

DEPARTMENT OF COMMUNICATIONS, ENERGY AND
NATURAL RESOURCES

**STUDY ON THE COMPARATIVE
MERITS OF OVERHEAD
ELECTRICITY TRANSMISSION
LINES VERSUS UNDERGROUND
CABLES**

Request for Tender

11th February 2008

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1. Invitation

The Department of Communications, Energy and Natural Resources (hereinafter referred to as "the Department") invites tenders from suitably qualified parties to undertake a study of comparative merits of overhead electricity transmission lines versus underground cables.

The purpose of this study is to provide the best available professional advice to the Minister on the relative merits of constructing and operating overhead transmission lines compared to underground cables, having regard to technical characteristics, reliability, operation and maintenance factors, environmental impact, possible health issues and cost.

2. Introduction and Background

On 12 March 2007 the Government White Paper *Delivering a Sustainable Energy Future for Ireland – The Energy Policy Framework 2007-2020* was launched which, inter alia, committed to ensuring completion of the ongoing capital investment programme in the transmission and distribution network by 2010 and overseeing further extensive investment. The White Paper also specifically committed to the delivery of the second North South electricity interconnector by 2011 and the East-West interconnector by 2012.

EirGrid plc is a State owned company under the aegis of the Department of Communications, Energy and Natural Resources. The company has responsibility for operating the electricity transmission system in Ireland and the wholesale electricity trading system. It delivers connections, transmission and market services to generators, suppliers and customers, using the high voltage electricity system. EirGrid is also responsible for planning the construction of high voltage transmission lines.

There are currently approximately 6,000km of high voltage electricity lines in Ireland, of which 439km are 400kV lines.

As part of its ongoing transmission development plan, and in line with the Government's Energy White Paper, EirGrid is currently planning the construction and reinforcement of a number of transmission lines. The recently published All Island Grid Study also estimated the transmission infrastructure investments needed to accommodate increasing levels of renewable electricity and noted that up to 42% renewable energy penetration is potentially feasible, requiring over 600 km of additional transmission lines.

EirGrid is currently progressing a number of projects including a North-South Line, Meath-Cavan Line and proposed East-West interconnector. Two of these projects which are currently the subject of a public consultation process, undertaken by EirGrid, as follows:

1. The North-South 400kV transmission line which will more than double the current power transfer capacity between the two jurisdictions. This new line will span approximately 80km and will extend from County Cavan to County Tyrone. It is being undertaken by EirGrid in co-operation with Northern Ireland Electricity. The line will be routed from a proposed new substation near Kingscourt in Co Cavan, through Co Monaghan and onwards to Co Tyrone.
2. Upgrading of the transmission system in Meath and Cavan through the building of new 400kV transmission lines between Woodland, Co Meath, and Kingscourt, Co Cavan. This line will be 58km long and will connect to the North South transmission line at Kingscourt, Co Cavan.

In the course of EirGrid's public consultation on the construction of the North South and Cavan Meath transmission lines, considerable concerns have been expressed by local communities in these regions as to the impact of overhead transmission lines in their locality.

In response to these concerns and noting that the issue of overhead transmission lines versus underground cables is likely to arise as a matter of public concern in future transmission development proposals by EirGrid, the Minister for Communications, Energy and Natural Resources announced on 6th February 2008, that his Department would commission an independent study in relation to overhead and underground transmission lines. The aim of this initiative is to provide clarity on issues in relation to overhead versus underground transmission lines, thereby informing policy decisions on all current and future transmission line projects.

3. Terms of Reference

Purpose

The purpose of the independent study is to provide the best available professional advice to the Minister on the relative merits of constructing and operating overhead transmission lines compared to underground cables, having regard to technical characteristics, reliability, operation and maintenance factors, environmental impact, possible health issues and cost.

Scope of Work

The task is to provide professional advice covering:

- review of electrical power transmission technologies currently in use for transmission of electricity at voltages of 110kV and above
- the factual position regarding current practice for constructing transmission lines worldwide, in terms of when such lines are constructed as underground cables and why
- the relative technical performance of overhead lines and underground cables, in terms of losses, reliability/availability/security of supply, impact on delivered power quality and electromagnetic field generation
- the comparative environmental impact of both options in terms of land use, geology and soils, water resources, ground restoration, ecology and nature conservation, landscape and visual impact, cultural heritage, traffic and noise, air quality and recreation, electromagnetic fields, communities and tourism
- implications for national policies on energy, environment and enterprise (including employment) of implementing underground cables rather than overhead lines
- relative capital costs, total life cycle costs (to include decommissioning costs), annualised operation and maintenance costs and impact on unit electricity prices of both options:
 - o generally internationally
 - o in defined topographies and network configurations typical of those found in Ireland (to be specified at project inception)
- construction times for both options with consequential impacts on security of supply.

The consultants will be required to provide evidence-based international best practice to their analysis. If specific network situations are deemed to be very relevant to Ireland, these are to be identified. The consultants may, as they see fit, meet or liaise with relevant parties.

The consultants will also be asked to review submissions which may be made to the Department of Communications, Energy and Natural Resources on the subject matter of this study and to take account of these submissions, as appropriate, in the final report. Members of the public and interested parties will be invited to make submissions to the Department in this regard between now and 7th March. The consultants should submit a daily fee rate quotation for the aspect of the contract specified in this paragraph.

The consultants may also be required to appear before the Joint Oireachtas Committee on Communications, Energy and Natural Resources, to answer questions on the findings of the study, once the study has been completed. Fees and expenses relating to this should be specifically identified in the tender.

The consultants should plan for two meetings with the Department's Project Steering Committee – a project inception meeting immediately following contract signature and a meeting for presentation of the draft final report.

4. Steering Committee

A Steering Committee will be established by the Department to oversee the study on behalf of the Department.

The functions of the Steering Committee will be to –

- Undertake tender assessment and make a recommendation to the Minister;
- Conclude a contract with the successful tenderer;
- Facilitate and oversee the work of the successful tenderer; and
- Exercise a quality control function in relation to the work and the final report.

5. Reporting Requirements

Deliverables

A final report to the Minister, in twenty (20) hard copies and electronic format.

Timescale

Time is of the essence for this project. A draft final report is to be submitted 40 days after contract signature. The Department will provide feedback within 7 days and a final report is to be submitted, as above, within a further 7 days.

Publication of Report

The consultants should note that it is the intention of the Minister to publish the study once completed.

6. Submission of Tenders

Only those companies and practices which would be considered to be world class by their peer group should submit tenders.

Tender documentation should include the following:

- (a) A summary of the tenderer's understanding of the issues involved in the study;
- (b) An outline of the approach and methodologies that will be employed in carrying out the various elements of the study, including a clear identification of any issues and problems involved in carrying it through, and the approach proposed for dealing satisfactorily with each issue or problem identified;
- (c) The names, qualifications, experience and proposed responsibilities of the persons who will be involved in the study, including an up-to-date CV for each person. Expertise/experience relevant to the study should be clearly indicated;
- (d) The nomination of a person to liaise with the Steering Committee;

- (e) A work programme and schedule or plan (e.g. Gantt chart) with deadlines for deliverables throughout the process, including an outline of the project management arrangements proposed for the study;
- (f) The specific responsibilities proposed for each individual to be assigned to the study, including the time input of each individual and a clear indication as to their availability during the timeframe of the study;
- (g) Where a group or consortium submits a tender, details of the lead contractor who will assume overall responsibility for the full and effective completion of the study and the identification of the specific responsibilities of each member of the group or consortium;
- (h) The names, roles, qualifications and relevant experience of any subcontractors which the tenderer proposes to employ (where a consortium submits a tender the consortium will be responsible for services, if any, provided by subcontractors).
- (i) Details of quality control procedures which will be applied to ensure that all deliverables are fit for purpose;
- (j) An all-inclusive tender price denominated in euro for the cost of completing the study, with details of fees and expenses to be charged, including per diem rates for each individual member involved in the study and an assessment of the level of input to be made by each member of the team (in person day/hours). The price should be exclusive of VAT, be denominated in euro and include details of fees and itemised expenses including travelling expenses. An innovative approach is required in relation to the levels of fee appropriate to travel time. A separate all-inclusive daily fee rate for aspects of the study which relate to submissions received from by the Department should also be submitted. The prices should hold good for 3 months from the final date for receipt of tenders (see below);
- (k) An outline of the method and phasing of payments and
- (l) Confirmation of acceptance of the terms and conditions set out in this Request for Tender document, including all requirements as stipulated under section 12 'General Conditions'.

The Department requires that all information provided pursuant to this invitation to tender be treated in strict confidence by tenderers. Information supplied by tenderers will be treated as contractually binding. The Department, however, reserves the right to seek clarification or verification of any such information.

The Department will not be liable in respect of any costs incurred by interested parties in the preparation of tenders, including an electronic copy, or any associated work effort.

Six (6) copies of the tender should be sent by registered post or recorded delivery service or delivered by hand so as to arrive at the following address not later than noon (12.00 noon local time) Friday 29th February 2008.

Ms Karen Egan,
Oil Supply, Oil, Gas, Grid and Peat Corporate Division,
Department of Communications, Marine and Natural Resources,
29-31 Adelaide Road,
Dublin 2,
Ireland.

The tender envelopes should be clearly marked "***Study on the comparative merits of overhead electricity transmission lines versus underground cables***", with the name and address of the tenderer clearly indicated on the front of the envelope (which should be sealed). Tenders that are delivered late will not be considered. Late delivery of tenders occasioned through the use of agents will not be entertained. A receipt - dated and recording relevant time - should be requested in respect of all Tenders left in by hand to the address specified above.

NOTE: Electronic versions of tender documentation will not be deemed to be a tender proposal for the purposes of this process.

An electronic version of the tender document should however be sent by e-mail to Karen.Egan@dcentr.gov.ie to arrive no earlier than Friday 29th February 2008 at 17.00 (local time) and no later than Tuesday 4th March 2008 at 17:00.

All tender documentation should be in English or Irish.

7. Selection Process and Award Criteria

Tenders will initially be screened by reference to the following qualification criteria:

- a) Completeness of tender documentation in accordance with the specifications under Section 6 above;
- b) Stated ability of the tenderer to meet all the requirements specified in Section 3 (Terms of Reference) and Section 5 (Reporting Requirements).

To be eligible for inclusion in the award process, a tender must meet the above qualification criteria.

The contract will be awarded on the basis of the most economically advantageous tender applying the following criteria, with the individual weighting of each criterion being indicated in parentheses:

1. Price (25 points);
2. Demonstrated understanding, analysis and coverage of terms of reference (25 points);
3. Comprehensiveness and quality of the approach proposed (20 points);
4. Previous experience, expertise and qualifications of the study team including experience on similar projects (20 points);
5. The ability of the tenderer to manage the study effectively and to complete it within the required time-scale (10 points).

The Steering Committee may shortlist tenderers for interview on the basis of the written tenders before taking a final decision on tender selection. It is to be noted that an interview process may not necessarily take place. Applicants are therefore advised to ensure the completeness and quality of their written submissions.

The Department reserves the right not to accept the lowest priced or any bid.

8. Contract

An agreement will be concluded with the successful tenderer, subject to agreement on conditions of contract. This Request for Tender and the Tender submitted will form part of the contract documents.

Please note the following:

- a) Any terms and conditions in the proposed contract does not imply acceptance by the Department.
- b) All works carried out shall be governed by the Laws of Ireland and subject to the exclusive jurisdiction of the Courts of Ireland.
- c) The Department may cancel the tender process at any time prior to the contract being entered into.

9. Further Information and Query Handling

Every effort has been made to ensure that this documentation contains all the necessary information for completion of tenders. In the interests of equity, however, requests for additional information, clarification on the content of this document and all other queries of substance (other than in relation to purely factual or procedural matters) must be made in writing or by e-mail. Any additional information elicited will be made available to all potential tenderers.

Any queries should be submitted by e-mail or in writing only, not later than noon (12 pm local time) on Thursday 21 February 2008 and addressed to:

Ms Karen Egan,
Oil supply, Oil, Gas, Grid and Peat Corporate Division,
Department of Communications, Marine & Natural Resources,
29-31 Adelaide Road,
Dublin 2,
Ireland.
Fax: +353 1 6782969
E-mail: Karen.Egan@dcenr.gov.ie

Queries by e-mail should be copied to Ms. Kilda Taylor Fax +353 1 678 2969; E-mail Kilda.Taylor@dcenr.gov.ie

10. Position Regarding Future Work

This study is not designed to lead to any transaction or ownership change and it is to be clearly understood that the successful tenderer may not enjoy any advantage in any potential follow-up work, including any subsequent projects dealing with the implementation of the results of this study.

11. Freedom of Information

Ireland's Freedom of Information regime is provided for by way of the Freedom of Information Acts 1997 and 2003. The regime seeks to contribute to the maintenance of a high level of openness and transparency within the public service. In line with its obligations and duties under the relevant Acts, the Department of Communications, Marine and Natural Resources strives at all times to meet this objective fully.

It should be noted, therefore, that any information supplied by tenderers in response to this notice may be subject to disclosure in accordance with the provisions of the Acts. In cases where tenderers consider that specific information supplied by them should not be disclosed, they should identify the relevant information and specify the reasons under the Acts why it should not be disclosed. The Department will consult with tenderers about information identified in this way, before making a decision on any relevant request received under the Freedom of Information Acts.

Copies of the Freedom of Information Act 1997 (No. 13 of 1997) and the Freedom of Information Act 2003 (No. 9 of 2003) are available online at www.oireachtas.ie.

12. General Conditions of Tender and Contract

Detailed contractual arrangements are not within the scope of this document. The following conditions, however, will apply:

- I. Tenders must include the information stipulated at Section 6 above. Failure to provide the information specified may lead to the rejection of the tender without evaluation.
- II. The Department is not bound to accept the lowest or any tender submitted and will not be liable for any costs incurred by tenderers in responding to this request for tender by way of the preparation of tenders, including electronic copies, or any associated work effort.
- III. Tenderers will treat the details of all documents supplied by the Department in connection with this request for tender and evaluation as private and confidential.
- IV. The Department wishes to enter into a contract with a single contractor in respect of this project. The Department will not act as an arbitrator between members of project consortia. If consortia submit proposals, they must appoint a prime contractor. This prime contractor will be authorised to sign a contract on behalf of all consortia members and will assume overall responsibility for delivery. All contact will be between the Department of Communications, Energy and Natural Resources and the prime contractor.
- V. The Department undertakes to use its best endeavours to hold confidential any information provided by tenderers in response to this invitation to tender, subject to the Department's obligations under law, including the Freedom of Information Act 1997 to 2003. Please refer to Section 11.
- VI. Information supplied by a tenderer will be treated as contractually binding. The Department reserves the right, however, to seek clarification or verification of any such information.

- VII. The tender price stated in the tender document shall be that amount which is necessary to carry out all of the work required to satisfy the requirements of this request for tender. This sum shall include costs of all labour, materials, travel and other expenses, overheads, insurance, permits, licenses and liaison with relevant authorities.
- VIII. The tender price will include the cost of providing copies of any documents produced in the course of the evaluation to the Steering Committee. Six (6) copies of all reports will be required. A copy of all reports in an agreed electronic format will also be required.
- IX. If during the course of his/her appointment, the successful tenderer or contractor is requested by the Steering Committee on behalf of the Minister to carry out additional work which is beyond the scope of that contained in this request for tender and which could not have been reasonably foreseen by the successful tenderer or contractor, he/she shall submit a quotation for that work, based on the original Schedule of Costs. If this quotation is deemed reasonable, the order to carry out the work will be issued by the Steering Committee.
- X. Payment for all services covered by this invitation to tender will be in € (euro) on foot of appropriate invoices. Invoicing arrangements will be agreed with the successful tenderer or contractor, following the award of contract and will be subject to the provisions of the Prompt Payment of Accounts Act 1997 (No. 31 of 1997). This Act was passed into law in May 1997 and brought into operation under Statutory Instrument No. 239 of 1997 with effect from 2 January 1998, and applies to any contract made with the Department in respect of this study. The Act provides, inter alia, that a main contractor on a public sector contract must provide the same payment period to a subcontractor as is set down in the main contractor's written contract with the public body, unless a different provision has been agreed in the contract between the main contractor and subcontractor.
- XI. In responding to this Request for Tender, tenderers should state that their tax affairs are in order and that obtaining a Tax Clearance Certificate from the Irish Revenue Commissioners will not pose a problem for them.

- XII. Before a contract is awarded, the successful tenderer or contractor (and agent, where appropriate) will be required to produce promptly a valid, current Tax Clearance Certificate and continue to hold same for the duration of the contract. In addition, the successful tenderer or contractor must retain records of tax reference numbers for any sub-contractors where payments exceed €650 (incl. VAT). Where payments exceed €2,600 in any 12-month period the sub-contractor will be required to produce either a current Tax Clearance Certificate or a current C2 certificate. It should be made clear to sub-contractors that payments under a contract are at all times conditional on compliance with these requirements. It will be the responsibility of the successful tenderer or contractor to ensure that any sub-contractor employed by him/her complies with these requirements. Any failure to comply with this requirement will affect the prospects of the successful tenderer or contractor of obtaining future contracts.
- XIII. A successful non-resident tenderer or contractor (or sub-contractor) will be required to promptly produce a Statement of Suitability available from the Irish Revenue Commissioners. Application for tax clearance may be made to the Irish Revenue Commissioners at the Office of the Collector General, Tax Clearance Section, Sarsfield House, Limerick, Ireland (Telephone +353-61-310310), www.revenue.ie
- XIV. The successful tenderer or contractor will be required to produce evidence of adequate professional indemnity insurance before the contract is awarded.
- XV. Under the Finance Act 1987, a Withholding Tax must be deducted from payments for professional services. This tax, which at present is at a rate of 20%, will be deducted from payments made to the successful tenderer or contractor in respect of the work undertaken and will be remitted to the Revenue Commissioners.

XVI. Any conflict of interest involving a successful tenderer or contractor on appointment (or sub-contractors in the event of a consortium bid) must be fully disclosed to the Department, particularly where the successful tenderer or contractor is undertaking work on transmission line projects currently being undertaken on the island of Ireland. The Department reserves the right to take whatever action it considers appropriate in case of failure to disclose a conflict of interest or in case of mis-declaration of conflict of interest.

XVII. Any registerable interest involving the successful tenderer or contractor and the Minister for Communications, Energy and Natural Resources, members of the Government, members of the Oireachtas, or employees of the Department, or their relatives, must be disclosed fully along with the submission of tender, or should be communicated to the Department of Communications, Energy and Natural Resources immediately upon such information becoming known to the successful tenderer or contractor, in the event of this information only coming to their notice after the submission of a bid and prior to the award of the contract. The terms 'registerable interest' and 'relative' shall be interpreted as per section 2 of the Ethics in Public Office Act 1995.

ENDS

Karen Egan

From: Katherine Licken
Sent: 11 February 2008 12:59
To: Kilda Taylor; Karen Egan
Subject: FW: Transmission lines - Invitation to tender

Kilda / Karen

For file. We had a further meeting this morning which included Minister, Sec Gen, Dep Sec Gen, Morgan, Brid and Bob in which we agreed a way forward in the request for tender, to address the concerns raised by Bob. I will revert to you with the tender document once finalised.

Katherine

From: Bob Hanna
Sent: 11 February 2008 10:40
To: Katherine Licken; Aidan Dunning; Minister Ryan
Cc: Brid McGrath; Morgan Bazilian; Sara White
Subject: RE: Transmission lines - Invitation to tender

All,

I must advise that, with the changes to the scope of work that were added on Friday, a number of difficulties arise.

The new elements mean that this cannot any longer be tendered as a fixed price job, as tenderers will not be able to know the amount of work involved in the new elements.

As it cannot now be a fixed price job, it is not safe to use the restricted procedure.

As it is also not now possible to state definitively what the final cost of the work will be, the job should now be submitted to the Official Journal, and that pushes out the timescale significantly.

We specified the job as requested last week. It has now changed. The timescale in last week's press release cannot now be met.

Bob

From: Katherine Licken
Sent: 08 February 2008 18:12
To: Aidan Dunning; Minister Ryan
Cc: Brid McGrath; Morgan Bazilian; Bob Hanna
Subject: Transmission lines - Invitation to tender

<< File: Invitation to Tender (2).doc >>

Minister / Aidan

Attached is the draft invitation to tender as discussed this evening. I will discuss with Bob early on Monday with a view to finalising and issuing Monday morning, and will liaise with Brid on media aspects.

Katherine

Karen Egan

From: Katherine Licken
Sent: 11 February 2008 15:28
To: Karen Egan; Kilda Taylor
Subject: FW: Transmission lines - Invitation to tender

Attachments: Invitation to Tender (2).doc

Karen / Kilda,

I will let you know if any further changes are proposed although I think this is unlikely.

Regards

Katherine

From: Katherine Licken
Sent: 11 February 2008 15:12
To: Bob Hanna; Aidan Dunning; Minister Ryan
Cc: Brid McGrath; Morgan Bazilian; Sara White
Subject: RE: Transmission lines - Invitation to tender



Invitation to
Tender (2).doc

All again,

Following our meeting this morning to discuss the issues which Bob raised below, we agreed to change the Terms of Reference to include *inter alia* a "daily fee" for the part of the study that relates to review of submissions. The Secretary General has met with the Minister following the conclusion of this morning's meeting, and has agreed the proposed changes which are now incorporated in the attached document. The relevant changes are clearly highlighted for ease of reference.

there are no further additions or comments, I propose to place the Request for Tender on the eTenders website this afternoon.

Regards

Katherine

From: Bob Hanna
Sent: 11 February 2008 10:40
To: Katherine Licken; Aidan Dunning; Minister Ryan
Cc: Brid McGrath; Morgan Bazilian; Sara White
Subject: RE: Transmission lines - Invitation to tender

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