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Akshay Kaul
Director of Network Price Controls
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Dear Mr. Kaul,

I am writing on behalf of PPL Corporation ("PPL"), the ultimate parent of the four Western Power Distribution ("WPD") electricity distribution network operators ("DNOs"), in response to Ofgem's RIIO-2 Sector Specific Methodology Consultation. While the current consultation does not apply to electricity distribution, PPL recognizes that certain technical aspects and calculations used in the current consultation could apply to subsequent sector specific framework decisions. PPL, therefore, welcomes the opportunity to express our views on a range of key issues that we see as critical to the application of the RIIO-2 framework, as well as provide feedback we are hearing from our equity investors. In a separate document, WPD is comprehensively responding to the consultation questions and expressing its views, as the network operator, on the range of issues raised in the consultation.

PPL's Response to Ofgem's RIIO-2 Sector Specific Methodology Consultation

It is crucial that the RIIO-2 sector methodology that is ultimately implemented attracts and sustains the investor financing necessary to fund the initiatives that will deliver consumer desired outputs and government driven electrification initiatives. If the parameters set forth in the current sector consultation were to be implemented in RIIO-ED2, we and our investors believe they would be insufficient to warrant us investing the quantum of capital required to deliver appropriate customer outputs or drive the electrification goals of the country. Therefore, we are providing our views on the following topics which we deem to be essential in achieving these objectives.

Cost of Debt

We support Ofgem's proposal to retain full indexation for setting cost of debt allowances provided the mechanism for each sector is well calibrated to recover prudent and efficiently issued debt financing costs. Companies should not experience significant swings in equity

returns as the result of over/under performance of debt recovery. Unfortunately, this has been an issue for WPD in RIIO-ED1. WPD's fast-track cost of debt allowance, based on the 10-year trailing iBoxx index, is expected to result in a significant under-recovery of interest costs by approximately £175 - £240 million, which is a clear disadvantage compared to the slow-track companies that have allowances based on a better calibrated 20-year trombone indexation mechanism.

In addition, we believe it is important to include the over/under recovery of debt costs in the return on regulated equity ("RoRE") calculation, as the effectiveness of the interest recovery mechanism can materially impact returns to equity investors. It is misleading to exclude these impacts when discussing earned RoREs and, consequently, this should be corrected in RIIO-2.

Lastly, the currently proposed changes in regulation could stress the credit quality of the sectors and therefore, Ofgem should be mindful of the weightings they use between the iBoxx non-financials A and non-financials BBB bond indices – with greater weighting to the BBB index.

Cost of Equity

We agree with the decision Ofgem made in the RIIO-2 Framework decision to use the Capital Asset Pricing Model ("CAPM") as the basis for estimating the cost of equity. However, we also agree with the UKRN Study's assessment "that the cost of capital estimation process requires regulators to make judgements that may go beyond a simple application of finance theory and data"¹. We, therefore, encourage Ofgem to be measured in its calculations of the component parts of the formula. The cost of equity is a forward-looking concept and must appropriately capture all measures of risk borne by investors. For example, equity betas across all sectors are calculated using historical data from the same handful of companies, which are predominantly water companies, thereby assuming that the nature of the infrastructure investment is of commensurate risk across the different sectors. Additionally, the reliance on historical data assumes that there has been no change to either the risk profile of the subsector or investors risk perceptions of the regulation. Therefore, Ofgem needs to continue to consult widely on all CAPM parameters and be aware of sector specific risks (such as the complexity of investment, the rapidly changing electricity sector and technological advancements), and any increases to the volatility of returns being introduced by Ofgem's proposals (such as indexing the cost of equity and/or implementing return adjustment mechanisms). It is critical that Ofgem's base allowed cost of equity and targeted RoRE ranges provide adequate risk adjusted compensation to attract the sector-required equity investment needed to meet consumer needs.

If Ofgem is going to set base equity returns using spot negative real risk-free rates, then we believe Ofgem's proposal to index the cost of equity to 'the risk-free rate only' is needed. We agree with using a duration of 20 years for the risk-free rate but have concerns with setting the risk-free rate for the following financial year using just the monthly average for October. Relying on the average of a single month utilizes a small sample size, which could be materially

¹ UKRN (2018), "Estimating the cost of capital for implementation of price controls by UK Regulators"

impacted by short-term market disruptions. We believe Ofgem should consider setting the risk-free rate using a larger sample size and, more importantly, incorporate a year-end true-up mechanism to the actual annual average risk-free rate.

We agree with Ofgem's assessment that the best objective measure of investors' Total Market Return ("TMR") expectations is long-run historical averages. As stock price returns are very volatile, it is best to have many years of data included in the long-run historical average to reduce the standard error as much as possible. Previous ranges cited (100+ years) suggested a real TMR range of 6.5% - 7.5% on a Retail Price Index ("RPI") basis, which equates to a 9.5% - 10.5% nominal TMR. However, Ofgem's working assumption for the TMR is now only 6.25% - 6.75% in Consumer Price Index Housing ("CPIH") terms (or 8.25% - 8.75% nominal) which understates long-run historical averages. When relying on long-term data updated through 2018, the real equity return arithmetic average of 7.2%² is above Ofgem's working assumption (even more so when adjusting this average to a CPIH basis) and, therefore, Ofgem's proposed TMR should be adjusted upwards.

We believe Ofgem should provide the all-in indicative RoRE ranges that it is targeting under the RIIO-2 proposals. It is imperative that debt and equity investors have clarity on the reward and penalty incentives that Ofgem is proposing in addition to the base equity return. An asymmetrical RoRE range skewed to the downside reduces the predictability of returns and will increase regulatory risk to a level of risk not currently captured in the allowed cost of equity.

Expected Returns vs Allowed Returns

Ofgem has proposed to set allowed equity returns at the bottom of its expected return on equity range, 50-basis points below the midpoint, to reflect its view that investors expect some degree of outperformance. Ofgem is the only U.K. regulator to propose such an adjustment to the allowed return and we believe that it is not needed in a well-designed price control determination. The point of performance-based ratemaking is to incentivize innovation, efficiency and consumer desired outputs, which ultimately lower costs in the long-run. Including some level of assumed out-performance in the base allowed returns runs contrary to this as it is no longer an incentive. Additionally, making an arbitrary adjustment based on possible outperformance from previous regulatory periods is inappropriate as the proposals for RIIO-2 fundamentally change the regulation so much that historical outperformance is not a predictor of future performance. Moreover, none of the methodologies for closing out the existing RIIO-1 price controls have been consulted on and, consequently, RIIO-1 returns cannot be systematically evaluated to derive such an adjustment.

Inflation

It is our opinion that RPI has been an effective measure of inflation in RIIO-ED1 but Ofgem has expressed a desire to move to CPIH. We see the following practical limitations to using CPIH:

² Elroy Dimson, Paul Marsh, Mike Staunton (2019), *Credit Suisse Global Investment Returns Yearbook 2019*

1. There are no reliable forecasts for long-term CPIH; and
2. Ofgem's working assumption is to assume that CPIH is equivalent to the Consumer Price Index ("CPI") thereby effectively setting the real cost of debt and equity using CPI. Figure 1, on page 5 of the "RIIO-2 Sector Specific Methodology Annex: Finance", shows that this is not always the case and sometimes differs materially. If the intention is to inflate RAV at actual CPIH, this creates a disconnect between the real cost of capital allowances and the inflation of RAV, which would prevent recovery of a true nominal return.

Using CPI instead of CPIH as the measure of inflation to index the RAV and calculate real allowed returns would address these limitations and also obviate the need for a CPIH wedge. Therefore, we agree with the 2018 UKRN study's recommendation that for as long as the Bank of England is using CPI as its measure of inflation, regulators should be consistent and use CPI for its target setting³.

If Ofgem ultimately decides to use CPIH and that an RPI-CPIH wedge mechanism is needed, then we believe a true-up mechanism is necessary as, without one, the expected wedge could potentially be materially wrong. Truing up the wedge to actual CPIH could be included in the annual iteration process ("AIP") and would be consistent with the way nominal revenues are calculated.

Additionally, regardless of the measure of inflation Ofgem selects, the same approach should be used when calculating allowances and inflating RAV. A mix of forecasted and actual inflation would prevent recovery of a true nominal return. Consequently, if just allowances are set using forecasted inflation, true-up mechanisms should be implemented.

Lastly, Ofgem previously stated that any switch from RPI to CPI/CPIH would be done in a manner that is net present value ("NPV") neutral to both consumers and investors. However, Ofgem's current proposal of a one-off point-in-time switch from RPI to CPIH has not been evidenced to be NPV neutral. In fact, the Moody's report "Credit quality likely to weaken in RIIO-GD2 regulatory period", dated February 14, 2019, considers the current proposals likely to be NPV negative. If a switch is made from RPI to CPI/CPIH Ofgem must provide definitive evidence that it is NPV neutral.

Incentives

A hallmark of the U.K. regulatory model is setting revenues using incentives and penalties to deliver innovation and outputs that create long-term value for consumers. RIIO-2 should build on the success of RIIO-1, which incentivizes better performance by companies that is consistent

³ UKRN (2018), "Estimating the cost of capital for implementation of price controls by UK Regulators"

with what stakeholders want. Stakeholder engagement needs to continue to be a critical component of the process in determining what stakeholders want from the companies and what they are willing to pay for. Furthermore, the incentive scheme in RIIO-2, which we will opine on in more detail during the RIIO-ED2 consultations, should enable frontier performers to earn strong RoREs for that frontier performance.

Financeability

Ofgem has a statutory duty to ensure the financeability of the energy network licensees. Ofgem has proposed (1) putting the onus on companies to address financeability issues or (2) introducing a cashflow floor to provide assurance to bondholders that debt costs would be met. Ofgem's suggestion is that companies deal with this issue themselves by restricting dividends, requiring equity injections, limiting additional debt issuances and payments to related parties or adjusting the depreciation and capitalization rates if necessary. Consequently, the more onus Ofgem puts on the companies to address financeability, the higher the risk is to the equity holder and, therefore, this incremental risk should be reflected in the allowed cost of equity. Finally, we believe financeability should be the cross-check Ofgem uses to determine that allowed revenues are appropriate and if RIIO-2 is properly designed, a cashflow floor would not be needed.

Equity Investor Feedback

We regularly review current regulatory and political developments for each of our jurisdictions with our global investor base as part of our ongoing stakeholder engagement. Our investors make it clear to us that their investment decisions are informed by the quality and stability of regulatory jurisdictions, future investment opportunities, and the ability to earn adequate returns on those investments. The market has expressed its concerns with the RIIO-2 process generally and with the current sector consultation, specifically. This is evident in the stock performance of companies regulated by Ofgem since the current review was initiated and following Ofgem's release of, and the stakeholder call regarding, the sector specific methodology. Our investors have voiced concerns directly to us regarding this consultation on multiple fronts – specifically the potential to earn adequate returns for the risk associated with the investment required to support and enable the future development of the U.K.'s changing electricity infrastructure.

While Ofgem has stated that the gas and electricity transmission consultation should not be read-across to RIIO-ED2, that has not been the interpretation by our investors based on the dialogue we've had with them and is also evidenced by the impact on PPL's share price at the time of its publication. PPL lost approximately \$1.5 billion in equity market value following the release of the consultation document on December 18, 2018. We received direct feedback over the days following from multiple top utility sector investors who manage a combined total of more than one trillion dollars of equity assets. Through our communications with them, it is clear they believe Ofgem will be significantly increasing the risk profile of electricity distribution companies if the proposed framework were to carry through to RIIO-ED2 and that the current

proposals would not adequately compensate for their investment. We have received direct requests to shift investment from the U.K. to the U.S.; however, we have no intention to alter our plans for investment in the U.K. during RIIO-ED1 and will deliver on our commitments, as we have always done. We will strongly consider our level of investment once the framework for RIIO-ED2 is proposed. It unfortunately seems clear that Ofgem's actions are increasing the perceived risk of investing in the U.K.

In conclusion, we believe there will be significantly more capital required in RIIO-ED2 compared to ED1 to support the U.K.'s road to zero and other electrification initiatives. PPL and WPD are eager to support these initiatives and be on the forefront of transforming the U.K. energy networks. However, this level of change brings with it additional risks and, therefore, RIIO-ED2 needs to be structured to sufficiently incentivize the DNOs to deploy that additional capital and adequately compensate them for doing so. The proposed returns contemplated in the current consultation for transmission and gas would not accomplish this.

We look forward to continuing to engage with you regarding RIIO-2 to achieve the best overall outcome for all stakeholders.

Sincerely,

A handwritten signature in black ink, appearing to read 'W H Spence', written in a cursive style.

William H. Spence
PPL Chairman, President and CEO