Heywood Interconnector Upgrade

Comments on PTRM Modelling

18 March 2014

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The following information is provided in response to the email request from the AER of 14 March 2014 seeking any final input regarding the AER's conclusions in relation to the PTRM modelling associated with the Heywood Interconnector Upgrade Contingent Project.

1. Capital Expenditure Forecast

The AER has concluded that the demolition of 132kV lines F1836 and F1837 should not form part of the Heywood Interconnect Upgrade Contingent Project.

ElectraNet disagrees with this view, and has provided evidence to demonstrate that the most efficient and prudent option from an economic and safety perspective is to remove the lines as part of the project, even under the deferred line decommissioning options considered in conjunction with the AER.

Notwithstanding this, as instructed by the AER, ElectraNet has applied an adjustment to the capital expenditure forecast to remove the line decommissioning costs of $18.62m ($2012-13) and associated risk allowance and project delivery costs of $2.2m ($2012-13). The following summary tables extracted from the updated PTRM (Attachment A) set out the as incurred and as commissioned capital expenditure amounts by year across the respective asset classes, incorporating these adjustments.

Table 1-1: As-incurred capex ($m 2012-13)[1]

Year	2013-14	2014-15	2015-16	2016-17	2017-18
Commercial Buildings	-	-	-	-	-
Communications - Civil	0.01	0.07	0.15	0.02	-
Communications - Other	0.18	1.00	2.19	0.23	-
Computers, software, and office machines	-	-	-	-	-
Easement	-	-	-	-	-
Land	-	-	-	-	-
Network Switching Centres	-	-	-	-	-
Office furniture, movable plant, and misc	-	-	-	-	-
Refurbishment	-	-	-	-	-
Substation Primary Plant	1.38	7.55	16.57	1.74	-
Substation Demountable Buildings	0.06	0.31	0.68	0.07	-
Substation Establishment	0.34	1.87	4.11	0.43	-
Substation Fences	0.04	0.21	0.46	0.05	-
Substation Secondary Systems - Electromechanical	-	-	-	-	-
Substation Secondary Systems - Electronic	0.19	1.06	2.32	0.24	-
Transmission lines - Overhead	0.08	0.45	0.98	0.10	-
Transmission lines - Underground	-	-	-	-	-
Working Capital	-	-	-	-	-
Accelerated Depreciation	-	-	-	-	-
Refurbishment Projects 2008-2013	-	-	-	-	-
Equity Raising Cost - 2003 Opening RAB and 2003-08 capex	-	-	-	-	-
Equity Raising Cost 2013-2018	-	-	-	-	-
Transmission Line Refit	-	-	-	-	-
Total	**2.28**	**12.52**	**27.46**	**2.89**	**-**

[1] Excluding equity raising costs

Table 1-2: As-commissioned capex ($m 2012-13)[2]

Year	2013-14	2014-15	2015-16	2016-17	2017-18
Commercial Buildings	-	-	-	-	-
Communications - Civil	-	-	-	0.26	-
Communications - Other	-	-	-	3.87	-
Computers, software, and office machines	-	-	-	-	-
Easement	-	-	-	-	-
Land	-	-	-	-	-
Network Switching Centres	-	-	-	-	-
Office furniture, movable plant, and misc	-	-	-	-	-
Refurbishment	-	-	-	-	-
Substation Primary Plant				29.30	-
Substation Demountable Buildings				1.20	-
Substation Establishment				7.26	-
Substation Fences				0.82	-
Substation Secondary Systems - Electromechanical	-	-	-	-	-
Substation Secondary Systems - Electronic				4.10	-
Transmission lines - Overhead				1.74	-
Transmission lines - Underground	-	-	-	-	-
Working Capital	-	-	-	-	-
Accelerated Depreciation	-	-	-	-	-
Refurbishment Projects 2008-2013	-	-	-	-	-
Equity Raising Cost - 2003 Opening RAB and 2003-08 capex	-	-	-	-	-
Equity Raising Cost 2013-2018	-	-	-	-	-
Transmission Line Refit	-	-	-	-	-
Total	**-**	**-**	**-**	**48.55**	**-**

In relation to the above summary tables, it is noted that:

- Real escalation had been omitted inadvertently from the as incurred capex inputs to the original contingent project PTRM. The inputs above have been adjusted to reflect the correct escalated as incurred values ($2012-13) contained in the Heywood Interconnector Upgrade capital cost model and Contingent Project Application[3].

- For simplicity, it had been assumed in the original PTRM that the line decommissioning capital expenditure across all asset classes followed the same profile as the overall project. However, the removal of the line decommissioning component of the project impacts principally on capital expenditure in 2016-17 and 2017-18 given the scheduled timing of these works, and the final component of the project is now scheduled for completion in July 2016[4]. The required reduction in the capex forecast has therefore been applied in the affected years

[2] Excluding equity raising costs

[3] Refer *Heywood Interconnector Upgrade Contingent Project Application*, December 2013, Page 13, Table 4-2: Capital Expenditure Forecast ($m 2012-13) totalling $66.0m.

[4] Refer *Heywood Interconnector Upgrade: Response to AER Information Request,* 24 January 2014, Page 7, Table 4-1: Key Timelines for the Heywood Interconnector Upgrade Project.

to the relevant asset classes, and the remaining categories have been re-profiled accordingly.

- The revised as commissioned capex reflects the removal of the line decommissioning component of the project, with the commissioning of the remaining assets associated with the project to occur 2016-17, consistent with the project timetable[5].

As a consequence of this proposed reduction in scope, the applicable date for the completion of the contingent project would be as follows:

- Anticipated date for completing the contingent project - 30 June 2017

The capital expenditure associated with the contingent project remains contained entirely within the current regulatory control period.

Table 1-3 below shows the consequent reduction in forecast capital expenditure based on the adjustments described above.

Table 1-3: Adjusted Capital Expenditure Forecast ($m 2012-13)[6]

	2013-14	2014-15	2015-16	2016-17	2017-18	Total
Capital Expenditure Requirement – original application	2.3	12.5	27.5	15.9	7.9	**66.0**
Removal of 132kV Line Decommissioning	-	-	-	(13.0)	(7.9)	**20.9**
Adjusted capital expenditure requirement	2.3	12.5	27.5	2.9	-	**45.1**

2. Operating Expenditure Forecast

2.1 Incremental Opex Maintenance

For the purposes of the operating expenditure forecast for the Heywood Interconnector Upgrade Contingent Project, a zero based (or bottom up) approach was used to determine the net impact of the project on routine maintenance requirements. The increase in maintenance requirements associated with the new assets to be commissioned was offset by the impact of the discontinued routine tasks associated with the assets to be removed from service.

The maintenance regime associated with the 132kV line assets is currently based on the assumption that the lines are to be removed from service in the current regulatory period, as per the outcomes of the RIT-T process, and as documented in ElectraNet's

[5] Refer *Heywood Interconnector Upgrade: Response to AER Information Request,* 24 January 2014, Page 7, Table 4-1: Key Timelines for the Heywood Interconnector Upgrade Project.

[6] Excluding equity raising costs

2012 Asset Management Plan[7]. This involves undertaking the minimum efficient maintenance possible on the line in the current regulatory control period prior to decommissioning and removal of the line.

The total expenditure associated with the routine maintenance tasks to be discontinued amounts to $11.5k ($2012-13) in 2017-18 as outlined in Table 2-1. Detailed modelling showing these routine maintenance activities associated with the 132kV lines was provided to the AER in ElectraNet's response to questions on 21 January 2014[8].

Table 2-1: Planned Routine Maintenance Activities – 132kV Lines ($m 2012-13)

Maintenance Activity	2017-18
Ground Based Inspection tasks	0.0115

The above amounts were deducted from the maintenance forecast contained in the Heywood Interconnector Upgrade Contingent Project application because are already being incurred as part of ElectraNet's maintenance regime, and no longer need to be incurred once the lines are removed from service[9].

In the options analysis associated with the Heywood Interconnector Upgrade RIT-T process, ElectraNet evaluated the operating expenditures required under various scenarios involving the ongoing retention of the 132kV lines. This analysis was updated for the purposes of the Contingent Project Application in response to an information request from the AER to consider deferred line decommissioning options.

This analysis is summarised in Table 2.2 below.

Table 2-2: Line Retention Scenarios – Operational Expenditure Requirements ($m 2012-13)

Scenario	2014-15	2015-16	2016-17	2017-18	Total
Retain Lines Indefinitely (2011 NPV Model)[10]	3.193	5.702	5.702	5.702	**20.3**
Deferred Decommissioning (5 years) (2014 NPV Model)[11]	-	-	0.823	0.786	**1.609**

As these costs are associated with the retention of the lines, these expenditures are not reflected in ElectraNet's current maintenance plans or the routine maintenance forecast approved by the AER in its 2013-2018 revenue determination. Incurring these

[7] Provided to the AER with ElectraNet's Revenue Proposal for 2013-2018

[8] Provided to the AER 21 January 2014, Attachment D – Routine Maintenance Impact HICI Final - CONFIDENTIAL

[9] Refer *Heywood Interconnector Upgrade: Response to AER Information Request,* 24 January 2014, p8.

[10] Refer Attachment B - ENet_Heywood Interconnector Upgrade_PV Analysis Network Project options_MDL_FINAL_CONFIDENTIAL submitted in response to AER information request on 31 January 2014

[11] Refer Attachment D - ENet_Heywood_Interconnector_Upgrade_PV_Analysis_Network_Project Options_CONFIDENTIAL submitted in response to AER information request on 26 February 2014

expenditures would clearly be inconsistent with ElectraNet's intention to remove the lines as part of the project. In each scenario above, the forecast operating expenditure requirement associated with full decommissioning was zero.

This starting position is also consistent with the AER's assumption that the removal of the lines forms a component of the project as proposed by ElectraNet.

The maintenance forecast as submitted in the Heywood Interconnector Upgrade Contingent Project application therefore fully accounts for the removal of all routine maintenance costs associated with the 132kV lines identified for decommissioning, and no further adjustment is required.

2.2 Monitoring and Inspection Regime

The AER has concluded that as a preferred alternative to the proposed decommissioning of the 132kV lines, a line monitoring regime involving periodic inspections and patrols should be instituted. To fund this program, additional maintenance expenditures of $0.33m in 2016-17 and $0.03m in 2017-18 ($2012-13) have been identified.

However, ElectraNet notes that if the lines are to be maintained, a number of high priority corrective maintenance activities will also need to be undertaken during the current regulatory period to address immediate known issues which impact on the safety and mechanical integrity of the lines. It has only been possible to defer addressing these known risks given that the lines were scheduled for removal in the current regulatory period. Detailed information on these existing asset defects that need to be addressed if the lines are not to be removed can be provided on request.

The monitoring and inspection regime proposed by the AER can only be safely implemented if these known risks are addressed.

The high priority corrective maintenance forecast for the 132kV lines to address these risks is detailed in Attachment B, based on information already supplied to the AER[12]. A summary of estimated costs to resolve each type of high priority defect is included in the revised opex forecast contained in Table 2-3 below.

2.3 Growth Factor Adjustment

To determine the impact of the Heywood Interconnector Upgrade Contingent Project on forecast opex in the current regulatory period, ElectraNet applied the AER opex model adopted in ElectraNet's 2013-18 revenue determination.

ElectraNet notes that the removal of asset growth factors from the Heywood corrective and operational refurbishment forecast as proposed by the AER would be inconsistent with this approved approach. The AER's opex model applies asset growth to all operating expenditure categories. Consequently, the opex forecast for the contingent project will have been determined on a different basis to ElectraNet's opex allowance for the 2013-18 regulatory period.

[12] Refer Attachment C - ENet_F1836_F1837_Maint costs_Revised 20Feb2014_CONFIDENTIAL submitted in response to AER information request on 26 February 2014

Notwithstanding this, as instructed by the AER, ElectraNet has adjusted the operating expenditure forecast to reflect zero asset growth in relation to corrective and operational refurbishment maintenance. This will have the impact of reducing corrective maintenance expenditure by $0.363m ($2012-13) and operational refurbishment expenditure by $0.209m ($2012-13) during the current regulatory period, resulting in a total reduction of $0.572m ($2012-13). These adjustments are included in Table 2-3 below.

2.4 Adjusted Opex Forecast

The original opex forecast and adjusted opex forecast is set out in Table 2-3 below, incorporating the adjustments discussed above:

Table 2-3: Adjusted Operating Expenditure Forecast ($m 2012-13)

	2013-14	2014-15	2015-16	2016-17	2017-18	Total
Original Opex Forecast			**0.00**	**0.76**	**0.76**	**1.55**
Growth Factor Adjustment				(0.285)	(0.287)	**(0.572)**
Line Monitoring & Inspection Regime	-	-	-	0.330	0.030	**0.360**
Corrective Maintenance • Safety	-	-	-	0.204	0.204	**0.408**
Corrective Maintenance • Mechanical Integrity	-	-	-	0.025	0.025	**0.050**
Corrective Maintenance • Access	-	-	-	0.040	0.040	**0.080**
Adjusted Opex Forecast	**-**	**-**	**-**	**1.074**	**0.772**	**1.846**

For completeness, it is noted that nominal operating expenditure values (totalling $1.62m) were inadvertently inputted into the original PTRM which accompanied the application. The revisions above have been applied to the correct values ($2012-13) contained in the Heywood Interconnect Upgrade Contingent Project Application (totalling $1.55m)[13].

The revised opex forecast above has been applied in the final PTRM contained in Attachment A.

[13] Refer *Heywood Interconnector Upgrade Contingent Project Application*, December 2013, Page 15, Table 5-1: Incremental Operating Expenditure ($m 2012-13) totalling $1.55m.

3. Revenue Forecast

The summary table below shows the updated revenue forecast for the Heywood Interconnector Upgrade Contingent Project based on adjustments to the capital and operating expenditure forecasts described above.

The revised PTRM accompanying this modelling is included with this response as Attachment A.

Table 3-1: Updated annual building block revenue requirement ($m nominal)

	2013-14	2014-15	2015-16	2016-17	2017-18	Total
AER annual building block revenue requirement	268.1	291.3	319.0	345.2	359.4	1,583.0
Heywood incremental revenue requirement – original application	-	0.2	0.9	3.4	5.7	10.1
Heywood incremental revenue requirement – Updated forecast	**-**	**0.2**	**0.9**	**3.7**	**5.3**	**10.0**
Updated annual revenue requirement (unsmoothed)	268.1	291.5	319.8	348.9	364.7	1,592.9

4. List of Attachments

The following attachments accompany this response. These are commercially confidential where indicated.

Attachment A Updated PTRM incorporating adjustments to capex and opex forecasts

Attachment B Corrective maintenance expenditure forecast for the 132kV lines - CONFIDENTIAL