



Office of the Director of
**Telecommunications
Regulation**

***eircom's* Reference Interconnect Offer**

Consultation paper

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1. Introduction

The Director of Telecommunications Regulation (“the Director”) is responsible for the regulation of the Irish telecommunications sector in accordance with national and EU legislation. A key issue of importance to the sector is that of interconnection.

In this respect, the Reference Interconnection Offer (“RIO”) prepared by *eircom* (formerly Telecom Éireann) is a fundamental document that influences the way competition operates in the telecommunications sector in Ireland. The RIO defines the mechanisms that allow competing operators to pass telephone traffic between each other (a task that is essential if a ‘complete’ telecommunications service is to be offered) and the prices that will apply in such cases.

eircom, under the Interconnection Regulations¹, is required to have in place a RIO that is in compliance with the relevant legislation, including the principles of transparency and cost-orientation and that sets out the particular components of interconnection according to market needs. The Director has a range of statutory functions in relation to the RIO.

2. Background

In preparation for the full liberalisation of the telecommunications sector in December 1998, the Director and her Office (“ODTR”) carried out a series of consultations on the services and charges set out in *eircom*’s RIO. This led to the publication of two position papers and the availability of services and rates to allow the fully liberalised market to start working. *eircom* published a consolidated RIO in March 1999 that took account of the positions agreed in 1998.

Due to the time pressures of introducing liberalisation and the unavailability of full information in certain cases, a number of key matters in the RIO were determined on an interim basis pending further consideration. In March 1999, the ODTR launched a consultation process on these matters. The process involved the publication of a consultation document (ODTR 99/16)².

On the 7th September 1999, the Director concluded her review of *eircom*’s RIO with the publication of Decision Notice D12/99 (ODTR 99/54)³. On 10th September, *eircom* announced that it was challenging the Director’s decision and had issued High Court proceedings. As a result of the proceedings, by operation of law, the operation of Decision Notice D12/99 was then suspended.

To provide an opportunity to move forward on the RIO issues which are of key importance to all players in the market, a new consultation is being opened by the ODTR on all matters in D12/99. Interested parties are now invited to comment on this document and replies are sought within 21 days. After consideration of replies, the ODTR will issue a new Decision Notice.

The court proceedings in respect of D12/99 are still in place and to ensure no unnecessary delay arises in dealing with these, dates for possible court hearings have been agreed for both the scope of the appeal (2nd of May) and the substantive issues (27th of June).

The Structure of this document is as follows;

¹ European Communities (Interconnection in Telecommunications) Regulations, 1998 (S.I. No. 15 of 1998)

² *eircom*’s Reference Interconnect Offer, consultation paper

³ Telecom Éireann’s Reference Interconnect Offer - Decision Notice D12/99

Section 3 deals with Issues Relating to Physical Interconnection

Section 4 deals with Call Origination

Section 5 addresses the issue of New Services

Section 6 is concerned with the RIO Management Processes

Section 7 deals with Costing Principles and

Section 8 addresses routing matters.

The Director welcomes comments on the issues raised in this paper. The ODTR would be pleased to meet with parties preparing responses in advance of the deadline should that be considered helpful. All comments are welcome, but it would make the task of analysing responses easier if comments reference the relevant question numbers from this document. In order to promote further openness and transparency the ODTR will publish responses received to this consultation paper, excluding commercially sensitive information. Where material that is commercially sensitive is included in a response, this should be clearly marked as such and included in an Annex to the response. Comments should be submitted in writing before **5pm on Friday 10th March, 2000** to: -

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3. Issues relating to Physical Interconnect

In this section of the Consultation paper, the Director sets out her proposed position on a number of issues aimed at broadening the scope of the current *eircom* RIO.

This section of the consultation paper is concerned with the physical delivery and general composition of the physical links required for interconnection and considers also possible measures to aid the speed and logistical requirements involved in establishing interconnection.

3.1 Development of the O&M manual

The Director set out in ODTR 99/16 her view that an agreed Operations and Maintenance (O&M) manual is required if interconnection provisioning and operation is to function smoothly. As a consequence, a group consisting of *eircom* and a number of OLOs (henceforth referred to as the Working Group (WG)) has been created and has agreed O&M and Technical Plan manuals.

The Director notes that the *eircom* RIO has an appendix which includes details entitled 'Network Plan' which contains a sub-set of the information contained in the O&M Manual and the *eircom* Technical Plan.

Having consulted on this issue and considered the response received, international best practice and such other information as is available to her, the Director is of the view that this level of information is not adequate without reference to the latter documents, and therefore considers that the O&M Manual and the *eircom* Technical Plan should be considered an integral part of the RIO.

Q.3.1 Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in detail your reasons for your opinion.

3.2 Service Level agreements

The O&M Manual contains a list of procedures between *eircom* and OLOs, for the purposes of provision and ongoing operation of interconnect links. However, the manual is currently for guidance only and there is no SLA for these processes. Development of such a SLA would ensure that:

- the standards which are set in the O&M Manual are, where appropriate, binding on *eircom* and the OLO;
- failure to adhere to such standards may be sanctioned through a penalty payment structure.

Following widespread consultation of the industry on this issue, the Director's position is that *eircom* should develop appropriate SLAs and include such SLAs as part of its RIO.

Such SLAs offered for interconnection services should, where practical, be consistent with those offered for other carrier services (e.g. the provision of leased lines by *eircom* to OLOs to augment the OLO's own infrastructure). They should, in particular, cover the same areas and principles as set out in the SLA report³ issued by the ODTR relating to carrier services, and set a measurable "standard" level of service against which *eircom* would be measured.

Furthermore, the Director considers that the provisions of the SLA for each service should be documented in a Schedule for that service in the RIO (appendix II to this consultation paper

³ Service Levels Provided to Other Licensed Operators by Licensees with Significant Market Power – Report on the Consultation (ODTR 99/48)

setting out the Director's preferred format and content of an appropriate SLA). She also considers that *eircom* should propose SLAs for Interconnection Links (Annex D of the RIO) for inclusion in the RIO and that, where market demand requires, *eircom*, should in consultation with the industry, develop SLAs for other RIO services.

Q.3.2 Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion

3.3 Timeframes for Setting Up Points of Interconnection and Interconnection Links

The Director wishes to ensure that the time required to set-up new interconnect links is as short as possible, and considers it essential that OLOs could rely on the commitments given by *eircom* on lead-time for delivery for interconnection circuits.

Having consulted on this issue and considered the response received, international best practice and such other information as is available to her, the Director considers that the contractual timeframes proposed in the SLA in Appendix II to the consultation paper should be used by *eircom* as the basis for its interconnection provision times and be the maximum limit for delivery of ready for service circuits from the time of acceptance of the order. She nevertheless notes the need for accurate forecasts, and considers that SLAs should not be binding for circuits above the level forecast.

To ensure that its commitments are realised, the Director is of the opinion that *eircom* should publish as part of the RIO a clearly defined order and provisioning process (including target time scales for key milestones). The process would in the first instance be defined by *eircom* having sought the views of OLOs, the timescales then becoming part of the SLA.

The Director is also of the view that *eircom* should produce statistics, which would indicate the proportion of interconnection links delivered on or before the maximum timescales set out in the RIO.

Q.3.3 Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion

3.4 Penalties for Delays in Setting Up Interconnection Links

A target without a sufficient sanction or incentive is unlikely to be effective and the issue of penalties must, therefore, be considered. Nevertheless, it is noted that delays may result from the actions of either party, and it is important to consider both situations.

3.4.1 Penalties for delays caused by *eircom*

Presently, *eircom* considers that it has a commercial incentive to co-operate with OLOs to set-up PoIs, but most of the industry is generally in favour of having other penalties introduced for missing the timescales in the RIO.

Having consulted on this issue and considered the response received, international best practice and such other information as is available to her, the Director considers that a reasonable penalty charge should be payable for the late delivery of time-sensitive services. In the report on the consultation on SLAs (ODTR 99/48), the Director set out a framework for the calculation of penalty payments linked to service targets for carrier services that are not interconnection services. The Director considers that this methodology is also appropriate and should be applied to services covered by the RIO.

The Director also considers that, where it is clear that *eircom* has failed to deliver properly forecast circuits by a set period due to its own fault, then it should be subject to penalties as set in an SLA. If the failure to implement the circuits by the Ready For Service date is due to errors or omissions by the OLOs then no penalty should be applicable to *eircom* (see also

paragraph 4.4.2). Therefore if *eircom* delivers the circuits within the timescales but the actual implementation over-runs because, for example, of a lack of testing resources by the OLO, the process should be frozen until the OLO has completed its task. At such time the 'clock' would start again.

Q.3.4.1 Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion

3.4.2 Penalties for delays caused by OLOs

If *eircom* incurs penalties for failure to meet deadlines for setting up PoIs, yet OLOs suffer no penalty for any delays they cause, it is possible that OLOs could request more links than they require, and then to delay their implementation, thus forcing *eircom* to incur unnecessary costs.

Following widespread consultation of the industry on this issue, the Director's is of the view that OLOs should incur penalties for delays in set-up of interconnection points caused through their own fault rather than *eircom*'s. She considers that a reciprocal penalty regime should be in place that encourages accurate forecasting but is such that it does not impose an undue burden on new operators. The penalty would:

- be based on a sliding scale,
- not include equipment charges (as equipment can be redeployed) but may include labour,
- be proportional to the connection charge,
- have a 'reasonable' margin for error built-in,
- allow OLOs to order an amount over the forecast without penalty, but remove SLA penalties on *eircom* for such paths, and
- provide for a maximum penalty.

The Director considers it essential that no unreasonable burdens are placed on OLOs, especially new entrants to the market. For example acceptable margins for forecast accuracy will need to reflect the genuine difficulties such new operators might have in developing forecasts.

If forecasts were too low (i.e. the OLO ordered more paths than forecast), no SLA penalties for late delivery would be applicable to any paths above the forecast value. *eircom* would deliver such paths on a "best efforts" basis. If forecasts were too high (i.e. the OLO orders fewer paths than forecast) then *eircom* should be compensated for any pre-provisioning work it has done on the basis of the forecasts.

Q.3.4.2 Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion

3.5 Customer Sited Interconnection ("CSI")

There are a number of issues in relation to CSI which are addressed in this paper. These include prices (which are discussed in Section 7), the related issue of interconnection extension circuits ("IECs") and the availability of higher speed circuits (greater than E1). Having consulted on these issues, the Director has come to a number of conclusions.

Firstly, in relation to extending the range of interconnection products, the Director is of the view that it is reasonable for interconnecting operators to ask for higher capacity service to be made available on terms that allow for appropriate discounts.

Secondly, the Director considers that *eircom* should make an offer to provide higher functionality or band-width services that complies with market demand. In making this offer, *eircom* should consider specific requests from OLOs which include appropriate detail.

However, while the Director expects *eircom* to offer an interconnect service fulfilling these specific requests it should, at the same time, ensure the offer is sufficiently general to encompass the needs of the market as a whole. If *eircom* can demonstrate the absence of specific market demand, there would be no need for it to make the offer.

Thirdly, the Director considers that there is sufficient interest in the use of IECs to warrant their inclusion as an offering in the RIO.

In summary, the Director's position is that *eircom* should include full details of Interconnection Extension Circuits as an offering in its RIO, and should also develop generic offers for higher capacity services that are in accordance with declared market demand and to include these in its RIO.

Q.3.5 Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion

3.6 In-Span Interconnect

A number of operators were concerned about the limited flexibility and appropriateness of the ISI offer in the *eircom* RIO. While the Director considers that it is essential for interconnecting operators to have an ISI offer that fully meets their needs, she has not enough evidence to suggest that the current offer does, or does not, do this. She is therefore of the position that *eircom* should consult further with its interconnect customers (OLOs) and, if this demonstrates a requirement for an extended ISI offer, *eircom* should develop such an offer and include it in its RIO.

Q.3.6 Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion

3.7 Co-location of Interconnection Points

Co-location of equipment (on an *eircom* site) for interconnection would appear on the face of it to facilitate rapid and early interconnection of networks. The Director being keen to identify the demand in Ireland for co-location, respondents to ODTR Consultation paper ODTR 99/16 were asked what benefits they perceived from co-location over other forms of interconnection, what type of co-location they favoured, if any, how co-location should be costed, what operational aspects needed to be considered and what timeframes would set-up of co-location require.

Having consulted on this issue and considered the response received, international best practice and such other information as is available to her, the Director considers it would be appropriate at this stage of the market's development to require that *eircom* define a package of co-location services, after consultation with OLOs, that could be offered nation-wide and be included in its RIO.

Q.3.7 Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion

3.8 Uni-directional versus Bi-directional Interconnect Links

Industry views were sought as to the viability of introducing bi-directional interconnection links that carried traffic in either direction irrespective of the "owner" of the traffic (the operator that bills the customer is said to "own" the traffic). Issues such as who should be responsible for the dimensioning of such a link, on what basis, how disagreements might be resolved, how the cost of the link should be split and how should resilience be provided were identified as areas that would need to be addressed.

Having consulted on this issue and considered the response received, international best practice and such other information as is available to her, the Director considers that *eircom*

should following consultation with OLOs, offer bi-directional interconnection links in accordance with declared market demand. The related RIO offering will need to recognise that service provisioning, operation, dimensioning and path protection options are different from uni-directional links and would to be fully detailed in the O&M and Technical manuals.

Q.3.8 Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion

3.9 Second Interconnection Link

Presently, an interconnecting OLO is required to purchase a minimum of two 2 Mbit/s links when it wishes to interconnect with *eircom*. A cancellation charge of £3,500 is applied to an interconnecting operator if it either cancels an interconnect link within 12 months of commencement of interconnect service for the link in question from *eircom* or if it does not take up the second 2 Mbit/s link that it is required to order from *eircom*.

Following widespread consultation of the industry on this issue, the Director agrees that *eircom* should be able to charge for expenses incurred in setting up PoIs which are subsequently cancelled (see Sec. 3.4.2), but considers that *eircom* has not yet provided evidence to support its current charge of £3,500 or indeed the need for a second link.

In relation to cancellation charges she considers it is reasonable to charge one in cases where a circuit is used for less than one year but this should be based on labour costs only as the equipment can be used at other PoIs. She considers that given the recent liberalisation of the market in Ireland, that the demand for new PoIs is sufficiently high that no equipment will go unused.

The Director's position therefore is that *eircom*'s requirement for a second link should be removed from the RIO, and that the cancellation charges, in cases where a circuit is used for less than one year, should be based on labour costs only.

Q.3.9 Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion

4. Call Origination

This section specifically addresses the call origination services and specific characteristics of that service, including how call origination might differ from other conveyance charges such as call termination or transit.

4.1 Call Set-Up Component of Conveyance Charges

In document 98/52, the ODTR acknowledged the issue of call set-up costs for both successful and failed calls and the issues surrounding their identification and methods of charging for them. It is possible to charge for these through a call set-up fee or by including the costs in the duration based charges. The ODTR understands that both the call profile of an interconnecting party and assumptions about average call holding times impact upon the balance between call set-up charges and time-based charges.

Having consulted on this issue and considered the response received, international best practice and such other information as is available to her, the Director has been unconvinced of the principle that cost components of switching can be sensibly divided in a *transparent* manner between the cost of call set-up and the cost of conveyance. The key reason for this is that the call set-up and the conveyance elements of the service cannot at present be offered or bought separately. She is also concerned about imbalances between ‘retail’ and ‘wholesale’ pricing structures.

Therefore, the Director is of the view that there should be no explicit call set-up component in interconnection charges for the time being in *eircom*'s RIO, and that costs associated with call events should be included in the overall cost of conveyance. However, she recognises that there may be a need to revisit the issue at some future date on evidence that the take-up of new services is being jeopardised by the lack of a call set-up charge.

Q.4.1 Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion

4.2 Call Origination as a Competitive Service

A number of operators have suggested that call origination may differ from call termination not only by the fact that there may be different costs associated with call origination compared to termination, due to call set-up charges, but also because call origination could in theory be a competitive service were enough competing access providers to enter the market.

Following widespread consultation of the industry on this issue, and given that *eircom* has 95% of the market for telecommunications in Ireland⁴, the Director is of the view that there is not sufficient evidence available at present to support the assertion that call origination is currently a competitive service or will become one in the near future.

She therefore proposes that charges for both call origination and call termination should be based on costs, which in turn should be based on LRIC cost methodology. The method of LRIC costing adopted will impact the LRIC cost estimated and applied. This will be a function of the Director's final decisions in implementing LRIC in the Irish market.

Q.4.2 Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion

⁴ Significant Market Power in the Irish Telecommunications Sector – ODTR Decision Notice D15/99

5. New Services

The Director considers in this section the unbundling of service offerings, the need for procedures to expedite the introduction of new interconnection services, the relationship between retail services and interconnection services, and a specific issue relating to public call boxes.

5.1 *Unbundled service offering and procedures for agreeing new services*

In the interests of supporting innovation, it is important that there is sufficient transparency in the market for interconnect services and that the timescales for setting-up interconnection supporting new services are not too long.

Having consulted on this issue and considered the response received, international best practice and such other information as is available to her, the Director considers that:

1. *eircom* should provide (and keep updated) a list of unbundled interconnection elements supplied to its own downstream retail division(s), and to Subsidiaries, this list (including prices for each element) forming the basis of an unbundled interconnection element within the RIO and being regularly updated.
2. All new interconnection products should be made available, as far as is possible and reasonable, in an unbundled format. As new products will share many of the same individual elements as existing bundled services, many individual elements would therefore become available naturally as interconnection services develop.
3. The current timescales for implementing new services should stand for present, but should, over time, become binding.
4. *eircom* should, following discussions with OLOs, submit proposals to ODTR for a streamlined procedure for new service requests, including a full description of the process timescales, information required and service request pro-forma with the intention that this is included as part of the SLA.

Q.5.1 Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion

5.2 *Introduction of New Retail Products*

In addition to seeking views on the unbundling of interconnection elements, the Director also sought opinions on whether *eircom* should be required to introduce new interconnection products before introducing any retail product based on those interconnection products.

Having considered all the information available to her, the Director considers it essential that OLOs have a reasonable time to respond to new interconnection services and develop retail offerings in the market.

The Director's position is that:

1. *eircom* should include in its RIO any new interconnection service being negotiated between *eircom* network, and *eircom* retail division or an *eircom* subsidiary. This should, as far as possible, be in an unbundled format.
2. *eircom* should alert the ODTR immediately of all substantive decisions on new interconnect services between its networks and retail division(s) or Subsidiaries. This notification would include the proposed timetable for introducing new retail services using these interconnection services.

3. *eircom* should be permitted to launch a new retail product only if it has either declared that no new interconnection services are used to deliver the retail product, or already amended its RIO to include appropriate new interconnection services. The length of time between amending the RIO and notification of the launch of the new retail product should be determined by the ODTR based on *eircom*'s advance notification to the ODTR of intra-group interconnection services, and this period should be at least four weeks.

Q.5.2 Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion

5.3 New Services Requested by the Industry: Carrier Selection and Carrier Access from *eircom* Payphones

Currently, it is not possible to use carrier access and carrier selection services from *eircom* payphones

The Director notes that OLOs already offer consumers an equivalent service by providing a freephone number, and that, even if this solution is more expensive to them, consumers as a whole would probably not gain substantially from the provision of carrier access for *eircom* payphones.

She does not therefore intend to insist that *eircom* provide the capability at this time.

Q.5.3 Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion

6. RIO Management Processes

It is important that a balance is struck between ensuring that that RIO is as current as possible, and the effort involved in keeping it up to date by all parties (*eircom*, OLOs and ODTR). In this section therefore review procedures and the important issue of retrospection are considered.

6.1 Review of RIO

There is currently no formal process for updating *eircom*'s RIO and reviewing the updates. The Director considers that the establishment of a regular process would result in a more efficient use of time and resources.

Following widespread consultation of the industry on this issue, the Director's position is that:

1. She will review the generality of prices of all the services in the RIO on an annual basis.
2. She will review all the services in the RIO on an annual basis in the future, but given the current stage of market liberalisation she intends to review services bi-annually for the time being. This would include consideration of new services as well as, where appropriate, proposals by interested parties that certain services be removed from the RIO as they are now considered to be provided in a fully competitive environment
3. She reserves the right to investigate individual services and prices at any time outside these review dates.

The O&M manual includes details of ongoing activities and procedures relating to the forecasting, pre-provisioning, provisioning and operating interconnection facilities. Should the O&M manual itself need updating then the procedures above should also be followed.

Q.6.1 Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion

6.2 Retrospection of Charging

A forecast of the true costs of interconnection will in all likelihood include some inaccuracies, although it can be expected that accuracy should improve with experience. Acknowledging this difficulty, consultation paper ODTR 99/16 suggested that the true costs of interconnection might be assessed annually when regulatory accounting information is produced by *eircom* and prices adjusted retrospectively.

Having consulted on this issue and considered the response received, international best practice and such other information as is available to her, the Director considers that retrospection of charges should occur for all charges that are covered in the RIO. This encompasses both conveyance and non-conveyance services.

The Director is of the view that retrospection should be reviewed annually and be based upon the actual traffic, operational and cost measures that have occurred in the past year. The annual review of charges for all the interconnection services within the *eircom* RIO should determine the final charges applicable for the accounting year or period gone by including interest, where appropriate, and should also estimate charges that will apply on an interim basis from that date forward. Where the charges determined as final for any particular year or period are materially different from those that had been previously estimated for that period, the final charges should apply retrospectively.

The Director would however still reserve the right to review specific rates at any time in line with her statutory rights and duties. She would also reserve the right under her statutory duty to review the applicable terms and interest payable.

Q.6.2 Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion

7. Costing Principles

This section considers costing principles underlying the calculation of prices for individual interconnection services.

7.1 Cost Review

Section 6.1 of this report looked at RIO management and quoted the need for annual review of costs and allowed for the use of retrospection (which means, in principle, that the costs used during a year will be interim).

The Director's position had been that the next annual review of the generality of prices to be included in the RIO would be applied with effect from 1 December, 1999. The interim charges currently applicable would remain until new rates are determined. The Director would then approve the calculation of the final rates for the period ended 31 March 1999, and a revised set of interim rates (adjusted for projected changes in the year ended 31 March 2000), would be applicable from 1 December, 1999.

For the reasons set out in the ODTR Status Report on interconnection Rates (ODTR 00/xx), this timetable is now no longer possible or appropriate. In Documents 00/xx the Director has set out the current arrangements for RIO rates for the periods:

- Final rates for 1 December 1998 to 1 December 1999
- Interim rates for 1 December 1999 to 31 March 2000

The Director now proposes that the current ongoing review of the generality of prices will be concluded and applied with effect from 1 April 2000. On conclusion of further work on Long Run Incremental Costs (LRIC) during 2000, this will be further reviewed.

Q.7.1 Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion

7.2 Return on Capital Employed

The cost of capital must be assumed when calculating a cost-based interconnection charge, and is recovered through the Return On Capital Employed (ROCE). In its recommendation on interconnect services, the EU Commission recommended that the Weighted Average Cost of Capital (WACC) method be used to calculate the appropriate return on interconnection tariffs (see Consultation paper ODTR 99/16).

Having consulted on this issue and considered the response received, international best practice and such other information as is available to her, the Director intends to continue to use the WACC to calculate the cost of capital, but would like to propose a few changes in how this should be calculated:

1. *eircom* should ideally be requested to calculate a separate beta for its interconnection services, but in the interim the beta for the fixed line business should be used as the beta for the company as a whole.
2. In estimating the beta for *eircom*, additional privatised telecoms operators other than Telecom New Zealand should be considered.
3. The net capital employed should be calculated using the actual accounting figures in *eircom's* balance sheet.

The Director further notes concerns on the use of benchmarking. She considers that benchmarking against the returns of other international operators should only be used to the extent that it may identify inconsistencies in the inputs to the WACC.

Q.7.2 *Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion*

7.3 Customer Sited Interconnection

The rates set out in *eircom*'s RIO for Customer Sited Interconnection are based on *eircom*'s retail charges for leased lines pending a leased line cost review. *eircom* notes that leased line pricing must according to other legislation be cost based, and that use for interconnection rather than other commercial use does not impact basic cost of provision. However, economies of scale and marketing cost avoidance arguments are used to justify a wholesale discount of 8%.

The Director stated that she is currently engaged in a work stream to review the costs of provision of leased lines and recognises that leased lines for interconnection costs cannot be considered in isolation. She will take into account relevant comments made as part of this consultation.

Q.7.3 *Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion*

7.4 In-Span Interconnect

Charges for in-span interconnection ("ISI") have, to date, not been considered by the Director to be adequately cost justified. This results largely from insufficient detail concerning the totality of costs involved in realising the offer in practice. This remains the Director's position. She therefore requires *eircom* to provide greater detail on the costs associated with ISI service provisioning options that reflect OLO requirements.

Q.7.4 *Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion*

7.5 Billing and Carrier Administration Charges

The act of interconnection itself may generate additional costs over and above the interconnect specific costs. These can arise from the cost of physical additions to the system necessary to enable the network to handle interconnection traffic. Such costs may arise from administrative activities involved in setting up, maintaining and billing for interconnection.

Having consulted on this issue and considered the response received, international best practice and such other information as is available to her, the Director considers that additional costs for billing and carrier administration may be caused by the provision of interconnection services and that these costs should be recoverable to the extent that they have been both fully justified and identified as being incremental to interconnection and not incurred from the normal activities of the company (this applies as well to transit settlement and international billing costs). Any incremental costs where justified should be recovered through a per minute charge on all minutes of relevant (e.g. international costs recover from international interconnection traffic) traffic⁵ over the network.

eircom has to date provided no satisfactory justification for the inclusion of the billing and carrier administration costs, the transit settlement and international billing costs as eligible charges within the RIO. In preparing such a justification, full account should be taken of the special form of interconnection that occurs between *eircom* Network and either the retail divisions of *eircom* or Subsidiaries.

⁵ OLO and *eircom* Retail

Q.7.5 *Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion*

7.6 National Transit

Transit rates apply to calls handed over to the *eircom* network from an originating OLO's network for termination in networks other than the *eircom* network. Transit traffic can currently be passed to the *eircom* network at any tandem exchange, but *eircom* does not at that point necessarily know to what network the call is destined. Following widespread consultation of the industry on this issue, the Director's position is that OLOs should not be penalised because of inefficiencies in the operation of traffic analysis and routing by *eircom* but, unfortunately, she considers that she has insufficient information to make a clear decision on transit rates now. The development of a LRIC model will enable a clearer decision to be made.

The Director is therefore of the opinion that in the interim the current single transit rate should continue, but with a view to introducing multiple transit rates which reflect the use of interconnecting operators' network elements as soon as it will be technically feasible. *eircom* should also indicate the improvements required in their interconnect billing system to be able to bill multiple transit rates.

Q.7.6 *Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion*

7.7 Projected Minutes

Traffic volumes (real or estimated) are needed to calculate cost based interconnection charges. Projected 1999 traffic volumes were used in calculating the interim interconnection rates to take account of the increasing network efficiency of *eircom* with the volume of traffic growing faster than associated costs. These projected volumes were calculated using information provided by *eircom* on traffic routing factors, anticipated traffic volume increases in 1999, and existing traffic volumes.

The Director recognises that the construction of an econometric model may be a more robust approach to forecasting the projected minutes to be used in calculating interim interconnection minutes. However having consulted on this issue and considered the response received, international best practice and such other information as is available to her, the Director considers that, whilst not necessarily the most accurate, the current method of predicting minutes is practical and proportionate in level of cost and effort to the desired outcome. She therefore recommends that the method continue to be used.

Q.7.7 *Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion*

7.8 Time of day dependent charging

The PSTN network is normally dimensioned according to the maximum traffic required in the busiest hour of the day. The network capacity used for peak and off-peak⁶ calls is a joint cost between these services i.e. capacity used to meet peak demand also provides the ability to meet demand in the off-peak times. It is therefore very difficult to attribute the costs between the charging periods, particularly at extreme off-peak times when the network is, to all intents and purposes, empty.

The current interconnection rates vary according to the time-of-day and the day-of-week when a call is made. The current split of interconnection rates between peak, off-peak and weekend (where appropriate) is based on a retail traffic gradient.

⁶ Including Weekend where appropriate.

Having consulted on this issue and considered the response received, international best practice and such other information as is available to her, the Director considers that a retail traffic gradient shall be used when calculating the costs of interconnection calls. This retail traffic gradient should be calculated from the relevant period over which the charges shall apply, and that where this is not possible the sampling principles outlined in section 8.1. should be applied.

Q.7.8 Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion

7.9 National Termination

National call termination rates apply to calls passed from an OLO network to the *eircom* network for termination in that network.

The conveyance charges that apply to the Primary and Tandem charging levels are currently averaged across the country. However, an element of distance de-averaging has been used for Double Tandem calls, so that the interconnection charges are more closely related to the actual usage of the *eircom* network.

Following widespread consultation of the industry on this issue, the Director considers that the additional complexity of de-averaging would outweigh benefits and it is appropriate to use the current charging structure for National Termination Double Tandem.

Q.7.9 Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion

7.10 Operator Assisted Services

In ODTR 98/60 the Director agreed to the presentation of *eircom*'s interim rates for operator assisted services, on a fixed charge per call basis, in the following areas:

- National Directory Enquiries
- International Directory Enquiries
- National Operator Assistance and
- International Operator Assistance

For these services, *eircom* conveys calls handed over from the network of an OLO to an *eircom* operator centre. Both enquiry services are the same as that offered to customers directly connected to the *eircom* network. The rates agreed were of an interim nature as not all the relevant information had been provided by *eircom* to enable the ODTR to assess compliance with the relevant interconnection legislation.

Given the fundamental difference of opinion between *eircom* and the OLOs in their answers to consultation paper ODTR 99/16, the Director intends to review this matter as part of the LRIC study and will take *eircom*'s new data and all views into account at that time.

Q.7.10 Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion

7.11 Data Build and Modification

In document ODTR 98/60, the Director agreed interim rates with *eircom* for the costs that may be incurred when initially setting up data build in the switches and for future modifications to that data. The question was then asked in consultation paper ODTR 99/16 whether, and, if so, to what extent, there should be a charge to recover the costs of data build and modification.

The Director has not received sufficient justification for the maintenance of separate charges for data build and modification and therefore considers that data build and modification costs should be recovered through a Pence Per Minute charge on all network minutes. The Director notes that there may be instances when certain types of data build and modification may need to be charged for separately.

Q.7.11 Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion

7.12 Packet Switching Services

eircom currently conveys packet service access calls handed over from an OLO's network for delivery to operators connected to the *eircom* network. These are currently delivered to the *eircom* network at the tertiary node. The charge for this service is composed of a weighted average of the tandem and long double tandem national termination rates.

The current service provides access only to the packet switch network and the charge relates to the use of the PSTN for this purpose.

Following widespread consultation of the industry on this issue, the Director considers that *eircom* should provide access to Packet Switching Services at the Tandem (Secondary) switch level of its network (unless it can provide sufficient justification for doing otherwise). The charging for this service should also be modified to charge the individual call termination rates instead of a weighted average of these rates.

Q.7.12 Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion

7.13 Access to Paging Services

eircom currently transit paging service access calls received from OLOs to the networks of paging operators. Access to the paging network is treated by *eircom* as the same as access to any other network, with a call termination fee, where appropriate, paid to the network terminating the call and a charge to transit the call across the *eircom* network.

The Director considers the current charging structure for access to paging services to be appropriate, subject to the proposed changes in the transit element of any charge as set out in section 7.4 above.

Q.7.13 Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion

7.14 Emergency Services

eircom currently makes no charge for the conveyance of calls to the emergency services. Prior to liberalisation the Director did not consider that *eircom* had provided sufficient justification why a charge should be made for these calls. This still remains the Director's position. She considers that emergency services shall not be charged for pending the outcome of the consideration of wider policy issues relating to Universal Service Obligation.

Q.7.14 Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion

7.15 International Access Traffic

The international access traffic service covers the conveyance of international traffic handed over from an OLO's network for delivery through the *eircom* international network. Currently, it is only provided at the tertiary node level in *eircom*'s network, *eircom* not being able to provide access at the tandem node level, due to constraints in its billing system. The

current structure in the RIO is based on a combination of chargebands and country-specific rates.

Following widespread consultation of the industry on this issue, the Director considers that:

1. The current structure for international charges of using a combination of chargebands and country-specific rates to be appropriate.
2. The international market for interconnection is not yet sufficiently competitive to justify a reduction in regulatory oversight.
3. *eircom* should, subject to market demand, develop plans and costings for the implementation of changes to its billing system to enable access to international services to be provided at the tandem level in its network, provided these are cost-effective.
4. The per minute cost of international access should be based on the actual costs of the international network elements used, i.e. international access charges should be based on the actual costs of carrying the traffic to its final destination

Q.7.15 Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion

7.16 Access to the Directory Database

The current 'Access to Directory Database' service offers on-line access to the directory database by the use of an agreed number of terminals for connection via a leased line from the OLO's premises to *eircom*'s premises.

The Director considers the current charging structure (fixed fee basis) to be appropriate, subject to the costs and details of the link between and OLOs premises and the Directory Database being included as part of the RIO service offering.

Q.7.16 Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion

8. Routing

This section considers issues relating to the routing of traffic on *eircom*'s network.

8.1 Routing Factors

Routing factors are fundamental to the calculation of interconnection charges as they are a measure of the frequency with which particular network components are used by each interconnection service.

Routing factors depend on the profile of calls generated by an interconnecting party in terms of both time of day and location. Thus for existing operators they could be measured retrospectively. The current interim rates were calculated using theoretical routing factors based on *eircom*'s network traffic matrix and routing matrix. These routing factors generally reflect the usage of network components by fixed telephony traffic.

Following widespread consultation of the industry on this issue, the Director was not presented with satisfactory evidence that the factors used were inappropriate and should not continue as the basis of the calculation. She therefore is of the view that:

1. Theoretical routing factors based on general network average usage shall be used for calculating interconnection charges and these will be based on regular sampling of network element usage by traffic.
2. *eircom*'s network traffic and routing matrices are appropriate for the calculation of average theoretical routing factors, but this issue is likely to need to be addressed again as part of the working group on developing a bottom up LRIC model.
3. Different routing factors for different traffic cases should only be used when there is a systematically material difference in the usage of network components by a particular type of traffic

Furthermore, statistical confidence is seen to be a key requirement when selecting an appropriate sampling period, and the extent to which the period is representative of the year is also seen as important.

Having consulted on this issue and considered the response received, international best practice and such other information as is available to her, the Director considers that the period of sampling used when measuring the usage of network components should be sufficient to ensure it is: unbiased/objective, statistically significant, representative of the entire population, not skewed by seasonal or other factors and determined in a statistical manner. In addition, the traffic sampling should include all the call types that use the network.

Q.8.1 Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion

8.2 Routing Principles for *eircom* originating and *eircom* Terminating Traffic

The routing principles set out in the RIO for calls terminating on *eircom*'s network are different from those for calls originating on *eircom*'s network. This could lead, in some instances, to OLOs either increasing the PoIs they have with *eircom* or in them incurring extra routing costs.

Following widespread consultation of the industry on this issue, the Director considers that traffic should be routed in the manner of an efficient best practice operator, and that *eircom* should provide national call origination from any tandem switch in order to provide routing in an efficient manner. She suggests that *eircom* and the OLO's examine the options for more efficient routing of traffic between themselves.

The Director is also of the view that *eircom* should offer a Data Management service for interconnecting carriers to enable efficient routing of operator's traffic in accordance with the other operator's routing plan. The Director expects that any charge for this service will be quite low as *eircom* already provide basic routing information in their Tandem exchanges. The Director also notes that number portability requires such software improvements on *eircom* exchanges.

In the interim, the Director's position is that the Routing Factor for Origination traffic should be equivalent to the current Routing Factor for Termination traffic.

Q.8.2 Do you agree with the Director's intended position? Please state your reasons. If you do not agree, please state in details your reasons for your opinion

9. Conclusion

The Director is issuing this consultation in the interests of moving the framework for interconnection in the market forward in a timely and constructive manner. She now invites interested parties to submit comments and proposes to respond to comments within as short a period as possible. The Director wishes to thank all parties to the debate on interconnection for their comments in the past on this subject and, in advance, for their comments on the issues in this paper.

Appendix I - Acronyms used in Consultation Paper

CSI	Customer Sited Interconnect
EU	European Union
ISI	In Span Interconnect
ISP	Internet Service Provider
O&M	Operations and Maintenance
ODTR	Office of the Director of Telecommunications Regulation
OLO	Other licensed operators
PoI	Point of Interconnect
PSTN	Public switched telecommunications network
RIO	Reference interconnect offer
ROCE	Return on capital employed
SI	Statutory instrument
SMP	Significant market power
WACC	Weighted average cost of capital

Appendix II - Proposed SLAs for *eircom* Reference Interconnect Offer

1. Introduction

eircom's Reference Interconnect Offer has an associated "Interconnect Operations and Maintenance Manual" (O&M Manual). This manual contains an agreed list of procedures between *eircom* and Other Licensed Operators (OLOs), for the purposes of provision and ongoing operation of interconnect links.

However, there is currently no Service Level Agreement (SLA) for these processes, whereby:

- the standards which are set in the O&M Manual are binding on *eircom* and the OLO
- failure to adhere to such standards is to be subject to a sanction through a penalty payment structure.

This document sets out the Director's position on the attributes of the O&M Manual that should be the subject of the SLA.

2. The O&M Manual

The O&M Manual contains descriptions of a number of processes which have been agreed between *eircom* and the OLOs. Amongst these processes, the following have specified target values and are of sufficient importance to be the subject of a SLA.

Table: O&M Manual Processes for Inclusion in an SLA

Process	"Target" in O&M Manual
Pre-provisioning	
Order acknowledgement	By <i>eircom</i> , within 5 working days ⁷ of receipt by the Order Control Point
Offer of alternative service	By <i>eircom</i> , within 10 working days of acknowledgement of a completed order form. This will only be required if <i>eircom</i> is unable to offer the interconnect service requested
OLO acceptance confirmation	Acceptance of any alternative offer within 10 working days of receipt.
Provisioning	
Provision of circuit designations and notification of applicable acceptance test suite	Not specified currently in O&M
Notification of Ready for Test date	Not specified when this will be offered. However, testing will take place within the following 2 week period, with 3 working days' notice from the OLO. Otherwise by mutual agreement.
Service provisioning timescales	
	New Path on existing Link to an existing PoI - 8 weeks from order acknowledgement

⁷ 0900-1700 Monday to Friday excluding public holidays

	New Path requiring new Link to an existing PoI - 10 weeks from order acknowledgement
	New Path on new Link to a new PoI using CSI ⁸ - 16 weeks from order acknowledgement
	New Path on new Link to a new PoI using ISI ⁹ - 26 weeks from order acknowledgement
	Rearrangement of existing Path - 8 weeks
Post-provisioning	
Fault reporting	24-hour, 365 day reporting Customer Service Affecting : 60 minutes initial response with status updates every 60 minutes Non-Customer Service Affecting : 1 working day, with updates every following working day
Planned maintenance	10 working days' notice by either party. No provision for over-running works.
In-service quality	
Grade of Service	<0.5% blocking in the busy hour Provided in Technical Manual but not guaranteed.
Number range allocation	
Acknowledgement of receipt	By <i>eircom</i> , within 5 working days
Implementation	By <i>eircom</i> , within six weeks of notification By OLOs, within six weeks of a bulletin from <i>eircom</i> .

Paragraph 1.1.1.1 of the O&M Manual states that it [the manual] is not a legal document but provides descriptions of the processes associated with implementing and operating interconnect between operators.

The Director's position is that such processes require a contractual framework, a Service Level Agreement, against which *eircom*'s performance can be measured. Such a Service Level Agreement should:

- state which attributes are covered by this legally binding contract between the parties
- the levels of service which are guaranteed for each attribute
- any penalty due for non-performance against any SLA attribute.

As such, the SLA will extend the O&M Manual into a legally binding contract between the parties.

3. Proposals for Content of the *eircom* RIO SLA

After reviewing the O&M Manual and the 'best practice' in Europe, the Director's position on the attributes that should be included in the *eircom* SLA, the standards to be set, and the conditions attached is as follows:

⁸ Customer Sited Interconnect

⁹ In-Span Interconnect

Where standards are not guaranteed, *eircom* should continue to make best efforts to achieve the targets set out in the O&M Manual. *eircom* should maintain statistics on its achievement of such targets for periodic review by the ODTR.

Table 2: Proposed SLA Content

SLA Attribute	Standard to be Guaranteed	Conditions
Pre-provisioning		
Forecasting of requirements by OLO	As stated in para 3.2.1.6 of the O&M Manual.	Provisioning penalties shall be waived for circuits that fall outside of the forecast maximum requirement.
Provisioning		
Notification of Ready for Test date	After 50% of the provisioning period.	Penalty to be paid for late notification.
Service provisioning timescales		
	New Path on existing Link to an existing PoI - 8 weeks from order acknowledgement	Penalty to be paid for late delivery, if the OLO fulfils all the requirements placed on it and <i>eircom</i> provides notice of such requirements as stated in the O&M Manual.
	New Path requiring new Link to an existing PoI - 10 weeks from order acknowledgement	As above
	New Path on new Link to a new PoI using CSI- 16 weeks from order acknowledgement	As above
	New Path on new Link to a new PoI using ISI - 26 weeks from order acknowledgement	As above
	Rearrangement of existing Path - 8 weeks	As above
Post-provisioning		
Fault reporting	24-hour, 365 day reporting Customer Service Affecting : 60 minutes initial response with status updates every 60 minutes Non-Customer Service Affecting : 1 working day, with updates every following working day	‘Working hours’ is redefined to become 24-hour, 365 days for interconnect services. Penalty covered by availability standards. See below.
Planned maintenance	10 working days’ notice by either party. No provision for over-running works.	Penalty covered by availability standards. See below.
In-service quality		
Availability	99.9% over one year, per interconnect link. This equates to 8.76 hours per year.	Penalty payable for non-conformance

4. *Penalty Regime*

The Director considers that a penalty regime should be included in the SLA. The Director's position on such penalties are set out in the main body of the text of this document. The Director considers that penalties should be based on the same principles as those used for other carrier services. For details of these please see ODTR document 99/48 on Service Levels Provided to Other Licensed Operators by Licensees with Significant Market Power .