# Review of transmission price controls from 2005:
# SP Transmission Ltd
# Scottish Hydro-Electric Transmission Ltd

## Initial thoughts

March 2004 52/04

## Summary

The current transmission price controls for Scottish Hydro-Electric Transmission Ltd (SHETL) and SP Transmission Ltd (SP Transmission) are intended to last until 31 March 2005. This document sets out the proposed work programme to roll forward the existing price controls for SHETL and SP Transmission by two years to 31 March 2007, based on licensees existing statutory duties and licence obligations, and seeks views on this work programme.

The two year roll forward of the price controls will allow the alignment of all electricity and gas transmission price controls to a common review date.

The duration of these extended controls will depend on the actual BETTA go-live date. The planned go-live date for BETTA is 1 April 2005. The extended price controls being developed through this consultation paper will apply to SHETL and SP Transmission from 1 April 2005 up until the implementation of BETTA, should the BETTA go-live date be deferred for any reason.

Under BETTA, the electricity transmission licensees will have revised statutory duties and new licence obligations. The price controls to apply from BETTA go-live will be derived from the roll forward price control proposals discussed in this consultation document by making adjustments to reflect the changed roles of the licensees under BETTA. The development of these adjustments will be addressed in Ofgem's proposed April 2004 consultation document.

The intended duration of the extended price controls is therefore as follows:

- if BETTA go-live occurs on 1 April 2005 as scheduled, the rolled forward price controls (adjusted to reflect the changed roles of the licensees under BETTA) will apply from 1 April 2005 for the two year period until 31 March 2007, and

- if BETTA go-live occurs after 1 April 2005, the rolled forward Scottish price controls (based on the existing roles of licensees), will apply from 1 April 2005 until BETTA go-live, at which point the adjustments to reflect the changed roles of the licensees under BETTA will be applied, and the adjusted controls will apply for the remainder of the two year period until 31 March 2007.

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# 1. Introduction

1.1. This paper sets out proposals for the review of the price controls to apply from 1 April 2005 to the following transmission licensees:

- Scottish Hydro-Electric Transmission Ltd (SHETL), and
- SP Transmission Ltd (SP Transmission).

1.2. Ofgem's objectives for the price control review are driven by three main factors:

- The Gas and Electricity Markets Authority's (The Authority) statutory objectives and duties
- the transmission licensees' statutory duties and licence obligations, and
- other influences – including the views of consumers, licensees and other interested parties and guidance received from the Secretary of State on social and environmental issues.

1.3. The Authority's principal objective is to protect the interests of consumers, wherever appropriate by promoting effective competition[1]. Price controls and incentives serve two main purposes in the context of electricity transmission licensees as providers of monopoly services:

- to protect consumers from the abuse of monopoly power, of which an important aspect is allowing them to share in the benefits that companies realise from efficiency savings, and
- to provide companies with levels of revenues and incentive arrangements to allow them to meet their statutory duties and licence obligations including operating an economic, efficient and co-ordinated network.

[1] As set out in Section 3A of the Electricity Act 1989, as amended by the Utilities Act 2000

1.4. Currently, each of the licensees is an integrated transmission company operating within a defined geographical area, undertaking all the functions that are otherwise prohibited by Section 4(1)(b) the Electricity Act (1989) as amended by the Utilities Act 2000. The existing price controls applying to these companies are intended to run until 31 March 2005.

1.5. This paper sets out the approach Ofgem proposes to use in developing the price control proposals for SP Transmission and SHETL for the years 2005/6 and 2006/7 on the basis of the existing regulatory framework.

1.6. The duration of these controls will depend on the actual BETTA go-live date. The planned go-live date for BETTA is 1 April 2005. The price controls being developed through this consultation paper will apply to SHETL and SP Transmission from 1 April 2005 until the implementation of BETTA, should the BETTA go-live date be deferred for any reason.

## *BETTA*

1.7. Under BETTA, the electricity transmission licensees will have revised statutory duties and new licence obligations. In its October 2003 report[2], Ofgem/DTI set out the process for developing the price controls and incentives to apply from BETTA go-live. The price controls to apply from BETTA go-live will be derived from the roll forward price control proposals discussed in this consultation document by making adjustments to reflect the changed roles of the licensees under BETTA. The development of these adjustments will be addressed in Ofgem's proposed April 2004 consultation document. As explained in the next section, the extended price controls will be intended to last until 31 March 2007.

1.8. As discussed in the October 2003 report, the implementation of BETTA requires primary legislation and a process is being followed that will lead to the appointment of a GB system operator after that legislation has received Royal

[2] Price controls and incentives under BETTA, An Ofgem/DTI consultation, October 2003, Ofgem 130/03

Assent[3]. In developing the BETTA proposals, NGC[4] is assumed to be the GB system operator and SP Transmission and SHETL transmission owners.

1.9. Ofgem has recently issued a consultation document setting out its initial thoughts on the incentives that may be appropriate to apply between the GB system operator and transmission owners under BETTA[5].

## *Roll forward proposals*

1.10. While the current Scottish transmission price controls are intended to last until 31 March 2005, NGC's transmission price control in England and Wales (its TO price control) is due to run until 31 March 2006. Ofgem has recently made proposals regarding NGC's external cost SO incentive scheme from 1 April 2004[6]. NGC's internal cost SO incentive scheme is due for renewal from 1 April 2006.

1.11. Ofgem has consulted on extending the Scottish transmission price controls by one or two years[7], so that the price controls would expire on 31 March 2006 or 31 March 2007 respectively. At the same time it consulted on extending the NGC TO control by one year to 31 March 2007. It was felt that there would be positive benefits in aligning the electricity transmission reviews and, possibly, the electricity and gas transmission reviews.

1.12. A one year roll forward of the Scottish transmission price controls so that new controls begin in April 2006, in line with the next review of NGC's TO price control, would allow GB electricity transmission issues to be dealt with together and include experience of BETTA. However, it would not allow electricity and gas transmission interactions to be considered together.

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[3] The BETTA legislation was introduced into Parliament on 27 November 2003 (as part of the Energy Bill). The Energy Bill received its second reading in Parliament on 11 December 2003.
[4] NGC: The National Grid Company plc, the transmission licensee in England and Wales
[5] The form of transmission owner revenue restrictions and consequential effects on NGC's revenue restrictions, An Ofgem consultation document, March 2004, Ofgem 48/04
[6] NGC System Operator incentive scheme from April 2004, Proposals and statutory licence consultation, February 2004, Ofgem 39/04
[7] Developing network monopoly price controls, Initial consultation, Ofgem, June 2003, Ofgem 54/03

1.13. In November 2003, Ofgem issued announcements on the alignment of the transmission price controls[8]. These proposed a more wide ranging set of changes involving aligning all the electricity and gas transmission price controls, through two year roll forwards of the Scottish transmission price controls and a one year roll forward of NGC's electricity transmission price control[9]. This has significant advantages in terms of allowing GB-wide transmission issues (electricity and gas) to be considered together, including cost allocation issues between the licensed activities of NGT. Four parties responded to Ofgem's open letter (see Appendix 1). Respondents supported Ofgem's proposed alignment of the transmission price control review dates.

1.14. On the approach to be taken in developing the roll forward proposals, two respondents supported the need for an appropriate and proportionate approach to the extension of the current price controls. Another said that great care needs to be taken in any extension of the current controls, and that all elements of each control should be revisited to ensure that the controls continue to be set at an appropriate level.

1.15. This paper sets out the proposed work programme to develop the transmission price controls for SP Transmission and SHETL for the years 2005/6 and 2006/7. Ofgem intends to set out proposals for the timetable and programme of work to develop the roll forward of NGC's TO price control in summer 2004.

## *Views invited*

1.16. Parties are free to raise comments on any of the matters covered in this paper and in particular on the items requested. All responses will normally be published on the Ofgem website and held electronically in Ofgem's Research and Information Centre unless there are good reasons why they must remain confidential. Respondents should try to put any confidential material in

[8] Open letter – Timetable for price control reviews, November 2003, Ofgem 143/03
Ofgem aligns the timing of electricity and gas transmission price controls, Ofgem press release R109, November 2003

[9] The announcements also proposed a one year rollover of the gas distribution price control in order to separate this from consideration of the transmission price controls.

appendices to their responses. Ofgem prefers to receive responses in an electronic form so they can easily be placed on the Ofgem website.

1.17. Responses, marked 'Response to Review of transmission price controls from 2005' should be sent by **7th April 2004** to:

David Halldearn
BETTA Project
Office of Gas and Electricity Markets (Ofgem)
9 Millbank
London SW1P 3GE
Fax: 020 7901 7479

1.18. Please e-mail responses to BETTA.consultationresponse@ofgem.gov.uk marked 'Response to Review of transmission price controls from 2005'.

1.19. If you wish to discuss any aspect of this document, please contact Graham Jones, e-mail graham.jones@ofgem.gov.uk, telephone 020 7901 7468.

# 2. Framework

## *Background*

2.1. SP Transmission and SHETL own and operate the network of high voltage transmission lines and associated equipment in their respective licensed transmission areas. In Scotland, electrical lines of 132 kV and above are included in the transmission system[10]. SHETL's transmission system comprises 4,848 circuit kilometres and SP Transmission's transmission system 4,164 kilometres. These networks enable the bulk transfer of electricity from power stations to the distribution network companies and to interconnectors. A number of customers are connected directly to the transmission systems.

2.2. SHETL's system is connected to SP Transmission's system, and SP Transmission's system is in turn connected to NGC's system through the England-Scotland interconnector. At the end of 2003, the upgrading of the interconnector maximum capacity to 2200 MW was completed.

2.3. The following table illustrates the system flows in the two areas, showing indicative winter transfers between the two areas and with the other interconnected systems:

**Overall transmission system flows in 2003/4**

| **SP Transmission** | |
|---|---|
| Maximum physical generation available | 7127 MW |
| Maximum demand | 4250 MW |
| Interconnections (indicative winter flows) | |
| SHETL (imports to SP Transmission)<br>Moyle (exports from SP Transmission)<br>NGC (exports from SP Transmission) | 550 – 930 MW<br>400 MW<br>1130 – 2200 MW |
| | |
| **SHETL** | |
| Maximum physical generation available | 2976 MW |
| Maximum demand | 1669 MW |
| Interconnections (indicative winter flows) | |
| SP Transmission (exports from SHETL) | 550 – 930 MW |

[10] In England and Wales transmission covers electrical lines above 132kV.

2.4. The licensees are currently carrying out work to investigate the most appropriate means of connecting possible additional renewable generating capacity which would contribute towards increasing the proportion of electricity generated from renewable sources both within Scotland and GB.

2.5. The price controls being developed through this consultation document will apply prior to BETTA (if BETTA go-live occurs after 1 April 2005) and therefore will be developed on the basis that both SP Transmission and SHETL will be carrying out the system operator activities in their respective areas and that the England-Scotland interconnector arrangements are unchanged. Nevertheless as part of developing these controls, information will be requested on the allocation of costs to the transmission owner and system operator roles under BETTA, to inform the development of the price controls to apply under BETTA.

2.6. Following the implementation of BETTA, the GB system operator will carry out the system operation functions currently carried out by SP Transmission and SHETL in Scotland and will operate the England-Scotland interconnector circuits as an integral part of the GB transmission system. From BETTA go-live, adjustments to reflect the changed roles of the licensees under BETTA will be applied to the roll forward price controls, and the adjusted controls will apply for the remainder of the two year period until 31 March 2007.

## *England-Scotland interconnector*

2.7. At Vesting, the interconnector capacity was 850MW. This is the pre-Vesting interconnector capacity.

2.8. Since Vesting there have been two upgrades. The first, completed in 1993, increased the nominal capacity to 1600MW, and the second, completed in 2003, increased the nominal capacity to 2200MW. The upgrades comprise the post-Vesting capacity.

*Pre-Vesting circuit configuration*

2.9. The circuits installed at Vesting were as follows:

- two 275kV transmission circuits between and including the associated switchgear at Harker substation in Cumbria and the associated switchgear at Strathaven substation in Lanarkshire

- a 400 kV transmission circuit between and including the associated switchgear at Torness in East Lothian and the associated switchgear at Stella in Tyne and Wear

- a 275 kV transmission circuit between and including the associated switchgear at Cockenzie in East Lothian and the associated switchgear at Stella in Tyne and Wear.

- a 132 kV transmission circuit between and including (and directly connecting) the associated switchgear at Chapelcross and the associated switchgear at Harker sub-station in Cumbria, and

- a 132 kV transmission circuit between and including (and connecting, via Junction V) the associated switchgear at Chapelcross and the associated switchgear at Harker sub-station in Cumbria.

*Post-Vesting circuit configuration following upgrades*

2.10. Since Vesting, some of the above circuits have been upgraded. The interconnector circuits presently installed (incorporating assets installed pre-Vesting) are as follows[11]:

- a 275 kV transmission circuit between and including the associated switchgear at Harker substation in Cumbria and the associated switchgear at Strathaven substation in Lanarkshire[12]

- a 400 kV transmission circuit between and including the associated switchgear at Harker substation in Cumbria and the associated switchgear at Strathaven substation in Lanarkshire

[11] See Special Condition B of SP Transmission's Licence.
[12] via Gretna, Elvanfoot and Linnmill

- a 275 kV circuit between and including associated switchgear at Cockenzie and associated switchgear at Eccles, a 400 kV circuit between and including associated switchgear at Torness and associated switchgear at Eccles, and two 400 kV transmission circuits between and including the associated switchgear at Eccles and the associated switchgear at Stella in Tyne and Wear

- a 132 kV transmission circuit between and including (and directly connecting) the associated switchgear at Chapelcross and the associated switchgear at Harker sub-station in Cumbria, and

- a 132 kV transmission circuit between and including (and connecting, via Junction V[13]) the associated switchgear at Chapelcross and the associated switchgear at Harker sub-station in Cumbria.

2.11. NGC and SP Transmission own, maintain and operate those sections of the England-Scotland interconnector which are installed in their respective authorised areas. In this document, that part of the Scotland-England interconnector which is situated in Scotland is called the Scottish interconnection[14], and that part situated south of the England-Scotland border is called the NGC interconnector[15]. The Scottish interconnection and the NGC interconnector have both pre-Vesting and post-Vesting capacity components.

2.12. The pre- and post-Vesting interconnector circuits are shown diagrammatically in Appendix 2.

2.13. To increase the transfer capacity of the interconnector from the pre-Vesting level of 850MW to the present 2200 MW has also required consequential investment in parts of NGC's and SP Transmission's transmission systems.

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[13] and via Gretna
[14] Scottish interconnection: The SP Transmission and SHETL Access and Allocation Codes for the Scotland – England interconnector use the term Scottish Interconnector Circuits.
[15] NGC interconnector : The SP Transmission and SHETL Access and Allocation Codes for the Scotland – England interconnector use the term NGC Interconnector Circuits.

*Interconnector capacity*

2.14. The availability of capacity on the Scotland-England interconnector can vary considerably according to operating conditions on either side of the border. This availability is estimated for the year ahead and determined from time to time by NGC and SP Transmission in accordance with the BGSA[16]. The BGSA contains codes which deal with the calculation of capacity of the interconnector circuits, and other technical matters.

2.15. SHETL has provided a proportion of the capital expenditure necessary to upgrade the Scottish Interconnection. Recognising the provision of funds by SHETL, the agreements made at Vesting and the subsequent agreements provide SHETL with contractual rights to shares of the pre- and post-Vesting interconnector capacities.

2.16. Accordingly, the total capacity of the interconnector is shared between SP Transmission and SHETL. These two parties provide access to their individual shares of the total interconnector capacity to any party requesting access[17]. National Grid Interconnectors Business receives payment from SP Transmission and SHETL for the use of the sections of the interconnector under NGC's ownership[18]. At Harker and Stella West, National Grid Interconnectors Business pays NGC's transmission business the charges for connection to its system[19].

*Interconnector contracts between transmission licensees*

2.17. The Use of Interconnector Agreements (Scotland) (UIA) set out the contractual arrangements between NGC, SP Transmission and SHETL regarding the construction and use of the NGC interconnector and also the arrangements for payments of NGC's use of system charges. The first agreement was made in

[16] BGSA: British Grid Systems Agreement, an agreement between NGC, SP Transmission and SHETL
[17] In accordance with the Access and Allocation Codes, which are approved by Ofgem. There are separate codes published by SP Transmission and SHETL.
[18] In accordance with Appendix A of the Use of Interconnector Agreement (Scotland) 1994
[19] The connection arrangements for 2004/5 have been modified to reflect the modification to NGC's charging methodology implementing "PLUGS".

1990 and there have been a number of subsequent agreements and amendments.

2.18. At Vesting, NGC leased the NGC's interconnector (at the time comprising only the pre-Vesting assets) to the Scottish transmission businesses[20] under the UIA. The 1990 agreement provides for SP Transmission and SHETL to share the pre-Vesting capacity of the NGC interconnector in the proportions of 54%:46% respectively. There were two subsequent agreements relating to post-Vesting assets, the first in 1991 in relation to the interconnector upgrade to 1600MW and the second in 1994 in relation to the interconnector upgrade to 2200MW. These provide for SP Transmission and SHETL to share the total post-Vesting capacity of NGC's interconnector in the proportions of 75%:25% respectively.

2.19. The Scottish Interconnector Agreement (SIA) set out the contractual arrangements between SP Transmission and SHETL in relation to the Scottish interconnection. The agreement was made in 1990 and makes provision for SP Transmission and SHETL to share the total pre-Vesting capacity of the Scottish interconnection in proportions of 54%:46% respectively. It also provides for SP Transmission and SHETL to share the Scottish interconnection upgrade capacity (in the proportions 75%:25% as under the UIA). The agreement provides for the payment by SHETL to SP Transmission of an annual charge covering the maintenance related costs for SHETL's share of the total interconnector capacity and capital related costs for SHETL's share of the pre-Vesting interconnector capacity, and for SHETL and SP Transmission to liaise on the construction of interconnector upgrades.

2.20. In order for SHETL to provide for transfers across the interconnector it needs to make transfers across SP Transmission's system. The SIA specifies the payment of a "corridor" charge by SHETL to SP Transmission for these transfers.

2.21. The operational arrangements between SP Transmission and SHETL for the co-ordination and operation of their networks, and for SHETL to use SP Transmission's system to effect transfers across the interconnector are set out in

the System Operation Agreement (SOA). There are no payment provisions in the SOA.

2.22. In summary, there are four main contractual relationships between transmission licensees giving rise to financial payments in relation to the Scotland-England interconnector:

- between SHETL and NGC for use of NGC's interconnector (under the UIA)
  SHETL is required to pay an annual charge for its proportion of the capacity of NGC's interconnector. This has pre- and post-Vesting components.

- between SP Transmission and NGC for use of NGC's interconnector (under the UIA)
  SP Transmission is required to pay an annual charge for its proportion of the capacity of NGC's interconnector. This has pre- and post-Vesting components.

- between SP Transmission and SHETL for access to SP Transmission's transmission system to effect transfers over the interconnector (under the SIA)
  The payment under the SIA is called the corridor charge and replaces SP Transmission's use of system charges as regards SHETL's interconnector flows. The corridor charge has pre-Vesting and post-Vesting components.

- between SP Transmission and SHETL for the shared use of the Scottish interconnection
  The SIA provides for SHETL to pay an annual charge to SP Transmission covering the capital related costs of the pre-Vesting part of the Scottish interconnection. It also covers the maintenance costs of SHETL's share of the total Scottish interconnection.

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[20] Subsequently SP Transmission and SHETL

*Contracts between interconnector users and transmission licensees*

2.23. Interconnector Users are parties who have contracted[21] with SP Transmission or SHETL for rights to use their respective interconnector capacities. Interconnector Users need to declare to SP Transmission/SHETL (as appropriate) the generators/suppliers whose output/demand they are transferring across the interconnector.

2.24. Interconnector Users must enter into a use of system agreement with SP Transmission or SHETL as appropriate for use of the Scottish transmission system in order to effect interconnector transfers.

2.25. In respect of interconnector transfers, SP Transmission and SHETL are liable under the UIA[22] for NGC's TNUoS charges. SP Transmission and SHETL back-off these charges to the appropriate suppliers/generators via the interconnector user agreements. These arrangements apply to use of both pre- and post-Vesting capacity. Interconnector Users are required to be signatories to the England and Wales CUSC.

2.26. The interconnector user agreements also set out the financial arrangements for use of the Scottish interconnection and of the NGC interconnector derived from the costs of the post-Vesting capacity[23].

2.27. Trading under the England and Wales arrangements by Trading Parties[24] (with interconnector BM units registered under the BSC) is managed by SP

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[21] under Interconnector User Agreements (SHETL), and Use of Interconnector Agreements (SP Transmission)
[22] Provides for NGC to levy either a generation-related charge (levied on exports from Scotland) or a demand-related charge (levied on imports to Scotland) depending on which is greater. SP Transmission and SHETL have recently signed an amending agreement with NGC that includes a requirement for use of system charges to be levied in line with NGC's Use of System Charging Methodology with both generation and/or demand charges according to the pattern of flows.
[23] And also taking into account the access and allocation arrangements as set out in the Access and

Transmission as Interconnector Administrator[25]. This includes establishing the deemed meter readings of individual Interconnector Users. The costs of the Interconnector Administrator and Interconnector Error Administrator roles are charged to Interconnector Users.

2.28. Interconnector Users are required to be signatories to the BSC. NGC charges BSUoS charges directly to Interconnector Users.

*Revenue controls*

2.29. No specific use of interconnector charges are levied by SP Transmission or SHETL for use of the Scottish interconnection or the NGC interconnector in respect of the pre-Vesting capacity. This is because the allowed revenues collected though the use of system charges levied by SP Transmission and SHETL and set out in their price controls are designed to include the costs associated with the pre-Vesting components of the interconnector as well as with the main network transmission assets. Ofgem included NGC's charges for the pre-Vesting component of the NGC interconnector in SP Transmission and SHETL's allowed revenues, and included the corridor charge levied by SP Transmission for pre-Vesting capacity transfers in setting SHETL's allowed revenues.

2.30. The costs of the post-Vesting interconnector upgrades were not included in the price controlled revenues. SP Transmission and SHETL recover these costs directly from Interconnector Users and the associated revenues are treated as excluded services revenues.

2.31. The basis for setting charges for use of the upgrades to the Scottish interconnection is set out in the Scottish transmission companies' licences (Special Conditions B and D); essentially charges for the use of interconnector should be set at a level which will enable the licensee to recover no more than a

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Allocation Codes.
[24] As defined in the BSC
[25] Including the Interconnector Error Administrator role. Under the Section K of the BSC, SP Transmission performs the role of Interconnector Administrator and Interconnector Error Administrator in respect of the England-Scotland interconnector.

reasonable rate of return on the capital represented by the interconnector assets. Broadly similar considerations apply to NGC in setting its charges for use of the NGC interconnector[26].

2.32. In determining a reasonable rate of return, both the cost risks and the revenue risks would need to be considered. In 2001, Ofgem concluded that in relation to the Scottish interconnection, a 10% real rate of return on upgrade assets was reasonable, taking into account the exposure to project risk of the transmission licensees and whilst interconnector upgrades remain outside the transmission price controls[27].

2.33. In summary, the revenues associated with the Scotland-England interconnector are regulated in three separate ways:

- the revenues of NGC arising from its charges to SP Transmission and SHETL for use of the NGC interconnector are regulated by a reasonable rate of return condition in NGC's licence, and are outside the scope of NGC's transmission price control

- the costs to SP Transmission and SHETL of their parts of the pre-Vesting interconnector (covering both the Scottish interconnection and NGC interconnector components, and SP Transmission's corridor charge to SHETL) are included in their respective transmission price control revenues. SHETL's payments in respect of the Scottish interconnection and the corridor charge form excluded services revenues to SP Transmission, and

- the revenues of SP Transmission and SHETL arising from their respective charges for the use of the post-Vesting (upgrade) capacity of the Scottish interconnection are regulated by a reasonable rate of return in their licenses and are allowed as excluded services, outside of their respective transmission price controls. SHETL's corridor payment to SP

[26] See NGC's transmission licence (Special Condition AA1)
[27] Scotland-England Interconnector: Access & charging principles to 31 March 2002 and access principles to 31 March 2004, A final proposals and consultation document, Ofgem, December 2001.

Transmission in respect of upgrade capacity also forms part of the excluded services revenues of SP Transmission.

2.34. NGC's TNUoS charges for the transmission of interconnector transfers across its transmission system are passed directly through to Interconnector Users[28] by SP transmission and SHETL. These charges form part of NGC's allowed revenues and are not part of the allowed revenues of SP Transmission or SHETL.

2.35. The costs of the Interconnector Administrator and Interconnector Error Administrator roles carried out by SP Transmission under the BSC are charged directly to Interconnector Users. The revenues received are classified as excluded services revenues for SP Transmission.

## *Current price controls*

2.36. The present price controls for SP Transmission and SHETL specify the maximum allowed revenues that the licensees can recover in each year. These controls were intended to run for the five years from 1 April 2000 following a review carried out in 1999[29]. The controls have the form of an RPI-X control with $X = 0$ for both licensees.

2.37. The calculations of the allowed revenues for SP Transmission and for SHETL are set out in Appendix 3. These show the capital and operating expenditure projections for the five year period used by Ofgem in setting the allowed revenues.

2.38. The operating expenditures included contract costs in respect of the pre-Vesting interconnector assets. These contract costs are detailed in Appendix 4.

2.39. The values used for the pre-tax real cost of capital are as follows:

| | **Pre-tax cost of capital** | **Price controls applying from date** |
|---|---|---|

[28] In the case of imports to Scotland, NGC's Use of System charges apply to those Interconnector Users that create the physical import at triad.
[29] Review of Public Electricity Suppliers 1998 to 2000, Scottish Transmission price control review, Final Proposals, December 1999, Ofgem

| | | |
|---|---|---|
| SP Transmission | 6.5% pa | 1 April 2000 |
| SHETL | 6.5% pa | 1 April 2000 |

2.40. A review of the distribution price controls was carried out at the same time as the reviews for SP Transmission and SHETL and used a 6.5% cost of capital. Since these reviews, Ofgem has carried out further reviews of network companies. A cost of capital of 6.25 % was assumed for NGC and 6.25% was assumed for Transco. A review of the electricity distribution price controls to apply from 1 April 2005 is currently in progress.

**Excluded services**

2.41. The allowed revenues under the price controls cover the revenues received by the transmission licensees except for revenues received from excluded services. At the time of the last review the following excluded service revenues were assessed:

- telecoms services: rental charges to respective telecommunications businesses
- post vesting connection charges - demand customers
- post vesting connection charges - generators, and
- SP Transmission: revenues received from SHETL for use of the Scottish interconnection assets (the capacity charge) and for the associated use of SP Transmission's transmission system (the corridor charge).

2.42. The following table sets out the assumptions on excluded service revenues made at the time of the last price control review.

| £m pa 1997/8 prices | SP Transmission | SHETL |
|---|---|---|
| Rental charges (telecomms) | 0.5 | 0.1 |
| Connection charges[30] | | |
| Demand | 0 | 0 |
| Generation | 0 | 0 |
| Interconnector related revenues from SHETL* | | 0 |
| Corridor charge | 2.7 | |
| Capacity charge for use of Scottish interconnection | 1.4 | |
| Total | 4.1 | |
| **Total** | **4.6** | **0.1** |

* Indicative breakdown

2.43. The costs of providing the telecoms services and the use of interconnector services were included within the projections of operating and capital related expenditure used in determining the total revenue requirements. As shown in Appendix 3, the total revenues were then reduced by the revenues estimated to be received from these services to determine the price controlled allowed revenues. Licensees can recover excluded service revenues on top of their price controlled revenues.

2.44. The interconnector excluded service revenues (£4.1m) comprise the charges paid by SHETL to SP Transmission under the Scottish Interconnector Agreement (SIA) as follows:

- the corridor charge for the total of the pre- and post-Vesting capacity[31], and
- the capacity charge for SHETL's share of all reasonable costs of SP Transmission operating and maintaining the Scottish interconnector assets, and also capital charges (return and depreciation) for SHETL's share of the pre-Vesting interconnector.

[30] Customers have chosen to make a single capital payment for connections. Such payments are not considered as excluded services revenues but are offset against gross capital expenditure in the year of payment.

[31] The charge is calculated by multiplying the average yearly total interconnector capacity (pre- and post-Vesting) made available to SHETL by the 1990/91 System Service and Infrastructure Demand tariffs rolled forward by RPI to today's prices

2.45. In addition, certain revenues from the England-Scotland interconnector post-Vesting upgrade capacity are treated as excluded service items under the current licence conditions of the Scottish transmission licenses[32]. The annual revenues concerned are:

- those received by SP Transmission from ScottishPower Energy Retail Limited for the use of SP Transmission's post-Vesting component of the Scottish interconnection (approx £11m[33]) and for the use of the NGC interconnector (approx £4.5m[34]), and
- those received by SHETL from SSE Energy Supply Ltd for the use of SHETL's post-Vesting component of the Scottish interconnection (approx £2m[35]) and for use of the NGC interconnector (approx £1.5m[36]).

2.46. As noted above, NGC's use of system charges are charged directly to Interconnector Users/suppliers. These payments do not form part of the regulated revenues of SP Transmission or SHETL.

## *Form of control*

2.47. As part of the roll forward arrangements, Ofgem considers that the RPI-X form of control continues to be appropriate for the integrated transmission owner/system operator businesses considered in this document for the period of the roll forward arrangements (2005/6 and 2006/7).

2.48. The October 2003 report proposed that the RPI-X type of control should be retained for transmission owner price controls under BETTA. No arguments have been made by respondents to the October 2003 report to adopt a different approach to SP Transmission's and SHETL's controls going forward. The respondents to the October 2003 paper are listed in Appendix 5.

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[32] The post-Vesting interconnector assets and costs were reviewed at the time of the last price control review but were not part of the final excluded services revenue data set out in the December 1999 paper.
[33] Revenue recovery depends on interconnector capacity utilisation levels achieved.
[34] The figures quoted are for 2002/3 and for use of the 1600MW upgrade capacity (the upgrade to 2200MW capacity was not then available).

2.49. The potential growth in renewable generation could have a significant impact on the need for transmission capacity, particularly in Scotland. The DTI formed the Transmission Issues Working Group to look at this issue and there have been subsequent discussions between Ofgem and the three transmission companies on the possible impacts of renewables on the capital expenditures and allowed revenues of transmission licensees and whether any adjustments to existing arrangements would be appropriate. Ofgem has published a document on the issues surrounding the regulatory treatment of investment in the transmission system related to the accommodation of renewable generation[37] which may be incurred prior to the introduction of the revised price controls to apply from April 2005.

2.50. As part of the work to develop the roll forward price controls, Ofgem will be asking the transmission licensees for further information on the impact on their systems of generation proposals (including new renewables) and on the uncertainties associated with the associated transmission capacity requirements.

2.51. In setting the roll forward price controls, Ofgem will take into account the level of new connections in Scotland. The information provided by licensees on their capital expenditure plans will inform Ofgem's proposals on whether adjustments are needed to the form of the price controls to incentivise new renewable generation related schemes.

## *BETTA implementation costs*

2.52. BETTA implementation costs incurred by transmission licensees will be considered as part of developing the price controls and incentives to apply under BETTA. Licensees' allowed revenues from BETTA go-live will include an appropriate allowance for the implementation costs that the respective licensees have incurred. In the event that BETTA does not proceed or the go-live date is significantly deferred, consideration will need to be given to including an

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[35] Revenue recovery depends on interconnector capacity utilisation levels achieved.
[36] The figures quoted are prior to the upgrade to 2200MW capacity.

allowance for BETTA implementation costs in the roll forward price controls for SP Transmission and SHETL applied from 1 April 2005.

## *Hydro Benefit*

2.53. Hydro Benefit was an obligation placed on SSEGL[38] to pay a specified sum of money each year to SHETL and to Scottish Hydro-Electric Power Distribution Limited (SHEPD). The purpose of Hydro Benefit was to ensure that transmission and distribution use of system charges levied by SHETL and SHEPD were set at a lower level than would otherwise be the case.

2.54. The Authority has concluded, following detailed legal analysis, that in order to fully comply with European law, Hydro Benefit should be removed[39].

2.55. As regards the transmission component of Hydro Benefit, the payment from SSEGL to SHETL was set at zero under the last price control review. Therefore the removal of Hydro Benefit will have no impact on the setting of the allowed revenues under SHETL's price control.

## *BETTA go-live after 1 April 2005*

2.56. In the event that BETTA go-live occurs after 1 April 2005, the roll-forward price controls for SP Transmission and SHETL developed through the work programme set out in this consultation document will apply from 1 April 2005 until BETTA go-live. The extended controls will be based on the licensees existing scope of activities (including their system operator responsibilities), and the allowed revenues set out in the final proposals will be specified on an annual basis. If BETTA go-live is after 1 April 2005, these price controls may only apply for a part of a year (percentage P of a year, say)[40]. In this case, Ofgem proposes that

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[37] Transmission investment and renewable generation, Consultation document, Ofgem, October 2003, Ofgem 129/03

[38] SSE Generation Limited

[39] Open Letter - Decisions in respect of proposals to remove "Hydro Benefit" following consultation under section 11(2) of the Electricity Act , January 2004, Ofgem 04/04

[40] Since at BETTA go-live adjustments to the controls to reflect the changed roles of the licensees under BETTA will be applied.

the licensee should develop use of system charges for 2005/6 using the same methodology as in 2004/5[41], and should be allowed to recover the same percentage (P) of the allowed revenues (for the relevant year) for that part of the year prior to BETTA go-live. Ofgem considers that this approach will provide stability to the transmission charges that users will face month by month. Licensees will therefore need to reflect these proposals in their respective charging statements. A similar approach may be appropriate for other transmission related services, particularly the England-Scotland interconnector revenues and charges.

2.57. Alternative ways of within year profiling the annual allowed revenues could be conceived (eg based on monthly demand). However Ofgem considers that such arrangements could be complicated to implement and could unnecessarily distort any differences in the levels of charge experienced by users before and after BETTA go-live. Ofgem is therefore proposing that allowed revenues are recovered for the period to which they apply based on a constant daily charge through the year, in line with the current arrangements.

## *Views invited*

2.58. Views are invited on any of the matters raised in this chapter, however, in particular views are invited on the following:

- to retain the RPI-X form of controls for both SP Transmission and SHETL; the form of the control may be adjusted following Ofgem's consideration of companies capital expenditure plans, particularly in relation to new renewable generation, and
- if the price controls apply for part of a year, allowed revenues should be recovered for the period to which they apply based on a constant daily charge through the year, using the same charging methodology as in 2004/5.

[41] Broadly reflecting peak flows/capacities

# 3. Developing the price controls

3.1. In a full price control review all the determinants of a company's allowed revenues are examined thoroughly in setting the allowed revenues.

3.2. However, it may not be appropriate to carry out a full review where a price control is being rolled forwards. The reasons for this include:

- proportionality: that is, matching the work load of both companies and Ofgem to the benefits, and
- carrying out a full review for a shorter period than usual (namely 2 years instead of 5 years) could tend to increase the perceptions of uncertainty for providers of finance.

3.3. Nevertheless, it is important to be satisfied that the interests of consumers are adequately protected and that companies can finance their licensed activities. This suggests it would be necessary to assess how close performance is to the assumptions underlying the present price control and in broad terms the likely level of expenditure over the period of the interim controls (2005/6 and 2006/7).

3.4. Following the proposed roll forwards of the price controls for SP Transmission and SHETL, the full price control review process would be initiated some time in 2005, to allow for a thorough investigation of the appropriate level of the price controls to apply to the GB system operator and to the transmission owners from April 2007.

## *Performance under current price controls*

3.5. Ofgem will be carrying out analyses to determine each licensee's performance under the present price controls, the projected path of expenditure from 1 April 2005, and the revenues required by each to finance their functions in the years 2005/6 and 2006/7.

3.6. Ofgem asked SP Transmission and SHETL respectively to provide information on their own financial performance over the period from 2000/1 to 2002/3. This information is presented in Appendix 6, and is summarised below.

3.7. Tables 1 and 2 show the companies' performance against operating and capital expenditure assumptions made in the last price control. Table 3 shows the actual returns compared to the assumed cost of capital of 6.5 percent. It should be noted that the figures used in the tables are figures provided by the companies themselves.

| Table 1 | **Controllable operating costs (£m 2002/3 prices)** | | | |
|---|---|---|---|---|
| **Company** | | **2000/1** | **2001/2** | **2002/3** |
| **SP Transmission** | *Actual* | 33.8 | 35.3 | 30.8 |
| | *Allowance* | 39.6 | 38.6 | 38.5 |
| | *Difference* | -5.8 | -3.2 | -7.6 |
| | | | | |
| **SHETL** | *Actual* | 17.15 | 19.49 | 19.70 |
| | *Allowance* | 22.36 | 21.80 | 21.46 |
| | *Difference* | -5.21 | -2.30 | -1.76 |

| Table 2 | **Capital Expenditure (£m 2002/3 prices)** | | | |
|---|---|---|---|---|
| **Company** | | **2000/1** | **2001/2** | **2002/3** |
| **SP Transmission** | *Actual* | 22.9 | 15.2 | 38.8 |
| | *Allowance* | 24.9 | 24.1 | 24.3 |
| | *Difference* | -2.0 | -8.9 | 14.5 |
| | | | | |
| **SHETL** | *Actual* | 17.72 | 8.47 | 8.40 |
| | *Allowance* | 14.20 | 13.97 | 13.19 |
| | *Difference* | 3.52 | -5.50 | -4.79 |

| Table 3 | **Return (price control basis)** | | | |
|---|---|---|---|---|
| **Company** | | **2000/1** | **2001/2** | **2002/3** |
| **SP Transmission** | *Actual (%)* | 7.4 | 7.8 | 8.5 |
| | *Allowance (%)* | 6.5 | 6.5 | 6.5 |
| | *Difference* | 0.9 | 1.3 | 2.0 |
| | | | | |
| **SHETL** | *Actual (%)* | 8.0 | 6.46 | 7.67 |
| | *Allowance (%)* | 6.5 | 6.5 | 6.5 |
| | *Difference* | 1.5 | -0.04 | 1.17 |

3.8. The tables show that both companies indicate that they have achieved lower operating costs than assumed in the last price control review for all years. SP Transmission indicate that they have incurred lower actual capital expenditure than assumed in all years, and SHETL for two of the years.

3.9. Overall SP Transmission indicate earning a higher rate of return than the assumed 6.5%pa in each of the years; SHETL also does so in two years whilst in 2001/2 the return is slightly less than 6.5%.

3.10. The performance in the years 2003/4 to 2004/5 has yet to be reported.

## *Views of companies on approach to price controls*

3.11. Ofgem has discussed its two year roll forward price control proposals with SP Transmission and SHETL. SP Transmission's view is that a proportionate approach is required and that a high level assessment of performance would be appropriate, with a full review in two years time. There should also be separate consideration of the capital expenditure related to new renewable generation capacity. SHETL believe that the key issue in rolling forward the transmission price control is the need to include funding for the major renewable energy generation related project. In addition, in setting a new price control for only two years, it will be necessary to ensure that incentives on operating efficiency and investment are preserved.

## *Ofgem's proposed work programme*

3.12. In developing the following work programme, Ofgem has considered the responses to the October 2003 report, its November 2003 open letter and the views of SP Transmission and SHETL. It has also considered its objectives for the price controls, including its statutory objectives, as set out in Chapter 1. The approach Ofgem proposes to adopt in developing the roll forward price controls is described below.

**Analysis of expenditure**

3.13. Transmission business spending can be broken down into capital costs and operating costs. Capital costs cover spending on assets, such as transformers or switchgear, the benefits of which would be expected to last over several years. Operating costs cover the day-to-day costs of running the network, such as

repairs and maintenance, planning, system control, England-Scotland interconnector charges[42] and transmission system business rates.

*Capital expenditure*

3.14. The capital expenditure allowed for in setting the current price controls was as follows:

| **5 year totals (2000/1 to 2004/5)** | **SP Transmission £m** | **SHETL £m** |
|---|---|---|
| Load related | 16.9 | 16.0 |
| Non-load related | 115.1 | 49.4 |
| Gross Total | 132.0 | 65.4 |
| Less capital contributions | 3.6 | 5.4 |
| **Net total** | **128.4** | **60.0** |

Indicative breakdown. Totals may not sum due to rounding.
All figures in 1997/8 prices

3.15. Capital expenditure requirements change in response to market requirements for capacity. Ofgem will therefore wish to examine companies' expenditure patterns under the existing controls and their projections of future capital expenditure requirements.

*Operating expenditure*

3.16. In the main, the transmission businesses have direct control over operating expenditure comprising:

- engineering costs - the costs of planning, monitoring and controlling the system, and repairing and maintaining transmission business assets, and
- corporate costs - costs which cannot be attributed directly to any particular business but are incurred in running the company as a whole.

3.17. Ofgem will need to consider companies performance against the operating cost allowances under the existing controls. It will then need to consider any

[42] In respect of pre-Vesting assets

significant changes in business costs in making projections for the years 2005/6 and 2006/7.

3.18. The operating expenditure allowed for in setting the current price controls was as follows:

| **5 year totals (2000/1 to 2004/5)** | **SP Transmission £m** | **SHETL £m** |
|---|---|---|
| Transmission[43] | 132.6 | 50.3 |
| Pre-Vesting interconnector | 34.5 | 46.5 |
| **Total** | **167.1** | **96.7** |

Indicative breakdown. Totals may not sum due to rounding.
All figures in 1997/8 prices

3.19. The above table shows an indicative breakdown of the operating costs to transmission and pre-Vesting England-Scotland interconnector assets. The majority of the interconnector costs are determined by contractual arrangements (see Appendix 4) although there are interconnector cost elements that may be more directly under the control of the transmission business management. In the existing price controls, allowances were included for the operating costs of the pre-Vesting Interconnector but excluded those relating to the post-Vesting interconnector upgrades.

3.20. Following a consultation[44] in February 2002, Ofgem's licence fees are effectively a pass-through component of the price controls, and it is proposed to retain this arrangement.

**Work programme**

3.21. The proposed work programme to extend the price controls for SP Transmission and SHETL will encompass the following aspects:

- reviewing the overall efficiencies delivered to date by the respective companies

- projecting a path of controllable operating expenditure taking into account significant factors that may increase or decrease the requirement for operating expenses

- capital expenditure: this tends to have a relatively high level of variation and will need to be subject to a separate assessment. Any proposed investment in the transmission system to accommodate renewable generation will be of particular relevance going forward

- reviewing the level of excluded services revenues, and

- financial issues including the impact of Ofgem's proposals on the ability of the company to finance its functions.

## *Views invited*

3.22. Views are invited on the proposed work programme to extend SP Transmission and SHETL's price controls for 2005/6 and 2006/7.

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[43] includes the system operator and interconnector administrator function as defined in Ofgem's Final Proposals, December 1999. The system operator role in that document is different to that now envisaged under BETTA, and the interconnector administrator role in that document is different to that now carried out by SP Transmission under the BSC.
[44] Licence fee cost recovery principles, Ofgem, February 2002

# 4. Next steps

4.1. The current transmission price controls (SP Transmission and SHETL) are due for renewal from 1 April 2005, and arrangements need to be in place to continue to protect the interests of consumers from that date, if BETTA go-live is later than 1 April 2005.

4.2. During the remainder of 2004, Ofgem will develop proposals for the price controls to apply from 1 April 2005 until BETTA go-live, alongside the development of the price controls and incentives to apply under BETTA[45].

4.3. The controls developed under the programme of work set out in this document will apply in the event that BETTA did not proceed, or BETTA has a go-live date after 1 April 2005.

4.4. The proposed timetable for this work is shown below:

| **Transmission price controls (from 1 April 2005 to BETTA go-live)<br>SP Transmission and SHETL** | | |
|---|---|---|
| Initial thoughts | **Published** | March 2004 |
| Update | | April 2004 |
| Draft proposals | | July 2004 |
| Final proposals | | October 2004 |
| Implementation of price controls (if appropriate) | | From 1 April 2005 |

4.5. As discussed in the October 2003 document, Ofgem is seeking financial and performance information from the licensees via questionnaires to be completed and returned to Ofgem. In addition to the questionnaires, clarifications and

[45] As discussed in the October 2003 report.

additional information will be requested from companies as the detailed arrangements under BETTA are developed.

4.6. The price controls to apply to SP Transmission and SHETL from BETTA go-live will be derived from the roll forward price control proposals (discussed in this consultation document) by making adjustments to reflect the changed roles of the licensees under BETTA. The development of these adjustments will be addressed in Ofgem's proposed April 2004 consultation document.

4.7. The work to determine the approach for dealing with large renewable energy generation related transmission schemes will need to take in to account the impact of the generation on all transmission licensees including NGC. The companies have proposed a number of specific investment schemes, and Ofgem will publish in April its timetable for implementing measures to facilitate appropriate investments.

## *Views invited*

4.8. Views are invited on the proposed processes and timetable for developing the price controls and incentives.

# Appendix 1 Respondents to Ofgem's open letter

Ofgem's open letter - Timetable for price control reviews, November 2003, Ofgem 143/03

**Respondents**

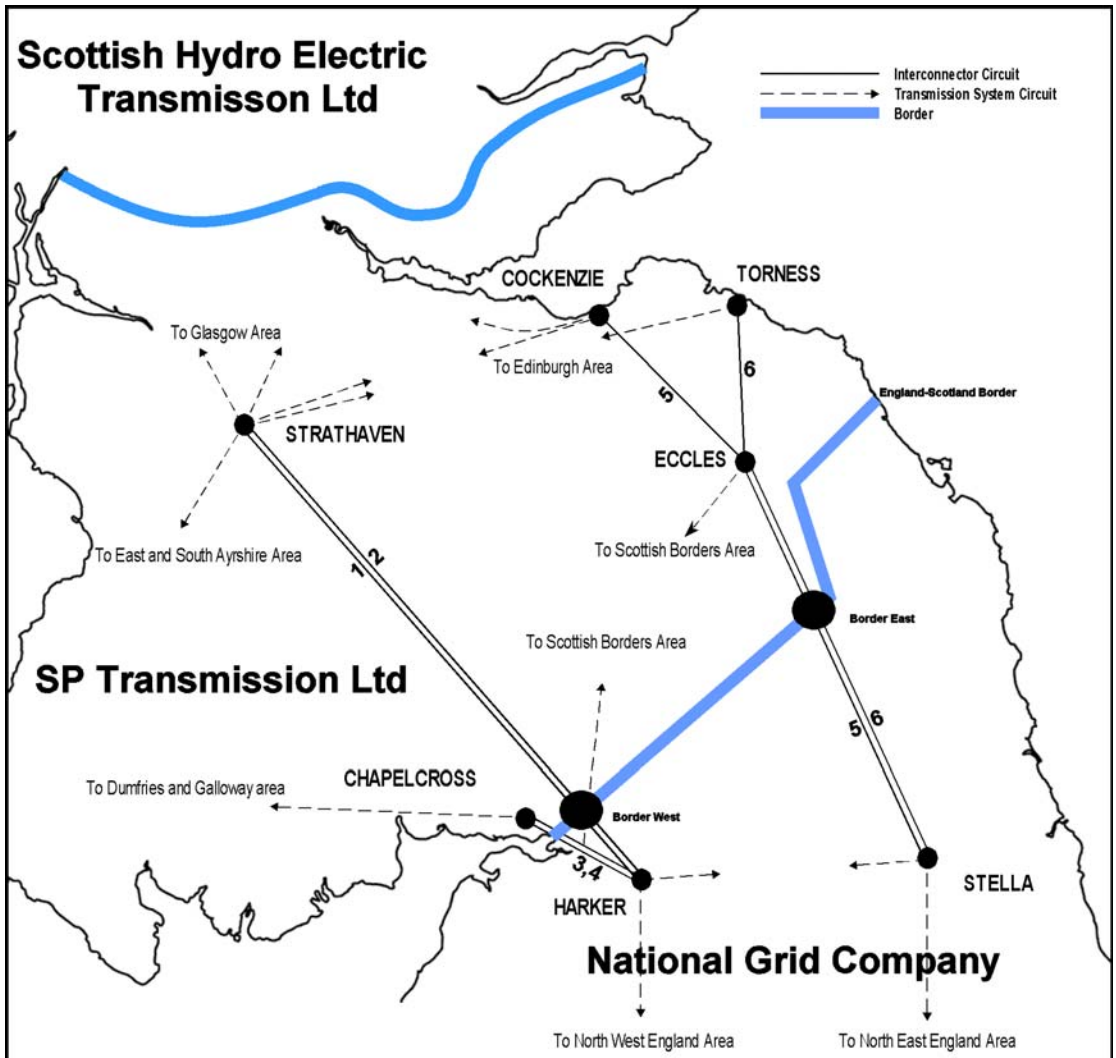
British Gas Trading

EDF Energy

National Grid Transco

SP Transmission Ltd

# Appendix 2 Diagram of the England-Scotland interconnector circuits




| Interconnector Circuit | Coast | Pre-Vesting | Post-Vesting | Geographic Length km (approx) |
|---|---|---|---|---|
| 1 | West | 275 kV | 400 kV | 125 |
| 2 | West | 275 kV | 275 kV | 125 |
| 3 | West | 132 kV | 132 kV | 25 |
| 4 | West | 132 kV | 132 kV | 30 |
| 5 | East | 275 kV | 400 kV | 170 |
| 6 | East | 400 kV | 400 kV | 140 |
| **Scottish Interconnection** | | **West (1,2)** | | 115 |
| | | **West (3,4)** | | 15/20 |
| | | **East (5,6)** | | 90/60 |
| **NGC Interconnector** | | **West (1,2)** | | 10 |
| | | **West (3,4)** | | 10 |
| | | **East (5,6)** | | 80 |

# Appendix 3 Price control calculations

**Table 1: SP Transmission's price controlled revenues[46]**

| £ million | 2000/1 | 2001/2 | 2002/3 | 2003/4 | 2004/5 | Total |
|---|---|---|---|---|---|---|
| ***RAV analysis*** | | | | | | |
| Opening asset values | 559.1 | 539.3 | 518.3 | 496.9 | 484.8 | |
| Depreciation | -42.1 | -42.6 | -43.2 | -43.7 | -44.5 | -216.0 |
| Capex | 22.3 | 21.6 | 21.7 | 31.7 | 31.1 | 128.4 |
| Closing values | 539.3 | 518.3 | 496.9 | 484.8 | 471.4 | |
| ***Revenue analysis*** | | | | | | |
| Opex incl non-controllable | 35.1 | 33.6 | 33.1 | 32.8 | 32.5 | 167.1 |
| Depreciation allowance | 42.1 | 42.6 | 43.2 | 43.7 | 44.5 | 216.0 |
| Return | 35.7 | 34.4 | 33.0 | 31.9 | 31.1 | 166.0 |
| Total | 112.9 | 110.6 | 109.3 | 108.4 | 108.1 | 549.3 |
| PV of totals | 108.3 | 99.7 | 92.5 | 86.2 | 80.7 | 467.3 |
| *Path of allowed revenues* | | | | | | |
| Price control revenues | 104.4 | 104.4 | 104.4 | 104.4 | 104.4 | 521.9 |
| Excluded revenues | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 22.9 |
| Total revenues | 109.0 | 109.0 | 109.0 | 109.0 | 109.0 | 544.8 |
| PV of totals | 105.1 | 98.7 | 92.6 | 87.0 | 82.1 | 467.3 |

*PV carried out using a discount rate of 6.5 per cent

Notes

1. Cost of capital 6.5 per cent

2. All figures at 1997/8 prices

[46] Extracted from: Review of Public Electricity Suppliers 1998 to 2000, Scottish Transmission price control review, Final Proposals, December 1999, Ofgem

**Table 2: SHETL's price controlled revenues**[47]

| £ million | 2000/1 | 2001/2 | 2002/3 | 2003/4 | 2004/5 | Total |
|---|---|---|---|---|---|---|
| ***RAV analysis*** | | | | | | |
| Opening asset values | 222.1 | 223.4 | 224.1 | 224.0 | 222.9 | |
| Depreciation | -11.4 | -11.7 | -12.0 | -12.2 | -12.4 | -59.8 |
| Capex | 12.7 | 12.5 | 11.8 | 11.1 | 11.9 | 60.0 |
| Closing values | 223.4 | 224.1 | 224.0 | 222.9 | 222.3 | |
| ***Revenue analysis*** | | | | | | |
| Opex incl non-controllable | 20.0 | 19.5 | 19.2 | 19.1 | 19.0 | 96.7 |
| Depreciation allowance | 11.4 | 11.7 | 12.0 | 12.2 | 12.4 | 59.8 |
| Return | 14.5 | 14.5 | 14.6 | 14.5 | 14.5 | 72.6 |
| Total | 45.9 | 45.8 | 45.7 | 45.8 | 45.9 | 229.1 |
| PV of totals | 44.1 | 41.2 | 38.7 | 36.4 | 34.2 | 194.6 |
| *Path of allowed revenues* | | | | | | |
| Price control revenues | 45.3 | 45.3 | 45.3 | 45.3 | 45.3 | 226.4 |
| Excluded revenues | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.5 |
| Total revenues | 45.4 | 45.4 | 45.4 | 45.4 | 45.4 | 226.9 |
| PV of totals | 44.0 | 41.3 | 38.8 | 36.4 | 34.2 | 194.6 |

*PV carried out using a discount rate of 6.5 per cent

Notes

1. Cost of capital 6.5 per cent

2. All figures at 1997/8 prices

[47] Extracted from: Review of Public Electricity Suppliers 1998 to 2000, Scottish Transmission price control review, Final Proposals, December 1999, Ofgem

# Appendix 4 Interconnector contract costs

**Projections of interconnector contract costs (pre-Vesting assets) used in setting the current price controls (indicative breakdown)**

| **SP Transmission** | **Contract costs* pa (1997/8 prices)** |
|---|---|
| Use of NGC interconnector | £6.2 million pa |
| | |
| **Total** | **£6.2 million pa** |

* Related to use of pre-Vesting assets

| **SHETL** | **Contract costs* pa (1997/8 prices)** |
|---|---|
| Use of NGC interconnector | £5.3 million pa |
| Capacity charge for use of Scottish interconnection | £1.4 million pa |
| Corridor charge | £2.2 million pa |
| | |
| **Total** | **£8.9 million pa** |

* Related to use of pre-Vesting assets

# Appendix 5 Respondents to the October 2003 consultation paper

Price controls and incentives under BETTA, An Ofgem/DTI consultation, October 2003, Ofgem 130/03

**Respondents**

Centrica

EDF Energy

National Grid Transco

RWE Innogy

ScottishPower UK Division

Scottish and Southern Energy plc

SP Transmission Ltd

# Appendix 6 Performance under existing controls

**Table 1a. SP Transmission : Regulatory Accounts**

| **Company: SP Transmission** | | **2000/1** | **2001/2** (Note 1) | **2002/3** |
|---|---|---|---|---|
| | | | | |
| **Financial performance** | | *Nominal prices* | | |
| **Turnover** comprising: | | | | |
| Excluded services turnover | £ *m* | 26.3 | 24.4 | 23.4 |
| Price controlled turnover | £ *m* | 115.6 | 119.2 | 119.8 |
| **Total turnover** | £ *m* | **141.9** | **143.6** | **143.2** |
| Less: Cost of sales | £ *m* | 13.6 | 13.0 | 11.3 |
| **Gross Profit** | £ *m* | 128.3 | 130.6 | 131.9 |
| Less: Operating costs | £ *m* | 37.1 | 39.5 | 38.2 |
| **Operating profit** | £ *m* | **91.2** | **91.1** | **93.7** |
| Other income | £ *m* | 2.2 | 0.5 | 0.2 |
| **PBIT** | £ *m* | **93.4** | **91.6** | **93.9** |
| Interest | £ *m* | n/a | 14.4 (Note 1) | 11.5 |
| **PBT** | £ *m* | **93.4** | **77.2** | **82.4** |
| Tax | £ *m* | n/a | 19.2 (Note 1) | 24.7 |
| **PAT** | £ *m* | **93.4** | **58.0** | **57.7** |
| Dividends | £ *m* | n/a | nil | 86.3 |
| **Retained profit** | £ *m* | **93.4** | **58.0** | **(28.6)** |
| | | | | |
| **Net Assets** | £ *m* | 329.9 | 42.1 | 13.5 |
| **Net Debt** (Note 5) | £ *m* | nil | 248.4 | 202.8 |
| | | | | |
| **Net cash inflow from operations** | £ *m* | **108.4** | **111.0** | **99.5** |

Note 1. Interest and tax figures are pro-forma. Actual net interest and tax figures per SP Transmission's statutory accounts were for the second six months only, the period when SP Transmission was a separate legal entity.

## Table 1b. SP Transmission : Regulatory performance (price control basis)

| **Regulatory performance (price control basis)** | | *2002/3 prices* | | |
|---|---|---|---|---|
| | | **2000/1** | **2001/2** | **2002/3** |
| ***Capital expenditure*** | | | | |
| Actual | £ *m* | 22.9 | 15.2 | 38.8 |
| Allowance | £ *m* | 24.9 | 24.1 | 24.3 |
| Variance | £ *m* | -2.0 | -8.9 | 14.5 |
| % of allowance | % | 91.9% | 63.0% | 160.0% |
| ***Regulatory Asset Value*** (RAV) (Note 2) | £ *m* | 594.9 | 567.1 | 546.8 |
| ***Controllable operating expenditure*** (Note 3) | | | | |
| Actual | £ *m* | 33.8 | 35.3 | 30.8 |
| Allowance | £ *m* | 39.6 | 38.6 | 38.5 |
| Variance | £ *m* | -5.8 | -3.2 | -7.6 |
| % of allowance | % | 85.3% | 91.6% | 80.1% |
| ***Operating profit (EBIT)*** | | | | |
| Total turnover (Note 4) | £ *m* | 124.6 | 126.6 | 124.6 |
| Less: | | | | |
| Controllable opex | £ *m* | -33.8 | -35.3 | -30.8 |
| Regulatory depreciation | £ *m* | -46.5 | -47.1 | -47.5 |
| Operating profit (P) | £ *m* | **44.3** | **44.2** | **46.3** |
| | | | | |
| **Return on price control basis** P/RAV | % | 7.4% | 7.8% | 8.5% |
| **Net debt** (Note 5) | £ *m* | - | 253.5 | 202.8 |
| **Gearing** (Net Debt/RAV) | % | n/a | 44.7% | 37.1% |

Note 2: Average RAV = 0.5 (Open + Closing) year values

Note 3: Controllable operating expenditure does not include depreciation. It also excludes costs relating to the post-Vesting England-Scotland interconnector and the Northern Ireland interconnector.
Controllable operating expenditure includes contract costs relating to pre-Vesting England-Scotland interconnector assets as follows:

| Pre-Vesting interconnector contract costs | 2000/1 | 2001/2 | 2002/3 |
|---|---|---|---|
| (2002/3 prices) | £ 6.7m | £6.8m | £6.8m |

These contract costs are included in the Cost of Sales in the Profit and Loss Account

Note 4. Turnover (price control basis) excludes revenues related to the post-Vesting England-Scotland interconnector and the Northern Ireland interconnector.

Note 5: Net debt includes third party and inter-company debt at the licence holder level but excludes other debt guaranteed by the licence holder. It is not possible to split debt between price controlled and non price controlled activities.

**Table 1c. SP Transmission : System performance**

| **System performance** | | **2000/1** | **2001/2** | **2002/3** |
|---|---|---|---|---|
| System maximum demand * | MW | 4,260 | 4,260 | 4,310 |
| System length | km | 4,098 | 4,164 | 4,164 |
| | | | | |
| System throughput | | | | |
| Units transmitted to connected grid supply points | GWh | 23,958 | 23,493 | 23,392 |
| Units imported/exported to SHETL | GWh | - 413 | + 399 | - 1,598 |
| Units imported/exported to NGC | GWh | + 8,662 | + 8,878 | + 5,909 |
| Units imported/exported to other networks | GWh | n/a | + 547 | + 2,970 |
| Losses | GWh | 814 | 823 | 815 |
| **Total units** | **GWh** | **33,021** | **34,140** | **31,489** |

Units imported (-)/exported (+) are net amounts

* ACS demand

**Table 2a. SHETL : Regulatory Accounts**

| **Company: SHETL** | | **2000/1** | **2001/2** | **2002/3** |
|---|---|---|---|---|
| | | | | |
| **Financial performance** | | *Nominal prices* | | |
| **Turnover** comprising: | | | | |
| Excluded services turnover | £ *m* | 9.2 | 11.2 | 10.0 |
| Price controlled turnover | £ *m* | 48.2 | 47.8 | 52.0 |
| **Total turnover** | £ *m* | **57.4** | **59.0** | **62.0** |
| Less: Cost of sales | £ *m* | 16.0 | 17.9 | 17.7 |
| **Gross Profit** | £ *m* | 41.4 | 41.1 | 44.3 |
| Less: Operating costs | £ *m* | 12.7 | 15.5 | 15.7 |
| **Operating profit** | £ *m* | **28.7** | **25.6** | **28.6** |
| Other income | £ *m* | 0.0 | 0.0 | 0.0 |
| **PBIT** | £ *m* | **28.7** | **25.6** | **28.6** |
| Interest | £ *m* | n/a | 7.4 | 6.4 |
| **PBT** | £ *m* | **28.7** | **18.2** | **22.2** |
| Tax | £ *m* | n/a | 5.1 | 7.7 |
| **PAT** | £ *m* | **28.7** | **13.1** | **14.5** |
| Dividends | £ *m* | n/a | 0.0 | 7.1 |
| **Retained profit** | £ *m* | **28.7** | **13.1** | **7.4** |
| | | | | |
| **Net Assets** | £ *m* | 151.4 | 14.7 | 22.1 |
| **Net Debt** (Note 4) | £ *m* | - | 109.2 | 94.9 |
| | | | | |
| **Net cash inflow from operations** | £ *m* | **36.8** | **31.5** | **37.0** |

## Table 2b. SHETL : Regulatory performance (price control basis)

| **Regulatory performance (price control basis)** | | *2002/3 prices* | | |
|---|---|---|---|---|
| | | **2000/1** | **2001/2** | **2002/3** |
| ***Capital expenditure*** | | | | |
| Actual | £ *m* | 17.72 | 8.47 | 8.40 |
| Allowance | £ *m* | 14.20 | 13.97 | 13.19 |
| Variance | £ *m* | 3.52 | -5.50 | -4.79 |
| % of allowance | % | 124.8% | 60.6% | 63.7% |
| ***Regulatory Asset Value*** (RAV) (Note 1) | £ *m* | 250.74 | 250.93 | 246.12 |
| ***Controllable operating expenditure*** (Note 2) | | | | |
| Actual | £ *m* | 17.15 | 19.49 | 19.70 |
| Allowance | £ *m* | 22.36 | 21.80 | 21.46 |
| Variance | £ *m* | -5.21 | - 2.30 | -1.76 |
| % of allowance | % | 76.7% | 89.4% | 91.8% |
| ***Operating profit (EBIT)*** | | | | |
| Total turnover (Note 3) | £ *m* | 49.94 | 48.79 | 52.00 |
| Less: | | | | |
| Controllable opex | £ *m* | -17.15 | -19.49 | -19.70 |
| Regulatory depreciation | £ *m* | -12.74 | -13.08 | -13.41 |
| Operating profit (P) | £ *m* | **20.05** | **16.22** | **18.89** |
| | | | | |
| **Return on price control basis** P/RAV | % | 8.00% | 6.46% | 7.67% |
| **Net debt** (Note 4) | £ *m* | - | 111.46 | 94.90 |
| **Gearing** (Net Debt/RAV) | % | n/a | 44.4% | 38.5% |

Note 1: Average RAV = 0.5 (Open + Closing) year values

Note 2: Controllable operating expenditure does not include depreciation. It also excludes costs relating to the post-Vesting England-Scotland interconnector.
Controllable operating expenditure includes contract costs relating to pre-Vesting England-Scotland interconnector assets as follows:

| Pre-Vesting interconnector contract costs | 2000/1 | 2001/2 | 2002/3 |
|---|---|---|---|
| (2002/3 prices) | £ 10.0m | £10.0m | £10.1m |

These contract costs are included in the Cost of Sales in the Profit and Loss Account

Note 3. Turnover (price control basis) excludes revenues related to the post-Vesting England-Scotland interconnector.

Note 4: Net debt includes third party and inter-company debt at the licence holder level but excludes other debt guaranteed by the licence holder. It is not possible to split debt between price controlled and non price controlled activities.

**Table 2c. SHETL : System performance**

| **System performance** | | **2000/1** | **2001/2** | **2002/3** |
|---|---|---|---|---|
| System maximum demand* | MW | 1,671 | 1,644 | 1,646 |
| System length | km | 4,848 | 4,848 | 4,848 |
| | | | | |
| System throughput | | | | |
| Units transmitted to connected grid supply points | GWh | 8,469 | 8,244 | 8,358 |
| Units imported/exported to SP Transmission | GWh | +413 | -398 | +1,607 |
| Losses | GWh | 287 | 255 | 308 |
| **Total units** | **GWh** | **9,168** | **8,101** | **10,273** |

Units imported (-)/exported (+) are net amounts

* Actual demands