From the Deputy Director General
of
Gas for Northern Ireland

ofreg
OFFICE FOR THE
REGULATION OF ELECTRICITY & GAS

20 September 1999

22 SEP 1999

Chris Murray
Chief Executive Officer
Phoenix Natural Gas Ltd
19 Clarendon Road
Clarendon Dock
BELFAST
BT1 3BG

Dear Chris

SETTING THE MAXIMUM ALLOWED REVENUE FOR PHOENIX NATURAL GAS'S CONVEYANCE BUSINESS

We have now completed our consideration of the maximum allowed revenue that Phoenix Natural Gas's conveyance business should be allowed to earn over the period from 1996 - 2016. In accordance with Condition 2.3.8 of the Phoenix licence I have determined each of the values P_i. The P_i values and other principles relating to the price control are included in the enclosed paper.

I would like to take the opportunity in this covering letter to make a couple of points which will not be immediately apparent from the enclosed paper:

1. First of all may I say how grateful I am to your staff for the amount of work they put in to provide both ourselves and our consultants with the information necessary to undertake the very complicated analysis. I must however raise a general reservation that the process has, rather to my frustration, been delayed by the occasional difficulties in obtaining information required. I recognise that as an organisation you are very small and attempting to do quite a difficult job of creating a new market in Belfast; however as I mentioned you are in the final analysis a subsidiary of BG plc and I would have hoped that as an organisation overall you and your parent company would have recognised the importance of this process and allocated adequate resources to it. I hope that my successor does not have to suffer an equally protracted process a couple of years down the road.

2. In the enclosed paper, we have signed on to certain costs over the next few years and in other areas we have mentioned cost estimates stretching out as far as 2016. For the avoidance of any doubt at the next price control, all Capex and Opex figures and

efficiency estimates produced by the company at that time will be assessed to ensure compliance with your licence for the period under review and the use of any specific figure in this control does not imply that it will be taken as a given for the purposes of the next control.

3. The enclosed paper has a general recommendation section which is largely concerned with planning and commercial aspects. When referring to the Alliance agreement between Phoenix and McNicholas we mentioned in 6.10 the financial implications of the non-implementation of the efficiency-sharing part of the agreement. I am concerned that the non-implementation of this section is operating against the interests of your customers and I must therefore urge you to bring forward arrangements for implementing it to my Director General as soon as is convenient.

If you would like to meet to discuss any aspects of the paper I am at your convenience.

Yours sincerely

CHARLES COULTHARD
For and on behalf of the Director General of Gas for Northern Ireland

1. INTRODUCTION AND SUMMARY

1.1 The purpose of this paper is to set out my reasoning in arriving at the P_i values given in Table 1 below. These values are calculated to generate a forecast pre-tax internal rate of return of 8.5% over the period 1996-2016 given my view as to the level of capital and operating expenditure that Phoenix Natural Gas's Conveyance Business will need to incur over this period to enable it to finance its licensed activities and my view of the volume sales that the Business is likely to generate.

Table 1
P_i Values (pence per therm)
(The Pi Values below have been rounded to 2 decimal places)

Domestic (firm below 2500 therms per annum)	Small and Medium Industrial and Commercial (firm between 2500 and 75000 therms per annum)	Large Industrial and Commercial (firm over 75000 therms per annum)	Interruptible	Transmission Only	Weighted average transportation charge (P_0)
35.54	**30.42**	**16.69**	**15.42**	**4.01**	**29.11**

1.2. Projections of expenditure (C_t, O_t, G_t, Q_t), cashflows (F_{0t}) and volumes (V^f_{it} and W^f_{it})for the period 1996 to 2016 are given in Appendix 1.

1.3. In arriving at the projections on expenditure the Director General commissioned consultants to examine the plans for expenditure for the period from 1996-2016 put forward by Phoenix Natural Gas' Conveyance Business. On the basis of final reports prepared by these consultants I then formed a view as to the reasonable level of expenditure that should be allowed. In the succeeding analysis I will outline my reasoning in arriving at the projections for capital and operating expenditure and volume sales. This outline will be relatively brief as you have copies of the consultants position papers and much of my reasoning has already been explained in my earlier paper of 18 May 1999.

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2. BASIS FOR CAPITAL AND OPERATING EXPENDITURE PROJECTIONS

2.1 In arriving at the projections on capital and operating expenditure the Director General commissioned W S Atkins and Pannell Kerr Foster (PKF) respectively to examine the plans for expenditure for the period from 1996-2016 put forward by Phoenix Natural Gas' Conveyance Business. Their final reports set out in detail the findings of their review of these capital and operating expenditure plans. These reports were prepared following a series of meetings with Phoenix Natural Gas (Phoenix) and a review of data provided by them. In the meantime W S Atkins have revised some of their findings and this information was also provided to Phoenix.

2.2 Position Papers were drafted by both W S Atkins and Pannell Kerr Foster in August 1998 summarising their initial conclusions. These were based on data provided by Phoenix in their initial base value submission to the Director General in June 1997 and on subsequent meetings with Phoenix on this submission. Copies of these Position Papers were passed to Phoenix who were given the opportunity to comment on them. This process of discussion culminated in a revised version of the June 1997 Base Value submission being submitted by Phoenix to the Director General in March 1999. This Submission was, in any event, required under Condition 2.3.12 (c) of Phoenix's Conveyance Licence which stipulates that a special reforecast review of the P_i values can be instigated if the total throughput in any formula year differs from the forecast value by more than 15%. Actual throughput in 1997 was significantly less than that forecast in the original June 1997 submission thereby necessitating the revision of that submission.

2.3 The final reports prepared by W S Atkins (including subsequent amendments) and PKF set out their positions on Phoenix's capital and operating expenditure requirements respectively and takes as a starting point, their view of the requirement, as expressed in the June 1997 and March 1999 Base Value Submissions.

2.4 These final reports have enabled me to form a view as to the level of capital and operating expenditure that Phoenix's Conveyance Business needs to finance its licensed activities over the period from 1996-2016. These conclusions are examined in detail below.

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3. VOLUME ASSUMPTIONS

3.1 One of the key points contained in Phoenix's March 1999 Base Value Submission is the significant shortfall in actual gas volume sales for 1997 when compared with planned. In their March 1999 Base Value Submission Phoenix attribute this shortfall in actual sales over those forecast to a number of factors including lower take-up of connections (some 30% of planned for the domestic sector). Other factors cited include a lower unit volume usage than assumed for the initial submission (some 35% of forecasts for the domestic sector) and the lengthy time lag between sale and gas burn.

3.3 Phoenix concedes that these factors have combined to produce lower total volumes and a much slower projected build up of load over the twenty year period to 2016. To counteract these factors Phoenix has decided to accelerate the network build programme so as to make gas available to a greater proportion of the licence area at an earlier stage than previously planned. It is anticipated that this will provide the opportunity for more connections in new areas and in part make up for the lower rate of take-up in existing areas which is significantly less than originally assumed.

3.4 However although Phoenix state in their Submission that service and meter connections have been reprofiled to take account of the factors which have impacted on volume sales I outlined my concern, in my "Minded To Letter" of 18 May, that the profile of new domestic connections used was optimistic. As a result of my concern I felt it was reasonable to assume a lower profile of new domestic connections and hence a lower profile of volume sales to the domestic sector. While Phoenix accepted that the lower profile was reasonable they expressed some concern over the methodology used to rephase Domestic Volumes in line with the rephasing of Domestic Connections outlined in W S Atkins' report. In response to this I have rephased Domestic Volumes using a methodology which should alleviate the concerns expressed by Phoenix. The effect on the P_1 Volume profile (which includes Domestic Volumes) is shown below.

P1 Volumes ('000 Therms): Effect of Rephasing Domestic Connections

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
PNG Volume	0	41	897	4170	9884	18636	29289	43710	59503	74732	88808
Ofreg Rephased	0	41	897	3900	7624	13319	22078	33562	45788	57999	69744

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
PNG Volume	101519	112000	120314	125207	128841	131633	133741	135452	136906	137882
Ofreg Rephased	82013	94543	107040	115866	123104	128740	131786	134806	136422	137882

4. CAPITAL EXPENDITURE

Acceleration of gas network development and reprofiling of new domestic connections

4.1 Phoenix's decision referred to above to accelerate the distribution network build programme has implications for capital expenditure projections and this was reflected in the March 1999 Base Value Submission. This Submission indicated a significant acceleration of mains activities over that contained in the original June 1997 submission. In the revised submission it is envisaged that the 7 bar system will be completed by the end of 2000 and that the majority of the 4 bar system and feeder mains will be completed by 2001.

4.2 Whilst this acceleration of the network build programme is to be welcomed I expressed concern of the lack of any reports presenting the justification and proposals for this new works phasing. Nevertheless I stated in the "Minded To Letter" that I was prepared to reflect the accelerated network build programme in my derivation of a reasonable level of capital expenditure for Phoenix's Conveyance Business provided that the specific capex related recommendations were adopted.

4.3 As highlighted earlier I am concerned, for the reasons stated above in paragraph 3.4, that the extent of new domestic connections in the Submission is unchanged from that included in the June 1997 Base Value Submission. Therefore, in line with the W S Atkins conclusions a lower profile has been used to derive the level of capital expenditure. However, in response to Phoenix's concerns over possible constraints that this might place on the growth of the domestic sector I am prepared to consider with Phoenix identifying a mechanism which would enable Phoenix to recover any capital expenditure needed to satisfy unforseen additional connections. The precise mechanism and the agreed unit cost of connections are issues which can be resolved outside of the setting of the P_i Values.

Efficiencies

4.6 In addition to adjusting Phoenix's capital expenditure proposals in their March 1999 Submission to reflect the re-profiling of the likely take-up of new connections several adjustments have been made to reflect what I view as being realistic achievable efficiency gains. In Phoenix's capital expenditure proposals no allowance for such efficiencies have been included.

4.7 In reaching a view as to an appropriate capital efficiency factor I have taken into account information on historical achievement to date (albeit of a limited nature in Phoenix's case), the relative performance against other gas and similar utilities, the potential to bring in new technologies, and the potential for improved procurement and design effectiveness. These issues have already been adequately highlighted in my previous letter of 18 May. In reaching a final view on the level of Capital Efficiencies I have also taken into account Phoenix's views on my initial assessment of achievable efficiencies presented in my letter of 18 May.

4.8 I have concluded that the application of a capital efficiency factor of 2% per annum in real terms, cumulative for the first five years, is appropriate. I have agreed with Phoenix that the level of achievable efficiencies beyond the current price control period will be assessed again at the time of the next review. It has also been agreed that Capital Efficiencies will only be applied to Capital Expenditure associated with the build of distribution infrastructure.

4.9 *Meters*

Phoenix are required under their licence to provide a prepayment metering solution. The only fully operating technology in GB is the Quantum meter that is used by TransCo. This is a costly solution that has been subject to some criticism. I understand that Phoenix has had discussions with Siemens but are still awaiting the outcome of a full trial into the bolt-on modules for the E6 meters and that in advance of that they are exploring alternatives which provide a 'pay as you go' solution. However I understand that Phoenix has been awaiting the results of this trial for rather a long time and therefore I intend to keep this situation under review.

4.10 I have allowed an additional £135,000 of expenditure on Domestic Meters in 2000 in order that Phoenix can recover expenditure on the replacement of out of date E6 meters with one with a spec which enables the attachment of a prepayment module. The allowed expenditure relates, not to the capital cost of the replacement meter, but to the costs involved in the installation/replacement process. Although I have made no other changes to the estimates of Meter expenditure (other than the ripple effect of capital efficiencies and rephasing of Domestic Connections) I will, as mentioned earlier, be keeping the situation as regards prepayment meters under close review. The effect on distribution capital expenditure of the rephasing of domestic connections, applying efficiency factors and the replacement of outdated meters in 2000 can be seen in tables 5.8, 5.9 and 6.0.

Management Fee

4.11 In considering the level of the management fee to be allowed within "Engineering Other" I have considered revised management fee estimates based on a comparison between the work McNicholas expected to undertake with that now proposed by Phoenix. This leads to a payment to McNicholas of £7.087m (including a £284k setup charge which is smeared over the first five years of the McNicholas contract) if the workload (as measured by capex spend) is unchanged. I have examined the items that make up this spend in order to identify the fixed and variable components. I estimate that 49% of the £6.803m is variable and I have used this value to forecast the appropriate level of management fee as the workload changes. I have maintained this arrangement through to 2006. From 2007 onwards the workload is decreasing sharply and I feel that a different contractual arrangement might be more appropriate. On this basis I have calculated the management fee from 2007 onwards on an entirely variable basis of 15% of capital spend. The effect on "Engineering Other" of this Management Fee methodology can be seen in Tables 5.8, 5.9 and 6.0.

4.12 *IT upgrades*

I have considered Phoenix's estimates for the cost of IT upgrades (£2.4m), which are included within "Other capex", and I have decided to split this cost into three components, corporate, customer and transportation to ensure consistency with the treatment of IT opex. To further ensure such consistency I am currently minded to allow 50% of corporate, none of customer and 100% of transportation spend. On this basis I have included a spend of £1.2m in my derivation of allowable capital expenditure. The effect of this on "Other Capex" can be seen in Tables 5.8 and 5.9.

4.13 I am prepared to accept Phoenix's preliminary estimate for the development of the Network Code of £6m (which is included within "Other Capex", subject to conditions outlined in 4.14. I understand that this figure has been based on information provided by TransCo on their cost of developing and implementing supply competition and that the capex concerned covers the cost of providing information exchange systems, and IT processing hardware for the additional business functions required under competition. However a firm basis for this spend has not been provided and accordingly Phoenix must undertake an initial forecast based on an Network Code implementation plan.

4.14 In my earlier letter I stated that if the justification is not provided of the full £6m projected spend on capex for the Network Code then I will be minded to impose a lower capex estimate of 50% of the initial estimate, and to deal with any cost overrun as the equivalent of a notified item for which additional costs can be "logged up" for the next price review. I have now decided to accept Phoenix's preliminary estimate of £6m subject to said justification of the full £6m, otherwise up to half of this expenditure will be retrospectively disallowed (and "clawed back") at the time of the next review.

4.15 *Conclusions*

Based on the considerations and reasoning outlined above, I have determined that a reasonable level of capital expenditure for Phoenix's Conveyance Business is as shown in Table 6.0 and Appendix 3.

5. OPERATING EXPENDITURE

5.1 In assessing the level of operating expenditure that an efficiently run Phoenix Conveyance Business would require in order to undertake its licensed activities a thorough and detailed analysis has been conducted of this business's actual and projected operating costs as contained in the original June 1997 Base Value Submission and in the revised update dated March 1999. This analysis was conducted against the background of the definition of Allowed Operating Expenditure and Working Capital Adjustment set out in condition 2.3.15 of Phoenix's conveyance licence. The conclusions that I have drawn from this analysis are set out below with each category of cost being examined in turn.

Transmission costs

Control and Information Services and Maintenance and Emergency Response Service

5.2 The analysis of transmission costs indicates that the principal transmission costs are for Control and Information Services and Maintenance and Emergency Response Service, services, that are currently provided by TransCo (with the remainder of the costs being £10k per annum from 1999 onwards for CCTV monitoring at Knochnagoney). However TransCo's own costs have been subject to regulatory review as from 1997/98. The TransCo review, following consideration by the MMC, resulted in a one-off reduction in prices of 20% and an RPI-2%deflator thereafter. Although there is an argument to use the full 20% reduction, I have noted Phoenix's argument that the actual first year reduction was restricted to only 9% because of various correction factors. Accordingly I stated in my earlier letter that I was minded to reduce projected costs for these services by 9% from 1998 with an RPI-2% deflator applied thereafter. However, I am prepared to accept Phoenix's argument that such savings could not be realised until the above contracts are up for review. As a result a one-off reduction of 9% shall be applied to the contracts in 2000 with a RPI-2% deflator thereafter for the length of the current Price Control period. However, in retaining consistency with the treatment of other efficiency factors as described in Section 4.8, the continuance of a RPI - 2% deflator beyond the current Price Control period will be reassessed at the time of the next review.

5.3 Despite the above I remain concerned by the fact that these contracts have not been subject to competitive tendering. I would therefore anticipate that when these contracts expire the possibility of competitive tendering will be thoroughly explored by Phoenix.

Site and Utility services

5.4 In my earlier letter I noted that the costs for these services for 1997-99 have been brought down to the levels suggested by PKF but I was concerned that Phoenix project a constant £86k as from 2000 with no further reduction for the price control deflators applied to a number of these costs. In my view a net annual deflator of 2% appears reasonable and accordingly the post 1999 allowable expenditure should be reduced by this deflator in each subsequent year, except that this deflator will apply only during this review period with that assumption being reassesses at the time of the next review.

5.5 *Maintenance by Phoenix*

The maintenance costs projected by Phoenix are based on experience to date, which suggests maintenance of some £20k per annum on the Phase 1 transmission line. As these costs are primarily third party contractor costs it would seem to me that these costs should be held below the pro-rata levels for Phase 1. In addition, I would expect that, with the settling down of the system and the reduction of Phoenix's own learning curve, these costs would tend to fall over time assuming no material deterioration in the system. To reflect the potential for savings I have reduced the projected cost in 2001 by a 2% deflator. The application of the deflator beyond the current review is subject to the "deflator/efficiencies agreement" with Phoenix (see paragraph 4.8) of applying efficiencies and deflators only in the current review period with reassessment at the time of the next review.

Distribution costs

Maintenance

5.6 The maintenance costs projected by Phoenix are based on 1997 experience. In my view it would be reasonable to expect some economies of scale and greater efficiency as experience is gained in maintaining the system, for instance through procurement economies, focused and preventative maintenance and better labour skills through experience. Accordingly it is reasonable to apply a 2% deflator to the pro-rata costs in order to reflect the above potential for efficiency. Again this is subject to the general "deflator/efficiencies agreement".

Grid control and telemetry

5.7 According to Phoenix telemetry services are provided by TransCo under a two year contract dated 1 October 1997. In line with my comments in section 5.2 I am of the opinion that a one-off reduction of 9% shall be applied to the contracts in 2000 with a RPI-2% deflator thereafter for the length of the current Price Control period, subject to the "deflator/efficiencies agreement".

Emergency Services

5.8 Given the lack of evidence as to projected call outs for the provision of these services there is currently no evidence to determine a more robust projection than PNG's. Accordingly I accept Phoenix's projected costs for these services although I am unlikely to adopt the same policy at the time of the next review in the absence of evidence.

Insurance

5.9 I understand that Phoenix's projections of insurance costs are based on an estimate made by BG Insurance Company Ltd in May 1997. PKF noted that actual insurance premiums to date appear to be materially below these estimates and they recast the level of insurance forecasts, between 1998 and 2016, on a straight line basis. As a result allowed Insurance costs shall be in line with that calculated by PKF.

Pre-construction costs

5.10 I understand that pre-construction costs comprise: (i) market research into the level of demand in particular areas to assist with determining the prioritisation of capex spend; and (ii) notification of parties of upcoming planned construction work in the area. However no pre-construction spend is shown in actual costs from 1996-98. Furthermore it could be argued that the first category of spend is, at least partly, a supply issue and should not be accepted as an allowable conveyance cost. In particular the proposed spend in 2015 and 2016 appear to be speculative. For these reasons I shall only allow those pre-construction costs which fall within the current price control period.

Rates

5.11 Phoenix's current estimate of rates, aggregate some £70.7m, is in line with the Valuation & Lands Agency formula for determining how rates should be levied on PNG's pipeline system, and is accepted.

Manpower

5.12 I understand that Phoenix's allocation of manpower has followed the approach taken in the original June 1997 submission whereby Conveyance, until the year 2012, includes an allocation reflecting market development personnel. The numbers which might be taken as purely conveyance business FTEs within PNG's figures, excluding market development staff who are considered separately in sections 5.30 - 5.33, would be (assuming a straight line reduction of market development FTEs) as shown in Table 5.1.

5.13 As mentioned earlier Phoenix proposed in their March 1999 submission accelerating the completion of the remaining distribution system so that by 2001 the bulk system will be completed and feeder and infill systems largely completed. Therefore one would not anticipate any substantial increase in conveyance staff numbers after 2001 and indeed, the engineering staff component is projected to remain constant from the year 2000. Accordingly I suggested in my previous letter that Phoenix Conveyance Business staff numbers should peak at 64 staff in 2001 and remain at that level for the remainder of the period.

5.14 Furthermore section 4 of the document entitled "Developing a Natural Gas Industry in Northern Ireland" dated 23 October 1998 which provides job descriptions of Phoenix's manpower requirements indicates a Conveyance Business FTEs total of 52.65. (Table 5.2) This suggests that a cap of 64 FTEs, as projected by Phoenix for 2001, is reasonable and requires no further adjustment. Furthermore it indicates that the following proportions should be allocated to conveyance:

	Total FTEs	**% of Total**	**Allocation to Conveyance**	**% Allocated to Conveyance**
CEO	2	1.9	1	50
Engineering	26	49.4	26	100
Commercial	31	13.0	6.85	22.1
Business services	35	26.0	13.7	39.1
Regulation	8	9.7	5.1	63.75
	102	100%	52.65	51.6%

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5.15 I understand that the average salary costs are as follows, given the direct manpower costs projected by Phoenix for 2001 onward, using the above proportions (manpower costs in earlier projected years are estimated pro-rata the above ratios):

	Average Salary cost £000	Pro-rata staff numbers cost	Total £
CEO	55	1.2	66
Engineering	30	26 (restricted)*	780
Commercial	32	11.1	355
Business services	23	19.4	446
Regulation	40	6.3	252
		64	1899

*Engineering staff are restricted to 26, the variance being divided equally between commercial and business services.

5.16 Since my last letter I have agreed with Phoenix that a level of 66 FTE staff (with an average salary of £29.6k) from 2000 should be used as peak to forecast allowable expenditure on manpower. The manpower costs that I view as being reasonable for the efficient operation of Phoenix's Conveyance Business are set out in Table 5.3.

Corporate services

5.17 It is my understanding that corporate services are provided by BG plc under a framework contract commencing February 1997 for two years. The contract terms include call off rates for various rankings of staff which appear to be full consultancy rates. Given that the types of services provided are available from a variety of suppliers the rates operated suggest that Phoenix should explore whether better terms could be obtained elsewhere or through the use of in-house staff. Nevertheless I am minded to accept Phoenix's projections of these costs provided that they are allocated to Phoenix's Conveyance Business on the basis of the lower conveyance staff numbers and that they are subject to a 2% deflator from 1999 onwards, subject to the "defiator/efficiencies agreement". This would give amended corporate services costs as shown in Table 5.4.

Directors expenses

5.18 I am prepared to accept Phoenix's revised projections of directors expenses as set out within Ivan Bell's letter of 8 July 1999.

Other costs

5.19 Other (manpower) costs (travel, training, relocation and recruitment, etc) are driven by manpower numbers other than gas supply competition arrangements which have been charged wholly to Conveyance. So fas as other costs are concerned, these costs (except for gas supply competition costs) are amended to reflect an allocation based on 66 FTE conveyance staff.

Gas supply competition costs

5.20 Based on TransCo's experience Phoenix have estimated the need for 1.5 to 2 people in the year 2000, rising to 5 people if the number of suppliers coming into the market rises. Given there is evidence that a small number of suppliers might seek to enter and compete in the market projected costs are based upon two additional suppliers.

Office costs

5.21 In Phoenix's projections it is anticipated that there will be an expansion of rental space in 1999 and 2000 to accommodate growing numbers. This would increase rental space from 6500 to 9000 sq feet. It is also assumed that from 2001 a total of 30000 sq feet will be required. I am prepared to accept Phoenix's estimates of Office Costs (rent, rates and running costs) but the costs estimated for 2001 to 2009 have been adjusted for the lower level of conveyance manpower (66 FTEs). Office Costs for 2010 and beyond are in line with those set out in Ivan Bell's letter of 8 July 1999.

IT

5.22 Phoenix's analysis of IT shows corporate system costs of £126k (in 2000), Custima (customer management system) £34k and transportation systems, £165k. It would be reasonable to allocate 50% of the corporate system costs to each business, 100% of the Custima costs to Supply and 100% of the transportation systems costs to Conveyance. On this basis the costs allocated to conveyance would tend to be lower than those allocated by Phoenix.

Other costs

5.23 Other (office) costs consist of postage, telephone and security costs which have been allocated by Phoenix principally on a manpower basis. I prepared to accept Phoenix's projections of these costs but I have re-allocated them to Phoenix's Conveyance Business on the basis of the lower conveyance staff numbers

Advertising and PR

5.24 The licence definition of Allowed Operating Expenditure states that it will include an allowance for "advertising, promotion and public relations costs...that allowance being no more than the following amounts in the relevant Formula Years: 1996: £1.1 million, 1997: £1.1 million, 1998: £1.1 million, 1999: £0.55 million and such amounts thereafter as the Director determines are attributable to the business of the Licensee in providing conveyance services".

5.25 In their submission Phoenix have included other additional costs which include the cost of mobile caravans for presentations and a proportion for overall Phoenix sponsorship. I am, however, prepared to allow the NPV (at 8.5%) of the Advertising and PR costs proposed by PKF, subject to the profile of the costs being consistent with the definition of Allowed Operating Expenditure. The amount allowed for advertising, including that proposed by PKF, is shown below.

£'000	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
PKF Adv & PR	1100	1100	1100	550	550	550	550	250	250	250	250
Ofreg Adv & PR	1100	1100	1100	550	1185	912	350	200	200	200	110

£'000	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
PKF Adv & PR	250	250	250	250	250	250	250	250	250	250
Ofreg Adv & PR	100	100	100	100	100	100	100	100	100	100

Professional and legal costs

5.26 It is my view that both the legal and audit fees included under this heading appear high although there may be other services which will be required (environmental, property, consultancies) which may not have been accounted for elsewhere. The underlying legal costs are based on an assumed overall cost to Phoenix for legal services of £100k per annum and £45k for audit. Nevertheless as the balance between the Conveyance and Supply businesses changes over time I would anticipate a greater reduction in the allocation of legal and audit fees in this category to Conveyance in line with the previous ratios calculated.

5.27 In addition Phoenix have included the cost of nine agency staff within their estimates of Legal Costs. Given the assumed overall cost for conveyance legal services is £95k (95% of the £100k has been allocated to conveyance) the remaining costs are associated with (95% of the cost of) the agency staff which have been included by Phoenix in legal costs in the years 1997-2001. The costs of these agency staff should be restricted to the amount allowed in accordance with the previously estimated proportions as follows:

	Allowed %	No of FTEs	Allocation
Engineering	100	5	5
Commercial	22.1	2	0.4
Business Services	39.1	2	0.8
		9	6.2

Proportion of additional agency staff cost to be allowed 69%

5.28 Based on my estimate of the agency staff costs included in the Resubmission the adjustment to allowable Legal Costs for the would be as follows:

	1997 £000	1998 £000	1999 £000	2000 £000	2001 £000
Total "Legal Costs" as shown	530	590	468	467	463

Less Legal Services Cost	(95)	(95)	(95)	(95)	(95)
Cost of 95% of 9 Agency Staff	435	495	373	372	368
Gross up to 100%	458	521	393	392	387
69% thereof	316	359	271	270	267
Adjustment to "Legal Costs"	119	136	102	102	101

Market Incentives

5.29 In the June 1997 and March 1999 Base Value Submissions Phoenix included costs relating to the offering of market incentives to domestic and industrial and commercial customers. In the March 1999 Submission these costs, which are additional to the advertising and PR projections considered above, are projected to continue until 2008, totalling £13.264m and £10.187m for domestic and industrial and commercial customers respectively.

5.30 Phoenix also associate certain further manpower, primarily commercial and business service personnel, with these incentives. It is possible to estimate the number of such staff included in the Conveyance Business staff number projections as shown in Table 5.5. This table shows that staff allocated to market incentives ranges from a peak of 33.75 in 1999 falling to 11.5 in 2008 when incentives are projected to cease.

5.31 However various previous analyses provided to the Director General indicate that certain staff, identified as market development staff, are involved in activities that attach to the business as a whole as shown in the following analysis which was provided of 1998 costs:

		£000	**FTEs (at £30k each)**
(i)	Promotion of market position	325	10.8
(ii)	Run general awareness activities	153	5.1
(iii)	Education of stakeholders	177	5.9
(iv)	Support infrastructure training	37	1.2
(v)	Input to technical design	147	4.9
(vi)	Quality audit of installations	112	3.7
(vii)	Operate safety initiatives	76	2.5
(viii)	Making the sale	53	1.7
		1080	35.9

5.32 This indicates that the aggregate FTEs is near to the total peak FTEs now projected of 33.75 (excluding the additional agency staff included in professional costs). Of the above activities those involved in safety and training fall within the activities of the business as a whole and amount to some 12.3 FTEs (items (iv) to (vii)). However in considering the number of FTEs relating to the purely Conveyance business (52.65) training and safety matters have already been allowed for. In addition since I am sanctioning an allowance of 66 rather than 52.65 FTEs and a further 6.2 of agency staff (72.2 FTEs in total) in my view there is sufficient allowance for staff within Conveyance to provide the above training and safety services without further amendment.

5.33 Furthermore in the analysis provided above 1.7 FTEs are allocated to "making the sale". This is obviously a Supply Business activity and hence these staff should be allocated to Phoenix's Supply Business. The outcome of this analysis is that 21.8 FTEs out of the total 35.9 described above could be viewed as being involved in market development activities.

5.34 Clearly if market incentivisation was viewed solely within the context of licence condition 1.3 regarding advertising and promotion the costs associated with it would not be allowable as the full amounts referred to in condition 1.3 have been allocated elsewhere. However if a wider view is taken such costs need not be necessarily disallowed provided that a sound economic rationale is advanced for the incurrence of such costs.

5.35 In assessing whether any of these market incentivisation costs should be allowable the principal criteria adopted was whether the estimate of likely additional volumes resulting will be sufficient to offset the higher costs which Phoenix recover together with the allowed return. In addition the question of benefits accruing to the Supply Business from the incurrence of such costs both in terms of higher volumes and profitability in supply itself and the higher conveyance charges which will reduce the attractiveness of the supply market to third party competitors was considered.

5.36 As regards the economic rationale for market incentive payments evidence that these materially affect the market is limited both for domestic and I&C customers. In addition there are particular difficulties in the logic of incentive payments to domestic customers to the extent that Phoenix acknowledge the weakness of the economic driver in potential customer decisions.

5.37 Accordingly the costs of incentive payments to be deemed allowable expenditure should be tightly constrained and are subject to Phoenix's agreement to the following conditions:

- The Director General is granted powers to verify the effectiveness of allowed incentives after, say, a full year;
- Phoenix agrees to accept that past unused incentives will be subject to clawback; and
- Future incentive allowances may be amended by the Director General in the light of verification of their effectiveness without recourse to a wider review of costs and the price control as a whole.

5.38 Given the difficulties referred to in Section 5.36 incentive payments are to be treated in the following manner:

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- I&C incentives and associated manpower/overhead cost is allowed to the end of the current price control period, 2001; and
- Expenditure on domestic incentives incurred up to mid 1999 is to be included as allowed Operating Expenditure. Domestic incentives beyond this are to be limited to energy efficiency schemes with a cap of £120k per annum until the end of the current price control period, 2001, excluding associated manpower/overhead costs.

This gives the following level of allowable market incentive payments:

	1996 £000	1997 £000	1998 £000	1999 £000	2000 £000	2001 £000	Total £000	%
Domestic	-	176	429	410	120	120	1255	17.3
I&C	-	959	1207	1470	1274	1083	5993	82.7
		1135	1636	1880	1394	1203	7248	

5.39 As described above there are manpower and overhead cost implications from allowing market incentivisation payments. Analysis indicates that in Phoenix's submission market development manpower was broadly split equally between domestic and I&C . In my view the proportionality of domestic to I&C spend would not be an unreasonable basis for analysing market development manpower. For the years to 2001 this would amount to 37% and 63% respectively given Phoenix's projections in its submission.

5.40 In Section 5.33 above I stated that my analysis of the total 35.9 FTEs conveyance staff described by Phoenix as being involved in market development activities indicated that only 21.8 FTEs of this total could reasonably be viewed as being involved in such activities. If these 21.8 FTEs were split between the domestic and I&C sectors in proportion to the original relative projected spends on market incentive payments to the end of 2001 then 63% of these staff would be allocated to the I&C market. This gives a figure of 14 FTEs. The costs associated with such levels of manpower assuming a direct cost per annum of £30k each amount to £420k over the period from 1997-2001 inclusive. This is the level of costs for market development personnel that I am prepared to accept ass allowable within the operating expenditure of Phoenix's Conveyance Business.

5.41 Certain overheads are considered by Phoenix to attach to manpower and, accordingly, given the allowance of 14 FTEs market development manpower, overheads follow. The material relevant overheads are corporate services, "other costs" within manpower (less gas competition costs) and office costs (including "other costs"). I estimate the amount to be applied to market development manpower to be as shown in Table 5.6.

5.42 The overall market development costs that I am prepared to consider as allowable expenditure is summarised in Table 5.7.

Cost Allocation

5.43 Summarised below are the principal areas of cost allocation which have also been referred to in the individual cost line commentaries above:

- *Transmission*: All costs are directly related to transmission and do not include cost apportionments;
- *Distribution*: As with transmission;
- *Manpower*: Manpower numbers have been allocated by Phoenix to each business. I have not yet received sufficient explanations of the specific allocations. All manpower related costs are then driven by this underlying allocation;
- *Office costs*: Office running costs have been allocated on the basis of head count, as with manpower. IT capex and maintenance includes both direct and apportioned costs;
- *Marketing and advertising*: I understand that all marketing and advertising has been allocated to conveyance (as commented on above);
- *Professional and legal*: I assume that the costs are subject to the general allocation described in Section 4.2.3 of the June 1997 Base Value Submission whereby costs are allocated on the basis of overall levels of all other costs relating to each business

WCA

5.44 The Allowed Working Capital Adjustment is defined in the licence as:

$$Qt = (Q_{st} - D_{st}).(RPI_0/RPID_{t-1})-(O_{et}-D_{et}).(RPI_0)/RPID_t)$$

As all costs have been rebased to 1996 prices the RPI formulae collapse to 1 giving:

$$Qt = (Q_{st} - D_{st}) - (O_{et}-D_{et})$$

ie the adjustment is equal to the change in net receivables (receivables less payables) in connection with conveyance services.

5.45 I understand from Phoenix that the WCA included in the projections has been calculated in order to reflect the above formula using an assumed credit period for creditors of 30 days and 15 days for income although I have not been provided with the workings to demonstrate this. The WCA that should be included in allowable operating expenditure is as shown in Appendix 1.

Conclusions as to efficient operating expenditure

5.46 In Appendix 2, based on the information provided by Phoenix and the analysis by PKF, I have set out the levels of operating expenditure that I am prepared to accept in order to derive Phoenix's allowed revenue stream.

Table 5.1 Calculation of "purely" conveyance staff using Phoenix's projections

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012 and onward
Conveyance proportion of total (%)	59	60	61	62	63	64	66	68	69	71	73	75	76	77	78	80
Total staff projected (FTEs)	37	62	95	101	102	102	102	102	100	99	97	96	95	94	94	94
Conveyance staff (FTEs)	22	37	58	63	64	65	67	69	69	70	71	72	72	72	73	75

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Table 5.2 : Allocation of Phoenix staff based on 28 October 1998 document

Department	No	Basis of allocation	Conveyance No.
CEO	2	50% per business	1.0
Engineering	17	100% conveyance	17.0
- additional engineering staff	9	100% conveyance	9.0
Commercial			
- Director	1	25% conveyance	0.25
- Operations manager	1	100% supply	-
- Advertising manager	1	100% supply	-
- Education officer	1	50% conveyance	0.50
- Marketing assistant	1	100% supply	-
- Domestic sales manager	1	100% supply	-
- Field sales manager	1	100% supply	-
- Domestic sales consultants	8	100% supply	-
- Industrial and commercial manager	1	30% conveyance (safety)	0.3
- I&C consultants	10	30% conveyance (safety)	3.3
- Market development officer	3	50% conveyance	1.5
- Technical support officer	2	50% conveyance	1.0
Business Services:			
- Director	1	50% per business	0.5
- Finance accountant	1	50% per business	0.5
- Financial accountant	1	50% per business	0.5
- Assistant accountant	1	50% per business	0.5
- Systems manager	1	50% per business	0.5
- Work scheduling officer	1	30% per business	0.3
- Customer service assistant	11	25% conveyance	2.8
- Administrative manager	1	50% per business	0.5
- Personnel and training officer	1	50% per business	0.5
- Receptionist	1	50% per business	0.5
- Customer service manager	1	100% supply	-
- Facilities assistant	2	30% general facilities	0.6
- Business consultants	2	50% per business	1.0
- Additional business service personnel	10	50% per business	5.0
Regulation and Strategy:			
- Director	1	60% conveyance	0.6
- Transportation development manager	1	100% conveyance	1.0
- Business analyst	2	50% per business	1.0
- Marketing analyst	1	50% per business	0.5
- Additional regulation personnel	4	50% per business	2.0
		102	52.65

Table 5.3 : Direct Manpower Costs attributable to Phoenix's Conveyance Business

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Conveyance staff as calculated	12	22	37	58	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
Staff Costs as calculated	470	653	1098	1721	1954	1954	1954	1954	1954	1954	1954	1954	1954	1954	1954	1954	1954	1954	1954	1954	1954

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Table 5.4 : Corporate Services

	Overall cost £k	Application of 2% Deflator, 1999 - 2001	Allocation to Conveyance %	Costs to conveyance £000
1998	170	170	60	102
1999	200	196	61	120
2000	200	192	65	125
2001	200	188	65	122
2002	200	188	65	122
2003	200	188	65	122
2004	200	188	65	122
2005	200	188	66	124
2006	200	188	67	126
2007	200	188	68	128
2008	200	188	69	130
2009	200	188	69	130
2010	200	188	70	132
2011	200	188	70	132
2012	200	188	70	132
2013	200	188	70	132
2014	200	188	70	132
2015	200	188	70	132
2016	200	188	70	132

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Table 5.5 : Derivation of Phoenix's projection of market development staff

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	TOTAL
Total staff projected by PNG to conveyance	12	35	59.5	91.75	96.5	97.5	96.5	95.5	94	90.5	88.5	84.5	83.5	
Less pure conveyance	12	22	37	58	63	64	65	67	69	69	70	71	72	
Market development	-	13	22.5	33.75	33.5	33.5	31.5	28.5	25	21.5	18.5	13.5	11.5	
Direct cost (assume 30k each)	-	275	675	1012.5	1005	1005	945	855	750	645	555	405	345	8587.5

Table 5.6 Allocation of Overheads to Market development

	1996 £000	1997 £000	1998 £000	1999 £000	2000 £000	2001 £000
Corporate services	50	114	120	120	125	122
Other manpower*	325	271	244	414	400	350
Direct office costs	91	131	124	162	161	409
Other office costs	-	135	149	137	173	188
Total	466	651	619	833	865	1069
Cost/FTE	38.8	29.6	16.6	14.4	13.1	16.2
Aggregate overhead re market development	-	414	234	202	183	227

*Gas Competition costs have been removed from Other Manpower Costs in order to calculate Overheads.

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Table 5.7 Overall allowable market development costs

	1996 £000	1997 £000	1998 £000	1999 £000	2000 £000	2001 £000	Total £000
Domestic incentives		176	429	410	120	120	1255
I&C incentives		959	1207	1470	1274	1083	5993
Manpower		420	420	420	420	420	2100
Overheads		414	234	202	183	227	1260

Table 5.8 - Phoenix Gas Capital Expenditure - Resubmission March 1999

Service Heading	Asset Type	Costs in £ x 1000 1996 actual	1997 actual	1998 actual	1999 forecast	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Bulk transmission	> 7 bar	15,838	3,146	15,256	647	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IP/MP	7 bar mains	2,664	0	4,986	4,200	6,992	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4 bar mains		2,713	568	5,796	4,680	2,565	0	0	1,530	0	0	0	0	0	0	0	0	0	0	0	0
	presure reduction		401	580	1,425	640	95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LP	feeder and infill mains		6,663	6,556	13,602	19,556	13,032	4,718	1,491	1,109	824	781	781	644	588	531	456	213	186	67	19	7
domestic	services	0	232	1,010	2,133	3,759	4,653	5,117	5,235	5,515	5,449	5,056	4,221	3,206	2,324	1,635	1,241	956	747	603	509	348
	meters	0	202	414	1,363	2,054	2,540	2,768	2,817	2,938	2,881	2,654	2,194	1,643	1,164	803	600	459	357	287	241	165
Industrial/ commercial	services & meters		649	961	1,078	1,099	1,504	1,588	1,435	1,248	1,101	805	555	326	189	93	35	17	7	7	5	4
Large loads	services & meters		206	881	448	448	320	192	192	288	320	288	128	96	96	128	64	64	64	64	0	0
Engineering Other		1,935	1,106	2,345	3,783	4,275	4,267	3,416	3,427	3,138	1,823	1,667	1,182	887	654	478	359	256	204	154	116	79
Other capex		165	176	42	152	743	139	158	140	162	56	90	89	197	53	53	53	185	96	53	53	151
Total		20,602	15,494	33,599	34,627	44,246	29,115	17,957	14,737	15,928	12,454	11,341	9,150	6,999	5,068	3,721	2,808	2,150	1,661	1,235	943	754
Grant		-4,591	-1,016	-4,917	-208	-1,478																
Submission Total		**16,011**	**14,478**	**28,682**	**34,419**	**42,768**	**29,115**	**17,957**	**14,737**	**15,928**	**12,454**	**11,341**	**9,150**	**6,999**	**5,068**	**3,721**	**2,808**	**2,150**	**1,661**	**1,235**	**943**	**754**
Cumulative total		**16,011**	**30,489**	**59,171**	**93,590**	**136,358**	**165,473**	**183,430**	**198,167**	**214,095**	**226,549**	**237,890**	**247,040**	**254,039**	**259,107**	**262,828**	**265,636**	**267,786**	**269,447**	**270,682**	**271,625**	**272,379**

Table 5.9 - Phoenix Gas Capital Expenditure - Resubmission March 1999 - Atkins Proposals with Capital Efficiencies Applied & Recalculated Management Fee

Service Heading	Asset Type	Costs in £ x 1000 1996 actual	1997 actual	1998 actual	1999 forecast	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Bulk transmission	> 7 bar	15,838	3,146	15,256	647	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IP/MP	7 bar mains	2,664	0	4,792	3,958	6,460	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4 bar mains	0	2,660	546	5,462	4,324	2,323	0	0	1,386	0	0	0	0	0	0	0	0	0	0	0	0
	presure reduction	0	393	557	1,343	591	86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LP	infill mains	0	6,532	6,301	12,817	18,067	11,803	4,273	1,350	1,004	746	707	707	583	533	481	413	193	168	61	17	6
domestic	services	0	227	971	2,010	3,473	4,214	4,635	4,742	4,995	4,935	4,579	3,823	2,904	2,105	1,481	1,124	866	677	546	461	315
	meters	0	198	398	1,284	2,033	2,301	2,507	2,551	2,661	2,609	2,404	1,987	1,488	1,054	727	543	416	323	260	218	149
Industrial/ commercial	services & meters	0	636	924	1,016	1,015	1,362	1,438	1,300	1,130	997	729	503	295	171	84	32	15	6	6	5	4
Large loads	services & meters	0	202	847	422	414	290	174	174	261	290	261	116	87	87	116	58	58	58	58	0	0
Engineering Other		1,050	1,801	2,343	3,783	4,275	3,828	3,031	3,283	2,885	1,724	1,642	1,285	803	592	433	325	232	185	139	105	72
Other capex		165	178	42	121	455	108	107	84	74	25	59	38	84	22	22	22	77	40	22	22	63
Total		19,717	15,972	32,978	32,863	41,106	26,316	16,165	13,484	14,396	11,327	10,382	8,459	6,245	4,564	3,344	2,517	1,857	1,457	1,093	828	609
Grant		-4,591	-1,016	-4,917	-208	-1,478	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submission Total		15,126	14,956	28,061	32,655	39,628	26,316	16,165	13,484	14,396	11,327	10,382	8,459	6,245	4,564	3,344	2,517	1,857	1,457	1,093	828	609
Cumulative total		15,126	30,082	58,143	90,798	130,426	156,742	172,907	186,391	200,788	212,115	222,496	230,956	237,200	241,765	245,109	247,626	249,483	250,940	252,033	252,861	253,470

Table 6.0 - Phoenix Gas Capital Expenditure - Resubmission March 1999 - Atkins Proposals with Capital Efficiencies and Rephasing of New Connections and Management Fee Applied

Service Heading	Asset Type	Costs in £ x 1000 1996 actual	1997 actual	1998 actual	1999 forecast	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Bulk transmission	> 7 bar	15,838	3,146	15,256	647	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IP/MP	7 bar mains	2,664	0	4,792	3,958	6,460	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4 bar mains	0	2,660	546	5,462	4,324	2,323	0	0	1,386	0	0	0	0	0	0	0	0	0	0	0	0
	presure reduction	0	393	557	1,343	591	86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LP	infill mains	0	6,532	6,301	12,817	18,067	11,803	4,273	1,350	1,004	746	707	707	583	533	481	413	193	168	61	17	6
domestic	services	0	227	971	1,904	1,993	2,442	3,907	3,907	3,907	3,907	3,907	3,907	3,907	3,907	2,930	2,442	1,954	977	977	488	488
	meters	0	198	398	1,009	1,191	1,294	2,070	2,070	2,070	2,070	2,070	2,070	2,070	2,070	1,553	1,294	1,035	518	518	259	259
Industrial/ commercial	services & meters	0	636	924	1,016	1,015	1,362	1,438	1,300	1,130	997	729	503	295	171	84	32	15	6	6	5	4
Large loads	services & meters	0	202	847	422	414	290	174	174	261	290	261	116	87	87	116	58	58	58	58	0	0
Engineering Other		1,050	1,801	2,343	3,783	4,275	3,598	2,935	3,174	2,746	1,594	1,559	1,299	1,041	1,015	774	635	488	259	243	115	114
Other capex		165	176	42	121	455	108	107	84	74	25	59	38	84	22	22	22	77	40	22	22	63
Total		19,717	15,972	32,978	32,482	38,784	23,307	14,905	12,060	12,579	9,630	9,293	8,640	8,068	7,805	5,960	4,896	3,820	2,026	1,884	906	934
Grant		-4,591	-1,016	-4,917	-208	-1,478	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submission Total		**15,126**	**14,956**	**28,061**	**32,274**	**37,306**	**23,307**	**14,905**	**12,060**	**12,579**	**9,630**	**9,293**	**8,640**	**8,068**	**7,805**	**5,960**	**4,896**	**3,820**	**2,026**	**1,884**	**906**	**934**
Cumulative total		**15,126**	**30,082**	**58,143**	**90,417**	**127,723**	**151,029**	**165,934**	**177,994**	**190,572**	**200,202**	**209,494**	**218,135**	**226,203**	**234,008**	**239,968**	**244,864**	**248,684**	**250,710**	**252,594**	**253,500**	**254,434**

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6. GENERAL RECOMMENDATIONS

6.1. In this section certain recommendations are advanced for improving Phoenix Conveyance Business planning and management particularly as regards its capital expenditure programme. It is anticipated that the adoption of these recommendations will facilitate the derivation of capital and operating expenditure projections at the next periodic review thereby achieving greater transparency in the regulatory process. Some of these should also directly assist Phoenix to maintain its efficiency and effectiveness. Others such as capex monitoring will utilise Phoenix management information to inform the Director General thereby ensuring greater shared understanding of the business.

Strategic Planning

6.2 One area of particular concern is Phoenix Conveyance Business apparent lack of strategic planning. This shortcoming is indicated by the fact that the overall strategic direction of the 'roll-out' of the distribution system appears unclear. It seems that there is no clear written strategy and that the system is being developed on a reactive basis. It is therefore important that a revised medium and long term forecast be undertaken based on a detailed market survey approach and feedback from work completed or underway. In addition the planning function should be strengthened to provide sufficient resources to prepare the strategic plans as well as monitoring progress against them. Until this is carried out, the medium to long term capital expenditure estimates will remain uncertain.

6.3 The current uncertainty of these estimates is evident from the Base Value Submission the standard of which falls short of what is current best practice. As there does not appear to be any linkages to the initial plans which were used to prepare the estimates included in Appendix 2 of the June 1997 submission or the revised March 1999 Submission I am forced to conclude that there is a lack of transparency in the preparation of the 1999 Base Value Submission. One would expect such a submission to at minimum contain a clear report setting out the assumptions made and methods applied in deriving long term capital expenditure estimates. It should also contain the basis of preliminary design, any statistical work, unit costs used and sensitivity tests of key assumptions, and clear trails from reported volumes and expenditure estimates through to base data. The creation of some form of capex model would facilitate the preparation of such a report. This submission could then form the basis of future monitoring.

6.4 The poor quality of the Base Value Submission has also been reflected in the subsequent information provided to my consultants. For instance, although I accept that Phoenix management may have been stretched in dealing with the price review as well as developing the business I am concerned that my consultants were, in certain instances, never provided with information that they requested and, in other instances, only received partial information and then often only after a significant delay. I trust that this situation will not arise again.

Monitoring of expenditure and outputs

6.5 To ensure that the capital efficiency savings referred to in Section 4.14 are being progressed monitoring of outputs, activities and expenditure is necessary. Accordingly a formal outputs and investment reporting system should be established. Such a system would include key outputs, non-financial measures as well as normal reporting of actual and forecast expenditure. Measures to be developed and agreed could include availability, expressed as properties passed, and penetration, such as properties connected by area. One useful vehicle would be the annual Development Plan report, suitably extended and reformatted.

Asset Management

6.6 The regulatory process requires a sound and comprehensive plan for the management of long life assets. Phoenix's approach to the review does not provide us with the comfort that their plan has been robustly prepared. Phoenix should put sound asset management procedures in place and accordingly an Asset Management Plan should be developed as a matter of urgency.

Commercial arrangements

6.7 As referred to in section 4.8 above an 'Alliance' agreement is in place between Phoenix and McNicholas with the objectives of applying a non-adversarial approach, giving greater certainty on costs, and sharing the financial benefits when costs outturn below the agreed target costs. Although this approach is to be welcomed it is of concern that the process of cost sharing has not yet been implemented. It is imperative that this process is implemented immediately.

6.8 Certain aspects of the 'Alliance' agreement seem unsatisfactory. For example although the arrangement is supposedly based on an even share of underspend or overspend against target costs there is no mention of cost sharing in the McNicholas contract. In any event experience of this arrangement in other businesses suggests that equal sharing may give insufficient benefits to Phoenix and its customers and too little incentive to McNicholas. This approach should therefore be reconsidered.

6.9 Another difficulty with the 'Alliance' agreement is that the only documentation pertaining to it appears to be a brief minute for an Alliance Board meeting. There is a question mark over the legal status of such a document which needs to be resolved.

6.10 Furthermore the basis of this agreement and the way in which it will be implemented appears to be limited to an extremely brief and rather unclear note dated July 1996. This note does not address any of the key basic implementation issues such as timings and interest payments. This last issue is of great concern as a comparison of the target and actual costs (as calculated by McNicholas) of the 32 work packages completed to date indicates that as a result of the significant delays between package completion and any package close out McNicholas may have received some £250,000 of interest on the difference between the payments and the actual costs. Half of this sum relates to the monies that McNicholas appear to owe Phoenix. It is essential that these areas of uncertainty in the Alliance agreement are resolved and details provided of their resolution to the Director General.

6.11 Furthermore although there is a need for Phoenix to fully understand McNicholas's costs it is not clear that they will be provided with the information that would enable this to happen. For example consider the area of material procurement. McNicholas has been given responsibility for the procurement of pipes and fittings under the contract. Contract rates for pipeline work are all inclusive of pipe material, fittings, excavation, bedding, backfilling and reinstatement. Therefore the specific cost of pipes and fittings is not transparent. Although the open book approach to the 'Alliance' agreement between Phoenix and McNicholas should provide data on this cost there does not appear to be a clear definition of the form of the data that Phoenix requires, and a clear process for producing the data. If the partnering arrangement is to be successful then performance needs to be clearly measured, targeted and understood.

Benchmarking

6.12 Once the actual costs referred to above are derived they should then be benchmarked with similar activities to assure that value for money is provided. Such benchmarking of key activities on an annual basis would provide comfort that competitive rates are being achieved over the five year contract period. Phoenix should enter into a long term benchmarking partnership with TransCo and other utilities.

Appendix 1

CONVEYANCE CASHFLOWS - £000's (Sept. 1996)

		1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Incomes		0	512.0391	2881.595	6313.51	9606.715	13215.91	17818.58	22922.82	27958.01	32852.87	37652.17	42209.27	46840.64	51456.32	54718	57405.95	59483.01	60635.52	61772.25	62378.88	62902.66
Capital expenditure - gross	Ct	19716.84	15972.27	32977.71	32481.98	38783.73	23306.83	14904.59	12059.66	12578.59	9629.729	9292.528	8640.177	8067.999	7805.072	5960.211	4895.879	3819.834	2026.017	1884.018	906.1374	934.0967
Grants	Gt	4591	1016	4917	208	1478	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Operating expenditure	Ot	4154	6158	6980	8401	9218	9075	6690	7031	7611	8178	8605	9149	9527	9927	10361	10667	11002	11171	11246	11346	11419
Working capital adjustment	Qt	317	89	-126	-126	-119	-180	-390	-189	-161	-162	-173	-135	-151	-148	-91	-81	-53	-34	-41	-16	-14
Total pre-tax cashflow		**-18963**	**-20513**	**-32285**	**-34488**	**-37036**	**-19346**	**-4166**	**3643**	**7608**	**14883**	**19582**	**24285**	**29095**	**33576**	**38306**	**41762**	**44609**	**47404**	**48602**	**50111**	**50535**

NPV @ 8.5% real	0.000000
IRR	0.085000

CONVEYANCE VOLUMES - thousands of therms

		1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
P1 sector		0	41	897	3900	7624	13319	22078	33562	45788	57999	69744	82013	94543	107040	115866	123104	128740	131786	134806	136422	137882
P2 sector		0	105	2382	7476	11618	15230	19231	21626	22751	23302	23727	24075	24416	24723	24927	25012	25069	25112	25133	25152	25169
P3 sector		0	920	3197	5619	7719	10224	11591	12382	14154	15168	15864	16188	16416	16680	16812	16884	17004	17124	17244	17292	17292
P4 sector		0	2024	8464	11129	13460	13904	14194	15248	15590	17006	19470	19710	19950	20190	20454	20958	21198	21438	21678	21798	21798
P5 sector		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volumes		0	3090	14940	28124	40421	52677	67094	82818	98282	113475	128805	141986	155324	168633	178060	185959	192011	195460	198861	200664	202141
Discounted Volumes	867232																					

Appendix 2

Opex - PKF (exc WCA)	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Transmission	30	472	433	879	886	678	644	567	571	553	556	639	562	523	525	527	608	529	530	530	530
Distribution	27	270	387	604	685	755	748	808	877	946	992	1014	1039	1062	1083	1100	1116	1129	1143	1153	1164
Rates	0	11	94	320	625	934	1298	1743	2218	2682	3132	3568	3998	4433	4829	5119	5353	5521	5628	5719	5774
Manpower (exc MD Manpower)	875	1087	1498	2315	2579	2526	2506	2521	2524	2566	2556	2584	2592	2592	2603	2607	2609	2634	2636	2637	2645
Office Costs	211	625	452	537	568	735	732	736	760	778	811	803	800	789	798	795	800	845	798	797	797
Advertising & PR	1100	1100	1100	550	1185	912	350	200	200	200	110	100	100	100	100	100	100	100	100	100	100
Licence + Legal + Prof	183	624	726	694	693	685	412	456	461	453	448	441	436	428	423	419	416	413	411	410	409
Incentives (inc Manpower)	0	1969	2290	2502	1997	1850	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pre Incorporation	1728	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	4154	6158	6980	8401	9218	9075	6690	7031	7611	8178	8605	9149	9527	9927	10361	10667	11002	11171	11246	11346	11419
NPV @ 8.5%	£84,984																				

Appendix 3 - Capex with Rephased Domestic Connections & Cost Allocation Capex Drivers - Agreed August 1999

Table 7.3 - Phoenix Gas Capital Expenditure - Resubmission March 1999 - Atkins Proposals with Capital Efficiencies and Rephasing of New Connections and Management Fee Applied

Service Heading	Asset Type	Costs in £ x 1000 1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
		actual	actual	actual	forecast																	
Bulk transmission	> 7 bar	15,838	3,146	15,256	647	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IP/MP	7 bar mains	2,664	0	4,792	3,958	6,460	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4 bar mains	0	2,660	546	5,462	4,324	2,323	0	0	1,386	0	0	0	0	0	0	0	0	0	0	0	0
	presure reduction	0	393	557	1,343	591	86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LP	infill mains	0	6,532	6,301	12,817	18,067	11,803	4,273	1,350	1,004	746	707	707	583	533	481	413	193	168	61	17	6
domestic	services	0	227	971	1,904	1,993	2,442	3,907	3,907	3,907	3,907	3,907	3,907	3,907	3,907	2,930	2,442	1,954	977	977	488	488
	meters	0	198	398	1,009	1,191	1,294	2,070	2,070	2,070	2,070	2,070	2,070	2,070	2,070	1,553	1,294	1,035	518	518	259	259
Industrial/ commercial	services & meters	0	636	924	1,016	1,015	1,362	1,438	1,300	1,130	997	729	503	295	171	84	32	15	6	6	5	4
Large loads	services & meters	0	202	847	422	414	290	174	174	261	290	261	116	87	87	116	58	58	58	58	0	0
Engineering Other		1,050	1,801	2,343	3,783	4,275	3,598	2,935	3,174	2,746	1,594	1,559	1,299	1,041	1,015	774	635	488	259	243	115	114
Other capex		165	176	42	121	455	108	107	84	74	25	59	38	84	22	22	22	77	40	22	22	63
Total		19717	15972	32978	32482	38784	23307	14905	12060	12579	9630	9293	8640	8068	7805	5960	4896	3820	2026	1884	906	934
Grant		-4,591	-1,016	-4,917	-208	-1,478	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Submission Total		15126	14956	28061	32274	37306	23307	14905	12060	12579	9630	9293	8640	8068	7805	5960	4896	3820	2026	1884	906	934
Capex NPV @ 8.5%		166611																				