

National Grid Transmission

RIIO-T1: Initial Proposals consultation response

Supplementary information – Market Facilitation

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Executive summary

- 1 Ofgem's Initial Proposals reduce market facilitation costs to 2010/11 expenditure levels based on analysis errors and despite the growing influence of European energy policy. This unjustified reduction means that mandated European work cannot be undertaken and we will not be able to play our full part in Europe which Ofgem have stated they want us to do. In addition, disallowances have been triggered based on an unsound link through to capex workloads which fails to understand the nature of the fundamental work undertaken in this activity which benefits the wider energy industry.
- 2 The impact of the Initial Proposals would result in:
 - (a) **Mandated costs disallowed:** Much of the European work such as development of joint EU codes and membership of TSO bodies are mandated by EU law. Reductions to forecasts disallow costs which European regulations state must be funded through local regulatory allowances.
 - (b) **Minimal European interaction:** We will not be able to play the role expected of us within Europe. Ofgem recognise that we need to be at the heart of this new work, stating that they want us to '*play our full part*', however, all of the increased workload from 2010/11 – which is virtually all due to European activity - has been disallowed.
 - (c) **Higher industry costs due to no proactive work:** Limiting our role within Europe will lead to higher industry cost overall because we are helping stakeholders understand the impacts of proposed changes. The result of disallowing costs of this type of stakeholder engagement would be a reactive, rather than proactive approach for us and the UK energy industry. This would increase long term costs due to European codes being less like the UK regime, resulting in higher implementation costs.
- 3 The reductions themselves are based on unsound logic. Ofgem's consultants use the following arguments to reduce forecast expenditure:
 - (a) **Reductions linked to capex levels:** which have no relationship to this market facilitation activity
 - (b) **Direct billing of above licence requirement:** We strongly disagree with this as such a proposal would increase transaction costs, reduce the level of competition and introduce a two-tiered market structure with parties willing and able to pay for specific services gaining advantage over others
- 4 Subsequent to Initial Proposals, Ofgem have stated that their consultants thought we were trying to take on Ofgem or DECC's role in Europe but this is not the case. We are in regular dialogue with both Ofgem and DECC to ensure that we understand the role these key stakeholders want to undertake and that we work together for the benefit of UK consumers. However without the proposed funding this work would have to reduce.
- 5 Furthermore, we do not agree with the proposal to use the mid-period review to cover the uncertainty in relation to GB and EU market change. This will incentivise us to defer commercial change. Incorporating this uncertainty as an extension to the reopener mechanism, with an ability to apply retrospective changes to funding, is a far better fit for the risk involved.

Introduction

- 6 Market facilitation is a key activity which provides timely, accurate information and transparent regulatory frameworks to the benefit of the energy industry and all consumers. Successful market facilitation is of increasing importance when facing the challenges that arises from changing energy supplies and the transition to a low carbon economy. Our role as the gas and electricity System Operator (SO) puts us in a unique, impartial position to undertake this activity – as recognised by Ofgem - however the Initial Proposals stifle our ability to do this, driving a sub-optimal outcome from European harmonisation for the UK and reduced commercial innovation.
- 7 The analysis which provides the foundation to Ofgem's Initial Proposals contains a number of errors and is based on unjustifiable assumptions. The result is allowances which incentivise us to defer commercial innovation and reduce our involvement in European interaction.
- 8 Within this document we address the concerns that we have with the PPA report on SO costs which has been used as the basis for Initial Proposals. The rationale within this area however, applies equally to the costs that have been included within our Transmission Owner (TO) cost bases. This paper explains what value or market facilitation role brings, detail of the upward costs drivers over the RIIO-T1 period and outlines how use of a mid-period review rather than reopener for GB and EU market change uncertainty will lead to unnecessary cash flow risk and increased costs for the industry overall.
- 9 We have answered the high level questions in regards to the proposed allowances that have been granted for both our SO and TO roles within our formal response to the Initial Proposals. This paper presents supplementary information to support the main Initial Proposals response in the following areas:
 - (a) Errors to be corrected in the analysis which underpins the Initial Proposals
 - (b) New information provided in response to Initial Proposals
 - (c) Reiteration of salient points in light of this new information

Market Facilitation context

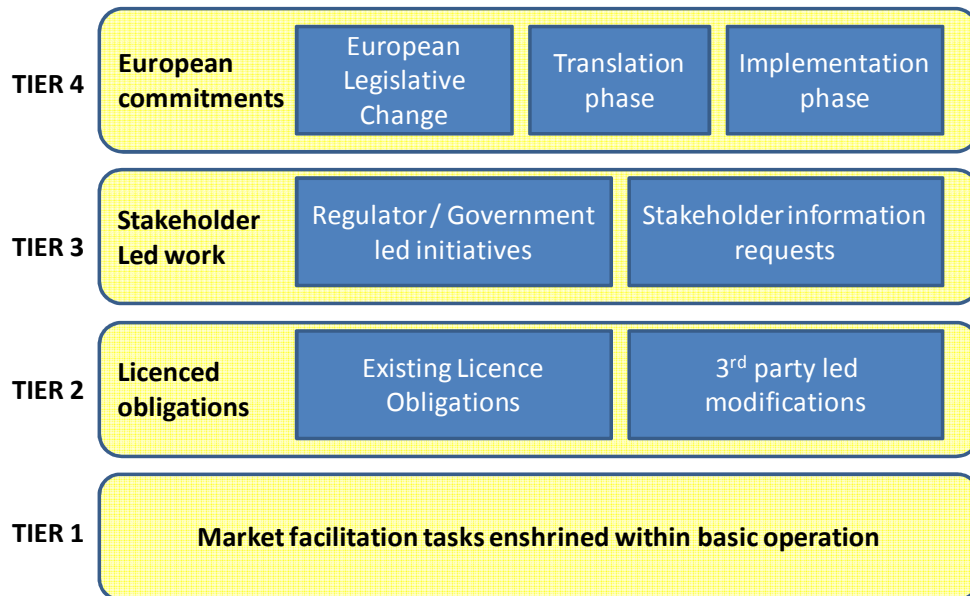
Introduction

- 10 Market facilitation is a key role for us and a major part of our everyday activities, from extensive information provision to individual customer relationship management, through to policy development. The broad role covers activities helping:
- (a) The promotion of the benefits of a GB style regime within the European arena, influencing the nature and speed of the developments towards a liberalised European energy market
 - (b) To ensure fair and consistent access to the market through the provision and maintenance of a clear non-discriminatory commercial and regulatory framework
 - (c) To facilitate the development, optioneering and implementation of changes to this framework to better facilitate competition
 - (d) The provision of timely and accurate information to help optimise market operation
 - (e) To provide a transparent process for connection of new facilities to our network
 - (f) To ensure fully-informed economic and efficient assessment and decision making, both for the market as a whole and in terms of wider system operational costs, for example, by provision of locational signals through charging or the balance of infrastructure investments and system operation costs
 - (g) Developing commercial innovations to respond to future network challenges
- 11 This vital role provides clear benefits to the industry through the provision of transparent and equitable rules, an efficient process for change and a route for communication to help other parties decipher the regulatory framework. All this allows for industry collaboration and challenge, helping to reduce complexity for users whilst better facilitating the relevant objectives. Stakeholder feedback, from Ofgem and DECC, has been for us to do more in this area, not less.
- 12 Due to the breadth and depth of what the market facilitation activities involve, a significant proportion of the roles that fall within our Commercial and Network Operations directorates are included within this activity. This makes the activity a large and important proportion of our SO role.

Our role in facilitating the market

- 13 Market facilitation is a critical part of our current business operation and is set to grow over the RIIO-T1 period in response to greater European commitments and the challenges of decarbonisation. There are a number of drivers for this role which are illustrated within the schematic below:
- (a) Tier 1 and Tier 2 tasks predominantly relate to existing operational workload such as setting and billing transmission charges and activities which are obligations within our licences

- (b) Tier 3 represents work that is driven by the requirements and needs of our stakeholders. As we progress through the RIIO-T1 period this will necessarily increase as the industry works together to overcome the challenges of meeting environmental legislative targets whilst balancing security of supply and affordability
- (c) Tier 4 represents the single largest and most challenging increase of workload during the RIIO-T1 period led by the introduction of the EU Third Energy Package and wider European-led energy policy changes



14 Within this section we give an overview of each Tier from a NGET and NGGT perspective. This is supplemented by further detail in Appendix 3 which describes the individual components in greater depth.

TIER 1 – Basic operation

- 15 Costs associated with Tier 1 activities underpin the operation of some of the main commercial and operational aspects of our business. The workload on activities such as charging and billing, account management, demand forecasting, creation of connection agreements and the administration of SO incentives will continue. This work is pivotal in continuing to provide the level of service and information that is requested by our stakeholders and to contributing towards the RIIO-T1 outputs.
- 16 This base level activity is integral to our SO operations and customer interaction. Without this work, fundamentals of the commercial activities we undertake would be undermined and customer service would decline.

TIER 2 – Licence obligations

- 17 PPA, in recommending funding levels for market facilitation, suggested that we should only be funded for activities that fall within our licence obligations. The obligations that are placed on us from a UK licence perspective drive a large portion of our market facilitation workload. PPA’s assessment, however, does not take into account that these licence obligations are growing, and hence our workload in these areas is growing too. Instead costs are reduced back to levels spent in 2010/11.

- 18 Both NGGT and NGET have licence obligations to facilitate changes to the commercial arrangements set out in the various industry codes such as to keep charges cost reflective and to keep codes up to date. Whilst it is part of our licence obligation to maintain and develop the existing codes. Many of the changes introduced to the commercial arrangements are generated through legislative or regulatory reform, whilst others are driven by stakeholders such as shippers, generators and other market participants. This is set to continue as the industry reacts to the rapidly changing operational environment. To fully support the continued embedding of these proposals we need to commit significant expert support so that the required rate of market evolution continues.
- 19 The volume of legislated market information is also set to increase, as evidenced by Ofgem's proposals to codify elements of the provision of information for NGGT.

TIER 3 – Stakeholder led work

- 20 Providing information and undertaking activities that our stakeholder's value is a core component of our market facilitation cost base. Whilst some of this work is enshrined within our licence, there are various other activities that we currently undertake (such as the hosting of customer seminars and specific European focussed groups) that are above and beyond our licence obligations. These activities, however, are valued by our stakeholders and bring benefit to the industry as recognised by Ofgem in their SO incentives initial proposals document.

“We consider NGET [NGG] as SO is uniquely positioned to provide information to the market on a range of energy issues including how the system is operating as well as more general information that could be useful to the sector¹”

- 21 The two main upward pressures of workload in this area are:
- (a) Upward pressure from the volume of Significant Code Reviews (SCR). Recent examples include Project TransmiT, Gas Security of Supply and the Electricity Cash out review. Given the positive feedback we have received during the present price control period from regulatory and governmental bodies regarding our valued contribution, we expect that during the RIIO-T1 period, stakeholders will continue to expect our active involvement in such initiatives.
 - (b) Provision of information to the GB market on European led changes. Examples of this include hosting the Joint European Steering Group (JESG) and specific European Network Code (ENC) industry workshops to run through the detail of the various codes in order to promote debate and understanding.

TIER 4 – European commitments

- 22 The final cost component of market facilitation, and the single largest driver of increasing workloads during the RIIO-T1 period is the workload associated with European Policy changes. Our market facilitation starts at the 'policy' stage of European work (e.g. EC Guideline/Policy development; ACER Framework Guideline development) and (nominally) ends when delivery of ENC requirements into the GB commercial and operational regimes is complete. In between, National Grid is actively involved in EU network code drafting and policy development within ENTSO-E and ENTSO-G, engaging with GB stakeholders, progressing the application of the ENCs to the GB codes framework; and specifying and developing consequential changes to business processes and IS systems. Further details

¹ SO incentive scheme: Initial proposals – Supplementary appendices

of the impact of Europe on our operations were submitted to Ofgem in our European Context annexes.

- 23 The European Third Energy package came into force in 2009 to facilitate the timely implementation of a single and fully effective energy market for Europe, in the interests of achieving competitive energy prices, energy security and sustainability. Many aspects of the new legislation became effective in March 2011 and, from this date, our involvement in EU policy and cooperation and coordination with other TSOs has been a legal requirement². Within the legislation Article 11 of 714/2009 and 715/2009 for NGET and NGGT respectively states:

“The cost related to the activities of the ENTSO for electricity (gas) referred to in Articles 4 to 12 shall be borne by the transmission system operators and shall be taken into account in the calculation of tariffs. Regulatory authorities shall approve those costs only if they are reasonable and appropriate”

- 24 Whilst we recognise that there are many different levels of participation that we could undertake within the European arena whilst still meeting our legal obligations we are encouraged by the requests of our stakeholders, including DECC and Ofgem to undertake an active role within the European arena.

“As part of the annual monitoring of NGET’s performance against its other outputs we will want to understand that it has contributed to the ongoing European regulatory developments and played its full part in this area” – Ofgem

“National Grid needs to take the leadership role on strategic development of the grid, both in the UK and across Europe”

Stage one workshop Brunswick report, 19th January 2011

- 25 The majority of the forthcoming European workload can broadly be split into three distinct areas
- (a) **European legislative changes / development stage:** We are involved at each stage of the development process (scoping, framework guideline development, drafting, ACER evaluation and comitology)
 - (b) **Translation phase:** Once such codes have been adopted by the EU Commission it is then expected that we will transpose these arrangements (as appropriate) into domestic commercial codes and ancillary documents such as the UNC, BSC, CUSC, Grid Code, STC, safety related documents (safety cases) and various methodology statements. This is supplementary to the underlying workload that is undertaken by the code development teams in their respective codes.
 - (c) **Implementation phase:** The final phase of European driven work is to understand and implement changes to our own processes and the systems that the industry and our stakeholders depend on.

² This is set out in EU Regulation 715/2009 and 714/2009. The relevant conditions in NGET’s and NGGT’s licences covering the CUSC, Grid Code, STC, BSC and the UNC require us to establish arrangements (via those codes) that achieve compliance with Regulation 2009/714/EC of the European Parliament and of the Council of 13 July 2009 and any relevant legally binding decision of the European Commission and/or ACER such as any ENC. Obligations on TSO contained within the ENCs will also be legally binding.

NGET Market Facilitation

Funding reductions

- 26 Over the RIIO-T1 period a total of £15.7m has been deducted from our ESO allowances with a further £2.3m deduction for ETO opex allowances. The methodology that PPA used to assess our ESO market facilitation costs was to review the increase in headcount numbers that we have embedded within our plan for these activities. The justification for not funding these roles was that we should only deliver licence obligated work.
- 27 We provided PPA and Ofgem with a breakdown of the total number of roles that fell within the Market Facilitation cost line. In total this showed an increase from 146 FTEs in 2010/11 through to 170 FTEs by the end of the RIIO-T1 period, with a peak in FTE headcount of 178 in 2013/14. This table is reproduced below. The final column of the table shows where PPA have proposed specific FTE headcount reductions.

ESO	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	PPA Reductions
Customer services	46.2	52.1	50.4	49.7	49.7	49.7	49.7	49.7	49.7	49.7	49.7	3.5
European policy	4.3	7.8	7.8	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	0
Regulatory frameworks	18.7	23.2	30.5	29.5	29.5	28.5	28.5	26.7	26.7	26.7	26.7	8
Future Transmission Networks	5.9	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	1
Total Commercial	75.1	90.2	95.8	93.4	93.4	92.4	92.4	90.6	90.6	90.6	90.6	12.5
Director	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0
Balancing services	47.1	52.0	51.0	52.0	51.0	51.0	50.0	50.0	49.0	49.0	49.0	2
Contracts and settlement	23.6	22.6	23.5	24.5	24.5	23.5	22.8	21.9	21.9	21.9	22.8	0
European focus	0.0	5.9	5.9	7.9	7.9	8.9	8.9	7.9	7.9	7.9	7.9	0
Total Network Ops	71.2	80.9	80.9	84.8	83.8	83.9	82.2	80.2	79.2	79.2	80.2	2.0
Total Market Facilitation	146.3	171.2	176.7	178.2	177.2	176.3	174.6	170.8	169.8	169.8	170.7	14.5

PPA methodology

- 28 We have two fundamental concerns with the methodology that has been used by PPA in creating the allowances for our market facilitation function.
- 29 **Recruitment to date:** By 2012/13 we will have already recruited eight of the proposed 14 resources that PPA propose to deduct from our allowances, as there are already specific business drivers for their recruitment. Appendix 1 gives greater details of the specific work that these individuals will be undertaking and what the driver is for increasing headcount in each specific team.
- 30 **Errors in calculation:** The second critique is that PPA's methodology of reducing costs in line with FTE headcount is flawed as this does not recognise that the other costs such as subscription fees are included within the market facilitation line.
- 31 PPA created an average cost per FTE by dividing total costs by the number of FTEs. They then multiplied this by the number of FTEs that they have disallowed. This methodology is flawed as it inflates the cost of deducting an FTE from our allowances. This is because the total market facilitation costs include a level of non-payroll costs. Examples of these annual costs are shown below.

ENTSO-E Membership	CORES0 Membership	Subscription Fees
£0.45m	£0.8m	£0.5m

- (a) **ENTSO-E** funding is required by all members and is used to pay for the central administrative work that is undertaken by the organisation. As our membership is mandatory, it is therefore appropriate for this allowance to be funded in full. It is

important to note that whilst we have embedded annual costs of £0.45m the current cost of membership for 2012/13 is likely to outturn at £0.7m. This increasing cost reflects the volume of work that ENTSO-E are progressing and we expect, going forward, the initial £0.45m estimate to be a conservative figure.

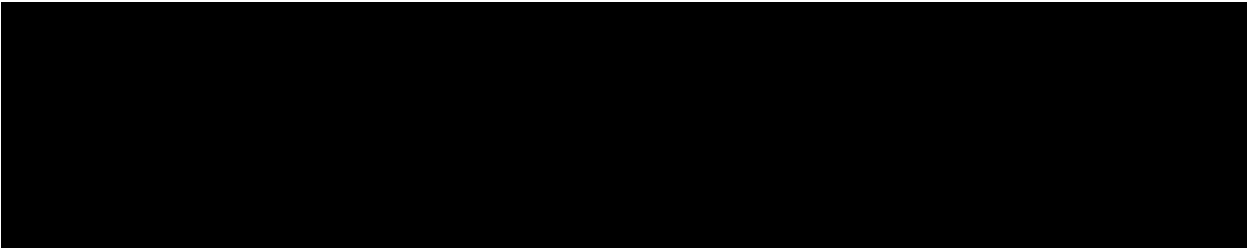
- (b) **CORESO** membership was discussed in detail within the 'Detailed plan – System Operator' annex that we submitted in March 2012. This group was created to co-ordinate power flows across boundaries and increase security of supply for member organisations.
- (c) **Subscription Fee** costs include subscribing to industry journals and data provision tools such as Bloomberg terminals. We are reliant on the data taken from these sources for operational activities but also to inform the long term market forecasts that we provide to the industry.

32 In total these costs amount to £14m over the RIIO-T1 period. These should be funded as they are key components of us undertaking our core market facilitation role and mandated in the case of ENTSO-E membership fees.

NGG Market Facilitation

Funding reductions

- 33 Over the RIIO-T1 period a total of £13.8m has been deducted from our GSO allowances as the methodology used has linked this expenditure to capex. A further £0.3m has been deducted for GTO opex allowances.
- 34 We have fundamental concerns with the methodology that has been used by PPA. The roles that are categorised under market facilitation have no linear relationship to the capex plan that we have proposed. To link the two is unjustified and leaves us with funding levels significantly below those that were allowed within the rollover period, despite the volume of work that we need to undertake increasing. This mechanism is further flawed as the reduction in costs have been calculated on a linear basis reducing opex by 25% in each year. This does not follow the profile of the capex reduction (which mostly occur at the latter half of the plan), and thus unfairly jeopardises our delivery of market facilitation in the near term as well.
- 35 We provided PPA and Ofgem with a breakdown of the total number of roles that fell within the Market Facilitation cost line. In total this showed a proposed increase in staff levels of 16 FTEs when compared to 2010/11 levels.
- 36 In comparison to illustrate the proposed cuts that PPA have embedded, by linking headcount deductions to the capex plan, we have reproduced the original table. This shows a 25% reduction in headcount per department calculated by taking an average of FTE headcount over the eleven years of data. This illustrates that the cuts are equivalent to taking away 24 FTEs over the period compared to the growth of only 16 FTEs on the 2010/11 numbers. This reduction is even more penal when consideration is made against the more contemporary 2011/12 headcount of 87, which only implies an increase of seven FTEs over the period.

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- 37 Whilst the major cost component of market facilitation is the cost of the staff that are required to perform this function, there are also significant costs that are incremental to payroll costs. Again like the headcount figures these do not have any correlation with the capex reductions that have been proposed and therefore should not be disallowed as such.
- 38 Included within this category is the cost of ENTSO-G membership. In total, over the RIIO-T1 period, we have requested £3m to cover this operating expense. The funding is required by all ENTSO-G members and is used to fund the central administrative work of the organisation. It is therefore appropriate for this funding to be allowed in full.
- 39 Our forecasts also include a further £1.3m worth of legal and professional costs. Again the majority of this cost will be incurred in making sure that our codes are in alignment with the future European Network Codes and thus should be allowed in full.

- 40 Like our assessment of the ESO reductions, we have provided further information to support the increase in headcount associated with market facilitation for the GSO. This can be found in appendix 2 where specific details are provided to support increases in each of the teams for which we have forecast growth.

Our approach to market facilitation

- 41 Through the review of our market facilitation activities undertaken it can be seen that some of the activities that we undertake are mandatory and we do not have an option to limit the role we undertake. Other aspects, listed in Tier 3 and Tier 4 however do present a certain degree of flexibility in terms of the volume of work we undertake in administering these aspects. It would, however, be at the detriment to the industry and consumers alike if this were not resourced.
- 42 Within our March submission (in the 'SO detailed plan' annex) we discussed the alternative approaches that we could undertake in how we deliver the market facilitation role. Whilst its possible to reduce our role this would be detrimental to the industry and is likely to frustrate and slow the rate of industry change in the case of European policy or lead to changes that are less aligned to the current GB model, leading to an increase in the changes required by all GB stakeholders to accommodate the changes directed. Such an approach – as the one taken in the Initial Proposals – only considers cost, not value.
- 43 As the allowances currently stand the support offered to the market would have to reduce in the following areas:
- (a) **Code governance:** Reduce our attendance and impartial developmental input into working groups such as the CUSC
 - (b) **Provision of information:** Reduce the information content of industry annexes to that required by our licence conditions and stop undertaking activities such as hosting the JESG and other industry working groups
 - (c) **Customer and connections management performance:** Reduce the overall volume of account managers, and limit our role in various working groups and the number of customer seminars we attend
 - (d) **Minimal participation in wider policy debate:** We could take a reactionary approach of incorporating changes that are driven by European or domestic policy rather than actively shaping them
- 44 The above options are likely to move work we currently undertake to other parts of the industry since there is a perceived need for these activities. It may also reduce transparency and impartiality thereby reducing the level of understanding of what impact potential changes may have. This translates into a transfer of risk and potential increase of costs to the end consumer, whilst also stifling industry change and competition since some industry participants have more limited resource in this area.
- 45 We are now at a point where we are at full capacity dealing with industry-raised modifications to current GB codes. Supplementary to this workload we have to manage Ofgem SCRs and the work to plan for and deliver the application of ENCs to GB codes. Without the allowances to support the headcount growth we will have to make a trade-off between delivering the current Tier 1 and 2 tasks, most of which is mandatory, and the supplementary tasks that Tier 3 and 4 bestow upon us, with particular weighting to our involvement in European legislative requirements.
- 46 To illustrate this trade off we can consider the following case. We could choose to not be as actively involved in the development stage of the wider European policy debate and instead await their outcome and then facilitate others to communicate and raise the

appropriate changes to the commercial code documents. This would enable us to concentrate on the impact of such changes on our business and make suitable arrangements to mitigate such impacts. However, lack of early involvement, engagement by us would also be likely to result in sub-optimal outcomes for GB as a whole and would place GB at greater risk of either not being compliant with the final agreed ENCs inside the required timeframes, or face additional costs to implement the changes required to comply.

PPA's recommendation

- 47 The principal argument that was put forward by PPA for reducing our allowances was that if we are providing services over and above our licence requirements then this should be undertaken on a commercial basis. Their preference would be for this work to be market tested with any requirement above and beyond licence obligations being funded on a commercial basis so that it is possible for third parties to provide this facility.
- 48 Whilst we recognise that Ofgem do not necessarily support the view expressed by their consultants, this forms the majority of PPAs justification for specified reductions so should be considered when reviewing final proposals.
- 49 As illustrated above we do have options in terms of the depth of the role that we undertake but strongly believe that if we were forced to reduce our role due to lack of funding, this would be a sub-optimal solution for the energy market as a whole. There are a number of reasons (detailed below) why we should continue to be a key stakeholder and participant in facilitating was the pace and direction of market change.
- 50 This requirement is especially acute as the industry faces up to the paradigm shift that arises from changing energy supplies and the move to a lower carbon economy and integrated European markets. Change and complexity translate into risks that need to be appropriately managed and balanced – something that is at the heart of our market facilitation role.
 - (a) Our role as NETSO and gas network operator means that we are at the centre of the GB energy debate, underpinned by impartiality (required by our licence obligations). With our expertise and our impartial position we can help drive market reform
 - (b) We are able to directly affect costs to the end consumer through the reduction of transactions costs. If a third party were to provide some of these services then in many instances we would have to provide them with data or involve them in pre-existing processes, creating additional hand-offs between responsible parties that would build inefficiencies and repetition, as well as reducing coherence. Our role allows us to create leaner processes and remove barriers to entry by applying non-discriminatory principles through the socialisation of costs.
 - (c) Our participation within the various European organisations means that we are able to translate events in Europe into a GB context and vice versa. This ensures that the market mechanisms in place are appropriate for, and consistent with, the GB market and reflect the requirements of the Agency for the Co-operation of Energy Regulators (ACER) and the various European legislative programmes. By law we are a member of ENTSO-E/G. This puts us in a unique position to be able to articulate the developments within ENTSO and the corresponding GB impact.
- 51 We continue to believe that we should undertake an active role in facilitating the GB energy markets. Our ability to balance complex regulatory arguments with an understanding of the key commercial drivers of our customers means that it is appropriate

that market facilitation remains a core part of our responsibility. Through our European engagement we aim to achieve UK Government low carbon and renewable energy targets in a sustainable, affordable and secure manner. Indeed we have been asked to make more contribution for instance in supporting Ofgem and DECC following the completion of the work by ENTSO-E to gather stakeholder views to help through ACER review and comitology.

- 52 Ofgem have suggested our position within the energy value chain is a natural fit in undertaking this role. We therefore continue to believe that it is appropriate for us undertake this role in the industry and should therefore be funded in accordingly to recognise the expanding scope.

GB and EU market facilitation uncertainty mechanism

Our March proposals

- 53 Within our March 2012 submission we requested the creation of an uncertainty mechanism, for both NGET and NGG, to cover us for the risk that the workload associated with changes to GB and EU markets increased above our baseline workload assumptions. The risk we face is that the required changes are more fundamental than currently envisaged and that unforeseen developments could arise over the RIIO-T1 period.
- 54 We requested a mechanism that protected us from process changes driven by GB or EU market change that have a significant impact on our Transmission owner or System operator costs. The mechanisms covered both opex and capex increases as any changes could require significant analysis or development to IT systems. Whilst we can manage the cost of delivering process changes or the supporting analysis, the extent and timing of such change is ultimately beyond our control.
- 55 The more detailed designs for the NGET and NGG mechanisms then differ slightly due to the relative certainty we possess around some of the cost drivers for each business over the period.
- 56 For NGET we proposed that the materiality threshold that would trigger this mechanism is +/- £1m which is proportionate to our baseline plan and comparable to the equivalent mechanism from the TPCR4 arrangements. This was then subject to the application of an efficiency incentive rate. The mechanism then relied on utilising the predefined re-opener windows, instead of the costs being logged-up until the end of the control period.
- 57 For NGG we proposed that the materiality threshold that would trigger this mechanism is +/- 10% impact on costs incurred by our TO or SO business, relative to the baseline £40.7m of costs that we have included in our SO capex plan for known schemes that have been driven by GB and EU market change. Similarly to the NGET mechanism, the associated totex allowance adjustment would be assessed during the two pre-determined re-opener windows.

Ofgem's proposed funding mechanism

- 58 In response to the proposals put forward by ourselves, Ofgem have deemed it more appropriate that requests for additional funding during the price control should be subsumed within the scope of the mid-period review. This scope would be restricted to changes to outputs that can be justified by clear changes in UK Government policy and the introduction of new outputs that are needed to meet the needs of consumers and other network users. The mid period review is proposed to be conducted in 2016, with any changes being implemented in 2017.
- 59 We do not agree with the proposal to use the mid-period review to cover the uncertainty in relation to GB and EU market change, with an extension of the re-opener mechanism seemingly a better fit for this risk.
- 60 There are two problems with Ofgem's current proposal:
- (a) The difficulty in defining outputs resulting from market change
 - (b) The incentive to defer change which the proposals introduce, due to higher cashflow risk

- 61 Whilst changes in the GB and EU markets will necessarily trigger changes to our processes or systems, it is not possible to measure the impact that those changes have on outputs, even in hindsight. To illustrate this point we have previously undertaken investment in our IS systems triggered by required improvements to cross border balancing data (across Europe). This was triggered by a legislated EU change (which would fall within the remit of this uncertainty mechanism in the RIIO-T1 period) and meant alterations to several of our IS systems to implement the mandated change.
- 62 Whilst this in theory would have had an improvement on outputs, measuring that improvement is not possible because the impact would be relatively indiscernible and we have no 'control' scenario without the change occurring (required because such a change would not be the only item impacting on the outputs). The change, however, was something we had to do under EU requirements. It is the risk of this sort of change (which could trigger both capex and opex costs) that we were trying to cover in the EU and market change uncertainty mechanism.
- 63 The uncertainty for GB and EU market change is not around the outputs that the work delivers, but rather nobody knows in advance of any period what work will actually arise from market change. For example we cannot say what the impacts of European code developments will be until they are finalised and we can assess the change impacts. To try to do so now would be guessing and give rise to windfall gains or losses. We therefore did not include such estimates in our submission. By the time of the mid-period review we will have no more of a defined answer for the changes that will occur in the future four years, or indeed what outputs the work undertaken in the first four years of the plan has delivered, than we do now.
- 64 Given the low chance of correctly forecasting costs in this area any uncertainty mechanism is effectively adjusting allowances on an ex-post basis rather than giving the potential for windfall gains and losses. This is therefore like logging up expenditure which Ofgem wanted to keep outside of the scope of the mid-period review. Such expenditure is however covered by re-openers in the Initial Proposals (for example physical security works).
- 65 Without changing the uncertainty mechanism to a re-opener - even if we could define outputs so funding was received under the mid-period review - the time between expenditure and funding would be up to four years. This could introduce significant cashflow risk for us. Use of the mid-period review – along with reduced baseline allowances in this area - therefore incentivises us to defer market change wherever possible, rather than to keep developing changes with the rest of the industry. Elsewhere in the Initial Proposals, Ofgem state that we will be incentivised to play our full part in these developments, especially regarding European change, but the proposal in this area seems to run counter to their wishes.
- 66 In summary, the uncertainty mechanism used to cover the risk resulting from GB and EU market change should be changed from being covered by the mid-period review to an extension of the re-opener mechanism.

Appendix 1 – NGET headcount increases

67 We have reviewed the deductions in headcount that PPA have suggested for each department and have provided further justification for the workload drivers for each of these teams over the RIIO-T1 period.

Customer Services (Reduction of 3.5 FTE)

68 This team is the key interface with our transmission customers. The key responsibilities include:

- (a) Contracting with parties wishing to connect to our networks or change their existing connection and contracting with the two other electricity transmission owners and new offshore transmission operators
- (b) Facilitating the resolution of transmission related issues
- (c) Setting transmission charges for our electricity networks

69 There continues to be a significant increase in connection activity across GB with many new generation projects wishing to connect to the Transmission networks in order to facilitate GB in meeting the UK Government's 2020 targets. Not only is this a significant increase in workload, many of these new generation projects are being brought forward by developers that are not as familiar with the industry and hence require much more support from the Customer Services team. The other driver for the increase in customer driven workload is the uncertainty around significant industry developments such as EMR, Project TransmiT, Renewables Obligation Certificate (ROC) banding and the challenging consenting regime. All of these uncertainties drive Customer Services workload as each change to a contracted date requires us to follow the Modification Application process as detailed in the CUSC.

70 Along with the regular increase in workload detailed above there has also been the introduction of the Offshore Regime, the European Third Package and the potential of 10 to 15GW of renewable generation located in Ireland with a direct connection to the GB transmission system. Each of these regimes has created a large amount of complexity and uncertainty and new policies and connection agreements need to be developed to ensure that the customers and ourselves can implement the new regimes whilst still delivering customers' needs. This is a big step change from the historical onshore connections with well-established policies and processes and requires extensive additional liaison and interfacing with DECC and Ofgem.

71 We are now at a stage where many of the contracted generation projects are now coming to fruition and require the commissioning and operational notifications process to be followed. Historically there have been up to 5 new connections per year. From 2011 onwards we are forecasting this to increase to between 15 and 20 per year for at least the next 10 years. Combined with this increase in volume, the customer base is less knowledgeable and the move to more HVDC connections and large renewable projects is presenting more complex and challenging technical and commercial issues to resolve.

72 From a demand perspective, the Distribution Network Operators (DNOs) are seeing demand growth in some areas that are requiring new connection agreements plus both the National Grid and the DNO assets at the connection points are ageing and are requiring replacement. For each one of these, a new agreement between ourselves and the DNO is required. Other demand customers such as Network Rail, HS2 and Crossrail,

each of which are developing large new connection projects, require a large amount of support and optioneering to find solutions that work for the rail organisations and fit in with the National Grid network.

European Policy (No change)

- 73 This team manages the increasingly important impact of Europe on our commercial and regulatory policies. This team coordinates our activities and major policy responses. The effectiveness of this approach relies on a pool of specialist resources that sit within the wider transmission organisation to deliver specific workloads.

Regulatory Frameworks (Reduction of 8 FTE)

- 74 The key activities included within this team are the management and development of the existing suite of market codes such as the Grid Code, CUSC and Balancing and Settlement Code. This team, now also has responsibility for the management and development of the European Network Codes and how they are embedded into the existing GB codes. The department is also responsible for the development of charging mechanisms for the connection and use of the transmission networks.
- 75 The effort involved in facilitating domestic led changes to industry codes is unlikely to change significantly. Regulatory Frameworks are already at full capacity dealing with domestic raised modifications. In order to accommodate Ofgem SCRs, Government initiatives such as EMR and TransmiT and the recent growth in EU codes development work, we have already expanded the workforce within Regulatory Frameworks. As the number of ENC's under development grow and the initial ones reach the point of requiring transition/application to GB codes, the increase in the EU codes related workload will be significant as staff move from developing the business rules and Codes text, to developing UNC proposals and methodology statements changes to enact the ENC's into the GB regime, and then on to the implementation of changes.
- 76 As of August 2012, Regulatory Frameworks (electricity) has already recruited to fill four of the eight proposed additional staff, with a further four to be recruited by the end of 2012/13. They have been deployed as follows:

- (a) **Electricity Codes Team:** Two additional staff have been recruited during 2011/12 to undertake a range of Europe-related roles, as follows:
- (i) Co-ordination of electricity codes work: This work requires effective internal management of NGET's governance of processes covering the European Network Code development work, including the co-ordination of NGET's ENTSO-E network code drafting team members; and is undertaken in conjunction with NGET's European Policy team;
 - (ii) Stakeholder engagement: The Joint European Standing Group was established in 2011 to provide GB stakeholders with a forum to develop their understanding of and exchange views on the European network codes and wider European issues. The JESG has proved popular with the industry and is attended by a wide range of industry participants, with strong participation from smaller independent players alongside the big six (as well as having opened up communications with other potentially interested parties, including consumer groups, manufacturers, power exchanges etc). The JESG has expanded to facilitate two-day workshops for each of the network codes through the different stages of their development. Whilst the JESG is chaired by an independent individual, NGET undertakes all preparatory work and

provides secretarial support to the meetings, whilst the separate code workshops are managed entirely by NGET.

- (b) **Strategy for application of ENC obligations in GB:** In our European context annex submitted in March 2012, we noted that considerable time and resource would be required to apply changes to the GB codes that would be required to ensure alignment with the EU codes. Since that submission, further consideration of the practicalities of ENC application in GB, in conjunction with Ofgem and DECC, has reinforced the magnitude of this challenge:
- (i) Existing GB frameworks need to be reviewed in light of the European Network Codes - a gap analysis needs to be performed to identify the scope of the changes required to achieve compliance, including understanding where Member State specificity can be applied;
 - (ii) An initial assessment of the required changes needs to be produced, for sharing with Ofgem, DECC and other stakeholders. This assessment needs to be prepared relatively early to facilitate stakeholder (and our) understanding of the potential impacts and refined as the ENCs pass through formal governance; not becoming final until the end of the EU comitology process;
 - (iii) As well as the GB code impact, an assessment of other required changes, such as to industry IS systems, needs to be undertaken.
 - (iv) NGET expects to be working closely with Ofgem and other stakeholders to determine specific application proposals for each European code – hence the resource requirements of this work will increase as the number of developed codes increases. Ofgem, in ongoing liaison meetings, has previously expressed concern that these activities need adequate resourcing.

The two extra resources just recruited are to support this work – in particular the increasing workload associated with GB application assessments. A further two FTEs are being recruited in 2012/13 to support the expansion of this work.

- (c) **Electricity Charging and Access Development:** Two additional staff have been recruited during 2011/12 to undertake a range of Europe-related and industry governance roles, as follows
- (i) To support the development and engagement of CACM and Futures. These codes are at different stages, with CACM moving into the detailed stage and Futures still in the embryonic stage of developing the high level principles. Application of CACM and the Target Model to GB is expected to be significant, impacting on market arrangements and the case for transmission investment. The level of detail in the ENCs is relatively high, with the focus being on setting high level principles. To support this we hope will increase our participation with an additional two staff. They will also take on the principle development, initial impact assessment, and stakeholder engagement on the Futures code.
 - (ii) As well as being proactive in ENTSO-E the existing staff have been heavily engaged within JESG as experts, including several extended meetings to ensure GB stakeholders fully understand the arrangements.
 - (iii) These staff have also been supporting the introduction of the interim European solution of market coupling through participation in ENTSO-E groups. This allows us to ensure the interim arrangements are consistent with the likely enduring arrangements and minimise the continued impact on GB users.

Some of this work has been highly technical within ENTSO-E and with power exchanges to develop and validate algorithms (e.g. COSMOS). A particular focus for GB participation is ensuring that the HVDC interconnection is treated fairly compared with wider European AC interconnection, and also that it delivers the most economical solution rather than just a solution e.g. consider losses.

- (iv) With the introduction of open governance we have seen a significant increase in Industry led proposals for charging. This is at the same time we are seeking to support and facilitate Ofgem led initiatives such as TransmiT. As we move forward we expect the requirements to the codes to change to support a sustainable future to increase. These additional staff will support the development of Industry led proposals.

Future Transmission Networks (FTN) (Reduction of 1 FTE)

- 77 The aim of this department is to identify and innovatively propose solutions to the longer term future energy challenges of balancing policy objectives, meeting climate change objectives, security of supply and costs to consumers. This department is responsible for the provision of future energy scenarios that help the industry face up to the varied challenges that it will need to overcome out to 2050.
- 78 The increase in headcount within FTN is to achieve compliance with the Third Energy Package which brings a new legal requirement for the provision of data, analysis and other long term scenario and modelling work, including future offshore grid assessments. This will be a commitment to provide increasing levels of accurate and timely network information such as bi-annual development plans and European Ten Year Network Development Plans (TYNDP) for Electricity. The development of this plan is mandatory.

Balancing Services (Reduction of 2 FTE)

- 79 This team is responsible for the delivery of forecasts, analysis, tools and processes that contribute to secure and efficient electricity system operation. This work involves electricity trading, demand forecasting, generation margin analysis, reserve requirement policy and information provision to the industry
 - (a) Our increasing interface with Europe and the drive towards commonality in codes and balancing services is leading to an increasing need for resource within our Balancing Services team to co-ordinate commercial activities across all GB Interconnectors to support efficient system operation. This includes:
 - (i) Establishing agreements for balancing services provision: To support the implementation of the European target model, we need to ensure we have the necessary agreements in place to allow for TSO-TSO exchanges of energy/reserve products in balancing timescales (and potentially beyond), both now and in future under the forthcoming ENCs. Management of our relationships with interconnector businesses and getting the commercial arrangements we require on interconnectors for efficient system operation is important for future GB system security. This workload will increase as the number of interconnectors increases.
 - (ii) Working with ENTSO-E to develop and improve Winter and Summer Outlook reports. We contribute resource to develop the methodologies that support these documents . Last year we improved it to look at cross border flows across Europe in Winter and for the Summer Outlook report, we enhanced the methodology for looking at downward reserve issues across Europe. In both

cases, we have reported back to industry via Operational Forums which were very well received. Without the planned resource, we would not be able to facilitate these improvements which increase transparency and hence system security.

Contracts and Settlements (No FTE reduction)

- 80 This team is responsible for the development, contract negotiation, account management and settlement of the ancillary services that we require to manage the electricity system in the most economic and efficient manner. This includes looking to create innovative contract forms that broaden competition from service providers including growing demand side providers

ETO led market facilitation (£2.3m reduction)

- 81 Whilst the majority of market facilitation costs fall within the ESO, mandated changes as a consequence of European policy, are adding further resource requirements into our ETO function, which were assessed by Poyry. As stipulated in our Workforce Renewal and Growth and European annexes we are recruiting a further seven FTEs. These resources are required to undertake the growing requirement for European network analysis. With growing interconnection, the requirement to produce data for inclusion within the TYNDP and TO focussed network code developments, resources from our asset management directorate will be involved in market facilitation to undertake mandated parts of our ENTSO-E involvement. Therefore funding for these resources should be reinstated.

Appendix 2 – NGGT headcount increases

82 To illustrate the breadth of the work that we undertake that falls within market facilitation costs, below is a brief summary of the core role that each of the departments undertake that have costs that map across to market facilitation. This includes the rationale for the increasing headcount within these roles, illustrating that there is a definitive needs case for ex ante funding. To illustrate the effect of the proposed 25% reduction in funding the equivalent reduction in FTE for each department is shown. In many cases this would be the equivalent of reducing the FTE headcount below the levels in 2010/11 despite the increasing workload that we face over the RIIO-T1 period.

Customer Services (Reduction of 1 FTE)

83 This team is the key interface with our gas transmission customers. The key responsibilities include contracting with parties wishing to connect to our network, facilitating the resolution of transmission related issues and setting all gas NTS charges.

- (a) Contracting with parties wishing to connect to our networks or change their existing connection
- (b) Facilitating the resolution of transmission related issues
- (c) Setting transmission charges for our gas network

European Policy (Reduction of 1 FTE)

84 This team manages the increasingly important impact of Europe on our commercial and regulatory policies. This team coordinates our activities and major policy responses and spends the majority of their time influencing the policy debate in Brussels.

Regulatory Frameworks (Reduction of 9 FTE)

85 The key activities included within this team are the management of ongoing developments within the gas commercial regime (UNC) such that they better facilitate the relevant objectives. This team, now also has responsibility for the management and development of the ENCs and how they are embedded into the existing GB arrangements. The department is also responsible for the development of charging methodologies, licence methodologies and transmission operator and system operator incentives.

86 As of August 2012, Regulatory Frameworks (gas) has already recruited to fill four of the eight proposed additional staff necessary to facilitate the development and implementation of the ENCs, with a further four to be recruited by the end of 2012/13. This European related work will be supplementary to the underlying average of 70 domestic UNC modifications that we facilitate each year. The four staff have been deployed as follows:

- (a) **Gas Codes Team:** Three experienced staff members have been moved to work solely on ENC codes (Balancing and Inter-operability). These three people have currently been partially back filled by the recruitment of two additional staff during 2011/12. These new staff members will complete the domestic Code change facilitation work, The three staff members currently dedicated to EU work are responsible for the following:
 - (i) Gas Balancing EU Network Code: This work requires effective internal management of NGGT's governance of processes covering the Balancing

European Network Code development work, including the co-ordination of NGGT's ENTSO-G network code drafting team members, Gas Access and Charging team and is undertaken in conjunction with NGGT's European Policy team;

- (ii) **Interoperability and Data Exchange EU Network Code:** This work requires effective internal management of NGGT's governance processes covering the Interoperability European Network Code development work in order to plan for likely changes to GB arrangements. The other main aspect is to provide drafting input to ENTSO-G's network code development processes in conjunction with NGGT's European Policy team. This role also covers work associated with the EC's proposals to produce a harmonised European gas quality standard by providing support to the GB representative who sits on the CEN working groups, supporting DECC and other industry stakeholders via the GB steering committee 'GSE/4' and representing National Grid at external events related to this topic.
 - (iii) **Stakeholder engagement:** An update on all ENC work is provided to the UNC Transmission Workgroup each month. This update has proved popular with the industry and is attended by a wide range of industry participants, with strong participation from smaller independent players alongside the big six energy companies. In addition to the above updates, NGGT has also run a number of EU Codes workshops.
 - (iv) **Support to the Ofgem / DECC stakeholder workgroup meetings on the EU codes.**
- (b) **Gas Charging and Access Development Team:** Currently there are four staff members working across three EU Codes (activities detailed below), one EU development area and a number of currently identified consequential impacts resulting from the development of the Capacity Management Principles (CMP) document recently approved by the EU Commission (i.e. changing the timing of the gas flow day). This includes two additional staff that have been recruited during 2011/12 to enable the release of three experienced resource previously working on GB market facilitation to undertake a range of Europe-related roles, as follows:
- (i) **Co-ordination of Capacity related EU codes work (CAM and CMP):** This work requires effective internal management of NGGT's governance of processes covering the CMP and CAM European Network Code development work, including the planning of the network code development activities and liaison with the Gas Codes and European Strategy teams to produce a wider plan;
 - (ii) **Review of ENTSO-G documentation/codes and taking the lead role across Europe on the updating of such documents as and when required by ENTSO-G.** Responding to ENTSO-G and EU consultations.
 - (iii) **Member of Incremental capacity ENTSO-G working group – explaining GB regime and influencing potential solutions (plus ii above).** Linking with CAM lead to ensure continuity between CAM and incremental EU Codes/solutions. Assessment of the links and differences between the EU Codes needs to be considered i.e. CAM and CMP and Balancing etc and resolution of issues arising from inconsistencies between EU Codes. Developing/drafting the associated GB UNC modifications which may result in multiple changes per code.

- (iv) Tariffs ENC – We also currently have one member of staff working closely with Ofgem, and other EU stakeholders on the development of common EU tariff structures which has recently resulted in the publication of ACER's Framework Guidelines on rules regarding harmonised transmission tariff structures for gas. The publication of this document is the first step towards the development of the EU Code on Tariffs and marks the point at which NGGT's commitment to the ENC development process would normally start to ramp up as the process moves towards drafting of business rules and Network Code text.

87 Strategy for application of ENC obligations in GB: In our European context annex we noted that considerable time and resource within the teams would be required to implement changes to the UNC and associated documents and methodologies that would be required to ensure GB alignment with the EU codes. Since that submission, further consideration of the practicalities of ENC application in GB, in conjunction with Ofgem and DECC, has reinforced the magnitude of this challenge:

- (a) Existing GB frameworks need to be reviewed in light of the European Network Codes - a gap analysis needs to be performed regularly during the development and after completion of the relevant ENC to identify the scope of the changes required to achieve compliance. These gap analyses are required on a regular basis throughout the development of the relevant ENC in order to inform GB stakeholders of the potential impact of developing EU code Framework Guidelines, business rules and eventual Code text;
- (b) An initial assessment of the required changes needs to be produced, for sharing with Ofgem, DECC and stakeholders. This assessment needs to be refined as the relevant ENC passes through formal governance; not becoming final until the end of the EU comitology process;
- (c) As well as the GB code impact, an assessment of other required changes, such as to industry IS systems, also needs to be undertaken. This task requires ENC experts to facilitate a transposition of ENC legal text into IS business requirement documents and system use cases before handing delivery, testing and training requirements to specialist service providers.
- (d) NGGT expects to be working closely with Ofgem and other stakeholders to determine specific application proposals for each European code – hence the resource requirements of this work will increase as the number of “developed” codes increases. Ofgem, in ongoing liaison meetings, has previously expressed concern that these activities need adequate resourcing. It should be stressed that, whilst in the past there are clear examples of where UNC changes have required extensive IS developments, these instances are generally constrained to a single major area of the GB regime (i.e. Entry Capacity, or Exit Capacity etc) and were generally implemented over a 2 to 3 year period. EU Codes are set to impact many different areas of the UNC at the same time (CMP, CAM, Balancing, Inter-operability are all currently targeted for delivery within a 12/18 month window). This multitude of change will require a higher resource density during the ENC delivery period if the UK government is to achieve compliance within the specified timescales.

88 A further four FTEs are being recruited in 2012/13 across Gas Codes and Charging and Access teams to support the first phase of this expansion in workload.

Future Transmission Networks (Reduction of 1 FTE)

- 89 The aim of this department is to identify and innovatively propose solutions to the longer term future energy challenges of balancing policy objectives, meeting climate change objectives, security of supply and costs to consumers. This department is responsible for the provision of future energy scenarios that help the industry face up to the varied challenges that it will need to overcome out to 2050.

Commercial and Business Development (Reduction of 3.5 FTE)

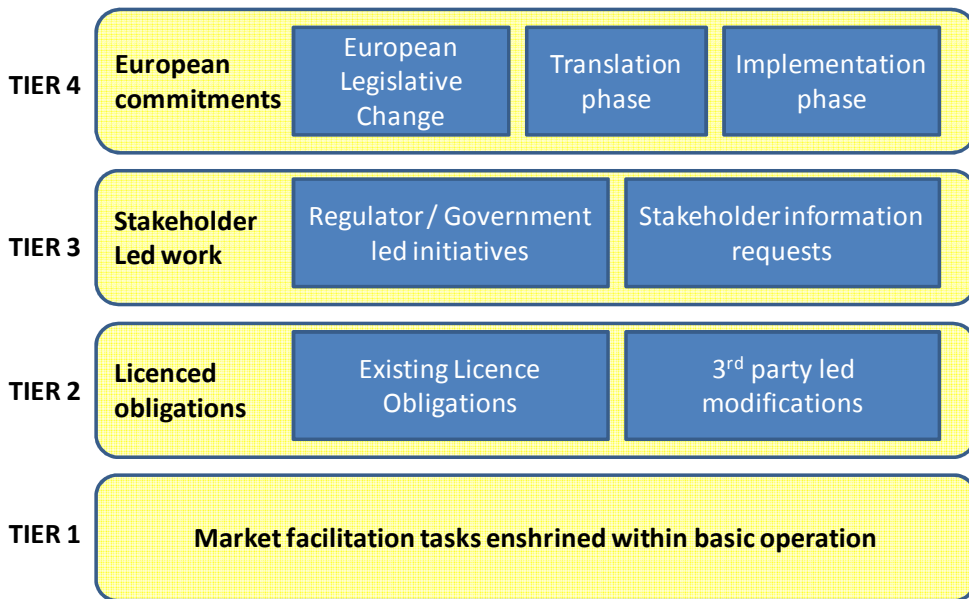
- 90 The Commercial and Business Development team provides two key services to the Gas Operations department, the first is to provide support and co-ordination at a programme and project level for all commercial projects and changes impacting on Gas Operations; the second is to assess the impact on Gas Operations of future regulatory and industry changes by identifying the changes required to resources, systems and processes and ensure that these changes are incorporated into appropriate business plan processes.
- 91 As described previously the final stage of European code development is the implementation phase. Capacity Allocation Methodology (CAM) is the most advanced in the European code development programme and has been submitted to ACER for a decision. This code will now need to be implemented into our GB codes with the associated process and system changes being incorporated into our operational activities. This team will continue to focus on the implementation of these codes.
- 92 As well as the European codes the team looks at the operational effects of other European legislation such as REMIT (Regulation on Energy Market Integrity and Transparency). This legislation is to establish a framework for monitoring the wholesale energy markets to detect market abuse, manipulation and insider trading. Compliance with this legislation will require publication of additional information beyond that which we and other market participants currently provide. This could be a potentially significant piece of work which requires resource increases beyond those submitted in our March 2012 submission. If that is the case additional funding to comply with future legislation will be sought under the uncertainty mechanism.

Gas incentives (Reduction of 9 FTE)

- 93 This team is responsible for the delivery of forecasts, analysis, tools and processes that contribute to the secure and efficient system operation and environmental performance. More specifically the team is accountable for:
- (a) Delivering compliance with UNC, licence and methodology statement requirements including operations of before the day capacity auctions and regulatory reporting across all incentives, including managing the sale of medium to longer term entry and exit capacity rights through entry capacity auction and the forthcoming exit capacity regime.
 - (b) Maximising availability of entry and exit capacity to users, minimising costs to users of constraint actions and ensuring that network outages are managed to minimise the impact to users. Developing and improving processes and commercial risk strategies that help the control room to operate the gas network more effectively, that reinforce National Grid's licence obligations and deliver outcomes desired by consumers now and in the future.
 - (c) Undertaking shrinking and emissions trading; identifying and executing revenue or risk management and adhering to the emissions framework.

- (d) Manage the contractual development, negotiation and procurement of Balancing Services contracts for gas such as Operating Margins that we are required to procure to meet our safety case.
 - (e) Developing and implementing new commercial regimes for the gas industry, particularly around network capacity and balancing arrangements including specifying and testing associated system developments (Gemini) in collaboration with Gas Access & Charging Development and Gas Codes teams.
 - (f) Support the justification of our asset investment plans against potential contractual or operational alternatives.
- 94 During the RIIO-T1 period we aim to recruit a further eight FTEs compared to 2010/11 figures. We have just recruited three of these analysts in 2012/13. The complexity of the operating environment is increasing, driven by greater demand and supply volatility led by an increasing number of price responsive points on the system (LNG terminals and fast-cycle storage sites). These three extra resources are there to provide the analysis, modelling, decision support and strategy development we require in this new environment and for the assessment and administration of a broader suite of gas SO incentives. The quantitative and probabilistic modelling work specifically required to understand the risks associated with the impending exit regime and increasingly uncertain gas supplies and demands will be a key deliverable to ensure we continue to operate the system efficiently whilst still meeting our safety case. As mentioned previously further licence obligations will be placed upon to provide greater volumes of GSO related information. The work to deliver this will largely fall within this team.
- 95 The team also administers the auction processes for the capacity allocation and undertakes activities associated with our balancing requirements. As mentioned above the effect of the introduction of the CAM will directly impact the work load of this team. Changes introduced by the European Balancing code, which looks to define a balancing regime which is market based and enables networks users to trade gas efficiently will also fall within the remit of the team.
- 96 We intend recruiting a further three resources into the team in 2017/18 due to the development and ongoing maintenance of systems such as Gemini. Increased harmonisation of regimes across European SOs are expected to have significant impact on these systems and the exit regime is expected to continue to evolve and develop during RIIO-T1, leading to an increased need for expert resources to understand the impact on and develop systems. This resource will also be required to implement a rewrite of Gemini before 2020/21, specifying and delivering User Acceptance Testing.

Appendix 3 – Detailed tier description



97 The following narrative draws on a combination of GSO and ESO examples to expand on each of the constituent drivers highlighted in the diagram above. It illustrates how the existing workload that we undertake in market facilitation is set to continue in the RIIO-T1 period and is being supplemented by growing stakeholder and European-led work commitments. Whilst activities in Tier 3 and 4 have discretionary elements to them, as we progress through the RIIO-T1 period some of these elements are likely to migrate to become formal licence obligations.

TIER 1 – Basic operation

98 Costs associated with Tier 1 activities underpin the operation of some of the main commercial and operational aspects of our business. The workload on activities such as charging and billing, account management, demand forecasting, creation of connection agreements and the administration of SO incentives will continue. This work is pivotal in continuing to provide the level of service and information that is requested by our stakeholders and to contribute towards the RIIO-T1 outputs.

99 This base level activity is integral to our SO operations and customer interaction. Without this work, fundamentals of the commercial activities we undertake would be undermined and customer service would decline.

TIER 2 – Licence obligations

Existing licence obligations

100 Both NGGT and NGET have licence obligations to facilitate changes to the commercial arrangements set out in the various industry codes such as the UNC, BSC, CUSC, Grid Code and the SO-TO Code. In the case of NGGT these are set out in Licence condition A11 and for NGET these are set out in C10 (CUSC), C14 (Grid Code), B12 (SO-TO Code) and C3 (BSC). These conditions set out our responsibilities to provide the various codes and the mechanism to facilitate development of changes to these codes through an

inclusive and transparent governance process. One of the key measures (generally referred to as relevant objectives) used to assess the merit of any proposed changes to the various codes is whether or not such change would facilitate competition. As such these change processes and our participation within them directly contribute to market facilitation.

- 101 The provision of information and the adherence to specific licence obligations is set to increase over the RII0-T1 period with Ofgem illustrating the importance of such work by making this a codified licence obligation on NGG. Ofgem state that:

“We proposed that a reputational incentive be introduced on the provision of market information³”

“NGG currently publishes a number of documents that relate to a forward looking view of the market. Most notably these are the TYS, Winter and Summer Outlooks and TBE. We also note the additional information that NGG is required to provide as a result of the implementation of the Third package. Given the importance that is placed on these documents by the industry and more widely, we considered that a licence requirement for the 8 year period is placed on NGG in respect of the provision of this information”

- 102 Whilst some of this information is already provided by us, the volume of work is set to increase and greater importance is being put on the delivery of this by Ofgem. Indeed it has been our experience to date that once you start to provide information from specific sources, the expectation from stakeholders is that you will continue to deliver this, therefore this will only lead to more information provision.

3rd Party led modifications

- 103 Whilst it is part of our licence obligation to maintain and develop the existing codes and many of the changes introduced to the commercial arrangements are generated through legislative or regulatory reform, many others are driven by other stakeholders such as shippers. For example, between April 2007 and April 2012 the UNC has seen over 370 modification proposals raised, (of which almost half (176) were shipper raised proposals) with the average proposal raised in 2005 taking 151 days to go from initial proposal to a final modification report being completed. Since the introduction of Ofgem’s Code Governance Reforms at the start of 2011 this gestation period has extended to an average of 229 days. This has resulted in an increase in the prevailing “case load” being handled by National Grid at any one time.
- 104 Again an example of the effect of these changes is the increase in the number of meetings being chaired by the Joint Office of Gas Transporters since 2005. In 2005 the Joint Office chaired 100 UNC “development” meetings. By 2010 this had steadily risen to 228. Since the introduction of the revised governance arrangements, the number of meetings has increase to 339 (a 50% increase). The 370 proposals raised between 2005 and the end of 2011 equates to an average of just over 70 proposals per year. This is in line with experience since the introduction of the original Network Code and therefore provides a reasonable gauge of the future requirement for such domestic led change.
- 105 We believe it is reasonable to expect that this rate of change will continue going forward. Recent governance rule changes have increased the average amount of effort required by all parties when considering a change to the commercial arrangements.
- 106 During the last price control period industry code governance took a number of significant steps forward through development led by Ofgem and with the support of both NGET and

³ Ofgem’s System Operator incentive schemes from 2013: initial proposals – supplementary appendices

NGG. A consequence of this more open and robust code governance is that we have had a significant increase in complex code modification proposals, in particular in the areas of charging and promoting a sustainable energy market. This is set to continue as the industry reacts to the rapidly changing operational environment. To fully support the continued embedding of these proposals we need to commit significant expert support.

TIER 3 – Stakeholder led work

Regulator / Government led initiatives

- 107 Two of our core stakeholders are DECC and Ofgem. With the combined objectives of maintaining security of supply, meeting environmental targets and delivering value to end consumers, the external stakeholder requests for National Grid to be involved and contribute towards workstreams addressing these macro issues will continue to increase.
- 108 Within the last two years Ofgem have launched three Significant Code Reviews (SCR); Project TransmiT, Gas Security of Supply and Electricity Cash out review. These extend our role beyond the licence requirement to facilitate the code change process. In addition to the SCRs, Ofgem have also undertaken reviews of other areas of the commercial regime for example: Xoserve funding arrangements, Credit Best Practice Guidelines, Industry Code Governance arrangements.
- 109 In its launch document for the SCR process Ofgem suggested that it may launch up to two such reviews each year. Throughout the three reviews above we have been heavily involved. Working with all sides of the debate to facilitate the development of potential options for change, assessment of these options for their impacts and potential alternatives and progress/support subsequent changes to business processes, contracts and IS systems.
- 110 Beyond the current licence obligations we currently provide considerable support to Ofgem and other industry stakeholders during the SCR process, both at industry meetings and on a one-to-one basis, in order to help develop proposals and assess their impact. Again, we would anticipate that this support will be required going forward. Given the positive feedback we have received during the present price control period from regulatory and governmental bodies regarding our valued contribution, we expect that during the RIIO-T1 period stakeholders will continue to expect our active involvement in such initiatives and driving commercial market change.

Stakeholder led information requests

- 111 We provide information to our stakeholders in a variety of formats, whether that be through our websites, industry publications such as the Winter Outlook Report, group meetings such as operational forums or through bilateral meetings. Provision of timely and accurate information helps the optimisation of the energy markets and promotes competition and a level playing field. With the level of market change expected over the RIIO-T1 period, stakeholders will continue to rely on us to publish information that they require to help inform their operations.
- 112 A detailed example of responding to stakeholders request for information in the creation of the Joint European Steering Group (JESG), under the existing governance arrangements of the BSC, CUSC and Grid Code. The central theme of this group's terms of reference is to facilitate the exchange of information between ourselves and stakeholders; and on 14th November 2011 we wrote to the industry confirming our long term commitment to the JESG and our participation within it. As well as the monthly meetings we arrange ENC specific industry workshops to run through the detail of the various codes in order to

promote debate and understanding. Since August 2011 we have had nine JESG meetings. These all take significant time and resource to both prepare for and run but are valued by our stakeholders.

- 113 Engagement has further evolved to meet our stakeholder needs – including the introduction of technical workshops to help stakeholders understand the commercial and regulatory codes (seven have been held to date). Feedback from our stakeholders has indicated that these technical workshops are the only forum available for them to spend time asking questions of the relevant experts and getting into the article by article detail of the code that they require to be able to fully participate in the consultation process. Given the value stakeholders see in these we are being asked to facilitate more and more, with an average of circa 20 stakeholders attending each meeting.
- 114 The exchange of information and understanding at the JESG and the in-depth workshops we run encourage stakeholder engagement at both a European level (for example in responding to ENTSO-E consultations) and GB level (for example by encouraging parties to consider the implications of ENC's for their businesses). By providing experts to the development and drafting teams we are able to better influence their development, promoting the GB regime (seeking to minimise impact and cost). This also facilitates more productive GB stakeholder engagement and identifying the potential impact on the GB regime. This all serves to ensure that market participants are fully aware and engaged in the EU codes process and will act to minimise total costs for the required European changes.
- 115 As NGGT, we discussed with stakeholders the concept of setting up a gas JESG but the clear feedback received from our stakeholders was that a standing agenda item at the UNC Transmission Workgroup coupled with requested one to one meetings as required would suffice. As a result we now provide an update to the Transmission Workgroup on the EU codes each month. This update runs through the detail of the ENC areas currently under development with the aim of promoting debate and understanding of the proposed changes and to encourage GB stakeholder engagement within the EU arena.
- 116 We again expect this role to grow as we move towards the implementation phase of ENC's and as more ENC's are developed. We also expect to be taking the detailed changes to the UNC document resulting from the various ENC's to the UNC Panel and Transmission Workgroup via Modification Proposals. This process will then be open to industry discussion where we would again expect to be called upon to explain the changes and impact on the GB regime.
- 117 In addition, we currently attend the DECC / Ofgem GB Stakeholder Groups (gas and electricity) and provide detailed updates to the attendees as required at these forums. We currently expect this requirement to continue and it is likely to become more resource intensive through the RIIO-T1 period as more ENC's progress through to development.
- 118 The continuation of our role in supporting the wider GB industry to understand the changes that are happening at a European level is something that has been continually requested and supported by our stakeholders when we consulted on this through our Talking Networks events.

“National Grid needs to take the leadership role on strategic development of the grid, both in the UK and across Europe” – Stage one workshop Brunswick report, 19th January 2011

- 119 A stakeholder at the Stage Four workshop 4th September 2012 suggested that European work will require input from all TOs but it is particularly important for National Grid to support this process. In their view, if a lack of funding were to undermine that role, then

this was concerning especially as the workload in the area in their opinion is only going to increase.

- 120 The provision of information to best facilitate the market and fulfil stakeholder needs will continue to increase the workload that we need to undertake. Whilst to date some of these activities such as the JESG, the TBE event and the hosting of operational forums have been non mandatory, licence obligations for information provision are increasing. For example Ofgem state.

“We propose to put a licence requirement on NGG to have in place an information strategy, this must include a description of how NGG takes stakeholders’ views into account and how it will continue to do so.”

- 121 As the value of information provision to stakeholders is recognised and the delivery of it becomes further mandated during the RIIO-T1 period, this will need to be funded accordingly.

TIER 4 – European commitments

European legislative changes – European Network Code development

- 122 We are involved at each stage of the development process (scoping, framework guideline development, drafting, ACER evaluation and comitology) through involvement with ENTSO-E/G, directly with Ofgem and DECC and through engagement with GB stakeholders. The process is as follows:
- 123 **Scoping:** This stage sees the EC, ACER and the relevant ENTSO working together to determine the high level strategy for the framework guidelines and subsequent Network Codes. Detailed work also commences within ENTSO-E/G at this time to ensure the Association is well placed to feed into ACER’s development of the framework guidelines and prepared to deliver high standard Network Codes upon invitation. During such scoping discussions, we need to actively contribute to ensure the principles identified for development are appropriate from a GB perspective.
- 124 **Framework guideline development:** This six-month process led by ACER will identify the detailed principles which each Network Code will follow. Each individual framework guideline may result in more than one Network Code (for instance the Capacity Allocation and Congestion Management framework guideline will result in two Network Codes). During this stage, we will feed in directly via discussions with Ofgem and through ENTSO-E/G for the formal consultation phase.
- 125 **Network Code development process:** This stage sees the most intensive resource requirement for us. Over the allocated 12 months, it can be split into five phases: a drafting phase, an initial (ENTSO-E) approval phase, a public consultation phase, a redrafting phase and a final (ENTSO-E) approval phase. An overview of our role in these activities is outlined below:
- (a) Contribute to the drafting of the Network Code with the aim of promoting the Internal Energy Market whilst being mindful of GB arrangements, influencing the direction of the Network Code drafting
 - (b) Provision of legal resource to ensure the Network Codes developed are legally sound
 - (c) Communication and explanation of the detail of the Network Code with GB stakeholders.

- (d) Detailed comparison of the technical requirements of the Network Code compared to the existing GB provisions, for the assistance of stakeholder awareness, understanding and consequential impact of the current GB arrangements.
- 126 Membership of the dedicated drafting teams is vital to ensure that we have the opportunity to adequately influence developments and facilitate as far as possible the delivery of arrangements which are appropriate in a GB context. The resource requirement associated with the drafting teams is considerable, e.g. a recent call from ENTSO-E for nominations for the Balancing Network Code drafting team identifies for each member a minimum time requirement of 20% (of their usual weekly hours) in advance of the official EC drafting invitation, 40% during the three months of initial drafting, and 25% for the remaining nine months. Experience with other more advanced Network Codes (for instance Requirements for Generators) would suggest significantly more time will in fact be required by the individuals who sit on these drafting teams. In addition to the time spent within ENTSO-E, work is required to fully assess and articulate the potential GB impacts and position, as well as engage extensively with our GB stakeholders in an open, transparent and regular manner.
- 127 Beyond the drafting team it is vital that we are represented at all levels of the ENTSO-E/G governance structure. This ensures that where escalation is required to further influence developments we are well placed to do so effectively. It is important that we are involved in their development to the fullest extent as these will supersede our GB codes. Consideration of the application of those European network codes to GB codes will be required to give legal effect to a coherent GB regulatory framework.
- 128 **ACER evaluation and comitology:** These stages will require ongoing input from us through both ENTSO-E/G and at a direct GB level through DECC. We envisage our role will be to help GB stakeholders feed in to this process as illustrated by elements of the JESG role, where issues are captured and logged on an ongoing basis. In partnership with ENTSO-E/G we continue to engage directly with ACER and the EC to ensure the development of the codes is consistent with their vision.
- 129 The manner in which changes to the Network Codes will be managed once they are legally binding is currently under consideration by ACER. As changes to the GB framework have demonstrated, the process to be followed in order to make changes will be vital to ensure their ongoing effectiveness and we envisage an ongoing resource requirement in this area.
- 130 The development of new Network Codes and the modification of existing Network Codes will continue across the RIIO-T1 period, requiring continued detailed engagement by ourselves.

GB Network Code development – translation phase

- 131 Once such codes have been adopted by the EU Commission it is then expected that we will transpose these arrangements (as appropriate) into domestic commercial codes and ancillary documents such as the UNC, BSC, CUSC, Grid Code, STC, safety related documents (safety cases) and various methodology statements. This is supplementary to the underlying workload that is undertaken by the code development teams in their respective codes.
- 132 We continue to work closely with Ofgem considering how to apply the codes in GB - a significant piece of work, raising significant challenges. Given the different nature of each Code there is not a one-size fits all approach that can be adopted and the strategy for each Code will need to be considered on a code by code basis.

- 133 We will be required to take a leading role on the identification and development of necessary GB code changes in conjunction with Ofgem and the wider industry. Our staff will be heavily involved in explaining EU developments both internally and to the wider industry. Once these changes are understood then we will be required to work with the industry to implement the required domestic commercial contract changes (network codes and associated documents) and changes to the operation (processes / procedures / systems / safety cases etc) of the regime. The work associated with this task will continue to increase as further ENC's move into the comitology phase.

Implementation Phase

- 134 The final phase of European driven work is to understand and implement changes to our own processes and the systems that the industry and our stakeholders depend on.
- 135 Any such changes are a further driver of increasing volumes of work for our staff. An example of the workload involved within implementing these changes can be illustrated through our recent work to introduce the system phases of NTS Exit Capacity Reform. Whilst this change was led through changes to GB frameworks it illustrates the size of the challenge of implementing significant industry changes. This implementation project was related to a single aspect of the UNC (NTS Exit Capacity) and as such could be considered to be smaller than a single ENC currently under development. It took three years to complete and involved the creation, review, challenge and amendment of over 7,000 pages of IS system development requirements, as well as User Acceptance Testing, the revision/creation of processes/procedures and training etc.
- 136 Further European changes will require us to; liaise with our service providers to explain the business change, understand the impact on any EU common platforms; and undertake training for both internal and external stakeholders.

Further European workload drivers

- 137 As well as the major workload increase that we will have to manage over the RIIO-T1 period from the adherence to the ENC's, we will also need to undertake other tasks that are directly derived from the Third Package such as creation of Regional Investment plans and creating the European wide Ten Year Network Development Plan (TYNDP). These work streams are further supplemented by other European led work such as REMIT.
- 138 The full impact of the REMIT regulation and the associated MIFID regulation is not yet known but it is likely to require extensive reporting of trades to ACER and the publication of quantities of new data. It is also possible that NG will be required to collate and publish data on behalf of other GB market participants.