
GOVERNMENT NOTICE

DEPARTMENT OF COMMUNITY DEVELOPMENT

No. R. 1113

11 June 1982

PROFESSIONAL ENGINEERS' ACT, 1968 (ACT 81 OF 1968)

NOTICE IN TERMS OF SECTION 7 (6).—TARIFF OF FEES FOR PROFESSIONAL ENGINEERS

In terms of section 7(6) of the Professional Engineers' Act, 1968 (Act 81 of 1968), I Stephanus Francois Kotzé, Minister of Community Development, hereby make known that, after consideration and approval of a relevant recommendation of the South African Council for Professional Engineers, I have, in terms of section 7(3)(b) of the said Act, made the provisions as set out in the Schedule hereto.

These provisions shall come into operation on the date of publication of this notice.

Any work performed in respect of any project to which the Schedule refers in whole or in part, prior to the date of publication of this notice shall be charged for on the basis as agreed upon prior to the aforementioned date. Any work still to be performed in respect of any such project referred to above after the date of publication of this notice may be charged for on the basis of the provisions as set out in the Schedule.

Any deviation from the provisions as set out in the Schedule shall be subject to regulation 10.17 of the Regulations made in terms of section 26 of the said Act as published in Government Notice R.1527 of 17 July 1981 (as amended by Government Notices R. 1782 of 21 August 1981 and R. 2199 of 16 October 1981), and paragraphs 5.2.2 or 6.3 or 7.2.2 or 8.3 of the provisions made in terms of section 31 (1) of the said Act as published in Government Notice R.1142 of 29 May 1981.

SCHEDULE

TARIFF OF FEES ACCORDING TO WHICH A PROFESSIONAL ENGINEER MAY CALCULATE THE AMOUNT CHARGEABLE BY HIM IN RESPECT OF PROFESSIONAL SERVICES: CIVIL, STRUCTURAL, MECHANICAL AND ELECTRICAL ENGINEERING

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1. GENERAL

1.1 In this Schedule, unless inconsistent with the context, an expression or word to which a meaning has been assigned in the Professional Engineers' Act, 1968 (Act 81 of 1968), shall bear the same meaning, and

“**client**” means any person or body corporate engaging a professional engineer in private professional consulting practice to perform on his behalf the services set for in regulations 2, 3 or 4;

“**contractor**” means any person or body corporate under contract to a client to perform engineering works or part thereof and includes any sub-contractor to whom any part of the works has been sublet by a contractor;

“**project**” means a building or scheme for all or part of which the professional engineer is commissioned;

“**stage**” means the report stage, the preliminary design stage, the design and tender stage, or the construction stage of the services to be performed by the professional engineer as described in regulations 2.1.1, 3.1.1 and 4.1.1;

“**works**” or “engineering works” means that part of a project for which the professional engineer is responsible.

1.2 The services covered by the fees which are chargeable in terms of this Schedule are set out—

1.2.1 in regulation 2.1, in respect of all engineering services for Civil, Structural, Mechanical and Electrical projects:

1.2.2 in regulation 3. , in respect of structural and civil engineering services pertaining to building projects; and

1.2.3 in regulation 4.1, in respect of mechanical and electrical engineering services pertaining to building projects.

1.3 Where the fees chargeable in terms of this Schedule are to be calculated on the cost of the works, the cost of the works shall be determined as in regulations 2.2.3, 3.2.3 and 4.2.3.

1.4 Where the services of the professional engineer are of normal character the fee stated in regulations 2.3.1, 3.3. and 4.3.1 shall apply.

1.5 where the services of the professional engineer are of such a nature that the demands on him are unusually high the fee stated in regulations 2.3.1, 3.3.1 and 4.3.1 or the portion of such fee corresponding to the cost of such part of the works, as the case may be, may be increased as provided in regulations 2.3.2.1.5, 3.3.2.1.1.3 and 4.3.2.1.5. The causes of the demands on the professional engineer being unusually high are not limited to the following but include the following:

1.5.1 Where the works call for the application of new, unusual or untried techniques, alteration to existing works, incorporation of second-hand plant, design or application of complex control circuits, systems or processes or excessive complexity of the whole or part of the works or of individual elements each requiring original design:

1.5.2 where the works comprise substantial portions of dissimilar types of services such that the joint detailed attention of professional engineers of distinctly different expertise is required;

1.5.3 where the works being undertaken are on separate non-contiguous sites, even if such works form part of one overall appointment;

1.5.4 when, with the agreement or at the request of the client, the continuity of the works is interrupted or the works are fragmented by being constructed in separately documented phases or sections.

- 1.6 Where the services of the professional engineer are of such a nature that the demands on him are unusually low the fee stated in regulations 2.3.1, 3.3.1 and 4.3.1 or the portion of such fee corresponding to the cost of such part of the works, as the case may be, may be decreased as provided in regulations 2.3.2.2, 3.3.2.2 and 4.3.2.2.
- 1.7 Where the services of the professional engineer are of such a nature that a percentage or other stated fee is inappropriate, a fee shall be chargeable on a time basis as set out in regulations 2.3.4, 3.3.4 and 4.3.4; Provided that where the fee on a time basis, or the prescribed tariff, would be inadequate in relation to the services rendered by the professional engineer, an appropriate special fee may be negotiated between the professional engineer and his client.
- 1.8 The following costs incurred by a professional engineer in the execution of his commission are of a reimbursive nature and are refundable to the professional engineer over and above the aforementioned fees as rates as agreed with the client:
 - 1.8.1 Printing, copying, acquisition of all documents, records, drawings or maps;
 - 1.8.2 legal, architectural or other specialist advice obtained on behalf of the client with his consent;
 - 1.8.3 surveys, model tests, site of foundation or special investigations or laboratory tests and analyses carried out on behalf of the client and with his consent;
 - 1.8.4 special cablegrams, telegrams, telex charges, telephone calls and postage on drawings and documents as agreed with the client;
 - 1.8.5 traveling costs reasonably incurred by the professional engineer and his staff in performing their services;
 - 1.8.6 accommodation and subsistence costs reasonably and properly incurred by the professional engineer and members of his staff;
 - 1.8.7 advertising on behalf of the client;
 - 1.8.8 special insurance taken out with the client's consent;
 - 1.8.9 computer costs incurred where the fee is charged on a time basis;
 - 1.8.10 scrutiny, inspection, application and other formal charges raised by competent authorities;
 - 1.8.11 the cost of providing site staff appointed in terms of regulations 2.1.2.1, 3.1.2.1 and 4.1.2.1.

2. ENGINEERING SERVICES FOR CIVIL, STRUCTURAL, MECHANICAL AND ELECTRICAL PROJECTS.

2.1 SERVICES TO BE PERFORMED BY THE PROFESSIONAL ENGINEER.

2.1.1 NORMAL SERVICES.

The normal services to be performed by the professional engineer are:

2.1.1.1 REPORT STAGE.

The preparation and submission of a report embodying preliminary proposals or feasibility studies and estimates of cost for consideration by the client, including, as may be necessary:—

2.1.1.1.1 consultation with the client or his authorised representatives;

2.1.1.1.2 inspection of the site of the works;

2.1.1.1.3 preliminary investigation, route location, planning and design where any of these are required for determination of feasibility:

2.1.1.1.4 consultation with authorities having rights or powers of sanction:

2.1.1.1.5 advice to the client as to the need for surveys, analyses, tests and site or other investigations where such are required for the completion of the report and arranging for these to be carried out at the client's expense;

2.1.1.1.6 investigation and collation of available data, drawings and plans relating to the works:

2.1.1.1.7 investigations, as may be required, of financial implications in relation to the proposals.

2.1.1.2 PRELIMINARY DESIGN STAGE.

The development of preliminary proposals or the basic planning of the works, as may be required by the client, including, as may be necessary—

2.1.1.2.1 submission of a basic planning report if required by the client:

2.1.1.2.2 advice to the client as to the need for any further surveys, analyses, tests and site or other investigations which may be required and arranging for these to be carried out at the client's expense;

2.1.1.2.3 advice to the client, as may be necessary, upon the appointment and delineation of the services of other professional engineers, architects and specialist advisers and arranging such appointments and consultations with such advisers in matters affecting the works:

2.1.1.2.4 design of any process or system or refinement of the preliminary process design, where such process design is a prerequisite to the design of the works;

2.1.1.2.5 preparation of preliminary plans, drawings and estimates required for seeking the approval of statutory authorities:

2.1.1.2.6 consultation on technical matters with authorities and interested parties other than those having rights or powers of sanction;

2.1.1.2.7 making modifications to the preliminary design of the works dictated by or in connection with the aforesaid consultations.

2.1.1.3 DESIGN AND TENDER STAGE.

The preparation of all documents necessary to enable the works to be tendered for or otherwise placed by the client, including, as may be necessary—

2.1.1.3.1 advice to the client as to the necessity for setting out or staking out the works and arranging for such to

be carried out at the client's expense;

2.1.1.3.2 preparation of designs, drawings, specifications and engineering schedules of quantities;

2.1.1.3.3 drafting or adapting invitations to tender, tender conditions, forms of tender and conditions of contract:

2.1.1.3.4 analyses of tenders and submission of recommendations on the acceptance of tenders and estimates of the cost of the works.

2.1.1.4 CONSTRUCTION STAGE.

The general administration and other services in connection with the carrying out of the works, including, as may be necessary-

2.1.1.4.1 placing orders for the works on behalf of the client:

2.1.1.4.2 advice to the client as to the preparation of the contract documents or preparation of the contract documents;

2.1.1.4.3 advice to the client as to the appointment of site staff in accordance with regulation 2.1.2.1;

2.1.1.4.4 preparation of any further plans, designs and drawings, excluding shop details, which may be necessary for the carrying out of the works, but including bending schedules in the case of reinforced concrete work:

2.1.1.4.5 checking contractors' drawings of structures, plant, equipment and systems for the permanent works for conformity with design requirements excluding detailed checking of manufacture and installation details for erection or installation fit;

2.1.1.4.6 advice to the client on alternative design and tenders but excluding detailed inspection, review and checking of alternative designs and drawings prepared by the professional engineer and submitted any contractor or potential contractor;

2.1.1.4.7 issuing instructions to contractors, coordinating and generally inspecting the execution of the works for compliance with the contract at such intervals as the professional engineer may deem necessary, directing site staff but excluding detailed and day-to-day inspection of the works and site administration as provided for under regulation 2.1.2.1;

2.1.1.4.8 issuing certificates for payment to Contractors and agreeing final quantities with contractors where site staff are engaged, but excluding measurements of the site;

2.1.1.4.9 deciding in disputes or differences that may arise between the client and the contractors except where mediation, arbitration and litigation;

2.1.1.4.10 issuing variation orders;

2.1.1.4.11 advice to the client regarding the inspect and testing of such materials and plant as are usually inspected and tested and arranging for such inspection and testing to be carried out at the client's expense

2.1.1.4.12 arranging for the carrying out and with.... sing of performance or acceptance tests at site;

2.1.1.4.13 making arrangements on behalf of the client for the provision and reproduction of such drawings and documents as may be required by contract and site staff for the execution of the works;

2.1.1.4.14 making arrangements to provide the client on completion of the works, with such record drawing and manuals as may be required for the operation and maintenance of the works and preparing such

documents as may be necessary to co-ordinate the drawings and manuals provided.

2.1.2 ADDITIONAL SERVICES.

Services in connection with the items listed below are additional to the normal services of the professional engineer, who shall obtain the approval of the client for such services to be carried out:

2.1.2.1 PROVISION OF SITE STAFF.

2.1.2.1.1 Should the client require the professional engineer charged with the services in regulation 2.1.1.4 so do, the professional engineer shall appoint such competent site staff as is necessary for the efficient checking of setting out, day-to-day inspection of construction of the work and measuring up of work on site and agreeing quantities with the contractors' representatives.

2.1.2.1.2 Where adequate site staff are not appointed the professional engineer shall provide such additional service as are necessary for carrying out the functions description regulation 2.1.2.1.1 subject to the approval of the client.

2.1.2.2 LEADER OF THE PROFESSIONAL TEAM.

Should the client require the professional engineer to assume the leadership of a team which may include other professional engineers, architects or technical advisers, the additional services shall include the following;

2.1.2.2.1 Responsibility for the overall administration of all sections of the project including those which fall within the ambit of the other professional advisers in the team;

2.1.2.2.2 responsibility for the overall co-ordination, programming of design and financial control of the project;

2.1.2.2.3 approval of certificates for payment to contractors issued by the other professional advisers in the team, prior to their presentation to the client, for settlement.

2.1.2.3 MEDIATION, ARBITRATION AND LITIGATION PROCEEDINGS AND SIMILAR SERVICES.

Where the client instructs the professional engineer to undertake the services listed below, the extent thereof shall be subject to agreement between the two parties:

2.1.2.3.1 Dealing with Water Court matters, Water Law matters, obtaining Parliamentary or other statutory approval, licences or permits;

2.1.2.3.2 assisting with contemplated or actual mediation, arbitration or litigation proceedings;

2.1.2.3.3 officiating at or attending courts and commissions of inquiry, select committees and similar bodies convened by statute, regulation or decree.

2.1.2.4 DIVERSE ADDITIONAL SERVICES.

2.1.2.4.1 Enquiries not directly concerned with the design, documentation and inspection of the execution of the works.

2.1.2.4.2 Valuation for purchase, sale or leasing of plant, equipment, material, systems, land or buildings or arranging for such valuation.

2.1.2.4.3 Making arrangements for wayleaves, servitudes or expropriations.

- 2.1.2.4.4 Negotiating and arranging for the provision or diversion of utility services not forming part of the works.
- 2.1.2.4.5 Making such revisions as may be required to obtain the formal approval of the appropriate Government Departments or public authorities, resulting from decisions of such departments or authorities arising out of changes in policy and other causes beyond the professional engineer's control.
- 2.1.2.4.6 Surveys, analyses, tests and site or foundation or other investigations, model tests, laboratory tests and analyses carried out on behalf of the client and the carrying out of performance or acceptance tests at site in accordance with regulations 2.1.1.1.5, 2.1.1.2.2 and 2.1.1.4.12.
- 2.1.2.4.7 Setting out or staking out the works in accordance with regulation 2.1.1.3.1.
- 2.1.2.4.8 Preparation or detailed checking of manufacture and installation details for erection fit.
- 2.1.2.4.9 Detailed inspection, reviewing and checking of designs and drawings not prepared by the professional engineer and submitted by any contractor or potential contractor as alternative to those embodied in tender or similar documents prepared by the professional engineer.
- 2.1.2.4.10 Preparing and setting out particulars and calculations in a form required by any appropriate authority differing from that required by the client.
- 2.1.2.4.11 Services which give rise to abnormal additional costs for the professional engineer, including:
 - 2.1.2.4.11.1 services arising from the failure of any contractor to perform his contract;
 - 2.1.2.4.11.2 services performed by the professional engineer which it is customarily or contractually incumbent upon the contractor to perform, whether by virtue of special contractual provisions relieving the contractor of customary obligations or in consequence of the contractor's failure to meet contractual obligations;
 - 2.1.2.4.11.3 services performed by the professional engineer in determining any remedial measure, making any additional or more extended site visits or resolving any disputes which are the direct and necessary consequence of any failure by the contractor to comply with any specifications, drawings, procedures, construction programmes, timetable or due completion date with which he is required to comply in terms of the contract.
- 2.1.2.4.12 Executing or arranging for the periodic monitoring and adjustment of the works in order to optimise or maintain the proper functioning of any process or system.
- 2.1.2.4.13 Investigating or reporting upon tariffs or charges leviable by the client.
- 2.1.2.4.14 Advance ordering or reservation of materials, the obtaining of licences and permits and the checking of actual labour, plant and material returns for the purpose of contract price establishment or adjustment.
- 2.1.2.4.15 Inspection and testing (other than on site of materials and plant, including inspection and works testing during and after manufacture.
- 2.1.2.4.16 Additional services as defined in - regulation 2.1.2.1.2 - site staff not appointed:
 - regulation 2.2.4 - damage to or destruction of the works;
 - regulation 2.2.5 – postponement, cancellation or abandonment of the works;
 - regulation 2.2.6 - alterations or modifications to design.

2.1.2.4.17 Any additional services of whatever nature other than those specifically referred to in regulation 2.1.2.

2.2 REMUNERATION AND BASIS OF PAYMENT OF THE PROFESSIONAL ENGINEER IN RESPECT OF ENGINEERING SERVICES FOR CIVIL, STRUCTURAL, MECHANICAL AND ELECTRICAL PROJECTS.

2.2.1 REMUNERATION.

2.2.1.1 FULL NORMAL SERVICES.

The remuneration of the professional engineer for the normal services performed by him under regulation 2.1.1 shall be as follows:

2.2.1.1.1 REPORT STAGE - REGULATION 2.1.1.1.

The fee shall be calculated on a time basis at the rates set out in regulation 2.3.4 and shall become due to the professional engineer, unless otherwise agreed, on the submission of the preliminary proposals or feasibility studies to the client.

2.2.1.1.2 SUBSEQUENT STAGES - REGULATIONS 2.1.1.2, 2.1.1.3 AND 2.1.1.4.

Subject to regulation 2.2.1.2, the fee shall be calculated on the basis and in the manner set out in regulations 2.3.1 and 2.3.2 and shall, unless otherwise agreed, become due to the professional engineer as follows:

2.2.1.1.2.1 PRELIMINARY DESIGN STAGE - REGULATION 2.1.1.2.

Twenty per cent of the fee when the developed proposals for the construction of the works have been prepared and submitted to the client, subject to the professional engineer allowing an appropriate credit for the value of such design work related to the accepted proposals and carried out under regulation 2.1.1.1, and which can be or are utilised in the development of the preliminary proposals.

2.2.1.1.2.2 DESIGN AND TENDER STAGE - REGULATION 2.1.1.3.

A further 40 per cent of the fee when the drawings and other documents necessary to enable the works to be tendered for or otherwise placed by the client have been prepared and submitted to the client: Provided that if the professional engineer shall have prepared such drawings and documents as part of the development of the preliminary proposals, the fee under regulation 2.2.1.1.2.1 shall be increased to 50 per cent and the fee under regulation 2.2.1.1.2.2 shall be reduced to 10 per cent.

2.2.1.1.2.3 CONSTRUCTION STAGE - REGULATION 2.1.1.4

2.2.1.1.2.3.1 CIVIL AND STRUCTURAL.

A further 15 per cent (or *pro rata*) of the fee on completion of working drawings: Provided that if the professional engineer has prepared all or some such working drawings as part of the tender documents or prior to the placing of the works, then all or the appropriate portion of the fee, as may be applicable under regulation 2.2.1.1.2.3, shall be added to the fee under regulation 2.2.1.1.2.2 and deducted from the fee under regulation 2.2.1.1.2.3: the remaining 25 per cent of the fee as and when the construction or installation work proceeds in proportion to the cost of the works completed.

2.2.1.1.2.3.2 MECHANICAL AND ELECTRICAL.

The remaining 40 per cent of the fee as and when the construction or installation work proceeds in proportion to the cost of the works completed.

2.2.1.2 PARTIAL NORMAL SERVICES.

Where the professional engineer is appointed to perform services not constituting all the stages set out in regulations 2.1.1.1, 2.1.1.2, 2.1.1.3 and 2.1.1.4, the fee shall be apportioned as follows:

2.2.1.2.1 Preliminary design stage only - 30 per cent of the fee subject or an appropriate credit as set out in regulation 2.2.1.1.2.1

2.2.1.2.2 preliminary design stage and the design and tender stage only:

2.2.1.2.2.1 Civil and structural excluding completion of working drawings - 70 per cent of the fee subject to an appropriate credit as set out in regulation 2.2.1.1.2.1

2.2.1.2.2.2 Civil and structural including completion of working drawings - 85 per cent of the fee subject to an appropriate credit as set out in regulation 2.2.1.1.2.1

2.2.1.2.2.3 Civil and structural including completion of working drawings, reinforcing details and bending schedules and structural steel drawings excluding shop details - 100 per cent of the additional fee prescribed in terms of regulations 2.3.1.1.2, 2.3.1.1.3 and 2.3.1.1.4, together with 85 per cent of the basic fee as set out in regulation 2.3.1.1.1.

2.2.1.2.2.4 Mechanical and electrical - 70 per cent of the fee subject to an appropriate credit as set out in regulation 2.2.1.1.2.1;

2.2.1.2.3 construction stage only, but excluding the preparation of any working drawings:

2.2.1.2.3.1 Civil and structural - 35 per cent of the fee.

2.2.1.2.3.2 Mechanical and electrical - 50 per cent of the fee.

2.2.1.3 ADDITIONAL SERVICES

The fee or charge for additional services carried out under regulation 2.1.2 shall be as follows:

2.2.1.3.1 PROVISION OF SITE STAFF.

The charge for the additional services performed by the professional engineer in providing site staff in terms of regulation 2.1.2.1.1 shall be in accordance with regulation 2.3.3.1

2.2.1.3.2 LEADER OF THE PROFESSIONAL TEAM.

The fee for the additional services performed by the professional engineer as leader of the professional team under regulation 2.1.2.2 shall be in accordance with regulation 2.3.3.2, apportioned as for normal services under regulation 2.2.1.1.

2.2.1.3.3 MEDIATION, ARBITRATION AND LITIGATION PROCEEDINGS AND SIMILAR SERVICES.

The fee for the services performed by the professional engineer under regulation 2.1.2.3 shall be calculated on a time basis as set out in regulation 2.3.3.3.

2.2.1.3.4 DIVERSE ADDITIONAL SERVICES.

The fee for diverse additional services performed by the professional engineer under regulation 2.1.2.4 shall be calculated on a time basis as set out in regulation 2.3.4.

2.2.1.3.5 SITE STAFF NOT APPOINTED.

Where adequate site staff are not appointed the professional engineer shall charge for the necessary additional services rendered by himself or his staff and for site visits additional to those referred to in regulation 2.1.1.4.7 on a time basis as set out in regulation 2.3.4, or as agreed with the client.

2.2.2 INTERIM PAYMENTS TO THE PROFESSIONAL ENGINEER.

2.2.2.1 For the purpose of ascertaining the interim payments due under regulation 2.2.1.1.2, the cost of the engineering works, which shall exclude any provisional allowances made to cover contingencies and escalation, shall

2.2.2.1.1 the net amount of the accepted tender: or

2.2.2.1.2 if no tender is accepted the net amount of the lowest suitable tender or

2.2.2.1.3 if the contract is awarded by negotiation the negotiated price: or

2.2.2.1.4 if no tenders are invited or if no suitable tenders are received or if no negotiation is concluded, the mutually agreed estimate.

2.2.2.2 Such interim payments shall rank solely towards the total fee ultimately payable, which shall be calculated on the final cost of the works as defined in regulation

2.2.3 COST OF THE ENGINEERING WORKS.

2.2.3.1 For the purpose of calculating the total fee ultimately payable in terms of regulation 2.2.2.2, the cost of the works or any part thereof shall be the cost of the works designed, specified or administered by the professional engineer, calculated as follows:

2.2.3.1.1 The amount certified for payment to contractors in respect of the works, before deduction of liquidated damages or penalties (if any);

2.2.3.1.2 where the client provides labour, tools, construction plant or materials, manufactured goods or machinery for incorporation in the works, a direct and fair valuation based on normal charges by contractors for similar items including depreciation, waste and repairs, overheads and profit; and

2.2.3.1.3 a fair valuation to be agreed of the difference between the cost price of any second-hand materials, manufactured goods and machinery incorporated in the works and the market value of such materials, manufactured goods and machinery as though they were purchased new.

2.2.3.2 The cost of the works shall include the cost of any exploratory drilling, test piling, soil resistivity measurement, excavation of shafts, adits, etc., for which the professional engineer is required to prepare contract documents and which he is required to inspect or administer.

2.2.3.3 Where the works for which the professional engineer is responsible are carried out as a portion of the contract, whether by subcontract or otherwise, the cost of the works shall also include a fair proportion of the contractors preliminary and general charges.

2.2.3.4 The cost of the works shall not include-

- 2.2.3.4.1 administrative expenses incurred by the client;
 - 2.2.3.4.2 professional fees and disbursements;
 - 2.2.3.4.3 cost of surveys:
 - 2.2.3.4.4 salaries, traveling, out-of-pocket and office expenses of site staff;
 - 2.2.3.4.5 finance costs and charges incurred by the client;
 - 2.2.3.4.6 cost of land, servitudes and wayleaves.
- 2.2.3.5 Notwithstanding the provisions of regulation 2.2.3.1 where any contract provides that payment to contractors shall be increased or decreased during the currency of the contract in accordance with any fluctuation in the actual cost of specified items or in prescribed indices, the value of such increases or decreases in cost, as the case may be, shall be brought into account in determining the cost of the works for purposes of calculating the total fee ultimately payable in the following manner:
- 2.2.3.5.1 In respect of that portion of the total fee becoming due during the construction stage in accordance with regulation 2.2.1.1.2.3 the total of the increases or decreases in cost actually certified for payment in terms of the contracts;
 - 2.2.3.5.2 in respect of that portion of the fee becoming due prior to the construction stage in accordance with regulations 2.2.1.1.2.1 and 2.2.1.1.2.2 and, where applicable, in respect of any working drawings completed prior to the placing of the works as provided in regulation 2.2.1.1.2.3, the total of the increases or decreases in cost actually certified for payment with a maximum of 10 per cent of the original contract amount, excluding contingencies.

2.2.4 DAMAGE TO OR DESTRUCTION OF THE WORKS.

If, at any time before the completion of the works, any part of the works or of the equipment therefore is damaged or destroyed by operation of war, fire, storm, flood or other cause beyond the control of the professional engineer, the client shall pay to the professional engineer the appropriate fee for any additional services which may be required of him including design, inspection and administration as a result of such damage or destruction.

2.2.5 POSTPONEMENT, CANCELLATION OR ABANDONMENT OF THE WORKS.

- 2.2.5.1 If, instructions having been given by the client to the professional engineer to proceed with any of the stages referred to in regulations 2.1.1.2, 2.1.1.3 and 2.1.1.4, the whole or any part of the works is postponed, cancelled or abandoned, the payment to be made to the professional engineer for services performed in respect of that part of the works so postponed, cancelled or abandoned, shall be determined in accordance with regulation 2.2.1.1.2, plus a surcharge of one tenth, and in accordance with such other regulations as may be applicable, in proportion to the services performed prior to the works being postponed, cancelled or abandoned.
- 2.2.5.2 If, within two years, the postponed works or any part thereof shall again proceed, the payment defined in regulation 2.2.5.1 shall be final for the services already performed and payment for subsequent services shall be separately determined in accordance with the relevant provisions of this Schedule.
- 2.2.5.3 Should additional services by the professional engineer be required in connection with resumption of the postponed works, the professional engineer shall charge for such additional services on a time basis as set out in regulation 2.3.4.

2.2.5.4 In the event of the works, or any part thereof, being postponed for a period longer than two years, such works shall be considered as having been abandoned.

2.2.5.5 For the purpose of regulation 2.2.5 the cost of the works shall be the mutually agreed estimate of the cost of the relevant part of the works completed at the time of its postponement, cancellation or abandonment.

2.2.6 ALTERATIONS OR MODIFICATIONS TO DESIGNS.

In the event of circumstances arising which could not have been reasonably foreseen by the professional engineer or in the event of the client modifying the design require-merits and thus necessitating alterations to completed designs or alterations to designs in progress and which also require the alteration or remaking of any specification, drawing or other document prepared in whole or in part by the professional engineer, the whole of the cost of revising, amending or reproducing such designs, drawings or documents to bring the work up to the stage at which it was modified shall be the subject of additional payment calculated on a time basis as set out in regulation 2.3.4: Provided that the professional engineer shall inform the client in respect of additional costs which may be incurred by way of fees.

2.3 TARIFF OF FEES FOR ENGINEERING SERVICES FOR CIVIL, STRUCTURAL, MECHANICAL AND ELECTRICAL PROJECTS

2.3.1 SERVICES OF NORMAL CHARACTER.

In respect of works making normal demands on the time of the professional engineer, the fee shall be as provided in regulations 2.3.1.1, 2.3.1.2 and 2.3.1.3.

2.3.1.1 CIVIL AND STRUCTURAL ENGINEERING SERVICES.

2.3.1.1.1 BASIC FEE.

Where the cost of the works		The fee shall be the sum of the primary fee stated in column 3 and the secondary fee calculated in terms of column 4	
exceeds—	but does not exceed—	Primary fee	Secondary fee: Calculated on the total cost of the works at the following percentages
(column 1)	(column 2)	(column 3)	(column 4)
R	R	R	%
-	60 000	200	10.00
60 000	100 000	800	9.00
100 000	150 000	1 300	8.50
150 000	250 000	2 050	8.00
250 000	400 000	3 300	7.50
400 000	600 000	5 300	7.00
600 000	1 000 000	8 300	6.50
1 000 000	1 500 000	13 300	6.00
1 500 000	3 000 000	20 800	5.50
3 000 000	5 000 000	35 800	5.00
5 000 000	7 000 000	60 800	4.50
7 000 000	12 000 000	78 300	4.25
12 000 000	-	108 300	4.00

2.3.1.1.2 ADDITIONAL FEE FOR REINFORCED CONCRETE PORTION OF THE WORKS.

The additional fee for the reinforced concrete portion of the works, including the concrete, reinforcement and form-work, which involves structural design on the part of the professional engineer, together with the relevant proportion of the items under the heading 'Preliminary and General' in the schedule of quantities relating to the works, shall be:

Where the cost of the reinforced concrete portion of the works including the cost of the relevant proportion of the preliminary and general items -		The additional fee shall be the sum of the primary fee stated in column 3 and the secondary fee calculated in terms of column 4	
exceeds -	but does not exceed -	Primary fee	Secondary fee: Calculated on the total cost of the works at the following percentages
(column 1)	(column 2)	(column 3)	(column 4)
R	R	R	%
-	600 000	-	3.25
600 000	900 000	1 500	3.00
900 000	1 200 000	3 750	2.75
1 200 000	2 000 000	6 750	2.50
2 000 000	3 000 000	16 750	2.00
3 000 000	-	31 750	1.50

2.3.1.1.3 ADDITIONAL FEE FOR STRUCTURAL STEELWORK PORTION OF THE WORKS

The additional fee for the structural steelwork portion of the works together with the relevant proportion of the preliminary and general items shall be calculated at one half the rate of the additional fee for the reinforced concrete portion of the works as set out in regulation 2.3.1.1.2.

2.3.1.1.4 ADDITIONAL FEE FOR STRUCTURAL PORTION OF THE WORKS IN OTHER MATERIALS

The additional fee for the structural work in other materials shall be as agreed between the client and the professional engineer.

2.3.1.2 CIVIL AND STRUCTURAL ENGINEERING SERVICES FOR WHICH SPECIAL FEES ARE PROVIDED.

2.3.1.2.1 RAILWAY TRACKWORK

The fee for railway trackwork shall be calculated in the manner set out for civil and structural engineering services under regulation 2.3.1.1, except that-

2.3.1.2.1.1 the cost of permanent way materials in respect of railway trackwork shall be excluded from the cost of the works as defined in regulation 2.2.3 but the cost of ballast and equipment specially designed by the professional engineer shall be included in the cost of the works as defined in regulation 2.2.3.

2.3.1.2.1.2 the fee for permanent way materials, excluded from the cost of the works in terms of regulation 2.3.1.2.1.1 shall be calculated in accordance with the length of track as follows:

Where the length of -		The fee shall be the sum of the primary fee stated in column 3 and the secondary fee calculated in terms of column 4	
Exceeds-	but does exceed-	Primary fee	Rate for secondary fee calculated on the total length of track
(column 1)	(column 2)	(column 3)	(column 4)
M	m	R	R/m
-	500	80	1.58
500	1 000	395	0,95
1000	2000	545	0.80
2000	3000	725	0.71
3000	5000	965	0.63
5000	10000	1365	0,55
10000	20000	2115	0,475
20000	50000	3715	0,395
50000	—	7715	0,315

2.3.1.2.1.3 the fee for stopblocks, diamond crossings, turnouts and single or double slips of standard design shall be calculated in accordance with regulation 2.3.1.2.1.2 on the basis of the following equivalent track lengths:

Item	Equivalent track length
Stopblocks	10 m
Diamond crossings	50 m
Turnouts	100 m
Single slips	150 m
Double skips	250 m

2.3.1.2.2 ROADWORKS.

The fee for roadworks shall be calculated in the manner set out for civil and structural engineering services under regulation 2.3.1.1 except that the fee for the roadworks element of the project (i.e. excluding the fee for the structural element) shall be reduced by the appropriate percentage as listed below:

Type of roadwork	Percentage reduction in fee for roadworks element
Rural roads	20%
Rural freeways	5%
Peri-urban freeways	5%
Urban streets	Nil
Urban freeways	Nil

2.3.1.3 MECHANICAL AND ELECTRICAL ENGINEERING SERVICES.

Where the cost of -		The fee shall be the sum of the primary fee stated in column 3 and the secondary fee calculated in terms of column 4	
Exceeds-	but does not exceed-	Primary fee	Secondary fee: Calculated on the total cost of the works at the following percentages
(column 1)	(column 2)	(column 3)	(column 4)
R	R	R	%
-	60 000	200	10.00
60 000	100 000	800	9.00
100 000	150 000	1 300	8.50
150 000	250 000	2 050	8.00
250 000	400 000	3 300	7.50
400 000	600 000	5 300	7.00
600 000	1 000 000	8 300	6.50
1 000 000	1 500 000	13 300	6.00
1 500 000	3 000 000	20 800	5.50
3 000 000	5 000 000	35 800	5.00
5 000 000	7 000 000	60 800	4.50
7 000 000	12 000 000	78 300	4.25
12 000 000	-	108 300	4.00

2.3.2 SERVICES NOT OF NORMAL CHARACTER.

2.3.2.1 WORKS MAKING UNUSUALLY HIGH DEMANDS.

In respect of certain works or parts of works as herein listed which make demands on the professional engineer which are unusually high, the fee shall be calculated as follows:

2.3.2.1.1 UNUSUALLY TIME-CONSUMING WORKS.

2.3.2.1.1.1 For urban freeways, the fee stated in regulation 2.3.1.2.2 shall be increased by up to 25 per cent as agreed with the client.

2.3.2.1.1.2 For water and wastewater treatment works, the fee stated in regulation 2.3.1.1 shall be increased by 25 per cent.

2.3.2.1.1.3 For alterations to existing works, the fee stated in regulation 2.3.1 shall be increased by 25 per cent.

2.3.2.1.2 Where the works comprise more than one of the main categories, i.e. civil (including structural), mechanical and electrical, the fee shall be separately calculated in accordance with regulation 2.3.1 in respect of the total cost of the works in each such category.

- 2.3.2.1.3 Where the works comprise substantial portions of dissimilar types of work within the main categories stated in regulation 2.3.2.1 2 the client and the professional engineer shall agree the fee which shall lie between the fee as derived in regulation 2.3.1 as applicable to the total cost of the works within such main category and the fee derived taking regulation 2.3.1 as applicable the cost of each of the dissimilar types of work as if they were separate works according to the extent to which the demands on the professional engineer correspond to the demands of each such dissimilar type of work had it been executed under a separate assignment.
- 2.3.2.1.4 Where the works are undertaken on separate non-contiguous sites of when continuity of the works is interrupted or the works are unusually fragmented or are being constructed as separately documented phases in accordance with the requirements or with the consent of the client, the fee may be calculated taking regulation 2.3.1 as applicable to each site, contract or phase as if they were separate works or, if inappropriate, the client and the professional engineer shall agree the fee which shall lie between the fee as derived in regulation 2.3. 1 as applicable to the total cost of the works and the fee derived taking regulation 2.3.1 as applicable to the cost of each as if they were separate works.
- 2.3.2.1.5 In respect of other types of works or parts of works including, *inter alia*, those mentioned in regulation 1.5.1 which make demands on the professional engineer which are unusually high, the client and professional engineer shall agree the addition to be made to the fee stated in regulation 2.3.1 which shall be equitable in accordance with the causes and extent of the unusually high demands on the professional engineer: Provided that the professional engineer shall, as soon as it becomes evident to him and generally not later than at the completion of the report stage, inform the client that he considers that the works are of such a nature as to warrant an increase of the fee as aforesaid: Provided further that if it only becomes evident at a later stage that the works are of unusual character, he shall inform the client without delay in which event such portion of the services of the professional engineer as he has already completed when he informs the client shall not be subject to an increased fee unless the client agrees otherwise.

2.3.2.2 WORKS MAKING UNUSUALLY LOW DEMANDS.

In respect of works or parts of works which make demands on the professional engineer which are unusually low, the client and the professional engineer shall agree the fee for such works which shall be equitable in accordance with the causes and extent of the unusual reduction in the demands on the professional engineer.

2.3.3 ADDITIONAL SERVICES.

2.3.3.1 PROVISION OF SITE STAFF.

The professional engineer's charge for the provision of site staff in terms of regulation 2.1.2.1.1 shall be calculated as follows:

- 2.3.3.1.1 Salary, inclusive of regular bonus, plus 30 per cent; plus
- 2.3.3.1.2 all other direct costs and allowances, as agreed with the client, plus 10 per cent.

2.3.3.2 LEADER OF THE PROFESSIONAL TEAM.

The additional fee for services performed under regulation 2.1.2.2 as leader of the professional team shall be 10 per cent of the fees payable to the other members of the professional team.

2.3.3.3 MEDIATION, ARBITRATION AND LITIGATION PROCEEDINGS AND SIMILAR SERVICES.

2.3.3.3.1 MISCELLANEOUS SERVICES.

The professional engineer's fee for services performed shall be on a time basis as agreed by the client and shall be not less than the rate in accordance with regulation 2.3.4:

Provided that for court appearances the fee shall be determined in accordance with regulation 2.3.3.3.2.1.

2.3.3.3.2 MEDIATION OR ARBITRATION.

2.3.3.3.2.1 For acting as mediator or arbitrator where there is more than one or for acting as assessor, the fee shall be not less than the time charged for principals, partners and directors as set out in regulation 2.3.4.1 plus 25 per cent, subject to a minimum charge for two hours.

2.3.3.3.2.2 For acting as sole mediator, arbitrator or umpire the fee shall be not less than the time charged for principals, partners and directors as set out in regulation 2.3.4.1 plus 75 per cent, subject to a minimum charge for two hours.

2.3.3.3.2.3 The fee set out in regulations 2.3.3.3.2.1 and

2.3.3.3.2.2 shall apply to time spent in attending mediation meetings, the arbitration court, in studying evidence and in framing the award.

2.3.4 TIME BASIS FEE.

The scale of fees on a time basis shall be as follows:

2.3.4.1 Principal, partner or director - R45 per hour or part thereof;

2.3.4.2 salaried professional and technical staff - 15c per hour per R100 or part thereof of the total annual salary including regular bonus, if any: Provided that these rates shall be deemed to include establishment charges and time expended by clerical staff which shall, therefore, not be chargeable separately.

2.3.5 TRAVELLING TIME.

A charge at the rate set out in regulation 2.3.4 for all time spent by the professional engineer or members of his staff in traveling during normal working hours, such time not exceeding eight hours per day: Provided that when the journey does not exceed 50 km recorded to and from his office, the professional engineer and members of his staff shall not be reimbursed for time spent in traveling unless payment of fees is being made on a time basis.

3. STRUCTURAL AND CIVIL ENGINEERING SERVICES PERTAINING TO BUILDING PROJECTS EXCEPT IN THE CASE OF A DIRECT CIVIL ENGINEERING COMMISSION, IN WHICH CASE REGULATION 2 WILL APPLY.

3.1 SERVICES TO BE PERFORMED BY THE PROFESSIONAL ENGINEER.

3.1.1 NORMAL SERVICES.

The normal services to be performed by the professional engineer are:

3.1.1.1 REPORT STAGE.

The preparation and submission of a report embodying preliminary proposals or feasibility studies and estimates of cost for consideration by the client, including, as may be necessary-

- 3.1.1.1.1 Consultation with the client or his authorised representatives and any other professional advisers appointed by the client in connection with the project;
- 3.1.1.1.2 inspection of the site of the works;
- 3.1.1.1.3 preliminary investigation, planning and design where any of these are required for determination of feasibility;
- 3.1.1.1.4 consultation with local authorities;
- 3.1.1.1.5 advice to the client as to the need for surveys, analyses, tests and site or other investigations where such are required for the completion of the report and arranging for these to be carried out at the client's expense.

3.1.1.2 PRELIMINARY DESIGN STAGE.

The development of the preliminary proposals or the basic planning of the works, as may be required by the client, including, as may be necessary—

- 3.1.1.2.1 submission of a basic planning report if required by the client;
- 3.1.1.2.2 establishment of final design criteria;
- 3.1.1.2.3 advice to the client as to the need for any further surveys, analyses, tests and site or other investigations which may be required and arranging for these to be carried out at the client's expense;
- 3.1.1.2.4 advice to the client, as may be necessary, upon the appointment and delineation of the services of other professional engineers or specialist advisers and arranging such appointments and consultations with such advisers in matters affecting the works;
- 3.1.1.2.5 preparation and submission of sketch plans or line diagrams and updated estimates.

3.1.1.3 DESIGN AND TENDER STAGE.

The development of the preliminary designs into working drawings, including, as may be necessary-

- 3.1.1.3.1 preparation of general arrangement drawings and estimates of steel required for the bills of quantities;
- 3.1.1.3.2 provision of outline information necessary for the design of other services;
- 3.1.1.3.3 provision of adequate information to enable the shop detail drawings to be prepared by the structural steel manufacturer;
- 3.1.1.3.4 drafting or adapting invitations to tender, tender conditions, forms of tender and conditions of contract;
- 3.1.1.3.5 analyses of tenders and submission of recommendations on the acceptance of tenders.

3.1.1.4 CONSTRUCTION STAGE.

The general administration and other services in connection with the carrying out of the engineering works,

including, as may be necessary-

- 3.1.1.4.1 placing orders for the engineering works on behalf of the client;
- 3.1.1.4.2 advice to the client as to the preparation of the contract documents or preparation of the contract documents;
- 3.1.1.4.3 advice to the client as to the appointment of site staff in accordance with regulation 3.1.2.1;
- 3.1.1.4.4 preparation of reinforcing details, bending schedules and other information as may be necessary:

Provided that this service may be included in the design and tender stage if full documentation is required before the construction stage;

- 3.1.1.4.5 checking contractors' drawings for the permanent works for conformity with design requirements, but excluding detailed checking of shop details for erection fit;
- 3.1.1.4.6 advice to the client on alternative designs and tenders but excluding detailed inspection, reviewing and checking of alternative designs and drawings not prepared by the professional engineer and submitted by any contractor or potential contractor,
- 3.1.1.4.7 issuing instructions to contractors, coordinating and generally inspecting the execution of the works for compliance with the contract at such intervals as the professional engineer may deem necessary, directing site staff but excluding detailed and thy-to-day inspection of the works and site administration as provided for under regulation 3.1.2.1;
- 3.1.1.4.8 attendance at site meetings during the construction of the engineering works at an average frequency of once per fortnight;
- 3.1.1.4.9 deciding in or assisting the principal agent of the client to decide in disputes or differences that may arise between the client and the contractors, excepting mediation, arbitration or litigation;
- 3.1.1.4.10 issuing variation orders or information to enable variation orders to be issued by others;
- 3.1.1.4.11 advice to the client regarding the inspection and testing of such materials and plant as are usually inspected and tested and arranging for such inspection and testing to be carried out at the client's expense;
- 3.1.1.4.12 making arrangements on behalf of the client for the provision and reproduction of such drawings and documents as may be required by contractors and site staff for the execution of the engineering works:
- 3.1.1.4.13 making arrangements to provide the client, on completion of the engineering works, with such record drawings as may be required for a proper record of the engineering works as constructed and such manuals as may be required for the operation and maintenance of the relevant parts of the engineering works.

3.1.2 ADDITIONAL SERVICES.

Services in connection with the items listed below are additional to the normal services of the professional engineer, who shall obtain the approval of the client for any such services to be carried out:

3.1.2.1 PROVISION OF SITE STAFF.

- 3.1.2.1.1 Should the client require the professional engineer charged with the services in regulation 3.1.1.4 so

to do, the professional engineer shall appoint such competent site staff as is necessary for the efficient checking of setting out, day-to-day inspection of construction of the works, measuring up of work on site and agreeing quantities with contractors' representatives.

3.1.2.1.2 Where adequate site staff are not appointed the professional engineer shall, subject to the approval of the client, provide such additional services as are necessary for carrying out the functions described in regulation 3.1.2.1.1.

3.1.2.2 PRINCIPAL AGENT OF THE CLIENT.

The additional services of the professional engineer when appointed as principal agent of the client shall be as follows:

- 3.1.2.2.1 Advice as to the appointment and delineation of services of other professional advisers by the client;
- 3.1.2.2.2 leadership of the professional team;
- 3.1.2.2.3 submission of preliminary and developed proposals in the form of reports, drawings and specifications together with estimates of costs for the project as a whole;
- 3.1.2.2.4 responsibility for the overall administration of all sections of the project, including those which fall within the ambit of the other professional advisers in the team:
- 3.1.2.2.5 responsibility for the overall co-ordination, programming of design and financial control of the project;
- 3.1.2.2.6 deciding on differences that may arise between the client and the contractors, excepting mediation, arbitration or litigation;
- 3.1.2.2.7 approval of certificates for payment to contractors issued by the other professional advisers in the team prior to their presentation to the client for settlement;
- 3.1.2.2.8 making arrangements to provide the client, on completion of the engineering works, with such record drawings as may be required for a proper record of the engineering works as constructed and such manuals as may be required for the operation and maintenance of the relevant parts of the engineering works;
- 3.1.2.2.9 approval of the final contract account for the project as a whole.

3.1.2.3 MEDIATION, ARBITRATION AND LITIGATION PROCEEDINGS AND SIMILAR SERVICES.

Where the client instructs the professional engineer to undertake the services listed below, the extent thereof shall be subject to agreement between the two parties:

- 3.1.2.3.1 Obtaining Parliamentary or other statutory approval, licences or permits;
- 3.1.2.3.2 assisting with contemplated or actual mediation, arbitration or litigation proceedings;
- 3.1.2.3.3 officiating at or attending courts and commissions of inquiry, select committees and similar bodies convened by statute, regulation or decree.

3.1.2.4 DIVERSE ADDITIONAL SERVICES.

- 3.1.2.4.1 Dealing with authorities other than local authorities.
- 3.1.2.4.2 Surveys, investigations, cost analyses, etc., of existing structures.

- 3.1.2.4.3 Making arrangements for wayleaves, servitudes or expropriations.
- 3.1.2.4.4 Making such revisions as may be required to obtain the formal approval of the appropriate Government departments or public authorities, resulting from decisions of such departments or authorities arising out of changes in policy and other causes beyond the professional engineer's control.
- 3.1.2.4.5 Carrying out special investigations or tests.
- 3.1.2.4.6 Preparation or detailed checking of shop details.
- 3.1.2.4.7 Detailed inspection, reviewing and checking of designs and drawings not prepared by the professional engineer and submitted by any contractor or potential contractor as alternative to those embodied in tender or similar documents prepared by the professional engineer.
- 3.1.2.4.8 Attendance at site meetings in addition to those referred to in regulation 3.1.1.4.8, unless the professional engineer is appointed as the principal agent of the client.
- 3.1.2.4.9 Services which give rise to abnormal additional costs for the professional engineer, including-
 - 3.1.2.4.9.1 services arising from the failure of any contractor to perform his contract;
 - 3.1.2.4.9.2 services performed by the professional engineer which it is customarily or contractually incumbent upon the contractor to perform, whether by virtue of special contractual provisions relieving the contractor of customary obligations or in consequence of the contractor's failure to meet contractual obligations;
 - 3.1.2.4.9.3 services performed by the professional engineer in determining any remedial measure, making any additional or more extended site visits or resolving any disputes which are the direct and necessary consequence of any failure by the contractor to comply with any specifications, drawings, procedures, construction programmes, time-table or due completion date with which he is required to comply in terms of the contract;
- 3.1.2.4.10 checking, coordinating or advising upon any part of the project not forming part of the engineering works;
- 3.1.2.4.11 collection, investigation and collation of the pertinent data listed in regulation 3.2.7 and not made available to the professional engineer;
- 3.1.2.4.12 additional services as defined in - regulation 3.1.2.1.2 - site staff not appointed; regulation 3.2.4 - damage or destruction of the works; regulation 3.2.5 - postponement, cancellation or abandonment of the works; regulation 3.2.6 - alterations or modifications to designs;
- 3.1.2.4.13 any additional services of whatever nature other than those specifically referred to in regulation 3.1.2.

3.2 REMUNERATION AND BASIS OF PAYMENT OF THE PROFESSIONAL ENGINEER IN RESPECT OF STRUCTURAL AND CIVIL ENGINEERING SERVICES PERTAINING TO BUILDING PROJECTS.

3.2.1 REMUNERATION.

3.2.1.1 FULL NORMAL SERVICES.

Subject to regulation 3.2.1.1.5, the remuneration of the professional engineer for the normal services performed by him under regulation 3.1.1 shall be calculated on the basis and in the manner set out in regulations 3.3. 1 and 3.3.2

and shall, unless otherwise agreed, become due to the professional engineer as follows:

3.2.1.1.1 REPORT STAGE—REGULATION 3.1.1.1.

Ten per cent of the fee when such services as may be necessary for the report stage have been completed.

3.2.1.1.2 PRELIMINARY DESIGN STAGE—REGULATION 3.1.1.2.

A further 10 per cent of the fee when such services, as may be necessary for the preliminary design stage, have been completed.

3.2.1.1.3 DESIGN AND TENDER STAGE—REGULATION 3.1.1.3.

A further 35 per cent of the fee on completion of the general arrangement drawings and other documents necessary to enable the engineering works to be tendered for or otherwise placed by the client.

3.2.1.1.4 CONSTRUCTION STAGE—REGULATION 3.1.1.4.

3.2.1.1.4.1 A further 30 percent of the fee (or pro rata) on completion of all workings drawings and schedules.

3.2.1.1.4.2 A further 12½ per cent of the fee as and when the construction work proceeds in proportion to the cost of work done.

3.2.1.1.4.3 The remaining 2½ per cent of the fee on completion of the final contract account.

3.2.1.1.5 PARTIAL NORMAL SERVICES.

Where the professional engineer is appointed to perform services not constituting all the stages set out in regulations 3.1.1.1, 3.1.1.2, 3.1.1.3 and 3.1.1.4, the fee shall be apportioned as follows:

3.2.1.1.5.1 Report stage and preliminary design stage only - 30 per cent of the fee;

3.2.1.1.5.2 report stage, preliminary design stage and the design and tender stage only - 60 per cent of the fee;

3.2.1.1.5.3 report stage, preliminary design stage, and the design and tender stage and preparation of reinforcing details and bending schedules only - 90 per cent of the fee;

3.2.1.1.5.4 construction stage only but excluding the preparation of reinforcing details and bending schedules - 2.5 per cent of the fee.

3.2.1.2 ADDITIONAL SERVICES.

The fee or charge for additional services carried out under regulation 3.1.2 shall be as follows:

3.2.1.2.1 PROVISION OF SITE STAFF.

The charge for the additional services performed by the professional engineer in providing site staff in terms of regulation 3.1.2.1.1 shall be in accordance with regulation 3.3.3.1.

3.2.1.2.2 PRINCIPAL AGENT OF THE CLIENT.

The fee for the additional services performed by the professional engineer as principal agent of the client under

regulation 3.1.2.2 shall be in accordance with regulation 3.3.3.2 apportioned as for normal services under regulation 3.2.1.1.

3.2.1.2.3 MEDIATION, ARBITRATION AND LITIGATION PROCEEDINGS AND SIMILAR SERVICES.

The fee for the services performed by the professional engineer under regulation 3.1.2.3 shall be calculated on a time basis as set out in regulation 3.3.3.3.

3.2.1.2.4 DIVERSE ADDITIONAL SERVICES.

The fee for diverse additional services performed by the professional engineer under regulation 3.1.2.4 shall be calculated on a time basis as set out in regulation 3.3.4.

3.2.1.2.5 SITE STAFF NOT APPOINTED.

Where adequate site staff are not appointed the professional engineer shall charge for the necessary additional services rendered by himself or his staff and for site visits additional to those referred to in regulation 3.1.1.4.8 on a time basis as set out in regulation 3.3.4, or as agreed with the client.

3.2.1.3 FEE FOR RE-USE OF COMPLETED DESIGNS, ETC.

Where the client wishes to erect one or more duplicates of a particular complete structure or works for which the professional engineer has completed investigations, designs, drawings and specification, etc., the fee to be charged by the professional engineer for the re-use of such documents shall be one quarter of the apportioned fee for normal and additional services carried out in the report, preliminary design and design and tender stages based on the updated cost of the works as duplicated or repeated: Provided that the professional engineer shall, in addition, be remunerated for such new work as it may be necessary for him to perform and that he shall be paid for all disbursements and expenses: Provided further that *if* the professional engineer's services should be retained for the construction stage, the fee to be charged by the professional engineer for services and any additional services carried out during this stage shall be the full apportioned fee for the construction stage based on the updated cost of the works as duplicated or repeated together with all disbursement and expenses. This regulation will not be applicable in the case of type designs prepared for re-use by the client at his own risk.

3.2.2 INTERIM PAYMENTS TO THE PROFESSIONAL ENGINEER

3.2.2.1 For the purpose of ascertaining the interim payments due under regulation 3.2.1.1, the cost of the engineering works, which shall exclude any provisional allowances made to cover contingencies and escalation, shall be -

3.2.2.1.1 the applicable portion of the net amount of the accepted tender; or

3.2.2.1.2 if no tender is accepted, the net amount of the applicable portion of the lowest suitable tender recommended as such by the principal agent of the client in consultation with the professional engineer, or

3.2.2.1.3 if the contract is awarded by negotiation, the negotiated price; or

3.2.2.1.4 if no tenders are invited or if no suitable tenders are received or if no negotiation is concluded, the mutually agreed estimate.

3.2.2.2 Such interim payments shall rank solely towards the total fee ultimately payable, which shall be calculated on the final cost of the works as defined in regulation 3.2.3.

3.2.3 COST OF THE ENGINEERING WORKS.

- 3.2.3.1 For the purpose of calculating the total fee ultimately payable in terms of regulation 3.2.2.2 the cost of the engineering works or any part thereof shall be the cost of the works designed, specified or administered by the professional engineer, calculated as follows:
- 3.2.3.1.1 The amount certified for payment to contractors in respect of the works before deduction of liquidated damages or penalties (if any);
- 3.2.3.1.2 where the client provides labour, tools, construction plant or materials, manufactured goods or machinery for incorporation in the works, a direct and fair valuation based on normal charges by contractors for similar items including depreciation, waste and repairs, overheads and profit; and
- 3.2.3.1.3 a fair valuation to be agreed of the difference between the cost price of any second-hand materials, manufactured goods or machinery incorporated in the works and the market value of such materials, manufactured goods and machinery as though they were purchased new.
- 3.2.3.2 The cost of the engineering works shall include-
- 3.2.3.2.1 all temporary works associated with the parts of the project as set out in this regulation 3.2.3.2;
- 3.2.3.2.2 all excavations carried out in accordance with the professional engineer's instructions and for which he is responsible;
- 3.2.3.2.3 all concrete, reinforcing steel, structural steelwork, timber, aluminum and any other structural material shown on the professional engineer's drawings and for which he is responsible;
- 3.2.3.2.4 formwork to concrete;
- 3.2.3.2.5 brickwork designed and detailed by the professional engineer and for which he is responsible;
- 3.2.3.2.6 wall foundations designed and detailed by the professional engineer,
- 3.2.3.2.7 cladding designed and detailed by the professional engineer and for which he is responsible;
- 3.2.3.2.8 inserts in or through structural work which the professional engineer has to indicate on his drawings;
- 3.2.3.2.9 builder's work and decorative treatment to structural members requiring design and drawings by the professional engineer;
- 3.2.3.2.10 the cost of any exploratory drilling, test piling, soil resistivity measurement, excavation of shafts, adits, etc., for which the professional engineer is required to prepare contract documents and which he is required to inspect or administer, and
- 3.2.3.2.11 where the engineering works are carried out as a portion of a contract, a fair and reasonable proportion of the preliminary and general items, which shall be calculated as follows:
- 3.2.3.2.11.1 The cost of the items under the preliminary and general sections of the contract bills of quantities which are uniquely related to the engineering works, in full: and
- 3.2.3.2.11.2 a portion of the cost of all other items under the preliminary and general section of the contract bills of quantities in the ratio that the cost of the engineering works as determined according to regulations 3.2.3.1, 3.2.3.2 and 3.2.3.2.11.1 bears to the total cost of the project after deducting all such other preliminary and general items.
- 3.2.3.3 The cost of the engineering works shall not include-

- 3.2.3.3.1 administrative expenses incurred by the client:
 - 3.2.3.3.2 professional fees and disbursements;
 - 3.2.3.3.3 cost of surveys:
 - 3.2.3.3.4 salaries, traveling, out-of-pocket and office expenses of site staff:
 - 3.2.3.3.5 finance costs and charges incurred by the client;
 - 3.2.3.3.6 cost of land, servitudes and wayleaves.
- 3.2.3.4 Notwithstanding the provisions of regulation 3.2.3.1, where any contract provides that payment to contractors shall be increased or decreased during the currency of the contract in accordance with any fluctuation in the actual cost of specified items or in prescribed indices, the value of such increases or decreases in cost, as the case may be, shall be brought into account in determining the cost of the works for purposes of calculating the total fee ultimately payable in the following manner:
- 3.2.3.4.1 In respect of that portion of the total fee becoming due during the construction stage in accordance with regulation 3.2.1.1.4, the total of the increases or decreases in cost actually certified for payment in terms of the contracts;
 - 3.2.3.4.2 in respect of that portion of the fee becoming due prior to the construction stage in accordance with regulations 3.2.1.1.1, 3.2.1.1.2 and 3.2.1.1.3 and, where applicable, in respect of any working drawings completed prior to the placing of the works as provided in regulation 3.2.1.1.4, the total of the increases or decreases in cost actually certified for payment with a maximum of 10 per cent of the original contract amount excluding contingencies.

3.2.4 DAMAGE TO OR DESTRUCTION OF THE WORKS.

If, at any time before the completion of the works, any part of the works or of the equipment there for is damaged or destroyed by operation of war, fire, storm, flood or other cause beyond the control of the professional engineer, the client shall pay to the professional engineer the appropriate fee for any additional services which may be required of him including design, inspection and administration as a result of such damage or destruction.

3.2.5 POSTPONEMENT, CANCELLATION OR ABANDONMENT OF THE WORKS.

- 3.2.5.1 If, instructions having been given by the client to the professional engineer to proceed with any of the stages referred to in regulations 3.1.1.1, 3.1.1.2, 3.1.1.3 and 3.1.1.4, the whole or any part of the engineering works is postponed, cancelled or abandoned, the payment to be made to the professional engineer for services performed in respect of that part of the works so postponed, cancelled or abandoned, shall be determined in accordance with regulation 3.2.1.1, plus a surcharge of one tenth, and in accordance with such other regulations as may be applicable, in proportion to the services performed prior to the works being postponed, cancelled or abandoned.
- 3.2.5.2 If, within two years, the postponed works or any part thereof shall again proceed, the payment defined in regulation 3.2.5.1 shall be final for the services already performed and payment for subsequent services shall be separately determined in accordance with the relevant provisions of this Schedule.
- 3.2.5.3 Should additional services by the professional engineer be required in connection with resumption of the postponed works, the professional engineer shall charge for such additional services on a time basis as set out in regulation 3.3.4.
- 3.2.5.4 In the event of the works, or any part thereof, being postponed for a period longer than two years, such

works shall be considered as having been abandoned.

3.2.5.5 For the purpose of regulation 3.2.5 the cost of the works shall be the mutually agreed estimate of the cost of the relevant part of the works completed at the time of its postponement, cancellation or abandonment.

3.2.6 ALTERATIONS OR MODIFICATIONS TO DESIGNS.

In the event of circumstances arising which could not have been reasonably foreseen by the professional engineer or in the event of the client or principal agent of the client modifying the design requirements and thus necessitating alterations to completed designs or alterations to designs in progress and which also require the alteration or remaking of any specification, drawing, or other document prepared in whole or in part by the professional engineer, the whole of the cost of revising, amending or reproducing such designs, drawings or documents to bring the work up to the stage at which it was modified shall be the subject of additional payment calculated on a time basis as set out in regulation 3.3.4: Provided that the professional engineer shall inform the client in respect of additional costs which may be incurred by way of fees.

3.2.7 DATA TO BE SUPPLIED TO THE PROFESSIONAL ENGINEER.

The client, either directly or through his principal agent, shall supply free of charge to the professional engineer-

- 3.2.7.1 all such plans and sections of the project and all such site plans to a practical scale giving levels and all such relevant detail drawings as the professional engineer may reasonably require;
- 3.2.7.2 all pertinent data and information together with such assistance as shall reasonably be required to enable the professional engineer to perform his services;
- 3.2.7.3 copies of all contract documents, drawings and supporting documents relating to those parts of the project which are relevant to the engineering works, including the general conditions of contract where applicable;
- 3.2.7.4 copies of all variation drawings and orders affecting the engineering works.

3.3 TARIFF OF FEES FOR STRUCTURAL AND CIVIL ENGINEERING SERVICES PERTAINING TO BUILDING PROJECTS.

3.3.1 SERVICES OF NORMAL CHARACTER.

In respect of works making normal demands on the time of the professional engineer the fee shall be:

Where the cost of the works-		The fee shall be the sum of the primary fee stated in column 3 and the secondary fee calculated in terms of column 4	
exceeds-	but does not exceed-	Primary fee	Secondary fee: Calculated on the total cost of works at the following percentages
(column 1)	(column 2)	(column 3)	(column 4)
R	R	R	%
-	60000	200	10.0
60000	120000	800	9.0
120000	300000	2000	8.0
300000	600000	3500	7,5
600000	1200000	6500	7,0
1200000	3000000	12500	6.5
3000000	-	27500	6.0

3.3.2 SERVICES NOT OF NORMAL CHARACTER.

3.3.2.1 WORKS MAKING UNUSUALLY HIGH DEMANDS.

In respect of certain works or parts of works as herein listed which make demands on the professional engineer which are unusually high. the fee shall be calculated as follows:

3.3.2.1.1 UNUSUALLY TIME-CONSUMING WORKS.

3.3.2.1.1.1 For alterations to existing works, the fee stated in regulation 3.3.1 shall be increased by 25 per cent.

3.3.2.1.1.2 Where works are undertaken on separate non-contiguous sites or when continuity of the works is interrupted or the works are unusually fragmented or are being constructed as separately documented phases in accordance with the requirements or with the consent of the client, the fee may be calculated taking regulation 3.3.1 as applicable to each site, contract or phase as if they were separate works or, if inappropriate, the client and the professional engineer shall agree the fee which shall lie between the fee as derived in regulation 3.3.1 as applicable to the total cost of the works and the fee derived taking regulation 3.3.1 as applicable to the cost of each as if they were separate works.

3.3.2.1.1.3 In respect of other types of works or parts of works including, *inter alia*, those mentioned in regulation 1.5.1 which make demands on the professional engineer which are unusually high, the client and professional engineer shall agree the addition to be made to the fee stated in regulation 3.3.1 which shall be equitable in accordance with the causes and extent of the unusually high demands on the professional engineer: Provided that the professional engineer shall, as soon as it becomes evident to him and generally not later than at the completion of the report stage, inform the client that he considers that the works are of such a nature as to warrant an increase of the fee as aforesaid:

Provided further that if it only becomes evident at a later stage that the works are of unusual character, he shall inform the client without delay, in which event such portion of the services of the professional engineer as he has already completed when he informs the client shall not be subject to an increased fee unless the client agrees otherwise.

3.3.2.2 WORKS MAKING UNUSUALLY LOW DEMANDS.

In respect of works or parts of works which make demands on the professional engineer which are unusually low, the client and the professional engineer shall agree the fee for such works which shall be equitable in accordance with the causes and extent of the unusual reduction in the demands on the professional engineer.

3.3.3 ADDITIONAL SERVICES.

3.3.3.1 PROVISION OF SITE STAFF.

The professional engineer's charge for the provision of site staff in terms of regulation 3.1.2.1.1 shall be calculated as follows:

3.3.3.1.1 Salary, inclusive of regular bonus, plus 30 per cent; plus

3.3.3.1.2 all other direct costs and allowances, as agreed with the client, plus 10 per cent.

3.3.3.2 PRINCIPAL AGENT OF THE CLIENT.

The additional fee for services performed under regulation 3.1.2.2 as principal agent of the client shall be one per cent of the final cost of the project.

3.3.3.3 MEDIATION, ARBITRATION AND LITIGATION PROCEEDINGS AND SIMILAR SERVICES.

3.3.3.3.1 MISCELLANEOUS SERVICES.

The professional engineer's fee for services performed shall be on a time basis as agreed by the client and shall be not less than the rate in accordance with regulation 3.3.4:

Provided that for court appearances the fee shall be determined in accordance with regulation 3.3.3.3.2.1.

3.3.3.3.2 MEDIATION OR ARBITRATION.

3.3.3.3.2.1 For acting as mediator or arbitrator where there is more than one or for acting as assessor, the fee shall be not less than the time charged for principals, partners and directors as set out in regulation 3.3.4.1 plus 25 per cent, subject to a minimum charge for two hours.

3.3.3.3.2.2 For acting as sole mediator, arbitrator or umpire the fee shall be not less than the time charged for principals, partners and directors as set out in regulation 3.3.4.1 plus 75 per cent, subject to a minimum charge for two hours.

3.3.3.3.2.3 The fee set out in regulations 3.3.3.3.2.1 and 3.3.3.3.2.2 shall apply to time spent in attending mediation meetings, the arbitration court, in studying evidence and in framing the award.

3.3.4 TIME BASIS FEE.

The scale of fees on a time basis shall be as follows:

3.3.4.1 Principal, partner or director - R45 per hour or part thereof;

3.3.4.2 salaried professional and technical staff - 15c per hour per R100 or part thereof of the total annual salary including regular bonus if any: Provided that these rates shall be deemed to include establishment charges and time expended by clerical staff which shall, therefore, not be chargeable separately.

3.3.5 TRAVELLING TIME.

A charge at the rate set out in regulation 3.3.4 for all time spent by the professional engineer or members of his staff in traveling during normal working hours, such time not exceeding eight hours per day: Provided that when the journey does not exceed 50 km recorded to and from his office, the professional engineer and members of his staff shall not be reimbursed for time spent in traveling unless payment of fees is being made on a time basis.

4. MECHANICAL AND ELECTRICAL ENGINEERING SERVICES PERTAINING TO BUILDING PROJECTS.

4.1 SERVICES TO BE PERFORMED BY THE PROFESSIONAL ENGINEER.

4.1.1 NORMAL SERVICES.

The normal services to be performed by the professional engineer are:

4.1.1.1 REPORT STAGE.

The preparation and submission of a report embodying preliminary proposals or feasibility studies and estimates of cost for consideration by the client, including, as may be necessary-

- 4.1.1.1.1 consultation with the client or his authorised representative and any other professional advisers appointed by the client in connection with the project;
- 4.1.1.1.2 inspection of the site of the works:
- 4.1.1.1.3 preliminary investigation, planning and design where any of these are required for determination of feasibility;
- 4.1.1.1.4 consultation with local authorities;
- 4.1.1.1.5 advice to the client as to the need for surveys, analyses, tests and site or other investigations where such are required for the completion of the report and arranging for these to be carried out at the client's expense.

4.1.1.2 PRELIMINARY DESIGN STAGE.

The development of preliminary proposals or the basic planning of the works, as may be required by the client, including, as may be necessary-

- 4.1.1.2.1 submission of a basic planning report if required by the client:
- 4.1.1.2.2 establishment of final design criteria;
- 4.1.1.2.3 advice to the client as to the need for any further surveys, analyses, tests and site or other investigations which may be required and arranging for these to be carried out at the client's expense;
- 4.1.1.2.4 advice to the client, as may be necessary, upon the appointment and delineation of the services of other professional engineers or specialist advisers and arranging such appointments and consultations with such advisers in matters affecting the works;
- 4.1.1.2.5 preparation and submission of preliminary design drawings and updated estimates.

4.1.1.3 DESIGN AND TENDER STAGE.

The development of the preliminary designs into working drawings, including, as may be necessary-

- 4.1.1.3.1 preparation of designs, tender drawings, documents and specifications:
- 4.1.1.3.2 provisions of outline information necessary for the design of other services:
- 4.1.1.3.3 drafting or adapting invitations to tender, tender conditions, forms of tender and conditions of contract;
- 4.1.1.3.4 analyses of tenders and submission of recommendations on the acceptance of tenders and estimates of the cost of the works.

4.1.1.4 CONSTRUCTION STAGE.

The general administration and other services in connection with the carrying out of the engineering works, including, as may be necessary-

- 4.1.1.4.1 placing orders for the engineering works on behalf of the client;
- 4.1.1.4.2 advice to the client as to the preparation of the contract documents or preparation of the contract documents;

- 4.1.1.4.3 advice to the client as to the appointment of site staff in accordance with regulation 4.1.2.1;
- 4.1.1.4.4 provision of such further information, drawings and designs as may be necessary in the opinion of the professional engineer to enable the installation drawings to be prepared by the contractors;
- 4.1.1.4.5 examining contractors' technical proposals and checking contractors' drawings for conformity with design and specification requirements but excluding detailed checking of drawings for co-ordination, erection or installation fit;
- 4.1.1.4.6 advice to the client on alternative designs and tenders but excluding detailed inspection, reviewing and checking of alternative designs and drawings not prepared by the professional engineer and submitted by any contractor or potential contractor;
- 4.1.1.4.7 issuing instructions to contractors, coordinating and generally inspecting the execution of the works for compliance with the contract at such intervals as the professional engineer may deem necessary, directing site staff but excluding detailed and day-to-day inspection of the works and site administration as provided for under regulation 4.1.2.1;
- 4.1.1.4.8 attendance at site meetings during the construction of the engineering works at an average frequency of once per fortnight;
- 4.1.1.4.9 periodic valuation of work completed for the purpose of issuing certificates for payment to contractors;
- 4.1.1.4.10 deciding in or assisting the principal agent of the client to decide in disputes or differences that may arise between the client and the contractors, excepting mediation, arbitration or litigation;
- 4.1.1.4.11 issuing variation orders or information to enable variation orders to be issued by others;
- 4.1.1.4.12 measurement or assessment of variations and negotiation with contractors on the value thereof;
- 4.1.1.4.13 checking contractors' claims in respect of allowable fluctuations in the cost of the contract;
- 4.1.1.4.14 advice to the client regarding the inspection and testing of such materials and plant as are usually inspected and tested and arranging for such inspection and testing to be carried out at the client's expense;
- 4.1.1.4.15 checking contractors' commissioning procedures and witnessing performance or acceptance tests on site but excluding day-to-day routine tests;
- 4.1.1.4.16 making arrangements on behalf of the client for the provision and reproduction of such drawings and documents as may be required by contractors and site staff for the execution of the engineering works;
- 4.1.1.4.17 making arrangements to provide the client on completion of the engineering works with such record drawings and manuals as may be required for the operation and maintenance of the engineering works and preparing such documents as may be necessary to co-ordinate the drawings and manuals provided;
- 4.1.1.4.18 preparation of final contract account.

4.1.2 ADDITIONAL SERVICES.

Services in connection with the items listed below are additional to the normal services of the professional engineer, who shall obtain the approval of the client for any such services to be carried out.

4.1.2.1 PROVISION OF SITE STAFF.

- 4.1.2.1.1 Should the client require the professional engineer charged with the services in regulation 4.1.1.4 so to do, the professional engineer shall appoint such competent site staff as is necessary for the efficient checking of setting out, day-to-day inspection of construction of the works, measuring up of work on site and agreeing quantities with contractors' representatives.
- 4.1.2.1.2 Where adequate site staff are not appointed the professional engineer shall, subject to the approval of the client, provide such additional services as are necessary for carrying out the functions described in regulation 4.1.2. 1.1.

4.1.2.2 PRINCIPAL AGENT OF THE CLIENT.

The additional services of the professional engineer when appointed as principal agent of the client shall be as follows:

- 4.1.2.2.1 Advice as to the appointment and delineation of services of other professional advisers by the client;
- 4.1.2.2.2 leadership of the professional team;
- 4.1.2.2.3 submission of preliminary and developed proposals in the form of reports, drawings and specifications together with estimates of costs for the project as a whole;
- 4.1.2.2.4 responsibility for the overall administration of all sections of the project including those which fall within the ambit of the other professional advisers in the team;
- 4.1.2.2.5 responsibility for the overall coordination, programming of design and financial control of the project;
- 4.1.2.2.6 deciding on differences that may arise between the client and the contractors, excepting mediation, arbitration or litigation;
- 4.1.2.2.7 approval of certificates for payment to contractors issued by the other professional advisers in the team prior to their presentation to the client for settlement;
- 4.1.2.2.8 making arrangements to provide the client, on completion of the engineering works, with such record drawings as may be required for a proper record of the engineering works as constructed and such manuals as may be required for the operation and maintenance of the relevant parts of the engineering works;
- 4.1.2.2.9 approval of the final contract account for the project as a whole.

4.1.2.3 SCHEDULES OF QUANTITIES.

The professional engineer shall advise the client on the need for preparing the documents referred to in regulations 4.1.1.3.1 and 4.1.1.3.3 in the form of schedules of quantities in respect of the engineering works to enable contracts to be administered on a measured basis and, if agreed to by the client and carried out by the professional engineer, the additional services shall be as set out below:

- 4.1.2.3.1 Preparation of elemental and operational schedules of quantities for the engineering works or, if the design of the project is not sufficiently advanced, provisional schedules of quantities: Provided that where provisional quantities are prepared, these shall subsequently be remeasured;
- 4.1.2.3.2 measurement of quantities, preparation and pricing of the final contract account and negotiation of settlement with contractors;

4.1.2.3.3 providing the quantity surveyor with the normal information required for preparing schedules of quantities if the client has appointed a quantity surveyor to perform quantity surveying services in respect of the engineering works.

4.1.2.4 MEDIATION, ARBITRATION AND LITIGATION PROCEEDINGS AND SIMILAR SERVICES.

Where the client instructs the professional engineer to undertake the services listed below the extent thereof shall be subject to agreement between the two parties:

4.1.2.4.1 Obtaining Parliamentary or other statutory approval, licences or permits;

4.1.2.4.2 assisting with contemplated or actual mediation, arbitration or litigation proceedings;

4.1.2.4.3 officiating at or attending courts and commissions of inquiry, select committees and similar bodies convened by statute, regulation or decree.

4.1.2.5 DIVERSE ADDITIONAL SERVICES.

4.1.2.5.1 Dealing with authorities other than local authorities.

4.1.2.5.2 Surveys, investigations, cost analyses, etc., of existing installations.

4.1.2.5.3 Making arrangements for wayleaves, servitudes or expropriations.

4.1.2.5.4 Negotiating and arranging for the provision or diversion of utility services not forming part of the engineering works.

4.1.2.5.5 Making such revisions as may be required to obtain the formal approval of the appropriate Government departments or public authorities, resulting from decisions of such departments or authorities arising out of changes in policy and other causes beyond the professional engineer's control.

4.1.2.5.6 Carrying out special investigations or tests.

4.1.2.5.7 Preparation or detailed checking of site coordination drawings, installation drawings and shop drawings for co-ordination, erection or installation fit.

4.1.2.5.8 Detailed inspection, reviewing and checking of designs and drawings not prepared by the professional engineer and submitted by any contractor or potential contractor as alternative to those embodied in tender or similar documents prepared by the professional engineer.

4.1.2.5.9 Attendance at site meetings in addition to those referred to in regulation 4.1.1.4.8 unless the professional engineer is appointed as the principal agent of the client.

4.1.2.5.10 Services which give rise to abnormal additional costs for the professional engineer including-

4.1.2.5.10.1 services arising from the failure of any contractor to perform his contract;

4.1.2.5.10.2 services performed by the professional engineer which it is customarily or contractually incumbent upon the contractor to perform, whether by virtue of special contractual provisions relieving the contractor of customary obligations or in consequence of the contractor's failure to meet contractual obligations;

4.1.2.5.10.3 services performed by the professional engineer in determining any remedial measure, making any additional or more extended site visits or resolving any disputes which are the direct and necessary

consequence of any failure by the contractor to comply with any specifications, drawings, procedures, construction programmes, time-table or due completion date with which he is required to comply in terms of the contract.

- 4.1.2.5.11 Checking, coordinating or advising upon any part of the project not forming part of the engineering works.
- 4.1.2.5.12 Executing or arranging for the periodic monitoring and adjustment of the engineering works in order to optimise or maintain proper functioning of any process or system.
- 4.1.2.5.13 Investigating or reporting upon tariffs or charges leviable by the client.
- 4.1.2.5.14 Advance ordering or reservation of materials, the obtaining of licences and permits and the checking of actual labour, plant and material returns for the purpose of contract price establishment or adjustment.
- 4.1.2.5.15 Inspection and testing (other than on site) of materials and plant, including inspection and works testing during and after manufacture.
- 4.1.2.5.16 Negotiating with supply authorities for special tariffs.
- 4.1.2.5.17 Collection, investigation and collation of the pertinent data listed in regulation 4.2.7 and not made available to the professional engineer.
- 4.1.2.5.18 Negotiating any contract with a contractor selected otherwise than by competitive tendering, involving checking and agreeing quantities and net costs of material and labour and checking and agreeing added percentages to cover overheads and profit.
- 4.1.2.5.19 Additional work arising out of use of secondhand materials or equipment provided by the client.
- 4.1.2.5.20 Carrying out commissioning procedures or performance tests.
- 4.1.2.5.21 Preparing manuals and other documents describing the design, operation and maintenance of the works in addition to those referred to in regulation 4. 1.1.4. 17.
- 4.1.2.5.22 Arranging for checking and recommending maintenance contracts.
- 4.1.2.5.23 Additional services as defined in - regulation 4.1.2.1 .2 - site staff not appointed;
regulation 4.2.4 - damage or destruction of the works;
regulation 4.2.5 - postponement, cancellation or abandonment of the works;
regulation 4.2.6 - alterations or modifications to designs.
- 4.1.2.5.24 Any additional services of whatever nature other than those specifically referred to in regulation 4.1.2.

4.2 REMUNERATION AND BASIS OF PAYMENT OF THE PROFESSIONAL ENGINEER IN RESPECT OF MECHANICAL AND ELECTRICAL ENGINEERING SERVICES PERTAINING TO BUILDING PROJECTS.

4.2.1 REMUNERATION.

4.2.1.1 FULL NORMALSERVICES:

Subject to regulation 4.2.1.1.5, the remuneration of the professional engineer for the normal services performed by him under regulation 4.1.1 shall be calculated on the basis and in the manner set out in regulations 4.3.1 and 4.3.2 and shall, unless otherwise agreed, become due to the professional engineer as follows:

4.2.1.1.1 REPORT STAGE - REGULATION 4.1.1.1.

Ten per cent of the fee when such services as may be necessary for the report stage have been completed.

4.2.1.1.2 PRELIMINARY DESIGN STAGE - REGULATION 4.1.1.2.

A further 10 per cent of the fee when such services as may be necessary for the preliminary design stage have been completed.

4.2.1.1.3 DESIGN AND TENDER STAGE - REGULATION 4.1.1.3.

A further 40 per cent of the fee when such services as may be necessary for the design and tender stage have been completed.

4.2.1.1.4 CONSTRUCTION STAGE – REGULATION 4.1.1.4

4.2.1.1.4.1 A further 35 per cent of the fee as and when the installation work proceeds in proportion to the cost of work completed.

4.2.1.1.4.2 The remaining 5 per cent of the fee on completion of the final contract account.

4.2.1.1.5 PARTIAL NORMAL SERVICES.

Where the professional engineer is appointed to perform services not constituting all the stages set out in regulations 4.1.1.1, 4.1.1.2, 4.1.1.3 and 4.1.1.4, the fee shall be apportioned as follows:

4.2.1.1.5.1 Report stage and preliminary design stage only - 30 per cent of the fee;

4.2.1.1.5.2 report stage, preliminary design stage and the design and tender stage only - 70 per cent of the fee;

4.2.1.1.5.3 construction stage only - 50 per cent of the fee.

4.2.1.2 ADDITIONAL SERVICES.

The fee or charge for additional services carried out under regulation 4.1.2 shall be as follows:

4.2.1.2.1 PROVISION OF SITE STAFF.

The charge for the additional services performed by the professional engineer in providing site staff in terms of regulation 4.1.2.1.1 shall be in accordance with regulation 4.3.3.1.

4.2.1.2.2 PRINCIPAL AGENT OF THE CLIENT.

The fee for the additional services performed by the professional engineer as principal agent of the client under regulation 4.1.2.2 shall be in accordance with regulation 4.3.3.2 apportioned as for normal services under

regulation 4.2.1.1.

4.2.1.2.3 SCHEDULES OF QUANTITIES.

The fee for the additional services performed by the professional engineer under regulation 4.1.2.3 shall be in accordance with regulation 4.3.3.3 apportioned as follows:

4.2.1.2.3.1 Seventy per cent of the fee when schedules of quantities have been completed;

4.2.1.2.3.2 a further 10 per cent of the fee as the work proceeds in proportion to the cost of the works completed;

4.2.1.2.3.3 the remaining 20 per cent of the fee on completion of the final contract account.

4.2.1.2.4 MEDIATION, ARBITRATION AND LITIGATION PROCEEDINGS AND SIMILAR SERVICES.

The fee for the services performed by the professional engineer under regulation 4.1.2.4 shall be calculated on a time basis as set out in regulation 4.3.3.4.

4.2.1.2.5 DIVERSE ADDITIONAL SERVICES.

The fee for diverse additional services performed by the professional engineer under regulation 4.1.2.5 shall be calculated on a time basis as set out in regulation 4.3.4.

4.2.1.2.6 SITE STAFF NOT APPOINTED.

Where adequate site staff are not appointed the professional engineer shall charge for the necessary additional services rendered by himself or his staff and for site visits additional to those referred to in regulation 4.1.1.4.8 on a time basis as set out in regulation 4.3.4, or as agreed with the client.

4.2.1.3 FEE FOR RE-USE OF COMPLETED DESIGNS, ETC.

Where the client wishes to erect one or more duplicates of a works for which the professional engineer has completed investigations, designs, drawings and specifications. etc., the fee to be charged by the professional engineer for the reuse of such documents shall be one-quarter of the apportioned fee for normal and additional services carried out in the report, preliminary design and design and tender stages based on the updated cost of the works as duplicated or repeated: Provided that the professional engineer shall, in addition, be remunerated for such new work as it may be necessary for him to perform and that he shall be paid for all disbursements and expenses: Provided further that if the professional engineer's services should be retained for the construction stage, the fee to be charged by the professional engineer for services and any additional services carried out during this stage shall be the full apportioned fee for the construction stage based on the updated cost of the works as duplicated or repeated together with all disbursements and expenses. This regulation will not be applicable in the case of type designs prepared for re-use by the client at his own risk.

4.2.2 INTERIM PAYMENTS TO THE PROFESSIONAL ENGINEER.

4.2.2.1 For the purpose of ascertaining the interim payments due under regulations 4.2.1.1 and 4.2.1.2.3, the cost of the engineering works which shall exclude any provisional allowances made to cover contingencies and escalation, shall be –

4.2.2.1.1 the net amount of the accepted tender; or

4.2.2.1.2 if no tender is, accepted, the net amount of the lowest suitable tender recommended as such by the principal agent of the client in consultation with the professional engineer; or

- 4.2.2.1.3 if the contract is awarded by negotiation, the negotiated price; or
- 4.2.2.1.4 if no tenders are invited or if no suitable tenders are received or if no negotiation is concluded, the mutually agreed estimate.
- 4.2.2.2 Such interim payments shall rank solely towards the total fee ultimately payable, which shall be calculated on the final cost of the works as defined in regulation 4.2.3.