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Dear Chris

October Update - Comparing quality of supply performance

Following your meeting with Paul Hemsley and Mike Green last week, we thought it might be helpful to follow up with a letter setting out our concerns about disaggregation and benchmarks. We also considered that this was preferable to enclosing such detailed comments in our public response to the October Update document.

As you know, we support the work that has been carried out on disaggregation, it will be a useful tool in understanding gaps between the DNO's performance and how these might be closed, when it has more data. However, we are very concerned at how this work is being used currently, in particular in arriving at benchmarks for the Forecast Business Plan Questionnaire – Quality of Supply Scenario. Ofgem claim that this work will enable them to "compare performance at a more disaggregated level". We are not at all confident that this is robust yet and we explain our views below.

Low voltage

We support using initial CI benchmarks based on each company's current level of performance. However, to use the national CML/CI level of performance to arrive at the CML benchmark, and bearing in mind that LV networks can not practically be disaggregated, the current process takes no account of SEPD's Consac issue (also relevant to one or two other DNOs). To illustrate the importance of the issue, 19% of SEPD's LV network is Consac cable yet it accounts for 51% of faults. This issue about 'response CML/CI' is compounded by the fact that our Consac networks generally have no interconnection.

The national benchmark CML/CI is 196, and SEPD's ratio is 200 i.e. at the benchmark. We estimate that SEPD's response on non-Consac faults is 140 CML/CI, and this is supported by our performance in SHEPD's area, which has identical management focus and processes, which is also 140 CML/CI and frontier. This infers that the response on Consac is c. 350 CML/CI.

However, in SEPD's case poor response performance for Consac faults does not reflect frontier operational management focus. Consac often faults several times before the fault becomes permanent, enabling the location of the fault to be positively identified. Obviously replacing all Consac cable is both uneconomic and unnecessary. Instead, as Consac cables develop faults we overlay not only the faulty section of cable but we will also extend the overlay as necessary if we assess that the surrounding cable is also likely to fault in a similar way.

There is clearly an additional cost in repairing Consac faults, for example all work on Consac cable involves excavation and subsequent reinstatement. This factor, in addition to the lack of interconnection results in restoration performance considerably worse that the benchmark. It is therefore not sufficient just to allow the extra cost of replacement, but it is also necessary to allow for extended response times. In our estimate the SEPD LV benchmark should be around 29 CML not 18.9 CML.

<u>High voltage</u>

Ofgem's CI benchmarks are based on:

- average circuit length – DNO own value;
- customers per circuit – national average;
- average faults per km – national average;
- average customers per fault relative to customers per circuit – national average.

The Update document states that for each DNO, performance can be shown as actual performance relative to its benchmark. The assumption made is that by taking into account DNOs own circuit groupings associated with numbers for customers per circuit, circuit length and percentage overhead line, allowance has been made for inherited and inherent network characteristics. The document claims that this method of disaggregation provides a more robust method for comparing quality of supply performance across all the DNOs.

However, in our view it is important to emphasise that the remaining "gap" may be due to inefficient performance and/or network investment. This is particularly relevant to SEPD, where such differences in performance require potentially significant investment e.g. installing additional primary substations to sectionalise the network and installing additional protection, to get to the HV benchmark. The gap is demonstrably not an operational performance issue, but is driven by CI/fault which requires significant network investment. In addition, SEPD's good performance regarding overhead fault rates masks the real problems of the tree density in proximity to overhead lines and, perversely, has actually resulted in a tougher benchmark. We illustrate these points below.

We have attached at Appendix 1 and 2, for SEPD and SHEPD, the data extracted from Ofgem's disaggregation work. Analysing the variances from the average (zero), this can be interpreted as follows:

Characteristic	**Type of circuit**	**SEPD**	**SHEPD**
Circuit length	Underground	Average	Marginally shorter
	Mixed	Marginally longer	Marginally shorter
	Overhead	Generally shorter	Some much longer
Customers per circuit	Underground	Average	Marginally less dense
	Mixed	Marginally denser	Generally less dense
	Overhead	Marginally denser	Less dense
Faults per km.	Underground	Marginally worse	Mixed
	Mixed	Better	Much better
	Overhead	Much better	Much better
CI per fault	Underground	Average	Mixed
	Mixed	Much worse	Better
	Overhead	Much worse	Much better
Response (CML/CI)	Underground	Average	Mixed
	Mixed	Much better	Better
	Overhead	Much better	Much better

It can be seen from the Table that SSE's response performance is good (CML/CI), in fact upper quartile. It can also be seen that SSE's network management focus is good (fault rate) again upper quartile. Showing both SEPD and SHEPD data together, demonstrates that SSE uses consistent processes across both territories i.e. supporting evidence that SEPD is operationally efficient.

However, it can also clearly be seen that the disaggregation work has identified that SEPD has a problem with CI per fault in mixed and overhead network groups i.e. the number of customers affected by each incident. In our view, we have demonstrated that SEPD is operationally a good performer. The observed negative CI/ fault is due to the inherited topography, particularly the network layout variations within a group of circuits. For example, in many parts of the SEPD region where there has been high economic growth. as urban catchment areas expand into rural areas the numbers of customers connected further down circuits increases. This development means that reasonably dense communities are supplied by a predominantly rural network, with large numbers of customers connected mid-way or towards the ends of radial circuits. There can therefore be significant differences in the numbers of customers affected by an incident for circuits placed within the same group. The "gap" between actual performance and benchmark can only be addressed by investment to reduce customers per circuit i.e. install more circuits, or sectionalisation/additional protection of circuits.

The table below identifies the percentage of DNO's customers that are connected to the more challenging mixed circuits. SEPD can be seen to be disadvantaged.

	EPN	Hydro	Manweb	ScotP	Southern	SWales	SWest	UU	YEDL
MA2A	4%	2%	1%	4%	7%	4%	3%	4%	2%
MA2B	3%	0%	4%	1%	4%	2%	1%	4%	4%
MB2A	4%	2%	1%	4%	4%	5%	1%	4%	3%
MB2B	3%	0%	3%	1%	4%	4%	0%	3%	5%
MC2A	5%	4%	1%	3%	4%	3%	3%	2%	3%
MC2B	5%	0%	1%	2%	4%	2%	5%	2%	4%
otal Customers	23%	7%	10%	13%	27%	19%	13%	20%	20%

There are two additional issues with HV disaggregation which in our view still need to be addressed:

- tree density. The Table above shows that SEPD is a good performer on overhead fault rates. Yet SEPD is one of the most densely wooded regions (as Ofgem demonstrated in the October 2002 Storms Determinations), and tree cutting is creating an increasing negative public reaction. This implies that SEPD’s overhead performance must be frontier (this will be partly due to the sound investment made in BLX). As discussed regarding Consac above, it is not sufficient simply to allow the extra costs of tree cutting, although this is important. Without adjusting/disaggregating for density of tree cover, we believe that SEPD’s benchmark has been prejudiced. For example, had we reduced our tree cutting in past years, and allowed fault rates rise to the national average, we would have saved money and at the same time set an easier benchmark;

- missing data for substation faults in 2002/03. Ofgem are aware of this issue, however we estimate that the effect is to tighten SEPDs benchmarks (by 2.0 CIs and 0.69 CMLs) and SHEPDs benchmarks (by 1.4 CIs and 0.50 CMLs).

In conclusion, we have tried to demonstrate above that SEPD has a densely wooded territory, has a difficult mix of HV layouts, has a significant Consac issue and missing HV substation data. In the benchmarking, these issues are further masked by our good tree trimming performance, by the benefit from BLX installed and by good response performance. We believe the benchmarks as currently arrived at are therefore inaccurate and penalising us. We also believe they are unrealistic in that they will necessitate potentially large amounts of capex to meet.

We would welcome your comments, in the meantime if you would like to discuss any of the above please call.

Rob McDonald
Director of Regulation

HV Disaggregation

SEPD

	Circuits		Customers		CIs		CMLs		Variance					
	No	%	No	%	No	%	No	%	Length	Density	Flt Rate	CI/inc	Duration	Total
UG1A	938	32%	224915	8%	42319	3%	3.05E+06	3%	0	1	0	-2	-1	-2
UG1B	122	4%	174064	6%	34006	2%	2.51E+06	2%	0	0	0	-1	-2	-1
UG2A	570	20%	574518	21%	180087	11%	1.30E+07	11%	0	0	2	-2	-1	-1
UG2B	208	7%	560953	21%	211931	13%	1.34E+07	11%	0	1	-1	2	-2	1
MA1A	48	2%	21113	1%	10573	1%	4.62E+05	0%	2	2	2	0	-15	-10
MA1B	46	2%	70707	3%	37754	2%	2.07E+06	2%	2	1	1	2	-7	-1
MA2A	126	4%	186485	7%	118507	7%	6.80E+06	6%	2	-2	0	0	-13	-13
MA2B	31	1%	100236	4%	138276	9%	6.37E+06	5%	-5	3	35	4	-22	15
MB1A	66	2%	26157	1%	10087	1%	7.64E+05	1%	4	3	-17	-9	-3	-23
MB1B	24	1%	37513	1%	26880	2%	1.80E+06	1%	0	1	-4	17	-11	3
MB2A	87	3%	116412	4%	123111	8%	7.98E+06	7%	1	-6	-8	21	-15	-7
MB2B	37	1%	103861	4%	121217	7%	8.66E+06	7%	3	7	-9	25	-8	18
MC1A	50	2%	11962	0%	10304	1%	8.05E+05	1%	1	-15	-51	62	-35	-38
MC1B	72	2%	79207	3%	56851	3%	4.34E+06	4%	3	3	-29	12	-13	-24
MC2A	121	4%	115967	4%	154178	9%	1.39E+07	12%	-9	2	-19	33	-15	-7
MC2B	52	2%	111782	4%	129569	8%	9.69E+06	8%	-2	11	-16	12	-11	-6
OH1A	74	3%	15773	1%	15982	1%	1.62E+06	1%	-24	-22	-67	84	-22	-51
OH1B	148	5%	113994	4%	108603	7%	1.24E+07	10%	7	5	-43	25	4	-2
OH2A	12	0%	7143	0%	12388	1%	1.11E+06	1%	-13	-59	-36	143	-51	-17
OH2B	47	2%	53833	2%	53618	3%	5.88E+06	5%	-2	6	-41	10	9	-18
OH3A	1	0%	98	0%	0	0%	0.00E+00	0%	14	166	-118	-118	-118	-173
OH3B	12	0%	18157	1%	29859	2%	3.91E+06	3%	-41	-28	-8	94	54	72
Total	2892	100%	2724850	100%	1626100	100%	1.21E+08	100%						

HV Disaggregation

SHEPD

	Circuits		Customers		CIs		CMLs		Variance					
	No	%	No	%	No	%	No	%	Length	Density	Flt Rate	CI/inc	Duration	Total
UG1A	543	36%	174004	26%	22056	6%	1.41E+06	5%	0	-3	-4	2	-3	-8
UG1B	36	2%	45280	7%	3755	1%	2.80E+05	1%	0	2	-6	-4	-1	-10
UG2A	136	9%	104909	16%	28182	8%	1.70E+06	6%	-2	5	-2	-4	-5	-8
UG2B	3	0%	6855	1%	4656	1%	3.40E+05	1%	-21	8	25	12	3	26
MA1A	48	3%	25739	4%	9122	3%	6.26E+05	2%	-2	-4	4	-2	-4	-7
MA1B	13	1%	16451	2%	1927	1%	8.76E+04	0%	0	4	-9	-13	-7	-25
MA2A	10	1%	12115	2%	10067	3%	5.28E+05	2%	-9	7	14	0	-18	-6
MA2B	0	0%	0	0%	0	0%	0.00E+00	0%	0	0	0	0	0	
MB1A	41	3%	20494	3%	9398	3%	7.45E+05	2%	-2	-7	5	-10	-2	-16
MB1B	5	0%	6538	1%	1237	0%	1.34E+05	0%	-7	8	-52	18	10	-24
MB2A	13	1%	11441	2%	2860	1%	1.85E+05	1%	-8	15	-21	-37	-9	-59
MB2B	0	0%	0	0%	0	0%	0.00E+00	0%	0	0	0	0	0	
MC1A	46	3%	10407	2%	4493	1%	4.56E+05	1%	0	-8	-33	-12	-9	-61
MC1B	24	2%	18409	3%	10695	3%	9.36E+05	3%	-5	27	-35	-11	-3	-28
MC2A	38	3%	24825	4%	21200	6%	1.70E+06	6%	13	40	-36	-53	-23	-58
MC2B	1	0%	1717	0%	5375	1%	3.85E+05	1%	56	52	26	23	-26	131
OH1A	266	18%	43480	6%	52079	15%	4.71E+06	15%	24	13	-27	-20	-36	-45
OH1B	69	5%	41523	6%	26658	7%	2.03E+06	7%	6	24	-23	-40	-28	-62
OH2A	87	6%	30206	5%	39213	11%	3.67E+06	12%	1	30	-19	-26	-35	-50
OH2B	15	1%	15827	2%	13029	4%	1.18E+06	4%	-1	13	-25	-28	-11	-53
OH3A	100	7%	40381	6%	63024	18%	7.28E+06	24%	-2	23	-14	-7	7	7
OH3B	20	1%	19292	3%	29439	8%	2.34E+06	8%	-1	40	-10	-25	-27	-23
Total	1514	100%	669893	100%	358465	100%	3.07E+07	100%						