



SITING GUIDELINES

for the

**Development of
Energy Infrastructural Facilities**

ARRANGEMENT OF GUIDELINES

1.0	PREAMBLE	4
1.1	INTRODUCTION	4
1.2	PURPOSE	4
1.3	APPLICATION	4
2.0	PRE-APPLICATION MEETING	4
3.0	FORM AND CONTENT OF SITING CLEARANCE APPLICATIONS	4
4.0	COMPLETENESS OF SITING CLEARANCE APPLICATIONS AND STAFF INVESTIGATIONS AND REPORTS	5
5.0	SERVICE AND PUBLIC DISTRIBUTION OF ACCEPTED, COMPLETE SITING CLEARANCE APPLICATION	6
6.0	AMENDMENTS OF ACCEPTED SITING CLEARANCE APPLICATIONS	7
7.0	APPLICATION FEES AND COMMITTEE EXPENSES	8
8.0	INTERVENTION	9
9.0	DECISION OF SITING COMMITTEE	10
10.0	REVIEW OF COMMITTEE DECISION	11
11.0	APPEAL OF COMMITTEE DECISION	11
12.0	ENFORCEMENT INVESTIGATION BY SITING COMMITTEE	11
13.0	PAYMENT OF FEES AND PENALTIES	12
	APPENDIX I :INSTRUCTIONS FOR THE PREPARATION OF SITING CLEARANCE APPLICATIONS FOR ELECTRIC POWER GENERATING FACILITIES	13
	APPENDIX II: INSTRUCTIONS FOR THE PREPARATION OF SITING CLEARANCE APPLICATIONS FOR ELECTRIC POWER AND NATURAL GAS TRANSMISSION FACILITIES	19
	APPENDIX III:INSTRUCTIONS FOR THE PREPARATION OF SITING CLEARANCE APPLICATIONS FOR BIODIESEL & BIOFUEL PRODUCTION FACILITY/REFINERY, LNG FACILITY AND NATURAL GAS PROCESSING FACILITY	26
	FLOWCHART OF SITING CLEARANCE PROCESS	32

Energy Commission: Siting Guidelines

1.0 Preamble

1.1 Introduction

The Energy Commission has established a Siting Committee to assist in the performance of its licensing mandate, particularly in respect of the siting of major energy infrastructure in accordance with the requirements of the Energy Commission Act, 1997 (Act 541).

1.2 Purpose

These guidelines have been developed in order to establish a transparent process for evaluation and assessment of proposals for the siting of major energy infrastructure. The guidelines detail the information requirements expected to be provided by the relevant energy infrastructure proponents and the evaluation and assessment processes to be undertaken by the Siting Committee in the determination of the suitability and adequacy of the proposed site to accommodate the proposed energy infrastructure.

1.3 Application

These guidelines apply to the siting of the following major energy infrastructure:

- (i) Electric power generation facility for the production of electrical power and energy for sale to the public, including both conventional and renewable energy generation facilities;
- (ii) Electricity transmission infrastructure including transmission lines, transformer stations, and other substations operated above the 12KV voltage class;
- (iii) Natural gas transmission infrastructure including pipelines, booster stations and regulating and metering stations; and
- (iv) Bio-fuel and bio-diesel production/refinery facility including plant and storage facilities, Liquefied Natural Gas (LNG) facility and Natural Gas Processing facility.

2.0 Pre-application meeting

An applicant considering construction of an energy infrastructure listed in the Section 1.3 may request a preapplication meeting by writing to the Commission prior to submitting an application. The results of such meeting(s) shall in no way constitute approval or disapproval of a particular site or route, and shall in no way predetermine the Committee's decision regarding subsequent certification or approval of the proposed site or route.

3.0 Form and content of Siting Clearance applications

3.1 In addition to the requirements stipulated in the Commission's licensing manuals for service provision in the relevant energy supply industries, the following conditions shall apply to Siting Clearance applications.

- (a) Each page of the Siting Clearance application shall be numbered;
- (b) Five (5) copies of the Siting Clearance application including the relevant maps shall be submitted by hand in hard-cover, loose-leaf binders labeled with the
 - (i) name of the applicant;
 - (ii) name of the proposed facility; and

Energy Commission: Siting Guidelines

(iii) year of submission of the Siting Clearance application.

to the following address:

**Executive Secretary, Energy Commission,
Frema House, 89 Spintex Road,
Private Mail Bag, Ministries Post Office,
Accra, Ghana.**

(c) Each Siting Clearance application shall be accompanied with a cover letter containing the following information:

- (i) the name and address of the applicant;
- (ii) the name and location of the proposed facility;
- (iii) the name and address of the applicant's authorized representative; and
- (iv) a declaration that the information contained in the Siting Clearance application is complete and correct to the best knowledge, information and belief of the applicant.

3.2 The information contained within a Siting Clearance application shall conform to the requirements of Appendix I or Appendix II or Appendix III of these guidelines, whichever is applicable.

3.3 The scale of all maps shall be in accordance with the requirements stated in Appendices I, II and III of these guidelines.

3.4 For purposes of Appendices I, II and III of these guidelines, the costs and benefits of the direct and indirect effects of siting decisions shall be expressed in monetary and quantitative terms whenever doing so is practicable.

3.5 All submissions shall be supported by:

- (a) an indication of the source of data;
- (b) the assumptions made;
- (c) the methods used in arriving at the conclusions; and
- (d) the justification for selection of the alternatives.

4.0 Completeness of Siting Clearance applications and staff investigations and reports

4.1 Upon receipt of a Siting Clearance application for an energy facility, the Commission shall within **five (5) working days** acknowledge receipt of the application and submit the application to the chairman of the Siting Committee for examination to determine compliance with these guidelines and consequent acceptance or rejection of the application.

4.2 Within **ten (10) working days** following receipt of the Siting Clearance application, the chairman of the Siting Committee shall either:

- (a) accept the Siting Clearance application as complete and complying with the requirements of these guidelines; or

Energy Commission: Siting Guidelines

- (b) reject the Siting Clearance application as incomplete, setting forth specific grounds on which the rejection is based.
- 4.3 The chairman shall mail a copy of the completeness decision to the applicant.
- 4.4 The Siting Committee shall conduct investigation of each accepted, complete application and prepare a written report within a maximum period of **fifteen (15) working days**.
- 4.5 The Siting Committee's report shall set forth the nature of the investigation, and shall contain all recommended findings.
- 4.6 The report shall become part of the licensing application record in respect of the proposed facility.
- 4.7 Copies of the report shall be made available to the applicant and all persons who have or shall thereafter become parties to the proceedings.
- 4.8 The Commission shall maintain on its web site information as to how to request an electronic or paper copy of the Committee's report.
- 4.9 Upon request for a paper copy of the Siting Committee's report, the Commission shall supply the report upon the payment of the applicable fee as determined by the Commission.

5.0 Service and public distribution of accepted, complete Siting Clearance Application

- 5.1 Upon receipt of notification from the Committee that the Siting Clearance application is accepted and in compliance with the content requirements of these guidelines, the Commission shall issue the applicant with a written notice approving of the siting of the proposed energy infrastructure, subject to adherence to specific conditions to safeguard public health and general safety as contained in the operational licence that will be issued by the Commission.
- 5.2 The Commission shall serve a copy of the written notice of the Siting Clearance together with the accepted, complete application on the chief executive officer of each metropolitan, municipal or district assembly and the head of each public agency charged with the duty of protecting the environment or of planning land use in the area in which any portion of such facility is to be located.
- 5.3 The Commission shall also inform the general public of the Siting Clearance application by public notice in the print media stating that a copy of the accepted, complete Siting Clearance application is available from the Commission (with instructions as to how to obtain a copy), for inspection at the applicant's main office, or at the Commission's main office.

6.0 Amendments of accepted Siting Clearance applications

- 6.1 The applicant shall submit to the Siting Committee, through the Commission, an application for amendment to a pending or accepted complete application in accordance with Section 3 of these guidelines.
- 6.2 Each application for amendment shall specifically identify the portion of the pending or accepted complete application which is being required to be amended.
- 6.3 The applicant shall serve a copy of the application for amendment upon all persons previously entitled to receive a copy of the application, and shall supply the Siting Committee with proof of such service.
- 6.4 Upon review, the Siting Committee may require such additional action as is determined necessary to inform the general public of the proposed amendment, including, but not limited to:
 - (a) ordering the applicant to issue a public notice to this effect;
 - (b) postponing decisions on the pending or accepted complete application and/or application for amendment up to **thirty (30) working days** after receipt of the said application for amendment, unless otherwise negotiated with the Commission.
- 6.5 The Committee shall review the application for amendment pursuant to Section 4 of these guidelines.
- 6.6 Unless otherwise ordered by the Siting Committee, modifications to a proposed site or route that are introduced into the record by the applicant during review of the accepted complete application shall not be considered amendments if such modifications are in conformity with the concerned district or municipal Assembly's building bye-laws.
- 6.7 Unless otherwise ordered by the Committee, modifications to the footprint of an electric power generating facility that are introduced into the record by the applicant during review of the accepted complete application shall not be considered amendments if such modifications do not create further impacts for a property owner or within the planned site, or within the right-of-way of the proposed facility.
- 6.8 An application for amendment to an accepted or approved Siting Clearance shall be submitted in the same manner as if they were fresh applications for a Siting Clearance.
- 6.9 The Siting Committee shall review an application for amendment to an approved Siting Clearance pursuant to Section 5 of these guidelines and make appropriate recommendations to the Commission.
- 6.10 If the Committee determines that the proposed change in the authorized siting of a facility would result in

Energy Commission: Siting Guidelines

- (a) any significant adverse environmental impact of the authorized facility, or
 - (b) a substantial change in the location of all or a portion of such approved facility other than as provided in the alternates set forth in the application,
- then a hearing shall be held with the applicant in the same manner as a hearing is held on a Siting Clearance application.

6.11 The applicant shall serve a copy of the application for amendment to an accepted or approved Siting Clearance upon

- (a) the persons entitled to service pursuant to Section 5 of these guidelines, and
- (b) all parties to the original Siting Clearance application proceedings.

7.0 Application fees and Committee expenses

7.1 The expenses of the Siting Committee in considering a Siting Clearance application shall be assessed and factored into the licence fees charged by the Commission.

7.2 The applicable fees charged for the different types of licenses can be found in the Commission's relevant Licensing Manuals for service providers in the respective energy supply industries.

7.3 An amendment application filing fee will apply for a request to amend an approved Siting Clearance or an accepted Siting Clearance application that is under consideration by the Committee.

7.4 The applicable fee for a Siting Clearance application amendment shall range between US\$10,000 to US\$100,000 to be determined based on the amount of work involved with the amended portion of the facility.

7.5 After accepting an amendment application as complete, the Committee shall determine the amount of the amendment application filing fee based on the amount of work involved as stated in paragraph 7.4 and advise the Commission to invoice the applicant for payment to be effected, prior to further consideration of the accepted complete amendment application by the Committee.

7.6 For purposes of these Siting Guidelines, "*construction cost*" shall include all costs of the project including rights-of-way, land acquisition, clearing, material and equipment, erection of the facility and any other capital cost applicable to that project.

7.7 Payment shall be due upon receipt of an invoice from the Commission.

8.0 Intervention

- 8.1 The Chief Executive Officer or the Coordinating Director of each metropolitan, municipal or district assembly in the area in which any portion of such facility is to be located shall be invited to sit as a full member of the Siting Committee to consider the particular application related to energy infrastructure to be sited in that area and shall be provided with a copy of the Siting Clearance application and all other relevant documentation relating to the proposed facility.
- 8.2 The head of each public agency charged with the duty of protecting the environment or of planning land use in the area in which any portion of such facility is to be located may intervene by preparing and filing with the Committee, within **fourteen (14) working days** after the date of being served with a copy of the application, a notice of intervention containing the following information:
- (a) a certification or affirmation as to the legal title and authority of such official;
 - (b) a statement demonstrating the fact that all or part of the proposed facility is to be located within the area under the jurisdiction of such official; and
 - (c) a statement indicating that such official intends to intervene in the proceedings, together with the grounds for which intervention is sought.
- 8.3 All other persons may petition for leave to intervene by
- (a) preparing a petition for leave to intervene setting forth the grounds for the proposed intervention and the interest of the petitioner in the proceedings; and
 - (b) filing such petition within the time established by the Committee.
- 8.4 Copies of all notices of intervention and petitions for leave to intervene shall be sent to all parties by the prospective intervenor, and a certificate of service shall be filed with the Commission at the time of filing such notices.
- 8.5 The Committee shall grant petitions for leave to intervene only upon the showing of good cause.
- 8.6 In deciding whether to grant intervention under this provision, the Committee may consider
- (a) the nature and extent of the person's interest;
 - (b) the extent to which the person's interest is represented by existing parties;
 - (c) the person's potential contribution to a just and expeditious resolution of the issues involved in the proceeding; and
 - (d) whether granting the requested intervention would unduly delay the proceeding or unjustly prejudice an existing party.
- 8.7 The Committee may, in extraordinary circumstances and for good cause shown, grant a petition for leave to intervene filed by a person identified in paragraphs 8.2 or 8.3 who had failed to file a timely notice, to intervene in subsequent phases of a proceeding.

Energy Commission: Siting Guidelines

- 8.8 Any petition filed under paragraph 8.7 must contain, in addition to the information set forth in paragraph 8.3, a statement of good cause for failing to timely file the notice or petition and shall be granted only upon a finding that
- (a) extraordinary circumstances justify the granting of the petition; and
 - (b) the intervener agrees to be bound by agreements, arrangements, and other matters previously made in the proceeding.
- 8.9 The Committee may,
- (a) grant limited participation, which allows a person to participate with respect to one or more specific issues, if:
 - (i) the person has no real and substantial interest with respect to the remaining issues;
 - (ii) the person's interest with respect to the remaining issues is adequately represented by existing parties;
 - (b) require interveners with substantially similar interests to consolidate their examination of witnesses or presentation of testimony.

9.0 Decision of Siting Committee

- 9.1 Within **thirty (30) working days** of receipt of a completed Siting Clearance application, the Committee shall issue a final decision based only on the record, including such additional evidence as it shall order admitted.
- 9.2 The Committee may determine that the location of all or part of the proposed facility should be modified and it may condition the Siting Clearance upon such modifications.
- 9.3 Specific citations in Appendices I, II and III of these guidelines with regard to a Siting Clearance application complying with building codes and boiler pressure piping, and elevator inspections and evaluations conducted by a statutorily empowered state agency, shall not be deemed to prohibit the Committee from issuing a Siting Clearance conditioned upon an applicant complying with other state statutes, ordinances, and regulations which are designed to protect the public health, welfare, and safety.
- 9.4 The decision of the Committee shall be posted on the Commission's website and copies of the decision or order shall be served on relevant metropolitan, municipal or district assembly by ordinary mail.
- 9.5 Applications for reopening a proceeding after final submission but before a final order has been issued shall be by petition, and shall set forth specifically the grounds upon which such application is based.
- 9.6 If such application is to reopen the proceeding for further evidence, the nature and purpose of such evidence must be briefly stated, including a statement why such evidence was not available at the time of the Committee's consideration of the application.

10.0 Review of Committee Decision

10.1 Application for review of Siting Committee decisions may be made to the Commission.

10.2 An application for the review of a Decision shall:

- (a) be made in writing;
- (b) set out the decision to which the application relates;
- (c) set out in detail the grounds on which the applicant seeks a review of the Decision in question;
- (d) be accompanied by any information or evidence that the applicant considers should be taken into account by the Committee; and
- (e) be lodged with the Commission within **ten (10) working days** after the decision is given.

10.3 Once the application for the review of a decision has been received, the Commission:

- (a) may stay the execution of the decision to which the application relates; and
- (b) will take a Decision on the review within **thirty (30) working days** of the application being lodged, or otherwise the Commission shall be deemed to have confirmed the Decision; (on expiry of the 30 Working days); **OR**
- (c) may confirm, amend or substitute the Decision; and
- (d) will give the applicant written notice of the Committee's decision, and the reasons for the Decision on the review.

11.0 Appeal of Committee Decision

11.1 An applicant who is dissatisfied with a decision of a review by the Commission has a right to appeal to the Minister responsible for Energy, and subsequently revert to the Courts if not satisfied as set out in Section 20 of the Energy Commission Act, 1997 (Act 541).

11.2 The appeal must be made within **ten (10) working days** after receipt of the written notice of the Decision.

12.0 Enforcement investigation by Siting Committee

12.1 Upon finding reasonable grounds, the Committee shall initiate a proceeding to investigate an alleged violation of a condition of the Siting Clearance granted by the Committee.

12.2 While any such alleged violation is under Committee investigation, the Commission may order the suspension of the activity involved.

12.3 A suspension order may be terminated by the Commission at any time during the Committee's investigation of the alleged violation.

Energy Commission: Siting Guidelines

- 12.4 The Commission shall serve upon the person alleged to be in violation of any section of these guidelines, a written report of investigation within **fifteen (15) working days** after initiation of the proceeding involved.
- 12.5 The written report in paragraph 12.4 shall include the findings of the Committee's investigations on the alleged violation and the Committee's recommendations for the Commission's action.
- 12.6 It shall be incumbent on the complainant to prove the occurrence of the violation by a preponderance of the evidence.
- 12.7 If the Committee finds that a violation in question actually occurred, the Committee may recommend appropriate remedies, which may include one or more of the following:
- (a) direct the person to cease the violation;
 - (b) direct the person to comply with the conditions of the Siting Clearance granted and/or the Commission's order or suspension;
 - (c) direct the person to take corrective action and include a date by which such corrective action must be taken or completed;
 - (d) advise the Commission to seek enforcement of Committee orders in the courts; or
 - (e) any other appropriate remedies.

13.0 Payment of fees and penalties

- 13.1 All forfeitures, compromise forfeitures and payments made pursuant to stipulations shall be paid by Bank Draft, Certified Cheque or Money Order made payable to "The Energy Commission" for payment into the "Energy Fund" Account".
- 13.2 All forfeitures, compromise forfeitures and payments made pursuant to stipulations shall be mailed or delivered to: **The Executive Secretary, Energy Commission, Frema House, #89 Spintex Road, Private Mail Bag, Ministries Post Office, Accra, Ghana.**

APPENDIX I
Instructions for the Preparation of Siting Clearance applications for
Electric Power Generating Facilities

- A. Project summary and facility overview
- B. Review of need for proposed project
- C. Site alternatives analyses
- D. Technical data
- E. Financial and Economic impact data
- F. Environmental data

A. Project summary and facility overview

1. An applicant for clearance to site an electric power generating facility shall provide a project summary and overview of the proposed project. The summary and overview shall include:
 - (i) an explanation of the general purpose of the facility;
 - (ii) a description of the proposed facility;
 - (iii) a description of the site selection process, including descriptions of the major alternatives considered;
 - (iv) a discussion of the principal environmental and socioeconomic considerations of the preferred and alternate sites; and
 - (v) an explanation of the project schedule for which a bar chart is acceptable.
2. Information filed by the applicant in response to the requirements under this section (A) shall not be deemed as responses to any other section [from (B) to (F)] of the application requirements.

B. Review of need for proposed project

1. ***Need statement:*** An applicant for a clearance to site an electric power generating facility under this guidelines shall provide a statement explaining the need for the proposed facility, including a listing of the factors upon which it relied to reach that conclusion and references to the most recent long-term forecast report (if applicable).
2. ***Description of proposed generation and associated facility:***
 - (a) The applicant shall submit for each alternative:
 - (i) type, number of units, and designed ISO rating, heat rate, annual capacity factor and hours of annual generation;
 - (ii) land area requirement;
 - (iii) fuel type, quantity and quality (i.e., ash, sulfur, and British thermal unit value);
 - (iv) a list of types of pollutant emissions; and
 - (v) water requirement, source of water, treatment, quantity of any discharge and names of receiving streams.
 - (b) The applicant shall submit a summary description of the major equipment.
 - (c) The applicant shall submit a brief description of the need for new transmission line(s) associated with the proposed facility.

Energy Commission: Siting Guidelines

3. *Project schedule:*

- (a) The applicant shall provide a proposed schedule in bar chart format covering all applicable major activities and milestones, including:
 - (i) acquisition of land and land rights;
 - (ii) preparation and submission of the Siting Clearance application;
 - (iii) consideration and grant of Siting Clearance;
 - (iv) issuance of the wholesale supply licence;
 - (v) preparation of the final design;
 - (vi) construction of the facility; and
 - (vii) commercial operation of the facility.
- (b) The applicant shall describe the impact of critical delays on the eventual date of commencement of operations.

C. Site alternative analyses

- 1. The applicant shall conduct a site selection study prior to submitting a Siting Clearance application for an electric power generating facility. The study shall be designed to evaluate at least two alternate sites for the proposed facility.
 - (a) The applicant shall provide the following:
 - (i) a description of the study area or geographic boundaries selected, including the rationale for the selection;
 - (ii) a map of suitable scale which includes the study area and which depicts the general sites which were evaluated;
 - (iii) a comprehensive list of all siting criteria utilized by the applicant, including any quantitative or weighting values assigned to each;
 - (iv) a description of relevant factors, or constraints, identified by the applicant and utilized in the site selection process;
 - (v) a description of the process by which the applicant utilized the siting criteria to determine the proposed site and any proposed alternative site(s);
 - (vi) a description of the sites selected for evaluation, their final ranking, and the rationale for selecting the proposed site and any proposed alternative site(s); and
 - (vii) a description of any qualitative or other factor utilized by the applicant in the selection of the proposed site and any proposed alternative site(s).
 - (b) The applicant shall provide one copy of any constraint map utilized for the study to the Committee for review.
- 2. The applicant shall provide a summary table comparing the sites, utilizing the technical, financial, environmental, socioeconomic, and other factors identified in the study. Design and equipment alternatives shall be included where the use of such alternatives influenced the siting decision.

3. The applicant may provide a copy of any site selection study produced by or for the applicant for the proposed project as an attachment to the application. The study report may be submitted in response to paragraphs 1 and 2 of this section, provided that the information contained therein is responsive to the requirements of the referenced paragraphs.

D. Technical data

Site

1. Information on the location, major features, and the topographic, geologic, and hydrologic suitability of the proposed site and any proposed alternative site(s) shall be submitted by the applicant. Specifically, the applicant shall provide the following for each site alternative:
 - (a) **Geography and topography:** The applicant shall provide a map of 1:50,000 scale containing a five-kilometer radius from the proposed facility and showing the following features:
 - (i) the proposed facility;
 - (ii) major population centers and geographic boundaries;
 - (iii) major transportation routes and utility corridors;
 - (iv) bodies of water which may be directly affected by the proposed facility;
 - (v) topographic contours;
 - (vi) major institutions, parks, recreational areas; and
 - (vii) residential, commercial and industrial buildings and installations.
 - (b) A digital survey map of 1:2,500 scale of the site, showing the following existing features shall be provided:
 - (i) topographic contours;
 - (ii) land use and classifications;
 - (iii) existing vegetative cover and the vegetative cover that may be removed during construction;
 - (iv) individual structures and installations;
 - (v) surface water bodies; and
 - (vi) water and gas wells.
 - (c) **Geology and seismology:** The applicant shall provide a geological and structural map of suitable scale of the proposed facility site and also describe:
 - (i) the suitability of the site with respect to seismic sensitivity status; and
 - (ii) the suitability of soil for grading, compaction, and drainage, and describe plans to remedy any identified inadequacies.
 - (d) **Hydrology and wind:** The applicant shall provide
 - (i) the natural and the man-made water bodies, and if available, daily and monthly river/stream flows likely to be directly affected by the proposed facility;

Energy Commission: Siting Guidelines

- (ii) an analysis of the prospects of floods for the area, including the probability of occurrences and likely consequences of various flood stages, and describe plans to mitigate any likely adverse consequences; and
- (iii) an analysis of the prospects high winds for the area, including the probability of occurrences and likely consequences of wind velocities, and describe plans to mitigate any likely adverse consequences.

Layout and construction

2. The applicant shall provide information on the proposed layout and preparation of the proposed site and any proposed alternative site(s) and the description of proposed major structures and installations located thereon.
- (a) **Site activities:** The applicant shall describe the proposed site preparation and reclamation operations, including:
 - (i) test borings;
 - (ii) removal of vegetation;
 - (iii) grading and drainage provisions;
 - (iv) access roads;
 - (v) removal and disposal of debris; and
 - (vi) post-construction reclamation.
 - (b) **Layout:** The applicant shall supply a map of 1:2,500 scale of the proposed electric power generating plant site, showing the following features of the proposed and existing facility and associated facilities:
 - (i) electric power generating plant;
 - (ii) fuel, waste, and other storage facilities;
 - (iii) fuel and waste processing facilities, if any;
 - (iv) water supply and sewage lines;
 - (v) transmission lines;
 - (vi) substations;
 - (vii) transportation facilities and access roads;
 - (viii) security facilities;
 - (ix) grade elevations where modified during construction; and
 - (x) other pertinent installations.
 - (c) **Structures:** The applicant shall describe, in as much detail as is available at the time of submission of the application, all major proposed structures, including the following:
 - (i) estimated overall dimensions;
 - (ii) construction materials;
 - (iii) colour and texture of facing surfaces;

Energy Commission: Siting Guidelines

- (iv) artist's pictorial sketches of the proposed facility from public vantage points; and
 - (v) any unusual features.
 - (d) **Plans for construction:**. The applicant shall describe the proposed construction sequence.
 - (e) **Future plans:** The applicant shall describe any plans for future additions of electric power generating units earmarked for the site (including the type and timing) and the maximum electric power generating capacity anticipated for the site.
3. **Equipment**
- (a) The applicant shall describe the proposed major *electric power generating equipment* for the proposed site and any proposed alternative site(s).
 - (b) The applicant shall describe all *emission control and safety equipment* including:
 - (i) all proposed major flue gas emission control equipment, including tabulations of expected efficiency, power consumption, and operating costs for supplies and maintenance;
 - (ii) the reliability of the equipment and the reduction in efficiency for partial failure;
 - (iii) the equipment proposed for control of effluents discharged into bodies of water and receiving streams; and
 - (iv) all proposed major public safety equipment.
 - (c) The applicant shall describe any other major equipment constituting the proposed facility that is not discussed in paragraph 3(b).
4. **Power Evacuation arrangement and facilities**
- (a) The applicant shall submit the following documentation relating to the facilities required for the adequate evacuation of the power to be generated into the national interconnected transmission system:
 - (i) the electrical single line diagram and equipment layout design showing how the new system would connect with the existing network;
 - (ii) the steady-state power flow calculations for the interconnected grid with special emphasis on the simulated performance of the new plant and the determination of losses resulting from power production from the new plant at the proposed point of interconnection; and
 - (iii) the short circuit calculations to determine the impact of the new generation facility on the short circuit capability of the existing power system.
 - (b) Applicants should note that the granting of an operating licence would require full compliance with the national electricity grid code, especially in the areas of machine size of generating units, system stability considerations etc.

E. Financial & Economic impact data

1. The applicant shall state the type, current and proposed ownership status of the proposed facility, including site(s), rights-of-way, structures, and equipment.
2. **Capital and intangible costs.** The applicant shall:
 - (a) Submit estimates of applicable capital and intangible costs for the various alternatives. The data submitted shall be classified according to Public Utilities Regulatory Commission uniform system of

Energy Commission: Siting Guidelines

accounts for utility companies (i.e. electricity generation or supply company, or a natural gas supply company).

- (b) Provide and tabulate total costs per kilowatt, the present worth and annualized cost for capital costs and any additional cost details as required to compare capital cost of alternative sites considered (using the start of construction date as reference date), and describe techniques and all factors used in calculating present worth and annualized costs.
3. **Operation and maintenance expenses.** The applicant shall:
- (a) Supply applicable estimated annual operation and maintenance expenses for the first two years of commercial operation. The data submitted shall be classified according to Public Utilities Regulatory Commission uniform system of accounts for utility companies (i.e. electricity generation or supply company, or a natural gas supply company).
 - (b) Tabulate the total operation and maintenance cost per kilowatt, the present worth and annualized expenditures for operating and maintenance costs as well as any additional cost breakdowns as required to compare alternative sites, and describe techniques and factors used in calculating present worth and annualized costs.
4. **Delays.** The applicant shall submit an estimate of the cost for a delay prorated to a monthly basis beyond the projected commercial operation date.
5. **Economic impact data:** The applicant shall provide estimates of:
- (a) the annual total and present worth of construction and operation payroll;
 - (b) the construction and operation employment and estimate the number that will be employed from the area, locality and region;
 - (c) the increase in national and local tax revenue accruing from the facility; and
 - (d) the economic impact of the proposed facility on local commercial and industrial activities.

F. Environmental data

- 1. The information requested in this section shall be used to assess the environmental effects of the proposed facility.
- 2. The requirements for environmental disclosure on the facility at the proposed site and all alternatives considered shall be in accordance with Environmental Protection Agency Regulations, LI 1652 and Energy Sector Guidelines for environmental assessment.

APPENDIX II
Instructions for the Preparation of Siting Clearance applications for
Electric Power and Natural Gas Transmission Facilities

- A. Project summary and facility overview.**
- B. Review of need for proposed project.**
- C. Site and route alternatives analyses**
- D. Technical data**
- E. Financial and Economic impact data**
- F. Environmental Data**

A. Project summary and facility overview

1. An applicant for clearance to site an electric power or natural gas transmission facility shall provide a project summary and overview of the proposed project. The summary and overview shall include:
 - (a) a statement explaining the general purpose of the facility;
 - (b) a description of the proposed facility;
 - (c) a description of the site or route selection process, including descriptions of the major alternatives considered;
 - (d) a discussion of the principal environmental and socioeconomic considerations of the preferred and alternative sites; and
 - (e) an explanation of the project schedule (a bar chart is acceptable).
2. Information filed by the applicant in response to the requirements of section (A) shall not be deemed responses to any other section [from (B) to (F)] of the application requirements.

B. Review of need for proposed project

1. An applicant shall provide a statement explaining the need for the proposed facility, including a listing of the factors upon which it relied to reach that conclusion and references to the most recent long-term forecast report (if applicable).
2. The statement shall also include, but not be limited to, the following:
 - (a) a statement of the purpose of the proposed facility;
 - (b) specific projections of system conditions or local requirements that impacted the applicant's opinion on the need for the proposed facility;
 - (c) relevant load flow studies and contingency analyses, if appropriate, identifying the need for system improvement;
 - (d) for electric power transmission facilities, one copy of the relevant power flow base case model data with appropriate directions to recover data if compressed; and
 - (e) for natural gas transmission projects, one copy in electronic format of the relevant base case system data, with a description of the analysis program and the data format.

3. **Expansion plans:**

- (a) **Natural gas:** For the natural gas transmission lines and associated facilities, the applicant shall provide a brief statement of how the proposed facility and site/route alternatives fit into the applicant's most recent long-term natural gas demand forecast report, including the following:
 - (i) reference to any description of the proposed facility and site/route alternatives in the most recent long-term natural gas demand forecast report of the applicant;
 - (ii) if no description was contained in the most recent long-term natural gas forecast report, an explanation as to why none was filed in the most recent long-term natural gas demand forecast report.
- (b) **Electricity:** For electric power transmission lines and associated facilities, the applicant shall provide a brief statement of how the proposed facility and site/route alternatives fit into the applicant's most recent long-term electricity demand forecast report and the plans for expansion, including, but not limited to the following:
 - (i) reference to any description of the proposed facility and site/route alternatives in the most recent long-term electricity demand forecast report of the applicant;
 - (ii) if no description was contained in the most recent long-term electricity demand forecast report, an explanation as to why none was filed in the most recent long-term electric ity demand forecast report; and
 - (iii) reference to sub-regional expansion plans, including the West Africa Power Pool bulk power transmission plans, when applicable (if the transmission project will not affect regional plans, it shall be stated by the applicant).

4. An applicant for electric power transmission facilities shall provide an analysis of the impact of the proposed facility on the electric power system economy and reliability. The impact of the proposed facility on all interconnected utility systems shall be evaluated, and all conclusions shall be supported by relevant load flow studies.

5. An applicant for electric power transmission lines shall provide an analysis and evaluation of the options considered which would eliminate the need for construction of an electric power transmission line, including electric power generation options and options involving changes to existing and planned electric power transmission substations.

6. The applicant shall describe why the proposed facility was selected to meet the projected need.

7. **Facility schedule:**

- (a) *Schedule:* The applicant shall provide a proposed schedule in bar chart format covering all applicable major activities and milestones for the project, including:
 - (i) preparation and submission of the Siting Clearance application;
 - (ii) consideration and grant of Siting Clearance;
 - (iii) acquisition of rights-of-way and land rights for the facility;
 - (v) preparation of the final design;
 - (vi) construction of the facility; and
 - (vii) commercial operation of the facility.

Energy Commission: Siting Guidelines

- (b) *Delays*: The applicant shall describe the impact of critical delays on the eventual commercial operation date.

C. Site and route alternative analyses

1. The applicant shall conduct a site and route selection study prior to submitting an application for an electric power transmission line, electric power transmission substation or natural gas transmission line, or compressor station. The study shall be designed to evaluate all practicable sites, routes, and route segments for the proposed facility identified within the project area.
 - (a) The applicant shall provide the following:
 - (i) a description of the study area or geographic boundaries selected, including the rationale for the selection;
 - (ii) a map of suitable scale which includes the study area and which depicts the general routes, route segments, and sites which were evaluated;
 - (iii) a comprehensive list of all siting criteria utilized by the applicant, including any quantitative or weighting values assigned to each;
 - (iv) a description of relevant factors or constraints identified by the applicant and utilized in the route and site selection process;
 - (v) a description of the process by which the applicant utilized the siting criteria to determine the preferred and alternative routes and sites;
 - (vi) a description of the routes and sites selected for evaluation, their final ranking, and the rationale for selecting the preferred and alternative routes and sites; and
 - (vii) a description of any qualitative or other factors utilized by the applicant in the selection of the preferred and alternative routes or sites.
 - (b) The applicant shall provide one copy of any constraint map utilized for the study to the Committee for review.
2. The applicant shall provide a summary table comparing the routes, route segments, and sites, utilizing the technical, financial, environmental, socioeconomic, and other factors identified in the study. Design and equipment alternatives shall be included where the use of such alternatives influenced the siting decision.
3. The applicant may provide a copy of any route and site selection study report produced by or for the applicant for the proposed project as an attachment to the application. The study report may be submitted in response to paragraphs (1) and (2) of this section, provided that the information contained therein is responsive to the requirements of the referenced paragraphs.

D. Technical data

1. *Site/route alternatives*: Information on the location, major features, and the topographic, geologic, and hydrologic suitability of site/route alternatives shall be submitted by the applicant. This information may be derived from the best available reference materials.
 - (a) **Geography and topography**: The applicant shall provide map(s) of not less than 1:50,000 scale, including the area
 - 20 meters on each side of a 330 KV Extra High Voltage (EHV) transmission line alignment,
 - 15 meters on each side of a 161 KV High Voltage (HV) transmission line alignment,

Energy Commission: Siting Guidelines

- 10 meters on each side of a 33/34.5 KV Medium Voltage (MV) transmission line alignment,
 - 4.5 to 5.5 meters on each side of a 155mm (6-inch) pipeline alignment,
 - 5.5 to 7 meters on each side of a 200-300mm (8 to 12-inch) pipeline alignment,
 - 7 to 8.5 meters on each side of a 400-600mm (16 to 24-inch) pipeline alignment,
 - 8.5 to 15 meters on each side of a 660-900mm (26 to 36-inch) pipeline alignment,
 - 30 meters from the centre of a road where the facility is routed or sited along a road; and
 - the area within the immediate vicinity of a substation site or compressor station site, or
- (b) **Map features:** The map(s) required in paragraph (a) shall include the following features:
- (i) the proposed transmission line and pipeline alignments, including proposed turning points;
 - (ii) the proposed substation or compressor station site locations;
 - (iii) major highway and railroad routes;
 - (iv) identifiable air transportation facilities, existing or proposed;
 - (v) utility corridors;
 - (vi) proposed permanent access roads;
 - (vii) lakes, ponds, reservoirs, streams, canals, rivers, and swamps;
 - (viii) topographic contours;
 - (ix) soil associations or series; and
 - (x) population centers and legal boundaries of cities, villages and townships.
- (c) **Slope and soil mechanics:** The applicant shall:
- (i) provide a brief, but specific description of the soils in the areas depicted on the above map(s) where slopes exceed twelve per cent. This information may be extracted from published sources; and
 - (ii) discuss the rationale as to suitability of the soils for foundation construction.
2. **Layout and construction:** The applicant shall provide information on the proposed layout and preparation of route/site alternatives, and the description of the proposed major structures and their installation as detailed below.
- (a) **Site activities** - The applicant shall describe the proposed site clearing, construction methods and reclamation operations, including:
- (i) surveying and soil testing;
 - (ii) grading and excavation;
 - (iii) construction of temporary and permanent access roads and trenches;
 - (iv) stringing of cable and/or laying of pipe;
 - (v) removal and disposal of construction debris such as crates, pallets, etc; and
 - (vi) post-construction reclamation.

Energy Commission: Siting Guidelines

- (b) ***Layout for associated facilities***- The applicant shall:
- (i) provide a map of 1:2,500 scale of the site of major transmission line associated facilities such as substations, compressor stations and other stations, showing the following proposed features:
 - Final grades after construction, including the site and access roads,
 - Proposed location of major structures and buildings,
 - Fenced-in or secured areas, and
 - Estimated overall dimensions;
 - (ii) describe reasons for the proposed layout and any unusual features; and
 - (iii) describe plans for any future modifications in the proposed layout, including the nature and approximate timing of contemplated changes.
3. **Transmission equipment:** The applicant shall provide a description of the proposed transmission lines, as well as switching, capacity, metering, safety and other equipment pertinent to the operation of the proposed electric power and gas transmission lines and associated facilities. Include any provisions for future expansion.
- (a) The applicant shall provide the following data for electric power transmission lines:
- (i) design voltage;
 - (ii) tower designs, pole structures, conductor size and number per phase, and insulator arrangement;
 - (iii) base and foundation design;
 - (iv) cable type and size, where underground; and
 - (v) other major equipment or special structures.
- (b) The applicant shall provide a description for electric power transmission substations that includes a single-line diagram and a description of the proposed major equipment, such as:
- (i) breakers;
 - (ii) switchgear;
 - (iii) bus arrangement and structures;
 - (iv) transformers;
 - (v) control buildings; and
 - (vi) other major equipment.
- (c) For natural gas transmission lines the applicant shall provide the following data:
- (i) maximum allowable operating pressure;
 - (ii) pipe material;
 - (iii) pipe dimensions and specifications; and
 - (iv) other major equipment.

Energy Commission: Siting Guidelines

- (d) The applicant shall provide a description of natural gas transmission facilities such as:
 - (i) control buildings;
 - (ii) heaters, odorizers, and above-ground facilities; and
 - (iii) any other major equipment.

E. Financial and Economic impact data

1. **Ownership:** The applicant shall state the current and proposed ownership status of the proposed facility, including sites, rights-of-way, structures, and equipment. The information shall cover sole and combined ownerships, any leases, options to purchase, or franchises, and shall specify the extent, terms, and conditions of ownership, or other contracts or agreements.
2. **Electricity transmission facility capital costs:** The applicant shall submit estimates of applicable capital and intangible costs for the various components of electric power transmission facility alternatives. The data submitted shall be classified according to Public Utilities Regulatory Commission uniform system of accounts for utility companies (i.e. electricity generation or supply company, or a natural gas supply company). The estimates shall include:
 - (a) land and land rights;
 - (b) structures and improvements;
 - (c) substation equipment;
 - (d) poles and fixtures;
 - (e) towers and fixtures;
 - (f) overhead conductors;
 - (g) underground conductors and insulation;
 - (h) underground-to-overhead conversion equipment;
 - (i) right-of-way clearing and roads, trails, or other access;
3. **Natural Gas transmission facility capital cost:** The applicant shall submit estimates of applicable capital and intangible costs for the various components of gas transmission facility alternatives. The data submitted shall be classified according to Public Utilities Regulatory Commission uniform system of accounts for utility companies (i.e. electricity generation or supply company, or a natural gas supply company). The estimates shall include:
 - (a) land and land rights;
 - (b) structures and improvements;
 - (c) pipes;
 - (d) valves, meters, boosters, regulators, tanks, and other equipment; and
 - (e) roads, trails, or other access.

F. Environmental data

1. The information requested in this section shall be used to assess the environmental effects of the proposed facility.
2. The requirements for environmental disclosure on the facility at the proposed site and all alternatives considered shall be in accordance with Environmental Protection Agency Regulations, LI 1652 and Energy Sector Guidelines for environmental assessment.

APPENDIX III
Instructions for the Preparation of Siting Clearance applications for
Biodiesel & Biofuel Production Facility/Refinery, LNG Facility and Natural Gas Processing Facility

- A. Project summary and facility overview
- B. Review of need for proposed project
- C. Site alternatives analyses
- D. Technical data
- E. Financial and Economic impact data
- F. Environmental data

A. Project summary and facility overview

1. An applicant for a clearance to site a biodiesel or biofuel production facility/refinery or liquefied natural gas (LNG) facility or natural gas processing facility shall provide a project summary and overview of the proposed project. The summary and overview shall include:
 - (i) an explanation of the general purpose of the facility;
 - (ii) a description of the proposed facility;
 - (iii) a description of the site selection process, including descriptions of the major alternatives considered;
 - (iv) a discussion of the principal environmental and socioeconomic considerations of the preferred and alternate sites; and
 - (v) an explanation of the project schedule for which purpose a bar chart is acceptable.
2. Information filed by the applicant in response to the requirements under this section (A) shall not be deemed as responses to any other section [from (B) to (F)] of the application requirements.

B. Review of need for proposed project

1. ***Need statement:*** An applicant for a clearance to site a biodiesel or biofuel production facility/refinery or liquefied natural gas (LNG) facility or natural gas processing facility under these guidelines shall provide a statement explaining the need for the proposed facility, including a listing of the factors upon which it relied to reach that conclusion and references to the most recent long-term forecast report (if applicable).
2. ***Description of proposed facility:***
 - (a) The applicant shall submit for each alternative site:
 - (i) type, number of units and the designed plant capacity;
 - (ii) preliminary product slate, indicating volumes or tonnage and product specifications
 - (iii) preliminary feedstock slate and short description of the feedstock;
 - (iv) feedstock supply source and product evacuation scheme;

Energy Commission: Siting Guidelines

- (v) target market (specifying whether domestic or export or for both and the respective quantities);
 - (vi) brief description of proposed process technologies and licensors;
 - (vii) block flow scheme and preliminary flow diagram showing process configurations and capacities;
 - (viii) land area requirement;
 - (ix) a list of types of pollutant emissions; and
 - (x) utilities, source and requirements of water, off site and wastewater treatment facilities, quantity of any discharge and names of receiving streams.
- (b) The applicant shall submit a summary description of the plant design philosophy and the major equipment constituting the facility or plant.
- (c) The applicant shall submit a brief description of the need for the production facility or refinery plant and any other proposed associated facility.

3. *Project schedule:*

- (a) The applicant shall provide a proposed schedule in bar chart format covering all applicable major activities and milestones, including:
- (i) acquisition of land and land rights;
 - (ii) preparation and submission of the Siting Clearance application;
 - (iii) consideration and grant of Siting Clearance;
 - (iv) issuance of the relevant production licence;
 - (v) preparation of the final design;
 - (vi) construction of the facility; and
 - (vii) commercial operation of the facility.
- (b) The applicant shall describe the impact of critical delays on the eventual date of commencement of operations.

C. Site alternative analyses

1. The applicant shall conduct a site selection study prior to submitting a Siting Clearance application for a biodiesel or biofuel production facility/refinery or liquefied natural gas (LNG) facility or natural gas processing facility. The study shall be designed to evaluate at least two alternate sites for the proposed facility.
- (a) The applicant shall provide the following:
- (i) a description of the study area or geographic boundaries selected, including the rationale for the selection;
 - (ii) a map of suitable scale which includes the study area and which depicts the general sites which were evaluated;

Energy Commission: Siting Guidelines

- (iii) a comprehensive list of all siting criteria utilized by the applicant, including any quantitative or weighting values assigned to each;
 - (iv) a description of relevant factors, or constraints, identified by the applicant and utilized in the site selection process;
 - (v) a description of the process by which the applicant utilized the siting criteria to determine the proposed site and any proposed alternative site(s);
 - (vi) a description of the sites selected for evaluation, their final ranking, and the rationale for selecting the proposed site and any proposed alternative site(s); and
 - (vii) a description of any qualitative or other factor utilized by the applicant in the selection of the proposed site and any proposed alternative site(s).
- (b) The applicant shall provide one copy of any constraint map utilized for the study to the Committee for review.
2. The applicant shall provide a summary table comparing the sites, utilizing the technical, financial, environmental, socioeconomic, and other factors identified in the study. Design and equipment alternatives shall be included where the use of such alternatives influenced the siting decision.
3. The applicant may provide a copy of any site selection study produced by or for the applicant for the proposed project as an attachment to the application. The study report may be submitted in response to paragraphs 1 and 2 of this section, provided that the information contained therein is responsive to the requirements of the referenced paragraphs.

D. Technical data

Site

1. Information on the location, major features, and the topographic, geologic, and hydrologic suitability of the proposed site and any proposed alternative site(s) shall be submitted by the applicant. Specifically, the applicant shall provide the following for each site alternative.
- (a) **Geography and topography:** The applicant shall provide a map of 1:50,000 scale containing a five-kilometer radius from the proposed facility and showing the following features:
- (i) the proposed facility;
 - (ii) major population centers and geographic boundaries;
 - (iii) major transportation routes and utility corridors;
 - (iv) bodies of water which may be directly affected by the proposed facility;
 - (v) topographic contours;
 - (vi) major institutions, parks, recreational areas;
 - (vii) residential, commercial and industrial buildings and installations.
- (b) A digital survey map of 1:2,500 scale of the site, showing the following existing features shall be provided:
- (i) topographic contours;
 - (ii) land use and classifications;

Energy Commission: Siting Guidelines

- (iii) existing vegetative cover and the vegetative cover that may be removed during construction;
 - (iv) individual structures and installations;
 - (v) surface water bodies; and
 - (vi) water and gas wells.
- (c) **Geology and seismology:** The applicant shall provide a geological and structural map of suitable scale of the proposed facility site and also describe:
- (i) the suitability of the site with respect to seismic sensitivity status; and
 - (ii) the suitability of soil for grading, compaction, and drainage, and describe plans to remedy any identified inadequacies.
- (d) **Hydrology and wind:** The applicant shall provide
- (i) the natural and the man-made water bodies, and if available, daily and monthly river/stream flows likely to be directly affected by the proposed facility;
 - (ii) an analysis of the prospects of floods for the area, including the probability of occurrences and likely consequences of various flood stages, and describe plans to mitigate any likely adverse consequences; and
 - (iii) an analysis of the prospects of high winds for the area, including the probability of occurrences and likely consequences of wind velocities, and describe plans to mitigate any likely adverse consequences.

Layout and construction

2. The applicant shall provide information on the proposed layout and preparation of the proposed site and any proposed alternative site(s) and the description of proposed major structures and installations located thereon.
- (a) **Site activities:** The applicant shall describe the proposed site preparation and reclamation operations, including:
- (i) test borings;
 - (ii) removal of vegetation;
 - (iii) grading and drainage provisions;
 - (iv) access roads;
 - (v) removal and disposal of debris; and
 - (vi) post-construction reclamation.
- (b) **Layout:** The applicant shall supply a map of 1:2,500 scale of the proposed site for the biodiesel or biofuel production facility/refinery or liquefied natural gas (LNG) facility or natural gas processing facility or plant site, showing the following features of the proposed facility and associated facilities including existing facilities, where applicable:
- (i) proposed biodiesel or biofuel production facility or refinery plant;
 - (ii) feedstock, fuel, waste, and other storage facilities;
 - (iii) fuel and waste processing facilities, if any;

- (iv) water supply and sewage lines;
 - (v) power supply source and associated supply lines;
 - (vi) transportation facilities and access roads;
 - (vii) security facilities;
 - (viii) grade elevations where modified during construction; and
 - (ix) other pertinent installations.
- (c) **Structures:** The applicant shall describe, in as much detail as is available at the time of submission of the application, all major proposed structures, including the following:
- (i) estimated overall dimensions;
 - (ii) construction materials;
 - (iii) colour and texture of facing surfaces;
 - (iv) artist's pictorial sketches of the proposed facility from public vantage points; and
 - (v) any unusual features.
- (d) **Plans for construction:** The applicant shall describe the proposed construction sequence.
- (e) **Future plans:** The applicant shall describe any plans for future additions to the biodiesel or biofuel production facility/refinery or liquefied natural gas (LNG) facility or natural gas processing facility earmarked for the site (including the type and timing) and the maximum anticipated production capacity for the site.
3. **Equipment**
- (a) The applicant shall describe the proposed major *biodiesel or biofuel production facility or refinery plant equipment* for the proposed site and any proposed alternative site(s).
- (b) The applicant shall describe all *emission control and safety equipment* including:
- (i) all proposed major flue gas emission control equipment, including tabulations of expected efficiency, power consumption, and operating costs for supplies and maintenance;
 - (ii) the reliability of the equipment and the reduction in efficiency for partial failure;
 - (iii) the equipment proposed for control of effluents discharged into bodies of water and receiving streams; and
 - (iv) all proposed major public safety equipment.
- (c) The applicant shall describe any other major equipment constituting the proposed facility that is not discussed in paragraph 3(b).
4. **Biofuel, biodiesel, production facility/refinery or LNG plant or Natural Gas processing output evacuation arrangement and facilities**

The applicant shall describe the method for the evacuation of the output of the facility for local distribution and marketing or for export.

E. Financial & Economic impact data

1. The applicant shall provide the Financing Plan for the rproject and also state the type, current and proposed ownership status of the proposed facility, including site(s), structures and equipment.
2. **Capital and intangible costs.** The applicant shall:
 - (a) Submit estimates of applicable capital and intangible costs for the various alternative sites; and
 - (b) Provide and tabulate total costs per unit production capacity, the present worth and annualized cost for capital costs and any additional cost details as required to compare capital cost of the alternative sites considered (using the start of construction date as reference date), and describe techniques and all factors used in calculating present worth and annualized costs.
3. **Operation and maintenance expenses**

The applicant shall:

- (a) Supply applicable estimated annual operation and maintenance expenses for the first two years of commercial operation.
 - (b) Tabulate the total operation and maintenance cost per unit production capacity, the present worth and annualized expenditures for operating and maintenance costs as well as any additional cost breakdowns as required to compare alternative sites, and describe techniques and factors used in calculating present worth and annualized costs.
4. **Delays.** The applicant shall submit an estimate of the cost for a delay prorated to a monthly basis beyond the projected commercial operation date.
 5. **Economic impact data:** The applicant shall provide estimates of:
 - (a) the annual total and present worth of construction and operation payroll;
 - (b) the construction and operation employment and estimate the number that will be employed from the area or locality;
 - (c) the increase in national and local tax revenue accruing from the facility; and
 - (d) the economic impact of the proposed facility on local commercial and industrial activities.

F. Environmental data

1. The information requested in this section shall be used to assess the environmental effects of the proposed facility.
2. The requirements for environmental disclosure on the facility at the proposed site and all alternatives considered shall be in accordance with Environmental Protection Agency Regulations, LI 1652 and Energy Sector Guidelines for environmental assessment.

FLOWCHART OF SITING CLEARANCE PROCESS

