

TO : Council to be held on March 2, 2018
FROM : Chairperson – PA Committee
DATE : February 26, 2018
SUBJECT : **IESL GUIDELINE STRUCTURE FOR ENGINEERING CONSULTANCY FEES INTRODUCTION**

1. INTRODUCTION

With respect to the practice of engineering, the Institution of Engineers Sri Lanka (IESL) Act No 17 of 1968 is intended to ensure the provision of competent engineering services in compliance with the Code of Ethics of the IESL.

This Guideline Structure for Engineering Consultancy Fees is prepared for the benefit of clients who propose to procure Consulting Engineering services, and for Consulting Engineers proposing to provide an engineering service to a client. It is intended to serve as an aid for use in selecting a Consulting Engineer, for defining the Consulting Engineering services being contracted for and in selecting the basis of fair remuneration for those services. Consulting Engineer's fees are determined by the Scope of Services to be provided. The Scope of services may be determined by the Client in consultation with the Consulting Engineer and in so doing, it is advised to discuss the project and Fee Guidelines so that both parties thoroughly understand the project. Adopting a fee scale or scales set out in this guideline would enable a Consulting Engineer to provide his Client a competent, reliable and high standard of service. These Scales and rates are not mandatory but guidelines only may be by negotiation be adjusted upwards or downwards to take account of the complexity of design, increase or reduction of the extent of services to be provided etc. The Terms of Reference for the consultancy assignment is of high importance in the preparation of a fee proposal by a Consulting Engineer. More comprehensive and precise the Terms of Reference are, more consistent will be the fee proposal. Therefore the Terms of Reference for any consultancy assignment should be carefully drawn up avoiding ambiguities. The Consulting Engineer, for the purposes of this Guideline, is understood to mean a Corporate Member of the Institution of Engineers Sri Lanka (IESL) with appropriate experience in the relevant field of engineering. A Consulting Engineering firm must also hold a Certificate of Authorization issued under the applicable Act.

2. SCOPE OF SERVICES

The services provided by a Consulting Engineer may be classified under one or more of the following categories:

- 2.1 Pre-feasibility Studies
- 2.2 Feasibility Studies including Conceptual Designs

- 2.3 Detailed Engineering Designs and preparation of Tender Documents
- 2.4 Procurement
- 2.5 Contract Administration
- 2.6 Project Management
- 2.7 Technical Services
- 2.8 Dispute Resolution Services
- 2.9 Technical Advisory Services

2.1 Pre - Feasibility studies

Pre-feasibility is resorted to in order to determine the viability of a project prior to embarking on a detailed feasibility Study with or without a number of feasible alternatives. As a part of pre-feasibility studies, the Client may seek consulting engineer's services to develop his project concept in order to plan and formulate a Project that would be subjected to subsequent appraisals and valuations for funding considerations through investment, grants or loans.

The activities may include, but not limited to the following;

- (i) Study of the Client's Terms of Reference and conceptual proposals for the project
- (ii) Collecting and reviewing all available data and information relevant to the study
- (iii) Carrying out preliminary reconnaissance surveys and investigations appropriate in extent and detail where necessary to supplement available information
- (iv) Study of alternative proposals where alternatives are feasible
- (v) Carrying out Initial Environment Examination (IEE)/ Preliminary Environment Impact Assessment (EIA)
- (vi) Preparation of preliminary cost estimate
- (vii) Carrying out preliminary economic / financial valuation and determine the most viable alternative
- (viii) Reporting of the merits of proceeding to the next stage of Detailed Feasibility Study.

2.2 Feasibility Studies including Conceptual Designs

The activities may include, but not limited to the following;

- (a) Review of the Terms of Reference for the study, discuss with the Client and submit comments, if any, including suggestions for improvement
- (b) Collection and study of all necessary data and information relevant to the study
- (c) Carrying out topographical surveys, site investigations and other investigations appropriate in extent for the study
- (d) Study of feasible alternative proposals
- (e) Preparation of preliminary designs and drawings for selected proposals
- (f) Carrying out Environment Impact Assessment (EIA) studies

- (g) Preparation of cost estimates for selected proposals
- (h) Carrying out economic / financial valuations and determine the viability of alternative proposals
- (i) Comparison of alternative proposals and make recommendations to the Client for selection of preferred alternative
- (j) Study of statutory and local authority requirements and advise the Client to obtain approvals where necessary
- (k) Coordinating the services provided by other consultants

2.3 Detailed Engineering Designs and Preparation of Tender Documents

The activities can include, but not limited to the following;

- (a) Arranging detailed surveys, detailed site investigations and other investigations necessary for the preparation of the detailed designs and drawings
- (b) Preparation of design criteria, design reports, develop detailed designs and tender drawings
- (c) Coordinating of the designs and documentation provided by other consultants
- (d) Preparation of complete tender documentation comprising of Conditions of Contract, Bill of Quantities, Specifications, Drawings and Tender Advertisement, as appropriate
- (e) Preparation of implementation programme for the Project
- (f) Preparation of the Engineer's Estimate

2.3 Procurement

The activities may include, but not limited to the following;

- (a) Advising the Client on appropriate methods and procedures of procurement
- (b) Assisting the Client in prequalification of contractors and invitation of tenders
- (c) Assisting the Client in reviewing and evaluation of tenders received and advising on tenders in negotiating a contract
- (d) Preparation of Contract Documents for signing.

2.5 Contract Administration

The duties assigned to the Consulting Engineer in terms of the contract can include but are not limited to the following;

- (a) Approving the contractor's work programme.
- (b) Reviewing the contractor's work proposals and request for revision if necessary to ensure satisfactory execution and safety of work and personnel.
- (c) Carrying out detailed day to day supervision through a resident Engineer.
- (d) Ensuring testing and quality control for conformity with Specifications and Standards.
- (e) Reviewing the project cost and advice the Client of significant variations.
- (f) Checking measurements and certify interim and final payments.
- (g) Ensuring the preparation and submission of As-built Drawings and Manuals.

- (h) Issuing Taking over Certificate according to the contract on substantial completion of the works.
 - (i) Inspecting the works during the Defect Liability Period and ensure that the contractor attends to all the defects.
 - (j) Inspecting at the end of the Defect Liability Period and Report to the Client.
 - (k) Issuing Defect Liability Certificate when due, as final completion of contract.
 - (l) Advising the Client on final payment of all amounts due to the contractor including release of the retention money and Bonds.
 - (m) Evaluation and preparation of comprehensive reports on all claims made by the contractor to enable the Client to follow up in the event of arbitration and assisting in negotiating claim settlements.
- In addition to the above, the following services of consultancy may include under the Electrical and Mechanical Engineering works:
- (n) Approving "Working" and/or "Shop" drawings and the installation programme.
 - (o) Supervising installations, testing and commissioning of plant and equipment including acceptance of test certificates and reports.
 - (p) Approving Operation and Maintenance Manuals.

2.6 Project Management

The scope of Project Management services provided by a Consulting Engineer can vary depending on the different methods of project implementation such as;

- a) "Engineer" administered contracts
- b) Design and Build contracts
- c) Turnkey Contacts
- d) Coordinating the work of all contractors

2.7 Technical Services

The scope of Technical Services of a Consulting Engineer may include;

- a) Investigating and reporting on the condition of an existing structure/facility and assessment of the strength/stability/suitability for a specific purpose.
- b) Investigating and reporting on damage or collapse of a structure/facility
- c) Investigating and reporting on quality of works
- d) Testing and reporting on a structure or part of a structure
- e) Investigating and reporting on defects and their rectification
- f) Providing expert evidence for litigation & arbitration

2.8 Dispute Resolution Services

A Consulting engineer may as an individual provide his services as a Mediator, an Adjudicator, an Arbitrator, a Dispute Resolution Expert or a member of an Adjudication Board, an Arbitration Board or a Dispute Review Board, provided that such services will not give rise to a conflict of interest with any ongoing assignments he has undertaken. He may be appointed to any one of the above position as set out in the contract. His services shall be

confined to the scope provided under the relevant contract and he shall not tender advice or consultation to either party on matters outside the scope of the dispute resolution.

2.9 Technical Advisory Services

A Consultancy assignment may include Technical Advisory Services of a Consulting Engineer in respect of:

- a) Pre-investment studies
- b) Policy and Strategy
- c) Restructuring, Reorganisation and Institution Building
- d) Capacity Building, Training and Knowledge Transfer
- e) Technical, Operational and Management Advice
- f) Provision of Expert Evidence

3 BASIS OF COMPUTATION OF CONSULTING ENGINEER'S FEE

The fee to a Consulting Engineer should cover all his costs on completion of the scope of services envisaged and a reasonable margin of profit. Such costs include

- (i) Salary costs
- (ii) Social charges and statutory charges
- (iii) Overhead
- (iv) Reimbursable costs.

3.1 Salary Costs

Salary costs include the basic salary and allowances such as cost of living allowances of the technical staff of the Consulting Engineer, deployed on the particular project.

3.2 Social Charges and Statutory Charges

Social Charges include costs incurred by the Consulting Engineer in respect of;

- (i) Employees' Provident Fund
- (ii) Employees' Trust Fund
- (iii) Holiday and sick pay
- (iv) Bonus
- (v) Gratuity benefits
- (vi) Staff Welfare
- (vii) Taxes & other statutory charges
- (viii) Miscellaneous benefits.
- (ix) Taxes & other

3.3 Overhead

Overhead are costs of administering the consultant's organization and include;

- (i) Administration
- (ii) Salaries of non- technical supporting staff
- (iii) Technical supervision

- (iv) Rental of office
- (v) Electricity and water.
- (vi) Stationary, brochures and reproduction of documents
- (vii) Maintenance of plant and equipment
- (viii) Communications (fax, telephone) and postage.
- (ix) Bank charges
- (x) Business promotion
- (xi) Entertainment
- (xii) Foreign travel
- (xiii) Training
- (xiv) Depreciation of plant and equipment
- (xv) Accounting and auditing
- (xvi) Insurance including professional Indemnity Cover
- (xvii) Miscellaneous

3.4 Reimbursable Costs

Reimbursable Costs include costs directly related to the particular assignment such as;

- (i) Travelling
- (ii) Per-diem and out of pocket expenses
- (iii) Communication, postage and courier service charges
- (iv) Electronic data processing
- (v) Printing of reports, Tender documents
- (vi) Maps, photographs, aerial photographs (vii) Site surveys
- (vii) Site investigations, laboratory services, testing charges.
- (viii) Hire charges of plant and equipment
- (ix) Protective wear

3.5 Basis of Computation of Fees

Professional fees for Consulting Engineering Services are calculated according to one of the following basis or a combination thereof.

Basis I: Lump-sum Fee (see Chapter 4)

Basis II: Percentage Fee (see Chapter 5)

Basis III: Time Based Fee(see Chapter 6)

4 FEE BASIS I: LUMP - SUM FEE

4.1 Lump Sum Fee is suitable for scope of services of Categories (2.1), (2.2), (2.3), (2.4), (2.6), (2.7) and (2.8) listed in Section 2.

This is often used for projects that can be easily compared with similar projects and where the scope is known and defined. This basis of fee may be used when the nature of the services to be provided is clearly defined, distinctly identifiable and is unlikely to change significantly. It has the merit of simplicity and is satisfactory when the nature, scope and duration of the assignment is known and fixed.

4.2 Lump - Sum Fee shall include the following;

- (i) Salary Costs
- (ii) Social Charges & statutory charges
- (iii) Overhead
- (iv) Any Direct Costs
- (v) Profit.

4.3 Any other costs shall be paid or reimbursed as agreed with the Client.

4.4 The validity of period of the Lump Sum Fee shall be specified.

5 FEE BASIS II : PERCENTAGE FEE

5.1 In general Percentage fee is suitable for scope of services of categories (2.3) and (2.4) listed in section 2.

On projects involving normal services with a well-defined scope of services, it is accepted practice to calculate the fees for Consulting Engineer's services on the basis of a percentage of the cost of the work for which the Consulting Engineer is responsible.

Percentage fee for service under categories (2.3) and (2.4) may be read from the shaded area in Fig. 1 and the total fee is calculated by multiplying the applicable project cost by the percentage fee.[#]

Note 1

5.2 In projects consisting of more than one of the following groups of services:

- (i) Civil Engineering
- (ii) Electrical Engineering
- (iii) Mechanical Engineering,

the total fee for the project shall be determined from Fig.1 but calculated as if each of the group is a separate work; that is fee shall be calculated for each of the group of works by applying their Percentage fees to individual costs and then summing up the individual fee components to arrive at the total fee for the project.

5.3 Percentage fee shall be negotiated with the Client for Projects costing less than Rs. 10 million. #^{Note 2}.

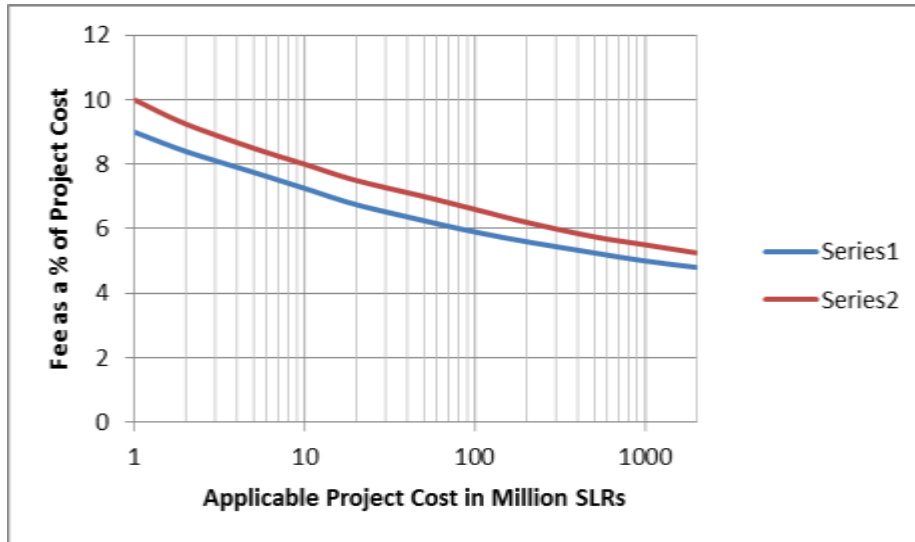


Fig. 1. Consultancy Fee as Percentage of Project Cost (Courtesy: Association of Consulting Engineers, Sri Lanka (ACESL))

Note 1: Curves in dotted lines show the upper and lower ranges suggested by ACESL in June 2005.

Note 2: Limiting value of Applicable Project Cost for Percentage Fee negotiation

suggested by ACESL is Rs. 5.0 Million. Here it is taken as Rs. 10.0 Million.

5.4 The 'Applicable Project Cost' in Fig 1 shall be deemed to include all costs incurred / to be incurred by the Client for execution of the project, except the following:

- (i) Payment to the Consulting Engineer
- (ii) Interest on capital during construction, cost of raising capital for the project, and margin money for working capital and
- (iii) Cost of Land.

6 FEE BASIS III : TIME BASED FEE

6.1 This is suitable for scope of work in all categories Particularly for large projects, also this basis is applicable when:

- (i) The extent and duration of the service to be provided by the Consulting Engineer is difficult to foresee at the time of appointment,
or
- (ii) The scope of services is not clearly defined or likely to change substantially,
or

- (iii) The time likely to be devoted by the Consulting Engineer bears little relation to the value of the project,
or
- (iv) In very small projects where it is more appropriate to compensate the Consulting Engineer for services rendered on the basis of hourly rates,
or
- (v) The work is of an unusual or specialised nature.

6.2 Under this fee basis the Client shall pay the Consulting Engineer the sum of the following.

- (i) Basic Salary of the technical staff of the Consulting Engineer deployed on the particular project.
 - (ii) Social Charges as given in 3.2
 - (iii) Overhead as given in 3.3.
 - (iv) Reimbursable costs as given in 3.4
 - (v) Profit
- The fixed percentage of Fee (profits) of the Consulting Engineer varies from 10% to 20% of the sum of Basic Salary + Social charges + Overhead.

6.3 Man-month Rate

The Man-month rate comprises of:

- (i) Basic Salary
- (ii) Social charges expressed as a percentage of Basic Salary
- (iii) Overhead expressed as a percentage of Basic Salary
- (iv) Fee expressed as a percentage of (i) + (ii) + (iii).

6.4 Multiplier

The ratio of Man-month rate (sum of (i), (ii), (iii), and (iv) in section 6.3 above) to Basic monthly salary called the multiplier, normally ranges from 2 -3 for full time employees of the Consulting Engineer and 1.1- 1.5 for other employees engaged for the assignment. However, slightly higher Multiplier may be permitted by clients when the Basic monthly salary is particularly low.

6.5 Indicative Man-month Rates

A range of indicative man-month rates for design office and construction supervision is given in Table 1.

Table 1. Indicative Man month Rates

Proposed IESL Consultancy Fee- 2018				
Designation	Minimum Years of Experience	Man-month rate (SLR)		
Partner/Director	20	340,000	~	400,000
Chief Engineer	15	280,000	~	340,000
Dy. Chief Engineer	10	220,000	~	280,000
Senior Engineer	5	160,000	~	220,000
Junior Engineer	2	120,000	~	160,000
Senior Technical Officer	15	90,000	~	120,000
Junior Technical Officer	5	60,000	~	90,000
Senior Draftsman	10	60,000	~	60,000
Junior Draftsman	5	40,000	~	60,000

6.6 Man-hour Rates

When the time spent by technical personnel is of short duration, generally fractions of a day at a stretch, the time is reckoned in Man hours. The hourly rate is calculated as follows:

$$\text{Hourly rate} = \text{Monthly rate} / 22 * 8 * 2$$

Here, 22 being the average number of working days for a month, 8 being the number of working hours per day and 2 a multiplier on account of the short duration of service.

The Man-hour rate method is recommended for assignment such as:

- (i) Consultants
- (ii) Advisory Services
- (iii) Part time Services
- (iv) Time spent on behalf of the Client
- (v) Inspection of materials and equipments
- (vi) Site Inspections.

6.7 Fee for a fraction of a month

For the period of services rendered less than a full month, payments shall be made pro rata basis considering a month of 22 days. No deduction shall be made in calculating a month for weekly off day and public holidays observed by the Client.

6.8 Travelling Time

Time spent on travelling under Fee Basis III shall be half the time counted from time the technical personnel of the Consulting Engineer leave the office till his return to the office, it being understood that a day shall consist of maximum 8 working hours.

7. GENERAL PROVISIONS

7.1 Adjustments of Fees

The fees shall be adjusted every year according to the following adjustment formula:

$$F_n = F_o * I_n / I_o$$

Where,

F_n = Adjusted fee n years after commencement of services

F_o = Original fee

I_o = Colombo Consumer Price Index published by the Central Bank of Sri Lanka.

I_n = Colombo Consumer Price Index published by the Central Bank of Sri Lanka n years after commencement of services.

7.2 Repetitive Works

For works comprising wholly or partly of work items which are repetitive in character such as a number of identical buildings, structures or facilities of same capacity and identical design, the following formula may be used to determine the fee for such portions of repetitive work.

$$F_n = F_1 * (n+5) / (6n)$$

Where,

F_1 = fee for the first item of the same design

F_n = Fee for the nth item of the same design n

n = number of items of the same design.

For works where a major portion is of similar character, such as pipe laying or road works where standard designs and drawings are adaptable, a factor to be applied to the normal design stage fee for such repetitive portion of the work may be negotiated, based on the extent of repetitive work involved.

7.3 Prolongation of Service Period

For Fee Basis I and II, where the period over which the Consultant's services are to be provided is prolonged beyond the period originally envisaged by the parties for completing the services, and the Consultant is not responsible for such prolongation, the Consultant shall be entitled to the extra cost due to such prolongation.

7.4 Facilities to Personnel of the Consulting Engineer

For construction supervision, contract administration and initial operation and commissioning services performed at the project site, or any other location away from the place of normal work of the Consulting Engineer, the client shall provide free of cost the following facilities to such personnel of the Consulting Engineer.

- (i) Furnished accommodation equipped with drinking water, electricity and telephone.
- (ii) Medical facilities and other civic amenities as available to Client's personnel.
- (iii) Furnished office accommodation equipped with drinking water, electricity, telephone and other office equipment
- (iv) Secretarial facilities.
- (v) Transport facilities

Note : In case the Consulting Engineer is required to provide for items (iv) and (v) above, the actual cost shall be reimbursed by the client to the Consulting Engineer in addition to the fees.

8 TERMS OF PAYMENTS

8.1 The fees under Fee Basis I and II shall be paid in the following manner;

- (i) 20% of the fee shall be paid upon issue of Letter of Intent by the client towards initial expenses.
- (ii) 70% of the fees shall be paid in equal monthly installments over a period which depends on the duration of services by the consulting engineer, commensurate with the progress.
- (iii) 10% of the fees shall be paid on successful completion of the assignment by the Consulting Engineer.
- (iv) Reimbursable costs shall be paid on monthly basis.

8.2 The fees under Fee Basis III and IV shall be paid in the following manner;

- (i) 20% of the fee shall be paid upon issue of Letter of Intent by the client towards initial expenses. This amount shall be recovered in installments from the subsequent monthly payments.
- (ii) Monthly invoices shall be drawn by the Consultant based on man months spent by the personnel, up to 90% of the fees.
- (iii) 10% of the fees shall be paid on successful completion of the assignment by the Consulting Engineer.
- (iv) Reimbursable costs shall be paid on monthly basis.

8.3 For Pre-feasibility Studies and Feasibility Studies, fees shall be paid in the following manner:

- (i) 20% - On issue of Letter of Intent by the Client
- (ii) 50% - Interim payment as mutually agreed
- (iii) 10% - On submission of Draft Final Report
- (iv) 20% - On submission of Final Report

8.4 Payments shall be made within 30 calendar days of the presentation of the invoices and the Consulting Engineer shall be entitled to recover interest on sums not paid within 30 calendar days. The applicable rate of interest shall be 2 over the Average Weighted Prime Lending Rate (AWPLR) of commercial banks.

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