ENA Position Statement on SAIFI calculation

Background

On 28 August, ENA convened a teleconference to attempt to determine an ENA consensus position on:

1. how best to determine a consistent definition of an interruption for the purposes of calculating SAIFI;

2. a pragmatic pathway for achieving consistent collection of SAIFI information and setting targets for DPP3.

We did not discuss what the Commission should do about historical SAIFI for ID and DPP Compliance purposes.

The outcome of those discussions is captured in this document.

What constitutes an interruption?

Firstly, ENA Members recognised that the real question is what is an interruption that matters to consumers? For example, if a consumer experiences an outage, followed by a short period of restoration and then a subsequent outage during a staged restoration, at what point does the length of temporary restoration and subsequent additional interruption become a meaningful cost/inconvenience to a consumer.

ENA Members recognised that they do not have any quality data or research on what matters, except to recognise that:

1. For rural communities, there is often an understanding that following an initial outage there may be periods of on and off-supply as fault-finding and repair work is undertaken, such that multiple interruptions with brief periods of supply are an accepted part of rural life. There is not likely to be material cost/inconvenience associated with the fact of multiple interruptions – it is the overall duration of the outage that matters and the fact that an outage event has occurred. Multi-interruption outage events more frequently impact on rural communities, because there is less opportunity for back-feed.

2. For commercial/industrial customers, the initial interruption which disrupts a production process, is a costly interruption because the process will need to be reset. Such customers will get in touch with their network company to confirm likely time of permanent restoration. Accordingly, short periods of restoration and further periods of off-supply during fault-finding and repair work are irrelevant, or far less impactful than the initial outage to such commercial customers.

In short, for many customers, the costs associated with the initial interruption are greater than for subsequent interruptions during an outage event.

Despite that, ENA Members agreed that for the purpose of determining a recordable interruption, an additional interruption could be counted when supply is restored for more than one minute. We discussed whether the IEEE Standard of five minutes was more appropriate, and there are some operational reasons why it may be more appropriate, but ultimately because more ENA Members are currently applying a one minute or greater supply as the basis for identifying further interruptions, this was a more practical outcome. Because this is not based on consumer considerations, we emphasize that this is simply an arbitrary definition.

A key point made by EDBs attending the teleconference was that as long as there is consistency between the reference dataset and the assessment methodology the choice of supply restoration duration would have limited materiality.

Whilst Members agreed that if multiple interruptions are to be recorded in an outage event, then a one-minute restoration period is acceptable, but a number of Members continue to hold the view that a single count methodology should be a preferred policy position. A single count methodology avoids any incentive to consider SAIFI- SAIDI trade-offs, which may occur if an EDB is experiencing relatively worse SAIFI performance compared to SAIDI when compared with the reliability limits. It was felt that this incentive would probably not operate that frequently, nevertheless it is a consideration. Because SAIFI is proposed not to be subject to the incentive scheme, this would further limit the potential for perverse outcomes, where an EDB is discouraged from restoring customers in order to avoid increasing interruption count.

Accordingly, we think that a proper consultation process, including the involvement of consumers and their representatives, would be required to determine the most appropriate method to define an interruption.

Pathway forward

ENA Members discussed their individual abilities to recalculate historical data. There are two dimensions to this:

1. The ability to count interruptions multiple times; and

2. The ability to disclose a full set of information on a stage-by-stage basis, rather than as a single outage event, with the aggregated multi-interruption count in the recorded SAIFI for the event.

We determined that there are a very wide range of capabilities across these two dimensions, and that this can vary over time as EDBs have adopted new recording systems (e.g., from paper records to electronic databases, system changes etc):

1. Some Members do not have data to recalculate SAIFI on a multi-count methodology at all. However, in some cases Members currently consider a restored supply to be a period longer than 1 minute, while some consider this to be a period longer than 5 minutes;

2. Some Members do not have data to recalculate SAIFI on a multi-count methodology for part of the historical period and/or cannot provide separate lines for each stage of an outage event;

3. Some Members can, in principle, count SAIFI on a multi-count basis, but this would require a manual process to document from paper-based records the interruption count, which would be a very lengthy process, with associated significant costs;

4. Some Members can recalculate SAIFI for part of the period based on a one-minute restoration period with relative ease because the information is contained in electronic databases that contain all the information necessary to calculate SAIFI on a line-by-line basis. But this may not be for the full period going back to 2004 or 2009.

We requested that all our Members complete the following table, so the Commission understands the complete state of data and availability. It is attached at the end of this statement.

From that data context, we concluded the following:

1. All ENA Members identified that from 1 April 2020 they could begin collecting SAIFI information on a multi-count basis with a one-minute standard for restoration;

2. We recommend the following approach to setting SAIFI limits for DPP3:

    a. For those EDBs that can readily move to the multi-count approach DPP3 targets are set based on that data, because it can be extracted and audited from existing databases (there may be some limitations on the data (e.g., ability to provide each stage of an outage separately)); and

    b. For those EDBs that either are unable to calculate historical datasets based on a multi-count methodology or could only calculate revised information (in full or in part) at considerable cost and time due to records being paper-based, the Commission sets targets for DPP3 based on their historical SAIFI measurement approach. DPP compliance assessments are based on the historical methodology, but these EDBs must provide information disclosures on the multi-count approach.

Although this results in an inconsistent approach across EDBs during the DPP3 period, it retains a consistent data approach between targets and performance assessment while the industry transitions to a consistent approach. A fully consistent approach will be adopted from the start of DPP4, with targets based on the consistent information collected in information disclosures during DPP3.

We did consider whether the Commission should set all EDB's SAIFI limits based on a multi-count methodology based on a percentage uplift to the historic single-count methodology. The uplift could be based on an analysis of the impact of the change in methodology for EDBs that are able to provide both sets of data. This is not recommended as the effect will be idiosyncratic to each EDB depending on network configurations (extent of reclosers and sectionalisers), and proportion of rural versus urban feeders. We are advised that for one of our Members the average effect is 2% increase in SAIFI, whereas another is at 14%. Adopting a standardised uplift to historic single-count data to set targets would give rise to significant risk of false positives or negatives in SAIFI compared to the approach that we propose.

At DPP4, an uplift approach would become a more realistic approach, even if using 10 years of historical data for the reference dataset, because the Commission would have four years of data on which an uplift relevant to each EDB could be calculated to apply to 2015-2020 data.

END

30 August 2019