URP Logistics

2023 Intentions of How URP Files Will Be Utilized

At the request of the MN PUC DGWG, a workgroup was formed to discuss the logistics of utilizing Utility Required Profiles once IEEE 1547-2018 capable inverters are "readily available." This document captures the group consensus of logistical topics discussed during three meetings in the spring of 2023. Meeting dates occurred on April 20, 2023, May 4, 2023, and May 18, 2023 from 8 AM – 9 AM.

A Utility Required Profile (URP) is a settings file that identifies functional settings applied to a DER. The industry stakeholders along with EPRI have been working to create a comma-separated variables (.CSV) format with parameters naming conventions that align with IEEE 1547.1. In short, a utility would publish a Utility Required Profile – Specified Settings (URP-SS) file that DER installers would use to program their DER system. Once the DER has been programmed appropriately, the DER installers would provide a Utility Required Profile – Applied Settings (URP-AS) file to the utility for confirmation of functionality settings of the DER.

Common Abbreviations:

URP – *Utility Required Profile*
URP-SS – *Utility Required Profile – Specified Settings (Utility required settings)*
URP-AS – *Utility Required Profile – Applied Settings (file with settings that were actually installed in DER)*
DU-URP – *Distribution Utility Required Profile that is the standard default setting files to be used for the majority of DER interconnections. May also be referred to as DU-URP-SS.*
IA-URP – *Utility Required Profile that is specific to an individual DER interconnection. May also be referred to as IA-URP-SS.*
TIIR – *Technical Interconnection & Interoperability Requirements.*
TSM – *Technical Specification Manual*

What format will Otter Tail Power provide their URP-SS?

Otter Tail Power will publicly provide their URP-SS file in .CSV format as recommended by EPRI and industry stakeholders.

Will Otter Tail Power have one published URP?

Otter Tail Power will have one primary URP-SS settings file publicly available to download for Minnesota interconnections. This primary URP-SS is also referred to as the DU-URP. This URP-SS will cover the significant majority of DER installations.

How will Otter Tail Power publicly share their URPs?

Otter Tail Power will have one primary DU-URP settings file publicly available to download from our DER interconnection web page on their website. The functional settings in the URP will also be listed in their TSM.

Will Otter Tail Power have a published URP that vary on location of DER interconnection?

At this time, Otter Tail Power does not plan to have location-based URP-SS, though locational URPs may be discussed again in the future. Any single DER interconnection that would require a variation from the primary URP-SS will have the functional settings requirements identified during the engineering review/ study phase in the interconnection process and documented in the Interconnection Agreement.

How and when will Otter Tail Power notify Interconnection Customers/Applicant Agents if a "site-specific" URP is required?

Site-specific functional setting requirements, also referred to as IA-URP-SS, will be communicated to the Interconnection Customer and Applicant Agent after the engineering review/study phase and documented in the Interconnection Agreement.

In highly constrained areas, will all applications end up having IA-URPs?

Otter Tail Power may require a site-specific IA-URP, which will be identified during the engineering review/study phase and also be documented in Interconnection Agreement. This will be rare for residential systems, even in highly constrained areas.

What is required to be provided back to Otter Tail Power as documentation of proper programing of Utility Required functional settings?

Prior to the witness test, DER installers will return a URP-Applied Settings (URP-AS) file to Otter Tail Power with the Certification of Completion.

What format will the URP-AS file be provided back to Otter Tail Power?

Otter Tail Power will require the URP-AS file be submitted in the .CSV format proposed by EPRI and industry stakeholders. A screen shot of the inverter serial number when in the programming software should also be included with the .CSV file.

For the interim period before inverter manufactures are able to output an URP-AS .CSV file, the installers will need to manually enter the setting in a .CSV format for the URP-AS file. This opens the opportunity for errors. To limit human errors, the workgroup is hopeful that a factory configuration file that matches MN TIIR Annex E could be installed as common programming in the inverters.

What if a DER system has multiple inverters? Are multiple URP-AS files required to be submitted to Otter Tail Power for the same DER system?

DER installers will return a single URP-AS .CSV file to Otter Tail Power, as it is logical that all inverters or system controllers will be programmed the same. This concept may need to be revisited in the future once the development of ESS standards is more defined.

How often will Otter Tail Power DU-URPs be changed?

Otter Tail Power plan to annually review their current TSM. If the TSM has changes that affect the functional settings of proposed DER systems, the DU-URP-SS will be changed. Otter Tail Power does not desire to have modifications to the DU-URP on an annual basis.

Do existing DER systems need to provide URP-AS file?

Under the current TIIR, existing installed DER systems do not need to provide their Utility a URP-AS file. If the existing DER system has changes or modifications in the future, per TIIR Section 14.5, re-verification of DER system is required when inverters have been replaced or modified and operating modes change. It is to the betterment of both parties (Utility and Interconnection Customer) to use updated settings if the new inverter has the capabilities. Otter Tail Power will request upon inverter replacement a URP-AS file be sent to them.

Why is Otter Tail Power requiring the URP-AS file be returned in the .CSV file format if not all inverters can provide an export in that file type as of yet?

It streamlines the review of the Applied Settings functionality settings for Otter Tail Power if the URP-AS file is returned in the .CSV format. The .CSV format also enables that all parties are using a common language when indicating what functional settings were programmed.

When will inverters be able to import/export a URP settings file?

The best indication the workgroup has is that some inverter manufactures can provide the import/export capability today and many other manufactures are working on the feature. The import/ export feature might require re-certification of the device which adds time before the import/export feature is widely available from manufactures.

Could the communication interface from IEEE 1547-2018, IEEE 1547.1-2020 be used for URP-AS verification process?

Today, Otter Tail Power is not requiring direct communications into all DER systems. Some larger DER systems do have utility require communications install per Utility TSMs, but the communication requirement is not in place for residential DER systems. Utilities are still in discussion of how to use communications interface for all DER systems if a Utility's DERMS system is implemented. Until such time further communication requirements are implemented in Otter Tail Power TSM, the communications interface would not supersede the needs for a URP-AS file to be provided to Otter Tail Power.

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