



GUIDELINES FOR THE ESTABLISHMENT

OF

HYDROCARBON PROCESSING PLANTS (PETROLEUM REFINERY AND PETROCHEMICALS) IN NIGERIA

Department of Petroleum Resources 2008



GUIDELINES FOR THE ESTABLISHMENT OF HYDROCARBON PROCESS PLANTS (PETROLEUM REFINERY AND PETROCHEMICALS PLANTS) IN NIGERIA

SECTION 1

1. SCOPE

These guidelines are issued pursuant to Regulation (2) and (3) of the Petroleum Refining Regulations, 1974 and shall apply to the construction of Petroleum Refinery and Petrochemical Plants.

2. APPLICATION

Applications for approval to establish a refinery or any other hydrocarbon process plant shall be made in the manner described in section 1.3 below and in the form schedule in Appendix 1.

3. APPROVAL PROCESS FOR THE DESIGN, CONSTRUCTION, COMMISSIONING AND OPERATION OF A PROCESS PLANT

The approval process described hereunder is designed to ensure that the applicant for approval and permit to establish a Petroleum Refinery (or a process plant), understands the industry, the technical and economic implications of the project, the sociological and environmental impact of the plant, and maintenance provisions required to protect the health of the operating staff and safety of plant. It is designed to prevent avoidable waste of resources by ensuring at each stage that the applicant understands the statutory requirements of each phase of the project.

Consequently, the approval shall be given in three sequential stages: **License to Establish (LTE)**, **Approval to Construct (ATC)** and **License to Operate (LTO)** respectively.

SECTION II

1. LICENSE TO ESTABLISH

This approval stage is to confirm general feasibility of the proposed project, market plan, products specifications, site selection, proposed crude oil (or feedstock) supply plan and product evacuation plan, preliminary safety and environmental impact statement, and organizational plans. The following submissions shall be made to the Department of Petroleum Resources to facilitate the corresponding milestone approvals as itemized in sections 2.1.1 to 2.1.4:

1. Application and Statutory Payments for all licenses and approvals

- i) Submission of application for licenses to establish a private refinery as stipulated in Appendix 1
- ii) Payment of statutory application fee of fifty thousand US dollars only (US \$50,000) for LTE, Plant Relocations and ATC Revalidation or one hundred thousand dollars only (US \$100,000) for license to operate (LTO) in bank draft in favour of Federal Government of Nigeria 'DPR Fees Accounts' and
- iii) Payment of N500,000 Service charge in bank draft in favour of the 'Department of Petroleum Resources'

2. Preliminary investment and Support Package

- i) Preliminary marketing plan, indicating whether domestic, export, or if both markets are being targeted.
- ii) Proposed Refinery site(s) and proof of acquisition.
- iii) Infrastructural support strategy
- iv) Preliminary organization plan, including staff training plans
- v) Financial plan
- vi) Payment of statutory application fees of Fifty thousand US dollars only (US \$50,000) and DPR service charge of Five Hundred thousand naira only (N500,000)
- vii) Community Development Programs
- viii) Detailed Local Content input of the project

A satisfactory in-house review of the above submissions by the DPR shall be communicated with clearance to proceed into LTE milestone 2. DPR project engineers shall also be attached to monitor the project development from this point forward at source to facilitate statutory compliance and approval processes.

Details of the participation of DPR engineers on the plant project from this stage to commissioning are as contained in their mandate. A copy shall be made available on request.

3. Basic Design

- i) Block flow scheme showing process configurations and capacities, including utilities, offsite and wastewater treatment facilities.
- ii) Preliminary crude oil or feedstock slate, and short assays (specifications and analysis), of the proposed crude and/or feedstock.
- iii) Preliminary product slate, indicating volumes or tonnage and product specifications
- iv) Name and job references related to refining of the Technical Partners
- v) Proposed crude oil or feedstock supply and product evacuation scheme.
- vi) Proposed safety provisions and preliminary environmental impact statements.

4. Basic Design and Concept selection Package

- i) Refinery design philosophy.
- ii) Preliminary Process Flow diagram of the process units.
- iii) Crude oil (feedstock) and product fiscalization systems and proving procedures.
- iv) List of proposed process technologies, and relevant licensors
- v) Preliminary Plot Plan.
- vi) Proposed project-implementing schedule.

5. Safety, Health and Environment

- i) Proposed safety provisions and preliminary environmental impact statements as stipulated by the Environmental Guidelines and Standards for the Petroleum Industry in Nigeria as issued by the Department of Petroleum Resources.
- ii) Process Hazard Analysis Statement or Hazard Identification (HAZID).
- iii) Project Presentation to DPR

2. Grant Of License to Establish A Petroleum Process Plant

Having successfully achieved the above milestones in 2.1.1 to 2.1.5 and upon appropriate recommendations from the Department of Petroleum Resources, the Honorable Minister of Petroleum Resources or his designate may grant the applicant the license to establish the petroleum process plant consequent upon which the applicant may proceed with the Detailed Engineering.

3. Validity of a License to Establish an Hydrocarbon Process Plant

The validity of the license to establish a Hydrocarbon Process Plant shall be for a period of two (2) years after which it shall lapse.

4. CONDITIONS GOVERNING THE ENGINEERING DESIGN OF A REFINERY, PETROCHEMICAL AND GAS PROCESSING PLANT

The detailed engineering and equipment specifications must conform to acceptable national and international standards listed in Appendix II or their equivalents, so as to guarantee the safety and operability of the plant and equipment. This phase must be executed with full participation of DPR engineers in accordance to the official mandate for monitoring hydrocarbon process plants projects. The following milestone deliverables / documents should be submitted to the Director, Department of Petroleum Resources for review and approval to ensure statutory compliance:

1. REFINERY CONFIGURATION

- i) Final process configuration including detailed Piping and Instrumentation Diagram (P&ID) of the process units, utilities and offsite facilities.
- ii) Final process technology selection and licensors.
- iii) Detailed material and energy balances
- iv) Process flow diagrams of the plant
- v) Electrical single line diagram

2. PROJECT EXECUTION STRATEGY / QUALITY ASSESSMENT

- vi) Equipment test procedures (Detailed List of equipment)
- vii) Approved building plans
- viii) Quality control program of the designers
- ix) Final project implementation schedule
- x) Detailed crude oil (feedstock) supply and product meter proving procedure and evacuation schemes
- xi) Detailed Product Storage and Distribution Plan (Facilities Design, Layout and Metering)

3. PROCESS SAFETY CONSIDERATIONS / UTILITIES PROVISION

- xii) Electric power generation and plant earthen philosophy,
- xiii) Power distribution, load flow analysis and short circuit study.
- xiv) Control and instrumentations systems (process system and alarms, fire & gas system, ESD system) design and implementation.
- xv) Detailed Waste (Solid, Liquid and Gaseous) Disposal Program of the Refinery
- xvi) Detailed HAZOP report
- xvii) SAFE Chart
- xviii) 3-D Model Walkthrough reports
- xix) Cause and Effect Diagrams
- xx) Safety Equipment Layout
- xxi) General facilities Layout
- xxii) Detailed Environmental Impact Assessment

4. PROJECT PRESENTATION

Every applicant for approval to construct a private refinery shall make a technical presentation of the entire project to DPR and shall be required to submit

- xiii) The names of prospective fabrication and construction contractors and the fabrication program.
- xiv) The yard in which all pressure vessels, columns and ancillary equipment would be fabricated.

- xv) Arrangements for statutory monitoring of the various stages of equipment fabrications by officials of DPR.

SECTION III

1. Approval to Construct A Petroleum Process Plant

The applicant shall

- i) Submit the detailed engineering of the plant / refinery to the Department of Petroleum Resources as specified in section 2.4 of these guidelines for review and approval.
- ii) Make a comprehensive presentation on the project design to DPR

2. GRANT OF APPROVAL TO CONSTRUCT (ATC)

Having satisfied the requirements in section 3.1 (i & ii) above, the Honorable Minister may grant the applicant the construction license upon recommendation from the DPR.

The applicant can subsequently proceed with the Procurement and Construction phase of the project.

3. VALIDITY OF ATC

The validity of an approval to construct the refinery / plant shall be for a period of twenty four (24) months after which it shall lapse. It is expected that at least 50% mechanical erection would have been achieved otherwise revalidation of the approval to construct will be necessary.

4. PROCEDURE GUIDES FOR REVALIDATION OF EXPIRED APPROVAL TO CONSTRUCT (ATC) A PRIVATE REFINERY OR HYDROCARBON PROCESS PLANT

In the event that an Approval to Construct (ATC) a private refinery or a hydrocarbon process plant expires without actualization of the project and the ATC holder is still interested in completing the project, the following information and documents shall be forwarded to the Department of petroleum Resources for consideration towards revalidation of the ATC:

1. An application in writing declaring the intent to revalidate the ATC
2. A comprehensive project status report shall be attached to the application.
This shall be supported by
 - i) Itemized reasons for none performance during the period of validity of the expiring ATC
 - ii) Argument for the revalidation attaching revised work scope and project execution schedule.
 - iii) None refundable application fee of fifty thousand US dollars only (\$50,000) in bank draft payable to “Federal Government of Nigeria ‘DPR Fees accounts” and DPR service charge of five hundred thousand naira only (N500,000) payable to “Department of Petroleum Resources”.
 - iv) A deposit of US \$1 million for every 10,000 bpsd capacity will be required to support proof of funds for the project. This amount is refundable with interest upon adherence to revised

project execution schedule within eighteen months otherwise; it is forfeited to the federal government.

3. The applicant shall be required to make a presentation to DPR in support of this application.

In addition to the above submissions, revalidation of an expired ATC is subject to a successful DPR comprehensive assessment of each project achievement in line with set statutory milestones as contained in the subsisting procedure guides for establishment of private refineries.

The Honorable Minister of Petroleum Resources may approve the revalidation of an expired ATC upon appropriate recommendations from the Department of Petroleum Resources..

The validity of a renewed ATC shall not exceed two (2) years and there shall be no renewals for a re-validated ATC.

5. CONDITIONS GOVERNING THE CONSTRUCTION OF A REFINERY, PETROCHEMICAL AND GAS PROCESSING PLANT

This comprises of fabrication, installation and erection stages.

- i) The refiner or plant operator shall provide the Department of Petroleum Resources with the following information for necessary reviews and approval before the commencement of fabrication:
 - a. The name and job references of the company appointed as quality control inspectors and Curriculum Vitae (CV) of its principal technical staff.
 - b. All fabrication and welding procedures.

These procedures shall generally follow the relevant specifications in the under-listed documents:

1. American Welding Society – Structural Welding Code A.W.S.D.1.1 88 and the subsequent revisions.
2. API Standards 1104 – 17th and subsequent editions for welding of pipelines and related facilities.

- ii) At the completion of fabrication, the quality control inspecting company shall compile a report confirming that all materials used were strictly in accordance with approved specifications as verified through steel mill certificates with the approved Standards and Codes of Practice. The quality control inspection shall be by Non-Destructive Examination (NDE). Consequently, inspection and certification of all welded parts of vessels, columns and piping shall be by any of the following techniques as applicable viz.:
 - a. Liquid Penetrant Technique
 - b. Magnetic Particle Technique
 - c. Radiographic Technique
 - d. Ultrasonic TechniqueA comprehensive report of the inspection so carried out shall be forwarded to the Department through the refiner or plant operator.

6. ENVIRONMENTAL AND SAFETY CONSIDERATION IN HYDROCARBON PLANTS DESIGN AND CONSTRUCTION

1. ENVIRONMENTAL FACTORS

These shall include all available meteorological parameters, such as the prevailing wind direction, maximum wind velocity, maximum and minimum atmospheric temperature, relative humidity, rainfall, local flood or tide conditions.

- a) All environmental parameters shall be obtained from independent site survey with all the data gathered being properly documented.
- b) Soil test and geo-technical investigations shall be carried out for foundation or load-carrying characteristics of the site.
- c) Contour maps (site plan), showing ground elevations shall be prepared
- d) Effect of borehole water withdrawal on ground water table shall be investigated and result submitted.

2. ENVIRONMENTAL PROTECTION

- a) There shall be a detailed Environmental Impact Assessment (EIA) study of the area as provided for in the National Environmental Guidelines and Standards for the Petroleum Industries in Nigeria (EGASPIN) as issued by the DPR before commencement of construction.
- b) The general layout of the location and provisions for all waste disposal in the refinery/ plant shall comply with the applicable specifications in the EGASPIN
- c) The refinery / plant shall be equipped with adequate provisions for containing and handling spills and accidental discharge of potential contaminants.
- d) All the systems and components of the plant / refinery shall be designed to withstand any anticipated extremes of environmental phenomena on location.
- e) The provision of effluent and recipient water quality monitoring shall be in accordance with the EGASPIN

3. SAFETY FACTORS

- a) All offices, warehouses and process buildings shall be constructed with utmost consideration for the safety of the workers and equipment. Laboratory building construction shall take into consideration the safety of personnel and provision of adequate ventilation as well as that for proper disposal of waste.
- b) Material Safety Sheet (MSS) shall be prepared in respect of all potentially hazardous chemicals and materials.
- c) Emergency alarm system and evacuation programs shall conform to Standards Industry Practice to the satisfaction of the Honorable Minister.
- d) The noise level at any point in the refinery emanating from engines and fluid velocities in the piping shall not exceed 90dBA. Where this level is to be exceeded, wearing of ear protection device shall become mandatory.
- e) The flare stack shall be located at a distance of at least 60m (200ft) from the unit or storage tanks and the flare shall conform to the approved limit of atmospheric emission.
- f) The automatic control system for emergency shutdown of all strategic or critical equipment in the refinery / plant such as columns, fired heaters, separators, surge vessels, pipeline and manifolds compressors and pump discharge headers shall be based on fail-safe logic designs.
- g) Fire sensors and gas detection and alarm system shall be installed at strategic points of the refinery and its offsite facilities. In addition, adequate fire mitigation systems shall be provided at all identified fire risk areas of the refinery.

4. HAZARD AND OPERABILITY REVIEW (HAZOP)

Petroleum Plants designs shall be subjected to SAFE Chart and HAZOP reviews at the following stages of the design and development.

- 1) At the completion of the plot plans and engineering models.

- 2) At the completion of the detailed engineering design and specifications. Accredited representatives of the department shall be present at these SAFE Chart and HAZOP reviews. It shall be mandatory for each of these stages of engineering design successfully scale through the appropriate SAFE Chart and HAZOP reviews. For this purpose, a minimum of four (4) weeks notice shall be given to the Department for arrangements to be made for the participation of its representatives at those review meetings with all relevant P&ID's made available for appropriate review ahead of time.

SECTION IV

1. License to Operate a Hydrocarbon Process Plant

Upon mechanical completion of the refinery or plant, the refiner shall apply for license to operate the plant and pay the statutory fees as prescribed in the Petroleum Refining Regulations 1974, Part V, Supplemental paragraph 46, or as amended in Appendix I.

2. APPROVAL TO COMMISSION

Following completion of mechanical erection, the Department of Petroleum Resources shall carry out physical inspection of the plant to ascertain conformance with approved design.

Upon receipt of a satisfactory inspection report, the Honorable Minister will grant the approval to commission and operate the plant. The following shall be the pre-requisites to qualify:

- 1) A qualified refinery / plant manager is appointed and his appointment is notified in writing to the Minister of Petroleum Resources.
- 2) Complete equipment reports on all critical equipment such as pressure vessels, fired heaters, boilers, rotating equipment and storage tanks.
- 3) Completion of all fiscalization equipment and systems to approved standards.
- 4) Availability of adequate spare parts, chemicals, catalysts, lubes, greases and other operating consumable materials in the warehouse appropriately codified and organized.
- 5) Availability of commissioning spare parts, apart from operating spare parts, all properly coded and arranged in the warehouse.
- 6) Approved operating manuals, maintenance manuals, mechanical catalogues, would have all been supplied, subject to appropriate modifications after commissioning.
- 7) Approved operating and maintenance organization and availability of trained manpower in sufficient strength.
- 8) Functional and effective fire prevention and fighting organization already in existence.
- 9) Functional and effective Safety enforcement Organization and Policies already in existence.
- 10) All approved engineering drawings in agreed numbers of copies have been supplied by the contractor, subject to modifications to reflect changes during construction.
- 11) The quality control laboratory is completed and functional.
- 12) A well-staffed and equipped First Aid Clinic is in place.
- 13) All other provisions, which are reasonably required to facilitate effective commissioning of the plant, have been made.
- 14) An effective and international applicable materials codification and management system is in place.
- 15) Confirmation that all-environmental protection standards and during design have been met.
- 16) Payment of prescribed license fees One hundred thousand dollars only (US \$100,000) to FGN DPR Fees Accounts and DPR service charge of five Hundred thousand naira only (N500,000) . These amounts shall also be paid as annual license renewal fees subsequently.

3. PLANT OPERATION

- a) The plant shall be operated in compliance with the provisions of the Petroleum Refining Regulations, 1974 and its subsequent revisions.
- b) The refiner shall prepare and submit an annual program of activity in the form of a presentation to the Director of Petroleum Resources at the beginning of each calendar year.

4. MAINTENANCE

This comprises routine preventive scheduled and turn-around maintenance.

- a) Preventive maintenance schedules on critical equipment shall be prepared and submitted to the Department of Petroleum Resources for monitoring purposes only.
- b) The plant facilities shall be periodically examined for corrosion detection and corrosion protection systems and devices installed shall be checked regularly to ensure effective performance. All these anti-corrosion performance monitoring shall be carried out in accordance with current NACE (National Association of Corrosion Engineers) Standards and procedures.
- c) All turn-around maintenance (TAM) scheduled shall be duly submitted to the Director of Petroleum Resources at least three months prior to its commencement for statutory oversight and thereafter, monthly progress report of the maintenance shall be rendered until completion for monitoring purposes only.

SECTION V

PLANT MODIFICATION

Any proposed modification or enlargement of existing plant and facilities shall be communicated to the Director, Department of Petroleum Resources and must be approved in accordance with the provisions of Regulation 3 of the Petroleum Refining Regulations, 1974 before being carried out.

SECTION VI

1. PLANT RELOCATION

In the case of a request to relocate an existing plant to Nigeria, the applicant shall provide the following information to the Director, Department of Petroleum Resources

- a) Reason for the plant relocation.
- b) Operational history of the plant including years of operation.
- c) Types of crude oil or feedstock the relocated process plant / units will process.
- d) Proposed Plant / unit Process Flow Diagram.
- e) Layout for the relocated refinery / plant
- f) List of process units / packed units to be re-designed and new refinery / plant configuration.
- g) List of equipment to be re-engineered.
- h) Land requirement for relocation
- i) Feedstock supply and products evacuation scheme.
- j) Electrical single line diagrams.
- k) Process and Instrumentation Diagram (P&ID) of the process units and utilities
- l) Safety, Process and maintenance manuals.
- m) HAZOP review report of the re-designed and re-engineered refinery / plant
- n) Environmental Impact Assessment of the new location.
- o) The design parameter and the As-built drawings of the entire plant, offsite and utilities.
- p) Current technical status of the plant certified from a comprehensive technical audit carried out by an internationally reputable inspection agency.

- q) A SAFE Chart analysis of the plant.
- r) An Environmental Impact Report of the plant including effluents and particulate qualities.

2. INTEGRITY ASSESSMENT

Upon receipt and completion of the review of the above, the Honorable Minister shall appoint experts to carry out a physical inspection of the plant and accessories on location in order to verify the integrity of the plant elements.

3. STATUTORY FEES

On application to relocate a Petroleum Process Plant, the statutory non-refundable application fee of US \$50,000 for License to Establish a Refinery / Plant and the prescribed deposit of US \$ 1m for every 10,000 bpsd including the DPR Service charge shall apply.

The Approval to Construct and the License to Operate a Refinery / Petroleum Plant shall apply at the appropriate phase of development of the project.

4. APPROVAL TO RELOCATE

If satisfied, the Minister may grant an approval for the plant to be relocated in Nigeria, at the total risk of the promoters. This approval shall be issued as an approval to construct the refinery and shall be subject to all provisions of sections 3 and 4 of this guideline.



APPENDIX I

SCHEDULE

FORM

(Regulation 1)

Petroleum Refining Regulations 1974

APPLICATION FOR A LICENSE TO CONSTRUCT/OPERATE

A PETROLEUM PROCESS PLANT IN NIGERIA

1. Name of applicant:.....
2. Registered address in Nigeria:.....
3. Nationality of applicant:.....
4. a) Names, address and nationality of directors (where applicable)
.....
.....
.....
c) Names, addresses and nationality of every individual or company participating in the project and the extent of each individual's or company's participation:.....
.....
.....
.....
5. Capital available to applicant for the construction of the refinery/plant and details of the Method of financing proposed:.....
.....
6. Proposed location of the refinery / plant :.....
.....
7. Type of refinery / plant proposed:.....
.....

8. Refining / Plant capacity range:.....
.....
.....
Proposed source(s) of crude oil (Feedstock) supply:.....
.....
.....

10. a) Products to be produced:.....
.....
.....

b) Detailed specifications of products (to be attached to this application):
.....
.....
.....

11. Proposed market for products produced:
.....
.....

Estimate, by product grade, or proposed product exports, if any.....
.....
.....

12. State if participants will accept participation of private Nigerian investors:.....
.....
.....

13. Any additional information in support of application (provide the information on a separate sheet wherever necessary):.....
.....

I declare that the foregoing particulars are true and correct.

.....
Signature of applicant or his Attorney

Date:.....

N.B

You are to forward with this application

- i) **Application Fee in bank draft to Federal Govt. of Nigeria ‘DPR Fees accounts’**
US \$ 50,000 (LTE, Relocations and ATC Revalidations)
US \$ 100,000 (LTO only)
- ii) **Service Charge for all applications payable in draft to DPR** N500,000
- iii) **Particulars of documents attached** to the application should be listed hereunder.

APPENDIX II

DESIGN CONSIDERATIONS

The design parameters shall generally follow the specifications outlined in the current editions of:

- The petroleum Refining Regulations, 1974
- Standards Organization of Nigeria (SON) specifications of petroleum products (for domestic market).
- Refining Safety Code Part 3 of the Institute of Petroleum Model Code of Safe Practice.
- API Standard 2510 Design and Construction of LP Gas Installation at Marine and Pipeline Terminals, Natural Gas Processing Plants, Refineries, Petrochemical Plants and Tank Farm.
- API Recommended Practices 520 and 521 for pressure relieving and depressurizing systems.
- National Fire Protection Association Standards No. 59A
- Liquefied Petroleum Gas Safety Code of Safety Practice.
- Electrical Safety Code: Part 1 of the Institute of Petroleum Model Code of Safe Practice
- American National Standard Institute (ANSI) B31-3-Pressure Piping of Chemical Plant and Petroleum Refining Piping.
- American Society of Mechanical Engineers – ASME – Boiler Pressure Vessel Code, (Section 1).
- American Society of Mechanical Engineers (ASME) Mechanical Standards Class “B” Heat Exchangers Section 7.
- API 550 Manuals of Refinery Instruments and Control Systems
- ASME B31.8 for Gas Transmission and Distribution Systems

THE DEPARTMENT OF PETROLEUM RESOURCES

FISCAL INCENTIVES, GUARANTEE AND ASSURANCES FOR PROSPECTIVE PETROLEUM REFINERS

a) **Crude Oil Pricing:**

International market prices shall be maintained for Nigerian Crude that may be procured by a refiner which is the price at which crude oil is supplied to NNPC. Crude oil price discount shall not apply within the deregulation policy. However, Government shall work out a commensurable discount as long as government subsidy on refined products exists.

b) **Crude oil Allocation:**

Government will guarantee crude oil requirement of refineries up to the maximum turn down ratio (60% processing capacity) of the plant to the extent that crude is available. Refiners shall also be free to source for their crude oil.

c) **Crude Lifting Rights:**

Crude oil lifting shall not commence before mechanical completion of the refinery in line with the due process. It is recommended that crude lifting shall be in line with NNPC guide lines and procedure.

d) **Preferred Bidder for Oil Block Allocation**

Companies that have established a refinery in Nigeria should have an advantage in the consideration for oil block allocation during bidding exercise.

e) **Fiscal Incentives**

Commercial incentives applicable to investors in the oil industry in Nigeria are as obtainable from the NNPC.

Milestone Prequalification for Refinery and Petrochemicals Plants Licenses and Approvals

APPROVAL STAGE	MILESTONE		DATE		
	LABEL	DESCRIPTION	QUALIFIED	GRANTED	EXPIRI NG
LICENSE TO ESTABLISH	LTE 1	Application and Statutory Payments (Fee, Service Charge and Refundable Deposit) (Section II, 2.1.1)			
	LTE 2	Preliminary Investment Support Package (Section II, 2.1.2)			
	LTE 3	Design Basis Development (Section II, 2.1.3)			
	LTE 4	Concept Selection and Process Configuration Studies (Section II, 2.1.4)			
	LTE 5	Safety, Health and Environment Considerations (Section II, 2.1.5)			
APPROVAL TO CONSTRUCT	ATC 1	Application and Statutory Payments (Revalidation and Relocations Only) (Section III, 3.4& VI, 6.3)			
	ATC 2	Equipment Integrity Report (Relocations Only) (Section VI, 6.2)			
	ATC 3	Refinery Configuration and Energy Balances (Section II, 2.4.1)			
	ATC 4	Project Execution and Quality Control Strategy (Section II, 2.4.2)			
	ATC 5	Process Safety and Utilities (Section II, 2.4.3)			
	ATC 6	Project Presentation (Section II, 2.4.4)			
LICENSE TO OPERATE	LTO 1	Application and Statutory Payments (Section IV, 4.1)			
	LTO 2	Plant Reliability and Integrity (Pre-commissioning) (Section V, 3.5 & 3.6)			
	LTO 3	Statutory Documentations (Section IV, 4.1 & 4.2)			
	LTO 4	Pre-licensing Inspection (Section IV, 4.2)			