment, transfer, development, training and release of staff. Develop staff towards their potential. Develop a company that is constantly improving its learning capability.
N01, Version: 0, Date: 2002-07-12, Status: original

Analyze Future Human Resources Requirements:

[/humanresources/organizationalstaff/futurerequirem] Define the company human resources requirements against different staff structure scenarios, in terms of educational discipline, experience, competence, numbers of staff (expatriate / local), types of staff (company or contractor) and required timing.
N0101, Version: 0, Date: 2002-07-12, Status: original

Analyze Supply of Human Resources:

[/humanresources/organizationalstaff/supplyanalysis] Identify and analyze the various human resources sources of supply, i.e. own company, affiliated companies and external labor market. Take into account employment demographics including staff structure, wastage and geographic location, competency profiles, succession plans and academic qualification trends. Identify current or potential human resources capability gaps which could erode the competitiveness of the company. Match human resources requirements to preferred sources of supply.
N0102, Version: 0, Date: 2002-07-12, Status: original

Analyze Attractiveness of Organization:

[/humanresources/organizationalstaff/organizationan] Determine the employment preferences of key target audiences for recruitment in the labor market. Assess current level of the company's attractiveness, and that of competitors, and make internal and external plans for improvement.
N0103, Version: 0, Date: 2002-07-12, Status: original

Plan Manpower Resourcing:

[/humanresources/organizationalstaff/resourcingplan] Assess company human resources requirements, overall and in detail, in both the short and long term. Review and specify which activities are core and should therefore be carried out by company staff, and which are non-core and can be carried out by third parties. Match company human resources requirements to preferred sources of supply, and growth in staff competencies, and thereby define the company manpower resourcing strategy.
N0104, Version: 0, Date: 2002-07-12, Status: original

Plan Staff Development:

[/humanresources/organizationalstaff/staffdevelopme] Plan staff for jobs and jobs for staff, to enhance development of potential of individual staff. Develop a human resources training and learning portfolio.
N0105, Version: 0, Date: 2002-07-12, Status: original

Maintain Staff Appraisal System:

[/humanresources/organizationalstaff/staffappraisal] Develop and maintain ongoing process for setting company and individual performance targets and appraising performance against target expectations. Maintain consistent, equitable and documented procedure for mutual discussion on performance and competence. Rank staff potential and performance, collectively and comparatively.
N0106, Version: 0, Date: 2002-07-12, Status: original

Resource Manpower Requirements:

[/humanresources/organizationalstaff/staffresourcin] Prepare a company staff

recruitment plan for the attraction and recruitment of staff (company and contractor). Determine company manpower training requirements (company-wide, functional and individual). Update the company job competency structure.
N0107, Version: 0, Date: 2002-07-12, Status: original

Develop Staff: *[/humanresources/organizationalstaff/staffdevelopme]*
Develop staff towards their potential, via task assignment or training event, taking account of individual aspirations, expectations of growth in capacity, as well as company human resources requirements.
N0108, Version: 0, Date: 2002-07-12, Status: original

Maintain Training and Learning Programs:
[/humanresources/organizationalstaff/trainingprogra] Create and update a human resources competency development program portfolio of competency development program (e.g. local and company-wide, functional and inter-functional training courses, operator/technical training, distance-learning program, self-study modules under mentor supervision). This program/portfolio is applied to individuals on the basis of human resources training needs analysis (assessment of gap between required and actual competence profiles).
N0109, Version: 0, Date: 2002-07-12, Status: original

Recruit Staff: *[/humanresources/organizationalstaff/staffrecruitin] Attract potential qualified candidates. Recruit staff according to company human resources requirements. Confirm openings and specifications; advertise postings; handle nominations and applications; conduct assessment activities (e.g. screening, tests, assessment centers, interviews etc.); reject or make offers; agree staff terms and sign agreements.*
N0110, Version: 0, Date: 2002-07-12, Status: original

Induct Staff: *[/humanresources/organizationalstaff/staffinduction] Induct staff into the company Prepare the company for arrival of employees; prepare employee information; place employees on payroll; carry out induction and training program; carry out welcome and orientation procedures.*
N0111, Version: 0, Date: 2002-07-12, Status: original

Release Staff: *[/humanresources/organizationalstaff/staffreleasing] Manage the termination of employment according to the relevant circumstances e.g. redundancy, dismissal, resignation, incapacity, death. Administer severance payments. Apply end of service benefits/policies.*
N0112, Version: 0, Date: 2002-07-12, Status: original

Transfer Staff: *[/humanresources/organizationalstaff/stafftransfera] Carry out activities associated with the transfer of staff. Agree on staff moves between sending and receiving organizations; arrange hand-over; handle relocation; handle administration.*
N0113, Version: 0, Date: 2002-07-12, Status: original

Provide Development Assignments etc.:
[/humanresources/organizationalstaff/developmentass] Provide appropriate opportunities (based on planning of jobs or specific activities) to develop

staff, e.g. expatriate or cross-functional development assignment, temporary attachment, special project or role. Consider long-term company human resources requirements as well as needs of individual staff; and ensure transparent and merit-based selection processes against limited opportunities.
N0114, Version: 0, Date: 2002-07-12, Status: original

Provide Training*: [/humanresources/organizationalstaff/stafftraining]*
Ensure that staff receives the most appropriate form of training/learning (event or process) in relation to their competence development need. Issue joining instructions and pre-work information; deliver training events; follow-up attendee action-plans; review course and propose improvements
N0115, Version: 0, Date: 2002-07-12, Status: original

Sustain Values and Administer Human Resources Policies (N02)

[/humanresources/policies] Promote and communicate the desired company values and style. Support high levels of staff motivation through the administration of employment and compensation policies.
N02, Version: 0, Date: 2002-07-12, Status: original

Maintain Framework of Desired Organizational Values and Styles*:*
[/humanresources/policies/framework] Establish sensing mechanisms which monitor and re-affirm the validity, appropriateness and congruence of the company's formal and informal values and style/behaviors. Ensure that the desired values and style/behaviors are made explicit and understood throughout the company Ensure that people-related practices and processes consistently reflect these underlying values and style/behaviors.
N0201, Version: 0, Date: 2002-07-12, Status: original, [=> /humanresources/policies/competitiveanalysis]

Analyze Competitive Position on Labor Market*:*
[/humanresources/policies/competitiveanalysis] Assess relative weight of competitor jobs and job grade structures. analyze information on competitor remuneration levels and employment policies. Monitor legislative developments and monitor need to lobby governments.
N0202, Version: 0, Date: 2002-07-12, Status: original, [=> /humanresources/policies/administration]

Administer and Communicate HR Policies & Practices*:*
[/humanresources/policies/administration] Administer and communicate the full range of human resources policies and practices. This includes appropriate compensation and benefits administration such as salaries, allowances, pensions and local social security entitlements. Ensure that all policies and practices are aligned with the needs of the business, its external labor market and the company's underlying values and style/behaviors.
N0203, Version: 0, Date: 2002-07-12, Status: original

Provide Staff Services (N03)

[/humanresources/services] Execute activities required to provide staff services as appropriate for business requirements and the locations of the company's business. This includes schooling, medical services, living and office accommodation, etc. and services at remote sites such as catering. Note: use: ""Develop Facility"" and ""Maintain (Wells and)

Facilities"".
N03, Version: 0, Date: 2002-07-12, Status: original

> ***Provide Schooling***: *[/humanresources/services/childcare] Provision of schooling for the children of staff.*
> *N0301, Version: 0, Date: 2002-07-12, Status: original*

> ***Provide Medical Services***: *[/humanresources/services/medical] Provision of medical services staff and dependants.*
> *N0302, Version: 0, Date: 2002-07-12, Status: original*

> ***Provide Accommodation***: *[/humanresources/services/accommodations] Provision of living and office accommodation for staff.*
> *N0303, Version: 0, Date: 2002-07-12, Status: original*

> ***Provide Catering***: *[/humanresources/services/catering] Provision of catering for staff*
> *N0304, Version: 0, Date: 2002-07-12, Status: original*

> ***Provide Office Services***: *[/humanresources/services/office] Provision of office services including copying, secretarial services, document storage, mail distribution, office supplies, travel and bookings, conference and catering services etc.*
> *N0305, Version: 0, Date: 2002-07-12, Status: original*

Provide Information Technology Services (O)

[/it] Perform all activities required to deliver software applications and databases, and to provide an operational service in support of the business activities using information technology. Note: ""Deliver and Maintain Information Technology Infrastructure Services"" is covered by ""Develop Facility"" & ""Maintain (Wells and) Facilities"".
O, Version: 0, Date: 2002-07-12, Status: original

Deliver Solution Applications and Databases (O01)

[it/components] Carry out all activities required for the provision of software applications and databases, including appropriate asset operation documentation and guidelines for the operation of a new asset. Note: The implementation supports the deployment of the company process management program in ""Manage Process Program"".
O01, Version: 0, Date: 2002-07-12, Status: original, [=> it/operations]

> ***Analyze Solution Business Requirements***: *[it/components/requirements] Analyze and document software applications / databases processes / data models. Analyze software inter-application interfaces to other applications, databases and information technology infrastructure services. Analyze and define the operational, functional and performance requirements (e.g. work-load). Define operational information technology service requirements. Compile information technology requirements specification. Note: For company-wide application developments, ensure specifications match all local requirements. In case of software package evaluation and acquisition, refer to ""Procure Goods and Services"".*
> *O0101, Version: 0, Date: 2002-07-12, Status: original, [=> it/components/conceptualdesign]*

Prepare Solution Conceptual System Design:
[it/components/conceptualdesign] Refine solution business area/process information architecture. Develop initial solution prototype. Describe business transactions and initial user interface. Draft solution functional specifications.
O0102, Version: 0, Date: 2002-07-12, Status: original, [=> it/components/technicaldesign]

Prepare for Solution System Implementation and Migration:
[it/components/technicaldesign] Create information technology component of the solution implementation and migration plan for business (improvement) project. This covers: data migration including quality control, system integration and connectivity test, recovery measures in case of installation failures, acceptance test, commissioning of new and decommissioning of old system, e.g. parallel running and final switch-over, training, abandonment of obsolete information technology assets. Note: In case of joint organizational developments, ensure that local site specifics are identified and covered in the plan.
O0103, Version: 0, Date: 2002-07-12, Status: original, [=> it/components/development]

Develop Solution System Applications and Databases:
[it/components/development] In case of software package acquisition: Set-up software package installation and environment. Design software package integration and pilot. Develop solution application infrastructure. Design solution business system and testing. Develop solution database and server. Design software package / solution application integration. Develop solution data conversion application. Develop solution application and integration software and/or database. Test Solution System. Design user and information systems environment. Develop solution operational procedures. Develop solution user training.
O0104, Version: 0, Date: 2002-07-12, Status: original, [=> it/components/implementation]

Implement New Solution System: *[it/components/implementation] Install solution production system (application, database). Convert data. Execute solution acceptance testing. Refine solution production system.*
O0105, Version: 0, Date: 2002-07-12, Status: original

Abandon Obsolete Solution System: *[it/components/abandonment] Abandon obsolete solution application and databases.*
O0106, Version: 0, Date: 2002-07-12, Status: original

Prepare Solution System Handover:
[it/components/handoverpreparation] Prepare for handover to solution operational service provider.
O0107, Version: 0, Date: 2002-07-12, Status: original

Operate Information Technology Services (O02)

[it/operations] Develop the operational information technology services plan. Operate and maintain the operational information technology services for applications, databases and information technology infrastructure in support of the business activities. Note: Information technology infrastructure includes: - Wide area network - Mainframe /

Midrange - Share server - Local Area Network - PC/Desktop - Telephone, FAX, Telex
O02, Version: 0, Date: 2002-07-12, Status: original

> ***(Re-) Define Operating Modes****: [it/operations/architecture] Review/update
> the asset reference plan of software applications, databases and information
> technology infrastructure services. Review/update operational, functional and
> performance requirements of software application, databases and information
> technology infrastructure services. Confirm operational service level
> agreement targets.*
> *O0201, Version: 0, Date: 2002-07-12, Status: original, [=>
> it/operations/plan]*

> ***Develop Information Technology Services and Infrastructure
> Operational Plan****: [it/operations/plan] Develop operational work-load
> forecast of information technology infrastructure (e.g. CPU, diskspace,
> network traffic). Develop information technology infrastructure capacity plan
> reflecting key events (e.g. implementation of software applications,
> databases and information technology services; specific business activities,
> such as studies), which will have high impact of the resource utilization and
> information technology security. Ensure business continuity requirements can
> be met. Propose infrastructure enhancements and modifications.*
> *O0202, Version: 0, Date: 2002-07-12, Status: original, [=>
> it/operations/execution]*

> ***Operate and Support Information Technology Services and
> Infrastructure****: [it/operations/execution] Operate and support software
> applications, databases and information technology infrastructure services to
> meet the agreed operational service level targets. Specific activities are e.g.;
> (a) Monitor and control performance to meet the requirements set in the
> service level agreements (e.g. service availability and response times,
> response times to problems) and take corrective actions; (b) Perform Back-
> up/restore and offsite redundancy for (disaster) recovery; (c) Initiate and
> execute contingency tests; (d) Provide security services; (e) Provide help
> desk and training services; (f) Record and Audit resource usage; (g) Perform
> corrective first line maintenance to ensure agreed functionality, performance
> and security; (h) Perform specific information technology services (e.g.
> centralized computing; plotting/printing; batch processing).*
> *O0203, Version: 0, Date: 2002-07-12, Status: original*

Provide Laboratory Analysis Service (P)

[/labservice] Take, receive and analyze samples of solids and fluids to obtain information
about the asset status. The actual measurements that need to be performed are specified
in the sample analysis request. Note: This covers the analysis of rock, cores, gas, liquids,
solids (including metal) either in the laboratory or at site.
P, Version: 0, Date: 2002-07-12, Status: original

Prepare for Laboratory Analysis (P01)

[/labservice/preparation] Discuss the purpose of laboratory analysis with the customer.
Receive, check and accept laboratory analysis sample. Select inspection measuring and test
equipment and auxiliaries to be used.
P01, Version: 0, Date: 2002-07-12, Status: original, [=> labservice/analysis]

Discuss Purpose of Laboratory Analysis:
[/labservice/preparation/purpose] Discuss purpose of analysis with the customer, agree laboratory analysis sampling techniques. Select the required sample type/conditions or make preparations for onsite analysis. Select laboratory analysis technique.
P0101, Version: 0, Date: 2002-07-12, Status: original, [=> /labservice/preparation/samplepreparation]

Receive/take, Check and Accept Laboratory Analysis Sample Identity: *[/labservice/preparation/samplepreparation] Receive or take, check, accept, register and store the laboratory analysis sample solid or fluid in such a way as to minimize the effect of handling on subsequent sample material. Take into account laboratory analysis HSE requirements for the type of sample (e.g. naturally occurring radioactive materials, low specific activity waste material). Ensure that a representative sample is taken. Confirm the sample identity and ensure traceability. Review inspection, measurement and test requirements as outlined in the laboratory sample analysis proposal for completeness.*
P0102, Version: 0, Date: 2002-07-12, Status: original, [=> /labservice/preparation/methodology]

Select Laboratory Analysis Inspection, Measuring & Test Equipment & Method: *[/labservice/preparation/methodology] Identify analysis-related activities which require particular attention to be paid to safety, quality control and environmental issues (e.g. use of mercury, high pressure equipment etc.). Identify the measurements to be made, the accuracy required and select the appropriate inspection, measuring and test equipment and procedure.*
P0103, Version: 0, Date: 2002-07-12, Status: original

Perform Laboratory Analysis (P02)

[labservice/analysis] Ensure that the equipment and auxiliaries have been calibrated to recognized standards. Perform the analysis according to the laboratory sample analysis program. Validate results.
P02, Version: 0, Date: 2002-07-12, Status: original, [=> labservice/evaluation]

Check Laboratory Analysis Equipment Calibration:
[labservice/analysis/prechecking] Identify, calibrate and adjust all inspection, measuring and test equipment and devices that can affect quality at prescribed intervals, or prior to use, against certified equipment having known valid relationship to recognized standards. Establish, document and maintain laboratory analysis calibration procedures. Ensure inspection, measurement and test equipment is capable of accuracy and precision necessary. Maintain laboratory analysis calibration records.
P0201, Version: 0, Date: 2002-07-12, Status: original, [=> labservice/analysis/execution]

Execute Laboratory Analysis: *[labservice/analysis/execution] Execute the required inspection, measurement and test. Ensure the proper identification of the inspection and test status of sample using markings, authorized stamps, tags, labels, routing cards etc. which indicate the conformance or non-conformance of sample. Note: Typical tests are: (a) Describe Lithological Characteristics of Rock Samples. Describe the geology of the rock samples in*

terms of: Lithology, color, hardness, fractures, grain size, sorting and shape, porosity/permeability, bedding, sedimentary structures and features; fossils/minerals, dips, hydrocarbon indications, depth of recovered core; among others. Take photographs (B&W, color, ultra violet and scanning electron microscope) of samples. (b) Measure Fluid Properties. Subject fluid samples to test to determine composition, physical and chemical properties. (c) Analyze Paleontological, Geochemical, Palynological and Other Properties. Identify age, chemical characteristics ('finger printing') and environmental indicators of rocks by performing Paleontological, geochemical and palynological analyses.
P0202, Version: 0, Date: 2002-07-12, Status: original, [=> labservice/analysis/validation]

Validate Laboratory Analysis Results: *[labservice/analysis/validation] Validate the laboratory sample analysis results. Check the results to ensure that the data quality complies with specifications. Re-run analysis as appropriate.*
P0203, Version: 0, Date: 2002-07-12, Status: original

Evaluate Laboratory Analysis (P03)

[labservice/evaluation] Record and calculate laboratory analysis results and prepare a laboratory sample analysis report.
P03, Version: 0, Date: 2002-07-12, Status: original

Record and Report Laboratory Analysis Results:
[labservice/evaluation/resultsreporting] Ensure proper recording of laboratory sample analysis results, used to calculate and report on desired properties, composition or other characteristics defined in the analysis/test request. Document measurements and results, sample origin and procedures used.
P0301, Version: 0, Date: 2002-07-12, Status: original, [=> labservice/evaluation/sampledisposition]

Return, Store or Dispose of Laboratory Analysis Sample:
[labservice/evaluation/sampledisposition] Package sample, return to customer, store or dispose in a safe manner.
P0302, Version: 0, Date: 2002-07-12, Status: original

Operate Asset Wells and Facilities (Q)

[/assetoperation] Operate the wells and facilities of an asset in a safe, efficient manner according to plan. Note: The functional assets referred to in this process have been written for product flow facilities.
Q, Version: 0, Date: 2002-07-12, Status: original

Update Asset Operating Requirements (Q01)

[/assetoperation/architecture] Review/update the asset reference plan and asset operating requirements of the integrated production system: the totality of functional assets that combine one or more hydrocarbon flows from wells to sales points.
Q01, Version: 0, Date: 2002-07-12, Status: original, [=> /assetoperation/productionplanning]

Update Asset Production Requirements:
[/assetoperation/architecture/productionrequirement] Review, update and

confirm what is required of the asset (e.g. wells, facilities and produced fluids) in the asset reference plan (refer to ""Plan Asset""). Ensure optimization over the life cycle. Note: This may be triggered by changes in business and technical requirements e.g. for monitoring, control, inspection, maintenance and improvement activities on wells and facilities. The asset reference plan is updated for new or modified facilities in ""Update Facility Reference Plan"".
Q0101, Version: 0, Date: 2002-07-12, Status: original , [=> /assetoperation/architecture/operatingspecificatio]

Update Asset Operating Specifications:

[/assetoperation/architecture/operatingspecificatio] Review and update asset operating specifications / asset product flow modes to optimize system performance and throughput within a defined planning period (as designed, constructed, modified in ""Develop Facility"" and ""Develop Well""). Identify threats (events or equipment failure) which impact on system capacity or technical integrity and prepare alternative operating modes to minimize risks.
Q0102, Version: 0, Date: 2002-07-12, Status: original

Plan Production System Volumes and Capacities (Q02)

[/assetoperation/productionplanning] Estimate the integrated production system capacity, allow for deferment for safeguarding activities and estimate production availability. In conjunction with the hydrocarbon demand from ""Market and Trade Hydrocarbons"", prepare the production system production plan including volumes and capacity. Note: these activities are in support of ""Manage Asset"".
Q02, Version: 0, Date: 2002-07-12, Status: original , [=> /assetoperation/execution]

Estimate Production System Capacity:

[/assetoperation/productionplanning/estimatecapacit] Prepare an integrated production system capacity profile over the planning period by quantifying well and facility configuration constraints (without deferments) on reservoir potential (refer to resource development concepts from ""Formulate Resource Development Concepts""). Note: A profile is necessary to allow for declines in reservoir potential and build-ups of system capacity due to new, improved or modified wells and facilities.
Q0201, Version: 0, Date: 2002-07-12, Status: original , [=> /assetoperation/productionplanning/safeguardingdef]

Estimate Production System Deferment:

[/assetoperation/productionplanning/safeguardingdef] Estimate the production system deferment caused by all activities necessary to safeguard technical integrity. This includes testing and preventive maintenance of wells, structures, facilities, safeguarding systems and the shut-down of wells and facilities to meet concurrent operational activity requirements.
Q0202, Version: 0, Date: 2002-07-12, Status: original , [=> /assetoperation/productionplanning/estimateavailab]

Estimate Production System Availability:

[/assetoperation/productionplanning/estimateavailab] Estimate production system availability by quantifying the deferment brought about by all other proposed field activities and contingency allowances. Compare production system availability with the production system requirements (in accordance with the demand established in ""Market and Trade Hydrocarbon"") and the

production system injection requirement (established in ""Formulate Resource Development Concepts""). Adjust where possible the timing of those activities that do not safeguard technical integrity to ensure that the requirements can be met. Define the maximum / minimum flow for each hydrocarbon type. Adjust the production system capacity profile, if necessary.
Q0203, Version: 0, Date: 2002-07-12, Status: original , [=> /assetoperation/productionplanning/publication]

Prepare Production System Profile*:*
[/assetoperation/productionplanning/publication] Prepare production system profiles and specific production system production targets resulting from optimizing of activity levels and production requirements on a company-wide basis, and after consultation between all affected parties (including, if necessary, host government, certifying authorities, third parties and partners). Finalize these production system profiles with asset holders. Set production system targets. Note: This supports ""Create/Update the Asset Reference Plan"".
Q0204, Version: 0, Date: 2002-07-12, Status: original

Operate Production System Wells and Facilities (Q03)

[/assetoperation/execution] Operate the integrated production system to produce hydrocarbons to agreed quality and volume specifications over the identified period.
Q03, Version: 0, Date: 2002-07-12, Status: original

Configure Production System Wells and Facilities*:*
[/assetoperation/execution/configuration] Configure or re-configure wells and facilities; identify the line up / availability of production system components and select which to use from the available options to achieve the approved production system production plan. Note: This includes changing the production or injection distribution by altering the downhole well status, e.g. additional perforations, shifting sliding sleeves, putting in plugs.
Q0301, Version: 0, Date: 2002-07-12, Status: original

Regulate Production System Production Flow*:*
[/assetoperation/execution/flowregulation] Take specified measurements, including well tests and production samples, and implement the chemical injection program, to meet and confirm the volume and quality specifications of all the production, injection and waste streams of the production system production plan. Initiate the analysis of samples via ""Provide Laboratory Service"". Regulate wells and facilities to meet the production system production plan and within the permitted operating envelope. Take corrective action when wells and facilities performance does not conform to target performance at stable conditions. These actions include improved allocation of gas lift gas or power, reduction in emissions and waste etc. Carry out routine service of equipment and materials (first line maintenance).
Q0302, Version: 0, Date: 2002-07-12, Status: original

Measure Production System Production / Injection / Disposal Volumes*: [/assetoperation/execution/flowreporting] Measure and report production system production/injection volumes of hydrocarbons and other fluids. These records include e.g. monthly report of producing / injecting wells used for accounting purposes and reservoir management (for*

*accounting refer to ""Account for Hydrocarbons""; for reserves refer to
""Maintain Hydrocarbon Resource Plan""). Record terminal stock movements
(including commingled stocks) and hydrocarbon delivery data. Record waste
stream disposal and gaseous emissions to atmosphere.*
Q0303, Version: 0, Date: 2002-07-12, Status: original

Transfer Custody of Production System Hydrocarbons:
*[/assetoperation/execution/custodytransfer] Deliver the production system
hydrocarbons and transfer custody in accordance with hydrocarbon contracts
(agreements) and delivery schedules. Ensure fiscal metering is in accordance
with statutory and/or contractual requirements.*
Q0304, Version: 0, Date: 2002-07-12, Status: original

Integrate Equipment into Production System:
*[/assetoperation/execution/equipmentintegration] Integrate (or re-integrate)
isolated equipment into rest of production system e.g. from new or
maintained equipment.*
Q0305, Version: 0, Date: 2002-07-12, Status: original

Start-up Production System Wells and Facilities:
*[/assetoperation/execution/productionstartup] Prepare the production system
wells and facilities/equipment for production / processing. For start-up
without a hydrocarbon inventory this would involve purging and bringing up
to operating condition. For routine start-up from a state with an existing
hydrocarbon inventory; this would involve bringing up to operating condition
following identification and corrective action regarding the cause of the
shutdown. Note: Inventory refers to the hydrocarbon contents of the
facilities.*
Q0306, Version: 0, Date: 2002-07-12, Status: original

Shutdown Production system Wells and Facilities:
*[/assetoperation/execution/productionshutdown] Shutdown the production
system wells and facilities for production control, maintenance, improvement
or control of concurrent activities. This involves: the identification of the
equipment / components, de-pressurizing and cooling and subsequent
removal of hazardous substance, process fluids and residue, and their safe
disposal.*
Q0307, Version: 0, Date: 2002-07-12, Status: original

Isolate Equipment from Production System:
*[/assetoperation/execution/equipmentisolation] Physically isolate identified
equipment and safety systems from rest of the production system and
prepare to handover for isolated execution. For well servicing this includes
the need to set up independent pressure control.*
Q0308, Version: 0, Date: 2002-07-12, Status: original

Maintain Asset Wells and Facilities (R)

[/maintenance] Retain the wells and facilities of an asset in, or restore them to, a state in
which they can perform their required functions. Monitor reservoir status. Note: The word
'facilities' can be interpreted generically. It includes any functional or stock asset, not just
hydrocarbon related, e.g. buildings, power stations, vehicles, roads, information technology
hardware, medical equipment. This does not mean that all activities described in this
process are essential for all facilities; for some items of equipment many of the activities

can be omitted; for others they can be simplified.
R, Version: 0, Date: 2002-07-12, Status: original

Determine Asset Maintenance Direction (R01)

[/maintenance/direction] Formulate asset maintenance strategies that conform to company objectives. Review/confirm/update requirements and assumptions in the asset reference plan. Note: These activities are in support of ""Manage Assets"". Policies are handled under 'Manage Process Program'
R01, Version: 0, Date: 2002-07-12, Status: original , [=> /maintenance/requirements]

Review Asset Maintenance Assumptions:
[/maintenance/direction/assumptions] Review all assumptions, from the asset reference plan and elsewhere, which have led to the formulation of strategies and the applicability of any policies to the particular asset. Assess whether they have any significant impact with respect to well / facility maintenance and intervention. Identify assumptions to be reviewed and any departures from policy and formulate into proposals for change to asset reference plan.
R0101, Version: 0, Date: 2002-07-12, Status: original , [=> /maintenance/direction/strategy]

Determine Asset Maintenance Strategies:
[/maintenance/direction/strategy] Determine asset maintenance strategies in line with company objectives and the requirements of the asset holder as specified in the asset reference plan (""Plan Asset"") which include any changes from ""Review Asset Maintenance Assumptions"". Review asset maintenance and intervention strategies in the light of the other strategies on the asset and ensure that they are consistent and mutually supportive. Contribute to confirming or updating asset reference plan accordingly.
R0102, Version: 0, Date: 2002-07-12, Status: original

Determine Asset Well or Facility Maintenance Requirements (R02)

[/maintenance/requirements] Undertake fault modes, effects and criticality analysis on equipment. Identify activities required to safeguard technical integrity and to optimize cash flow. Develop, evaluate and select maintenance options. Determine maintenance requirements for all items of equipment and input these requirements into the asset reference plan.
R02, Version: 0, Date: 2002-07-12, Status: original , [=> /maintenance/interventionactivityprogram]

Perform Asset Fault Modes & Effects Analysis:
[/maintenance/requirements/faultmode&effectsanalysi] Carry out a qualitative method of reliability analysis which involves the study of the fault modes which can exist in every sub item of the item and the determination of the effects of each fault mode on other sub items of the item and on the required functions of the item. Note: The above is taken from standard definition in the functional asset hierarchy, an example of an item is a subsurface safety valve; sub-items are springs, flapper or seal assemblies.
R0201, Version: 0, Date: 2002-07-12, Status: original , [=> /maintenance/requirements/criticalityanalysis]

Perform Asset Criticality Analysis:
[/maintenance/requirements/criticalityanalysis] Perform criticality analysis: a

quantitative analysis of events or faults and the ranking of these in order of the seriousness of their consequences. Note: This analysis combined with the previous activity together constitutes ""fault modes, effects, and criticality analysis"". Rank the consequences Category A, effecting technical integrity which are deemed 'non-negotiable'; Category B, with an immediate impact on cash flow; Category C, with a longer term impact on cash flow.
R0202, Version: 0, Date: 2002-07-12, Status: original , [=> /maintenance/requirements/options]

Select Appropriate Asset Maintenance Options:
[/maintenance/requirements/options] Select the appropriate asset maintenance action option and the frequency or condition that is required as a result of both the preceding analysis and existing policies. For example, maintenance may be failure based (corrective), time based (scheduled) or condition based. In some cases, the appropriate option is to modify, redesign or downgrade equipment rather than perform maintenance.
R0203, Version: 0, Date: 2002-07-12, Status: original , [=> /maintenance/requirements/proposal]

Prepare Proposal to Change Policies & Strategies:
[/maintenance/requirements/proposal] Test the selected asset maintenance action options against the predetermined asset policies and strategies. Propose changes to policies and / or strategies if necessary. Note: Process policies are created/updated in ""Manage Process Program""; Strategies in ""Manage Asset"".
R0204, Version: 0, Date: 2002-07-12, Status: original , [=> /maintenance/requirements/optimize]

Take Account of External Influences on Asset Maintenance and Optimize: *[/maintenance/requirements/optimize] Incorporate activities required by external stakeholders into asset maintenance action options. Optimize maintenance tasks by aggregating into periodicities and coordinated sets and sequences of activities.*
R0205, Version: 0, Date: 2002-07-12, Status: original , [=> /maintenance/requirements/listing]

List Asset Maintenance Requirements:
[/maintenance/requirements/listing] List all the asset equipment items by function, fault mode and category (consequence of failure). Against each fault mode describe the identified maintenance action, its periodicity and the skill or discipline required. Update the asset reference plan accordingly.
R0206, Version: 0, Date: 2002-07-12, Status: original

Develop Asset Intervention Activity Program (R03)
[/maintenance/interventionactivityprogram] Develop asset intervention activity program in support of scheduling within ""Manage Activity"".
R03, Version: 0, Date: 2002-07-12, Status: original , [=> /maintenance/task]

Compile Asset Intervention Activity Program:
[/maintenance/interventionactivityprogram/compilati] Develop an asset intervention activity program, which combines all the technical requirements concerning an identifiable asset system or equipment item and the activities necessary to meet these requirements. The activities would include standard

*procedures and risk and contingency planning (e.g. concurrent operations).
Note: a well intervention program may integrate one or more of the following
programs: well integrity servicing; data acquisition; completion remedy /
improvement.*
R0301, Version: 0, Date: 2002-07-12, Status: original

Perform Asset Maintenance, Inspection or Intervention Task (R04)

[/maintenance/task] Prepare site and equipment for maintenance, inspection or
intervention tasks. Perform the tasks while maintaining technical integrity at all times.
Restore site to safe condition.
R04, Version: 0, Date: 2002-07-12, Status: original

Prepare Asset Maintenance Site: *[/maintenance/task/sitepreparation]
Prepare site; initiate site survey; ensure that adjacent equipment has been
made safe; position and prepare work units or access equipment where
required, including safety equipment.*
R0401, Version: 0, Date: 2002-07-12, Status: original , [=>
/maintenance/task/sitepreparation]

Ensure Asset Maintenance Integrity:
*[/maintenance/task/integrityensurance] Ensure technical integrity is being
maintained at all times. e.g. maintain pressure control using mechanical
equipment or fluids of appropriate density; minimize the HSE impact of any
discharges and fluids.*
R0402, Version: 0, Date: 2002-07-12, Status: original , [=>
/maintenance/task/integrityensurance]

Undertake Asset Maintenance Task: *[/maintenance/task] Conduct
defined asset maintenance task. See sub-processes for examples of
maintenance tasks for facilities and for wells.*
R0403, Version: 0, Date: 2002-07-12, Status: original , [=>
/maintenance/task]

Maintain Asset Facility: *[/maintenance/task/facility] Conduct
defined asset facility maintenance task. See sub-processes for
examples of maintenance tasks for facilities.*
R040301, Version: 0, Date: 2002-07-12, Status: original

Service Asset Facility Equipment:
*[/maintenance/task/facility/equipmentservicing] Service
equipment: simple repetitive tasks necessary to keep
equipment in operation, not normally requiring isolation, (first
line maintenance).*
R0403010, Version: 0, Date: 2002-07-12, Status: original

Maintain Asset Facility Equipment:
*[/maintenance/task/facility/equipmentmaintenance] Maintain,
repair or replace equipment: intrusive tasks generally requiring
isolation of equipment and systems*
R0403010, Version: 0, Date: 2002-07-12, Status: original

Calibrate Asset Facility Equipment:
[/maintenance/task/facility/equipmentcalibration] Calibrate

control and protection equipment e.g. system controls, fire and
gas detection, protection, emergency shutdown systems.
R0403010, Version: 0, Date: 2002-07-12, Status: original

Monitor Asset Facility Equipment:
[/maintenance/task/facility/equipmentmonitoring] Monitor
condition of equipment. Acquire information on site about
condition and status of the equipment
R0403010, Version: 0, Date: 2002-07-12, Status: original

Inspect and Test Asset Facility:
[/maintenance/task/facility/inspection] Statutory inspection
and testing; non-negotiable tasks to demonstrate system and
equipment integrity, laid down by legal authorities or
recognized ""certifying bodies"".
R0403010, Version: 0, Date: 2002-07-12, Status: original

Maintain Asset Well: [/maintenance/task/well] Conduct
defined asset well maintenance task. See sub-processes for
examples of maintenance tasks for wells.
R040302, Version: 0, Date: 2002-07-12, Status: original

Retrieve Asset Well Equipment:
[/maintenance/task/well/equipmentretrieval] Retrieve
equipment from well: re-enter and retrieve equipment from
well.
R0403020, Version: 0, Date: 2002-07-12, Status: original

Service and Replace Asset Well Equipment:
[/maintenance/task/well/equipmentservice] Service or replace
production and safety equipment: carry out servicing
requirements to insitu equipment (e.g. sand exclusion
operation, wax/scale tubing clean out) and equipment to be
replaced (subsurface safety valve, gas lift valves)
R0403020, Version: 0, Date: 2002-07-12, Status: original

Install Asset Well Equipment:
[/maintenance/task/wellequipmentinstallation] (Re)-install
completion equipment: re-install completion equipment (e.g.
rods and downhole pump, early production systems,
wellhead/Xmas tree etc.).
R0403020, Version: 0, Date: 2002-07-12, Status: original

Test Asset Well: [/maintenance/task/well//testing] Stimulate
and test well: improve reservoir / well connectivity through
stimulation, (matrix stimulation or hydraulic fracturing)
additional/ (re)-perforation, water shut-off, sand clean out etc.
R0403020, Version: 0, Date: 2002-07-12, Status: original

Acquire Asset Well Condition and Performance Data:
[/maintenance/welldataacquisition] Acquire the asset well condition and
performance data for reservoir, completion, production conduit and wellhead
requirements, including all associated data, e.g. surface production test data

necessary for analysis of ""downhole"" data. Confirm quality of all data.
*R0404, Version: 0, Date: 2002-07-12, Status: original , [=>
/maintenance/welldataacquisition]*

Prepare for Asset Well Handover*: [/maintenance/handoverpreparation]
Compile and archive all updated asset well status data and changes to the
production operating envelope i.e. the revised limits for all well and facility
activities ensuring integrity. Complete documentation e.g. well files.
R0405, Version: 0, Date: 2002-07-12, Status: original , [=>
/maintenance/handoverpreparation]*

Restore Site*: [/maintenance/siterestoration] Prepare working equipment for
removal. Clear site of this equipment, tools, surplus material and waste.
Return site to safe condition.
R0406, Version: 0, Date: 2002-07-12, Status: original*

Manage Activity (S)

[/activitymanagement] Review activity requirements statement. Prepare activity detailed
work proposal based on agreed activity execution strategies. Optimize and prioritize work
on a multi-activity basis. Organize and allocate resources for activity. Prepare an overall
activity plan. Manage execution of work; report, monitor and control progress against plan
and take corrective action as appropriate. analyze performance and feedback lessons
learned. Handover completed activity deliverable and close out activity management.
S, Version: 0, Date: 2002-07-12, Status: original

Plan Activities (S01)

[/activitymanagement/planning] Review the activity requirements statement on behalf of
an asset, define activity scope and the activity execution strategy. Detail the work scope
and produce/optimize activity work plans. Approve plans.
S01, Version: 0, Date: 2002-07-12, Status: original , [=>
/activitymanagement/scheduling]

Review Activity Statement of Requirements*:
[/activitymanagement/planning/requirements] Review the activity
requirements statement (activity work request) for completeness. Establish
requirements (see ""Initiate Asset Activity Planning""). Assign a focal point.
S0101, Version: 0, Date: 2002-07-12, Status: original , [=>
/activitymanagement/planning/details]*

Define Activity Details*: [/activitymanagement/planning/details] Prepare an
activity work breakdown structure linking the activity deliverables of the
activity (project/work) with all activities to be done on the asset and the
strategies (e.g. contracting) of how the activities are to be executed.
S0102, Version: 0, Date: 2002-07-12, Status: original , [=>
/activitymanagement/planning/estimation]*

Estimate Activity Cost, Time & Resources*:
[/activitymanagement/planning/estimation] Prepare for each activity a scope
of deliverables with costs, time and resources defined. Assign responsibility
for execution. Collate the activity sheets into an activity cost, time and
resource catalogue. Establish the costs and identify the cost drivers. Cross-
check costs/schedule estimates against other similar work/activities. Identify
anomalies and/or areas for improvement.*

S0103, Version: 0, Date: 2002-07-12, Status: original , [=>
/activitymanagement/planning/network]

Produce Activity Flow Network*: [/activitymanagement/planning/network]*
Produce an activity flow network, identifying all activities (tasks) and their
dependencies, and any known resource or timing constraints (e.g. weather
windows). Identify the critical path through the activities and optimize. Check
work against multi-activity schedule. Compile an overall activity plan.
S0104, Version: 0, Date: 2002-07-12, Status: original , [=>
/activitymanagement/planning/risk]

Identify Activity Risks*: [/activitymanagement/planning/risk] Review*
assumptions and uncertainties. Identify residual activity risks and propose
activity controls or contingency plans.
S0105, Version: 0, Date: 2002-07-12, Status: original , [=>
/activitymanagement/planning/controls]

Establish Specific Activity Business Controls*:*
[/activitymanagement/planning/controls] Establish the activity specific
standards and procedures supplementary to those from ""Manage Process
Program"". This includes controls for managing the residual risks as
determined in ""Identify Activity Risks"", e.g. data management, quality
assurance and HSE plans and the strategy for responsibility and work
acceptance/handover. This could also include an HSE case for specific
activities (e.g. survey operations, transportation).
S0106, Version: 0, Date: 2002-07-12, Status: original , [=>
/activitymanagement/planning/resources]

Identify Activity Resources*: [/activitymanagement/planning/resources]*
Establish activity organization, specify roles and responsibilities and required
competencies. Identify availability of resources including manpower.
materials, logistics, services. Identify training needs, as appropriate for work
required. Note The acquisition of resources done via ""Secure Service
Levels"".
S0107, Version: 0, Date: 2002-07-12, Status: original , [=>
/activitymanagement/planning/plan]

Prepare Activity Plan*: [/activitymanagement/planning/plan] Optimize*
activities and prepare an activity plan as basis for budgeting. (See ""Plan
Asset"").
S0108, Version: 0, Date: 2002-07-12, Status: original

Schedule Activities (S02)

[/activitymanagement/scheduling] Prioritize the activities, update multi-activity schedule, and prepare the detailed work schedules and sequences. Obtain approval to execute activity.
S02, Version: 0, Date: 2002-07-12, Status: original , [=> /activitymanagement/activitymanagement]

Optimize Activity Schedule*:*
[/activitymanagement/scheduling/optimization] Priorities activity plans (work
plan) to optimize sequence for execution. Update the relevant multi-activity
schedules, including a review of the total requirements and priorities against

resources available. Optimize /re-phase activities as appropriate to meet the overall work, asset or company objective(s). Feedback as appropriate.
S0201, Version: 0, Date: 2002-07-12, Status: original , [=>
/activitymanagement/scheduling/detailedschedule]

Detail Activity Execution Schedule:

[/activitymanagement/scheduling/detailedschedule] Prepare a detailed activity work schedule/program stating what, how, when and by whom the work activities will be executed, including necessary work permits.
S0202, Version: 0, Date: 2002-07-12, Status: original , [=>
/activitymanagement/scheduling/integratedplan]

Update Activity Cost, Time & Resource Catalogue:

[/activitymanagement/scheduling/integratedplan] Update activity cost, time, and resource catalogue and cost estimates to reflect the 'integrated' execution plan.
S0203, Version: 0, Date: 2002-07-12, Status: original , [=>
/activitymanagement/scheduling/funding]

Seek Activity Funding Release: *[/activitymanagement/scheduling/funding]*
Obtain release of funds to initiate activity execution.
S0204, Version: 0, Date: 2002-07-12, Status: original

Manage Activity Execution (S03)

[/activitymanagement/activitymanagement] Monitor, control, report and review progress of activities against plans and milestones. Product activity progress reports, identify non-conformances and take corrective action, as appropriate. Feedback and update activity plan. Agree on acceptance and hand-over of deliverable. Close out work.
S03, Version: 0, Date: 2002-07-12, Status: original , [=>
/activitymanagement/performanceanalysis]

Initiate Activity Execution:

[/activitymanagement/activitymanagement/initiation] Mobilize all required resources via ""Procure Goods and Services"", ""Provide Logistics Services"" and ""Provide Human Resources"". Commence reporting procedures producing activity progress reports. Finalize specific activity control procedures.
S0301, Version: 0, Date: 2002-07-12, Status: original , [=>
/activitymanagement/activitymanagement/monitoring]

Monitor Activity Execution:

[/activitymanagement/activitymanagement/monitoring] Monitor and control activity progress against milestones; progress against plan (including costs and commitments to enable expenditure control), performance targets, adherence to standards and specifications (e.g. quality, HSE), organization effectiveness, documentation and project interfaces. Take corrective actions and initiate change control, where necessary.
S0302, Version: 0, Date: 2002-07-12, Status: original , [=>
/activitymanagement/activitymanagement/progressrep]

Report Activity Progress:

[/activitymanagement/activitymanagement/progressrep] Deliver activity progress reports (work status information) to asset holder and others, as

required.
S0303, Version: 0, Date: 2002-07-12, Status: original , [=>
/activitymanagement/activitymanagement/activityrev]

Perform Activity Reviews:

[/activitymanagement/activitymanagement/activityrev] Carry out periodic activity reviews to provide assurance that the work is proceeding according to plan and to check the effectiveness of the activity quality plan.
S0304, Version: 0, Date: 2002-07-12, Status: original , [=>
/activitymanagement/activitymanagement/handover]

Handover Activity Deliverables:

[/activitymanagement/activitymanagement/handover] Demonstrate the quality of the activity deliverables. Obtain asset holder's acceptance of the activity deliverables. Formally, handover the new or modified asset, together with all deliverable data, documentation, spares, etc.
S0305, Version: 0, Date: 2002-07-12, Status: original , [=>
/activitymanagement/activitymanagement/closeout]

Close out Activity: *[/activitymanagement/activitymanagement/closeout]*
Initiate close out of activity, including disposal of surplus materials, termination of contracts and services, demobilization of resources via ""Procure Goods & Services"" and ""Provide Logistics Services"". Finalize activity invoices and claims. Prepare activity project cost report and activity close-out report. Store securely remaining activity archival data and documentation.
S0306, Version: 0, Date: 2002-07-12, Status: original

Analyze Activity Performance (S04)

[/activitymanagement/performanceanalysis] Analyze activity performance at milestones or after activity completion. Identify areas for performance improvement.
S04, Version: 0, Date: 2002-07-12, Status: original

Assess Activity Performance:

[/activitymanagement/performanceanalysis/analysis] Compare work/activity progress and performance against targets or performance indicators. Identify areas for improvement. As appropriate, benchmark activity performance against ""best in industry/class"".
S0401, Version: 0, Date: 2002-07-12, Status: original , [=>
/activitymanagement/performanceanalysis/lessons]

Feedback Activity Lessons Learned:

[/activitymanagement/performanceanalysis/lessons] Feedback lessons learned to the company-wide activity lessons database. Address longer-term improvements via changes to ""Manage Accountability"" and ""Manage Process Program"".
S0402, Version: 0, Date: 2002-07-12, Status: original

Manage Asset (T)

[/assetmanagement] Notes: (1) Anything that has (potential) value to the company can be defined as an ""asset"". Resources can also be considered as assets. ""asset holder"" is the company position that is accorded single-point accountability for all aspects of asset

management, including budgetary control, of a clearly defined asset or group of assets (e.g. production sharing contract or venture including fields, reservoirs, facilities and installations), over part or all of its life cycle in order to achieve company objectives. This ""Manage Asset"" business process is mainly designed for functional and natural asset types. (2) An ""asset reference plan' will include all information necessary to manage an asset in order to maximize its value. The asset reference plan acts as a reference for the creation of all documents for evaluation, decision making and work initiation and includes a description over the life cycle -past, present and future - of: (a) the products and services provided by the asset; (b) the activities necessary to provide those products and services; (c) a physical description of the actual or required status of the asset at every significant milestone; (d) the activities necessary to retain or achieve that required status; (e) the economic performance; (f) any constraints and assumptions; (g) asset-specific business issues including development options; (h) exceptions to, and variations from, company policies & procedures.

T, Version: 0, Date: 2002-07-12, Status: original

Plan Asset (T01)

[/assetmanagement/planning] Identify new opportunities for asset acquisition and divestment. Initiate update of the company opportunity portfolio. Create/ update the asset reference plan to maximize the asset value to the company based upon the life cycle evaluation, latest information and business issues. Initiate the planning of activities performed on the asset and acquire necessary approvals.

T01, Version: 0, Date: 2002-07-12, Status: original , [=> /assetmanagement/scheduling]

Identify New Asset Opportunities & Select Improvement Options:

[/assetmanagement/planning/opportunities] Identify new asset opportunities, evaluate and select asset improvement options based upon a complete understanding of the costs / benefits for the remainder of the life of the asset: (a) Identify the types of opportunities associated with the business and prepare a opportunity source plan of potential internal / external sources of information leading to opportunities. (b) Review asset improvement/divestment proposals - Initiate studies (e.g. technical, fiscal, legal, company-wide, etc.) leading to identification of potential asset opportunity targets. This may trigger ""Formulate Resource Development Concepts"" via "" Manage Activity"". (c) Describe the asset opportunity, categorize and pre-screen against the prevailing business criteria established from ""Manage Plan"". Initiate/update the company opportunity portfolio via ""Manage Plan"", which may lead to the revitalization of previous potential opportunities.

T0101, Version: 0, Date: 2002-07-12, Status: original , [=> /assetmanagement/planning/referenceplan]

Create/Update the Asset Reference Plan:

[/assetmanagement/planning/referenceplan] Create/update the asset reference plan in order to reduce uncertainties and/or risks. For functional / natural assets this would trigger appropriate activities in execution processes: (a) Collate and prepare existing asset data; (b) Build or update asset model(s);(c) Establish asset development options; (d) Formulate and evaluate asset development and utilization concepts; estimate asset capital and operating costs and carry out an economic analysis; (e) Select and update asset development concepts; propose actions, set asset utilization targets and operational targets;(f) Prepare conceptual and detailed designs; (g) Define asset operating modes, production volumes, capacities and utilization plans; (h) Determine asset maintenance requirements.

*T0102, Version: 0, Date: 2002-07-12, Status: original , [=>
/assetmanagement/planning/planninginitiation]*

Initiate Asset Activity Planning:

*[/assetmanagement/planning/planninginitiation] Prepare an asset activity
requirements statements (work scope) for specific activities on the asset: (a)
Define scope of the work, deliverables and performance targets. (b) Identify
the key milestones including checks/reviews. (c) Identify approval levels
according to the type of asset opportunity and resources / cost. (d) Ensure
that necessary competencies and controls are in place. (e) Gain input /
endorsement for requirements / work scope with respect to identifying cost,
time and resources, key tasks / deliverables. This work should be planned via
""Manage Activity ""*

*T0103, Version: 0, Date: 2002-07-12, Status: original , [=>
/assetmanagement/planning/securingservices]*

Secure Asset Service Levels:

*[/assetmanagement/planning/securingservices] Secure services for the
planned asset activities in order to guarantee their availability and reliability
for use; e.g. ""asset service level agreements"". Initiate service contracts
(work orders) for services via ""Procure Goods & Services"". Refer also to
""Identify Activity Resources"".*

*T0104, Version: 0, Date: 2002-07-12, Status: original , [=>
/assetmanagement/planning/internalapprovals]*

Acquire Asset Activity Internal Approvals:

*[/assetmanagement/planning/internalapprovals] Finalize the asset activity
program and prepare the asset activity financial budget according to the
asset activity proposals. Obtain approval for plans and budget. Administer the
asset budgets including the registration of budget proposals / revisions,
administration of approvals and budget (re)phasing. Administer / record the
release of funds, and track budget history for project type activities.*

*T0105, Version: 0, Date: 2002-07-12, Status: original , [=>
/assetmanagement/planning/externalapprovals]*

Acquire Asset Activity External Approvals:

*[/assetmanagement/planning/externalapprovals] Ensure compliance with all
requirements (e.g. technical, commercial, legislative) for the host
government, certifying authorities, third parties and partners. Prepare and
submit documentation and seek approval to carry out activities.*

T0106, Version: 0, Date: 2002-07-12, Status: original

Schedule Asset Activities (T02)

[/assetmanagement/scheduling] Prepare an integrated schedule of activities performed on
the asset. Optimize and endorse the schedules / sequences.
T02, Version: 0, Date: 2002-07-12, Status: original , [=>
/assetmanagement/carryoutwork]

Prepare/Update Asset Activity Schedule:

*[/assetmanagement/scheduling/preparation] Review the asset activity
schedules (work sequences) and optimize the asset activity schedule to
ensure maximum use of the asset, to make efficient use of resources, to
avoid clashes, to minimize production deferment, to meet contractual*

requirements and to ensure asset operates within permitted types of company operations. Minimize impact on asset performance forecasts and targets. Update asset reference plan as appropriate.
T0201, Version: 0, Date: 2002-07-12, Status: original , [=> /assetmanagement/scheduling/endorsement]

Endorse Asset Activity Schedule*:*
[/assetmanagement/scheduling/endorsement] Endorse the asset activity schedule. Approve the release of funds to execute asset activities.
T0202, Version: 0, Date: 2002-07-12, Status: original

Work the Asset (T03)

[/assetmanagement/carryoutwork] Work the asset; monitor and verify compliance of work to agreed performance targets and business criteria including HSE.
T03, Version: 0, Date: 2002-07-12, Status: original , [=> /assetmanagement/analysis]

Initiate Work on Asset*: [/assetmanagement/carryoutwork/initiation]*
Initiate the work on the asset. Handover all asset data and documentation, as well as spares and necessary approvals, the handover of sites, responsibility for job and work activity, and released funds.
T0301, Version: 0, Date: 2002-07-12, Status: original , [=> /assetmanagement/carryoutwork/monitoringwork]

Monitor Work on Asset*:*
[/assetmanagement/carryoutwork/monitoringwork] Monitor and control the work done on the asset; e.g. concurrent operations, progress against plan, performance targets, quality, HSE, data and documentation. Take corrective actions, where necessary.
T0302, Version: 0, Date: 2002-07-12, Status: original , [=> /assetmanagement/carryoutwork/monitoringuse]

Monitor Use of Asset*: [/assetmanagement/carryoutwork/monitoringuse]*
Monitor and control the use of the asset; progress against plan, performance targets, quality, HSE, data and documentation. Take corrective actions and initiate change control.
T0303, Version: 0, Date: 2002-07-12, Status: original , [=> /assetmanagement/carryoutwork/reporting]

Report on Use and Status of Asset*:*
[/assetmanagement/carryoutwork/reporting] Develop the asset use and status report. Communicate use and status of the asset to partners, management, authorities, etc., as required.
T0304, Version: 0, Date: 2002-07-12, Status: original , [=> /assetmanagement/carryoutwork/acceptance]

Review & Accept Asset Work*:*
[/assetmanagement/carryoutwork/acceptance] Review asset work (deliverables) at agreed milestones against set requirements. Implement specific control activities (e.g. concurrent operations). Accept asset deliverables.
T0305, Version: 0, Date: 2002-07-12, Status: original

Analyze Asset (T04)

[/assetmanagement/analysis] Analyze asset performance and integrity. Identify asset improvements, initiate update of asset reference plan.
T04, Version: 0, Date: 2002-07-12, Status: original

Analyze Asset Performance: [/assetmanagement/analysis/performance] Compare actual asset performance with design intent and predicted performance. As appropriate, conduct benchmark studies against comparable assets within the company or industry.
T0401, Version: 0, Date: 2002-07-12, Status: original , [=> /assetmanagement/analysis/appraisal]

Appraise Asset Integrity: [/assetmanagement/analysis/appraisal] Appraise asset integrity. Verify the validity of the asset design intent under the current conditions. Confirm that the asset is performing within the operating envelope or identify variations in performance from original design intent.
T0402, Version: 0, Date: 2002-07-12, Status: original , [=> /assetmanagement/analysis]

Review Future of Asset: [/assetmanagement/analysis] Propose alterations to improve the asset performance and/or asset technical integrity; including improved use, input procedures, restructuring of databases, changes to process etc. Specify the benefits and costs in sufficient detail to enable pre-screening evaluation, including incremental change in the production forecast. Propose divestment as appropriate. Initiate update of asset reference plan. (See ""Plan Asset"").
T0403, Version: 0, Date: 2002-07-12, Status: original

Last modified: January 24, 2003, updated September 2, 2009 (Format change Dec 2009)
Send questions and comments to help@energistics.org.
Copyright © 1994-2009 Energistics. All rights reserved.
Energistics™ and the Energistics logo ™ are registered trademarks of Energistics.