

SAUDI ARABIAN OIL COMPANY (Saudi Aramco)

GENERAL INSTRUCTION MANUAL

GI NUMBER 20.700 Approved

ISSUING ORG. FINANCIAL ANALYSIS & PERFORMANCE ADVISORY DEPARTMENT

ISSUE DATE 06/06/2011 REPLACES 5/13/2006

SUBJECT POST PROJECT APPRAISALS

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This General instruction describes the approach which shall be used to conduct independent Post Project Appraisals of individual Capital Projects. The approach is described in five sections:

1. Purpose of Post Project Appraisals
2. Composition of the Appraisal Team
3. Selection of Projects
4. Conduct of a Post Project Appraisal
5. Post Project Appraisal Reports

1.0 PURPOSE OF POST PROJECT APPRAISALS

The purpose of Post Project Appraisals is to provide Corporate Management with a high-level assessment of capital investment decisions. Toward that end, Post Project Appraisals will:

- 1.1 Identify lessons that would improve Saudi Aramco's:
 - 1.1.1 Project planning and decision making
 - 1.1.2 Project execution
- 1.2 Determine:
 - 1.2.1 The extent to which the original expectations, as explained in the approved Expenditure Requests (ERs), have actually been realized, as of the date of the appraisal
 - 1.2.2 The reasons for any changes in these expectations

2.0 COMPOSITION OF THE APPRAISAL TEAM

The Appraisal Team will consist of a core group of highly experienced individuals, all of whom shall be permanently assigned to the Appraisal Team.

- 2.1 The Team Leader
 - 2.1.1 Shall report directly to the Controller
 - 2.1.2 Shall have an extensive background in the planning, execution and operation of projects comparable to those typically implemented by Saudi Aramco
 - 2.1.3 Shall hold a Senior Consultant position or higher
 - 2.1.4 Shall have the authority to:
 - 2.1.4.1 Establish the initial Appraisal Team.
 - 2.1.4.2 Periodically modify the Appraisal Team, in terms of both capabilities and numbers as required to effectively appraise the projects selected in accordance with Section 3 of this General Instruction, subject to the approval of Finance Management.
 - 2.1.4.3 Request temporary assistance (e.g., individuals with specialized skills) from other Saudi Aramco organizations, as required to effectively appraise

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individual projects. These individuals shall not have participated in the planning, execution, or operation of the project(s) being appraised.

2.1.4.4 Request temporary assistance from independent consultants , as required to effectively appraise individual projects , subject to approval from Finance Management. These consultants shall have not participated in the planning, execution or operation of the project(s) being appraised.

2.2 The other permanent Appraisal Team members

2.2.1 Shall report to the Team Leader

2.2.2 Shall have significant and specialized experience in project planning, execution and/or operations

3.0 SELECTION OF PROJECTS

The objectives of the project selection process shall be to:

- Objectively identify a sufficient number of representative projects to establish and periodically refine lessons which could be generally applied to improve Saudi Aramco's project planning, decision making, and execution.
- Maximize the potential benefits from the committed Post Project Appraisal resources
- Minimize the administrative burden associated with project selection
- Ensure that sufficient time has elapsed following project completion to:
 - Estimate related revenues and costs with a reasonable degree of certainty
 - Effectively critique the planning assumptions used to justify the project

3.1 Initially, the primary selection criteria shall be:

3.1.1 Approved Capital Budget Items, including cancelled projects, but excluding Master Appropriations and Non-Capital Budget Items

3.1.2 Elapsed time since the Proponent's acceptance of the project:

Post project appraisals shall be performed on fixed-scope Capital projects that have been in operation at least one (1) calendar year following the Proponent's acceptance of the project.

3.1.3 Initial capital investment:

Post Project Appraisals shall be performed on fixed-scope Capital Budget Items with a cost of \$10 million or greater.

3.2 As the Post Project Appraisal process matures, the selection criteria may be expanded to include other types of projects, such as Joint Venture projects.

3.3 The Team Leader shall have the authority to:

3.3.1 Change the selection criteria, as required, to effectively achieve the above stated objectives.

3.3.2 Select additional projects for appraisal, as required, to effectively achieve the above stated objectives.

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4.0 CONDUCT OF A POST PROJECT APPRAISAL

Post Project Appraisals shall be conducted in a manner which maximizes potential benefits from the committed Post Project Appraisal resources.

4.1 Individual Post Project Appraisals shall be prepared in two phases:

4.1.1 Phase 1 shall address issues pertaining to:

4.1.1.1 The project's business objective(s)

4.1.1.2 The circumstances that originally warranted approval of the projects

4.1.1.3 The project's economic assumptions and justification

4.1.1.4 The project's schedule

The Phase 1 assessment may be repeated at the discretion of the Team Leader, if the original Phase 1 assessment was inconclusive or if circumstances warrant.

Projects identified during the Phase 1 appraisal as having particularly good or poor project planning, decision making execution and/or operation shall be subject to a more comprehensive Phase 2 appraisal, at the discretion of the Team Leader.

4.1.2 Phase 2 shall address project specific aspects of the project planning, decision making, execution and/or operation to the extent required to achieve the purpose stated in Section 1 of this General Instruction, as decided by the Team Leader.

4.2 Projects selected in accordance with Section 3 of this General Instruction shall be appraised in a timely manner within one year of becoming eligible for appraisal.

4.3 Individual Post Project Appraisals shall be based on information compiled from readily available sources, to the extent reasonably possible, including:

4.3.1 The approved Expenditure Request (ER) Brief and the Budget Item Summary Information (BISI), prepared by the Facilities Planning Department (FPD)

4.3.2 The project planning information requirements stipulated in FPD's Project Planning Guidelines (Saudi Aramco Engineering Procedure [SAEP] – 360)

4.3.3 The Project Closeout Report (SAEP – 329) prepared by Project Management

4.3.4 Operating and financial information available through SAP

4.4 The Phase 1 appraisal shall generally address the following types of questions, as appropriate:

4.4.1 The extent to which the business objectives, as explained in the ER Brief and BISI, have been realized

4.4.2 The extent to which the anticipated benefits and costs (i.e., initial capital investments, and the annual operating and maintenance costs) and the resulting economics, as explained in the ER Brief and BISI, have been realized. For projects initially justified as part of a program (i.e., a group of projects that are mutually dependent); all costs attributable to the program shall be considered in the Post Project Appraisal. The appraisal of the project economics shall quantify the opportunity value either earned or lost, as a result of an acceleration or delay, respectively, of the on-stream date, as compared to the on-stream date presented in the approved ER Brief and BISI.

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- 4.4.3 The extent to which the approved project schedule, as reflected in the ER Brief and BISI, was achieved.
- 4.4.4 The most likely reasons for any significant changes in the original expectations (e.g., changes in the anticipated operating environment, poor project planning or execution)
- 4.4.5 Lessons which would improve Saudi Aramco's capital project planning and decision making processes
- 4.4.6 Whether a more comprehensive Phase 2 appraisal is warranted
- 4.5 The Phase 2 appraisal may address any issues pertaining to project planning, decision making, execution and/or operation requiring further, in-depth review and analysis, as deemed warranted by the Team Leader based on the Phase 1 appraisal findings. Examples follow:
 - 4.5.1 Project Planning
 - 4.5.1.1 To what extent was the business objective clearly defined?
 - 4.5.1.2 To what extent was the anticipated operating environment properly characterized?
 - 4.5.1.3 To what extent were the alternatives for achieving the business objective in the anticipated operating environment identified and properly evaluated prior to Design Basis Scoping Paper (DBSP) development?
 - 4.5.1.4 To what extent are the economic evaluation assumptions still valid?
 - 4.5.1.5 To what extent were the project and the viable alternatives effectively presented in the ER Brief and BISI?
 - 4.5.1.6 To what extent is the project scope, as defined in the DBSP, consistent with the business objective?
 - 4.5.1.7 To what extent were effective decisions made prior to ER Approval?
 - 4.5.1.8 What are the most likely reasons for each material shortcoming in the project's planning?
 - 4.5.1.9 Are there any lessons which could be generally applied to improve the project planning process?
 - 4.5.2 Project Execution
 - 4.5.2.1 To what extent was the Project Proposal engineering contractor qualified to further develop a project scope to cost effectively achieve the stated business objective?
 - 4.5.2.2 To what extent did the project scope change during Project Proposal development?
 - 4.5.2.3 If there were material changes to the project scope, to what extent were the changes in project scope consistent with the business objective, given the anticipated operating environment? What prompted the changes? Were changes to the scope stipulated in the DBSP approved by FPD?
 - 4.5.2.4 To what extent did the actual capital expenditures differ from the ER-quality cost estimates?

* CHANGE ☒

** ADDITION ☐

NEW INSTRUCTION ☐

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- 4.5.2.5 To what extent was the project execution contracting strategy consistent with the project scope and schedule?
- 4.5.2.6 To what extent were the engineering contractors chosen to procure and/or construct the project qualified?
- 4.5.2.7 To what extent did the engineering and construction contractors and major equipment vendors effectively perform their respective project roles?
- 4.5.2.8 To what extent was opportunity earned or lost as a result of an acceleration or delay of the on-stream date?
- 4.5.2.9 What are the most likely reasons for each material shortcoming in the project's execution?
- 4.5.2.10 Are there any lessons which could be generally applied to improve the project execution process?
- 4.5.3 Project Operation
 - 4.5.3.1 To what extent does the technology deployed and the quality of the facilities meet expectations?
 - 4.5.3.2 To what extent do the actual manpower requirements differ from the anticipated requirements, as presented in the ER Brief and BISI?
 - 4.5.3.3 To what extent do the actual operating Net Direct Expenditures (NDEs) differ from the anticipated NDEs, as presented in the ER Brief and BISI?
 - 4.5.3.4 To what extent has the project operated at the anticipated utilization rate presented in the ER Brief and BISI?
 - 4.5.3.5 Given the actual benefits and costs, was the appropriate alternative chosen to achieve the business objective?
 - 4.5.3.6 To what extent are the expected project economics likely to be realized, given the anticipated benefits and costs?
 - 4.5.3.7 What are the most likely reasons for each material shortcoming in the project's operation?
 - 4.5.3.8 Are there any lessons which could be generally applied to improve project operation?
- 4.6 Each team member shall constructively and effectively contribute to the timely completion of an appraisal, which achieves the purpose of Post Project Appraisals, as stated in Section 1 of this General Instruction.
- 4.7 The Appraisal Team shall establish the information required to effectively perform each of the two appraisal phases and convey these requirements to each of the organization primarily responsible for the development of a capital project. Each of these organizations shall, in turn, compile the information for which it is responsible and deliver it to the Appraisal Team within two (2) months of initially completing the required information. All required information shall have been delivered to the Appraisal Team no later than two (2) months following Proponent's acceptance of the project or following cancellation of the project.

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5.0 POST PROJECT APPRAISAL REPORTS

- *5.1 The Post Project Appraisal Team will document findings through Semi-annual presentations to Management Committee.
- *5.2 The Semi-annual Presentations shall:
 - 5.2.1 Summarize Lessons learned, with the intent of highlighting issues and/or concerns, which may warrant Management Committee action and/or guidance
 - 5.2.2 Be conducted along with Mid-Year and End-Year Accountability presentations.
- *5.3 Special studies may be conducted and reports or presentations may be prepared on an ad hoc basis as directed by the Management Committee.

Recommended By:

Manager, Financial Analysis &
Performance Advisory Department

Approved By:

Senior Vice President – Finance

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