RenewableNI response to Cluster Methodology Review

Introduction

RenewableNI (RNI) is the voice for the renewable electricity industry. Through the development of policy, best practice and public communications, we represent those engaged in wind, solar and battery storage development. Our members make up a large majority of the renewable industry supply chain in Northern Ireland.

RNI welcomes the opportunity to respond to the Utility Regulator (UR) consultation paper on a cluster methodology review.

NI Policy Context

The UK Government has set in legislation a requirement for a 'net zero' economy by 2050. As the leader in decarbonisation, the power sector will have to achieve zero-carbon first, with heat and transport expected to significantly electricity as the main way of cutting emissions. The International Energy Agency has stated that all advanced economies must achieve zero carbon power by 2035[1] and the UK Government has made a commitment to achieve this[2].

The Climate Change (Northern Ireland) Act set a legislative minimum requirement for the achievement of 80% of electricity consumption from renewable sources by 2030 (80 by 30). Latest figures published by the Department for the Economy (DfE) show that 45.5% of our electricity consumption in Northern Ireland was from renewable sources in the 12 month period to June 2023. However, taking account of anticipated increases in demand, a doubling of renewable electricity capacity will be needed to meet the 80 by 30 obligation.

RNI contends that SONI and NIE Networks must plan for zero carbon power and working backwards from this, and should recognise that 2030 is only a staging post and not the end goal.

[1] Pg 20, *Net Zero by 2050*
[2] https://www.gov.uk/government/news/plans-unveiled-to-decarbonise-uk-power-system-by-2035

Existing Cluster Matters

Standardisation of Capacity Allocation

RNI does not agree with NIE Networks' recommendation to standardise capacity allocation, which would lead to a 90MVA transformer being regarded as having a generation capacity of 85.5MW, based on operating power factor of 0.95 at generation sites.

Whilst it is correct to apply 0.95 power factor at generator sites this does not translate to 0.95 power factor being realized at the cluster transformer site as MVArs are gained or lost along the interconnection circuits and MWs lost depending on circuit characteristics and operating conditions. Taking this approach may lead to capacity underutilisation of the cluster transformer. An appropriate approach is to determine the generation capacity based on a load flow study which would more accurately predict the impact of generator sites 0.95 operating power factor. We therefore see no need for need for this.

The capacity allocated to a cluster should be based on a load flow study, which allocates the right MVAs based on actual networks losses or gains of MVArs and network losses of MWs.

Cluster Designation

RNI has always agreed with planning permission being linked as a requirement in the connection offer process. However, given that clusters can take up to 8 years to develop, designating a cluster only after planning has been achieved can result in generators having multiple years of development time. We therefore propose that consideration be made to facilitate where possible earlier designation of a cluster based on generator projects that have commenced EIA process, with a lower weighting factor.

Where a sufficiently large number of projects in EIA process exist, this could be a strong case to support the designation of cluster earlier. This could be facilitated by NIE Networks creating a database that had information including which developers are conducting EIA's, location of new generation, project sizes, and so on. This could provide early indication to NIE Networks on the requirement for new clusters and assist with system and resource planning within both NIE Networks and SONI. This data could be collected from renewable developers and should be strictly confidential.

We appreciate the concern of UR and NIE Networks to strike the right balance between the need to commerce cluster development as early as possible and exposing NI consumer to risk of funding stranded assets. However, experience thus far with clusters is that their development does not start

early enough, such that the earliest generation projects are subject to long connection timescales of circa 8 years.

The fact that RNI now regularly provides NIE Networks with pipeline data is a step in the right direction and therefore we would propose that the cluster methodology formally incorporates how at least generation projects that have commenced EIA process are utilised as an early signal in cluster designation. NIE Networks should have sufficient intelligence to make ahead of time investments in least regrets projects and therefore minimise the risk to consumers whilst facilitating the achievement of the 80% by 2030 requirement for renewable generation.

Timing

RNI agrees with UR comments that the timing provision should be clear. The current timing provision is complex and difficult to implement.

Whilst appreciating the reason for a designated cluster to survive the exit of a generation party so that generators remaining in the cluster are not affected, it is unclear why the option to exit a cluster is only available to the first in the queue. There are instances where the first in queue generator finds cluster timescales acceptable, whilst the next in queue finds such timescales unworkable.

Technical Assessment -Geographic Extend of a Cluster

RNI has no concerns on the proposals regarding the geographic extent of the cluster and support the update to reflect the new 15km to be used as a guideline only.

Definitions

RNI has no concerns with the proposed revisions of or new definitions in the NIE Networks Cluster Methodology Review Recommendations paper date 22/09/2023.

Rebate

RNI has previously highlighted the need for legislation to allow for a rebate for those who fund a second transformer when other developers connect. There should be consistency with regard to charging irrespective of whether it relates to the connection of a first transformer or a second/third transformer. We suggest that the UR consults with DfE on the necessary regulatory changes required to facilitate rebating.

Future Cluster Matters

Drivers and Benefits of Change

RNI agrees with NIE Networks' recommendation that the connection of large customers to existing cluster infrastructure is in line with NIE Networks duty to "develop and maintain an efficient, coordinated and economical system of electricity distribution". We contend that this would not create an additional burden to NI consumer in terms of cost. In fact, bypassing constructed cluster infrastructure to connect new demand would be less efficient and less economic to consumers.

Demand Security of Supply Requirements

Agree with NIE Networks recommendation to issue a consultation to update EREC P2 to stop treating the demand element of electricity storage as normal demand subject to normal demand security requirements. Like generation connections below a certain threshold, storage not be should be subject mandatory security requirements, but instead the developer should be allowed to opt for their chosen security level, subject to their commercial considerations.

Network and Large Customer Demand Connection Charges

RNI is supportive of the proposed changes to the SOCC to accommodate demand connections and networks reinforcements to a cluster. These changes will require large demand customers to pay for their connection assets and any infrastructure required to comply with the security standards. The changes will also facilitate network reinforcement where required to use existing cluster infrastructure as platform and be funded as usual.

The proposals by NIE Networks to NIE Networks to

- charge large demand customers connection at clusters for their connection assets, including any infrastructure required to provide security of supply in line with EREC P2 and TSSPS;
- recover costs of network reinforcement projects which use existing cluster infrastructure, through use of system charges; and
- charge generators seeking to connect at clusters according to the cluster charging methodology,

are in line with current charging methodology.

The use of constructed cluster infrastructure for demand connection would result in less additional infrastructure being built thus is more efficient and economic.

Demand at Clusters – Technical considerations

RNI agrees that as cluster substation is primarily to facilitate renewable generation the 33kV busbar voltage at clusters should not necessarily be changed to facilitate demand connection.

Transmission/Distribution Interactions

The UR seeks comments on the NIE Networks acknowledgement that proposed connections, which are not funded by connecting customer would need to be funded to SONI by a TNPP and NIE Networks via the D5 processes, both of which would be subject to approval by UR. It is RNI's understanding that the charging mechanism is not being changed under this consultation and as such only network reinforcements are expected to be subject to this funding arrangement. The benefits of demand customers or system reinforcements being connected to developed on the back of (respectively) clusters (efficiency and economy) would not be negated by this approach.

Cluster Innovation

As noted in the RNI response to NIE Networks Cluster Methodology Review Consultation 09/2022, clusters of the future will need to be designed to cater for larger size generators and maintaining 90MVA transformer size will likely be inefficient- recommend dropping the standardisation of cluster capacity to 90MVA.

As noted elsewhere standardising the capacity allocation based on 0.95 power factor is counter innovative and the capacity allocated to a cluster must be based on a load flow study, which allocates the right MVAs based on actual networks losses or gains of MVArs and network losses of MWs.

We would urge the consideration of incorporating dynamic line ratings and managed overloading of transformers in their approach to design of clusters.