

Distributed Resource Planning Portal, a key PUC requirement for the Utility Companies to give DRP portal access to the public Investing in Renewable Energy and Non Wired Alternatives

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SUMMARY

This Paper is presented to educate the Utility audience on the importance of Distributed Resource Planning which is abbreviated as DRP in the rest of the paper. DRP is becoming a key requirement from PUCs(Public Utility Commission) for Utilities to give access to DRP information for small and medium business investing into Renewable and Non Wired Alternatives to have a look at the Grid capacity and have renewable energy installed by closely working with Power Generation, Distribution, and Transmission companies.

Hosting capacity details such as Load, Generation, and Photo Voltaic hosting capacity along with Grid Needs Assessment and Location Net Benefit analysis data when given access to small and medium businesses promoting Renewable and Non Traditional way generating power could reduce cost and promote clean energy working along with the Utility officials.

This paper will give best methods to build such a portal with highest standards of security and administration that could control what to publish and what not to publish before public access is given to the data. Audience will learn best architecture to be followed to build such portals and finer details to consider when a Utility organization build such a portal as a prerequisite from PUCs.

KEYWORDS

DRP, PUC, GHC, LHC, GNA, LNBA, PHC

About the Paper

The Paper Titled “ Distributed Resource Plan Portal a key requirement from PUC for the Power Companies” was selected by the author for the CIGRE 2020 conference as the author thinks many power companies whether they are regulated or deregulated companies, it is critical these organizations should expose their hosting capacity details so that small business and other renewable energy business organization could encourage alternate energy sources such as Solar and Wind Energy promoting clean energy and reducing carbon foot print while generating the power. This also allows consumers to pay less for the power and reducing the cost of producing energy. Consumers can also have net meters installed to differentiate what was consumed through traditional means and what was consumed through nontraditional power generation. PUC may not want all power companies to have the portal as a mandatory requirement for example in Nevada State any Power Company that generates revenue more than 2.5 Million USD need to have a portal showing Hosting Capacity, Generation Capacity, Photo Voltaic Capacity details. Power companies in Nevada State should also need to show Grid Needs Assessment and Location Net Benefit Analysis for small to mid-size business companies investing in Non Wired Alternatives (*Non-wires alternatives (NWAs) are electric utility system investments and operating practices that can defer or replace the need for specific transmission and/or distribution projects, at lower total resource cost, by reliably reducing transmission congestion or distribution system constraints at times of maximum demand in specific grid areas. Transmission-related NWAs are also known as non-transmission alternatives (NTAs). They can be identified through least-cost planning and action, one geographic area at a time, for managing electricity supply and demand using all means available and necessary, including demand response, distributed generation (DG), energy efficiency, electricity and thermal storage, load management, and rate design*) to look at the Grid Capacity and have the renewable energy installed by working with Power Companies closely and using some of the distributed and transmission feeder lines load data or capacity data.

Utility Regulation Trends [1]

Utility Regulation Trends are critical to DRP success. Let us look at top 10 trends as published by AEE.

- ❖ **Renewables Dominating Utility Resource Plans**
- ❖ **Re-thinking the Utility Business Model**
- ❖ **Distribution System Planning for Distributed Resources**
- ❖ **Non-Wires Alternatives to Traditional Utility Investments**
- ❖ **Wildfire Liability Challenging California Utilities**
- ❖ **Increasing Access to Renewable Energy**
- ❖ **Community Choice Aggregation**
- ❖ **Strategies to Electrify Transportation**
- ❖ **Grid Modernization Investments for DER and Large-Scale Renewables**
- ❖ **Net Metering and Valuing DER**

DRP Portal Sites

Though there are few Utility Power Companies who have launched DRP portal sites successfully, the author recommends the audience to take a look at PG &E and NV Energy DRP sites portal sites as they have been built very thoughtfully showing Hosting Load Capacity , Generation Hosting Capacity and Photo Voltaic Hosting Capacity along with Location Net Benefit Analysis and Grid Need Assessments for 3 years and 6 year forecast data that could be downloadable in PDF format from respective portal sites of PG&E and Nevada Power. This would interest business to invest and leverage the utility infrastructure provided by the power companies. Examples such as the portal showing where is abundant opportunity for solar company to install solar panels and help producing more energy that could be supplied back to power company by residential and business customers charging the power company back. The power company also becomes beneficial having surplus energy that could be redistributed to places where the load is already at its full capacity and no more load is available to meet the demands of new DRP projects coming in those areas. The links to PG&E and NV Energy are below for the audience to register and start exploring the way these portals are built with rich information that helps business to achieve more with technology.[3]

1. https://www.pge.com/en_US/for-our-business-partners/distribution-resource-planning/distribution-resource-planning-data-portal.page?ctx=large-business
2. <https://drp.nvenergy.com/DRPWebMap/index.html>

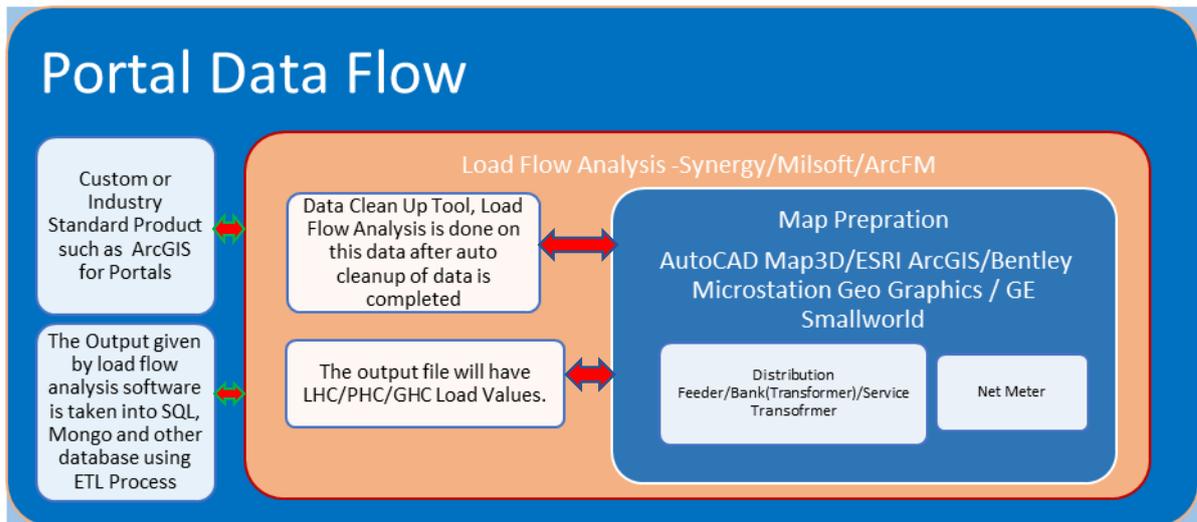
Restricted Information

It is very important when this type of portal is built what to expose and what not to expose to businesses and common public viewing this data on a regular basis. The concern here is, the PUC allows anyone to register to the portal site and view the data. The best way to overcome is, to have a strong administrative module for the portal app where power company can authenticate whether to publish the Distribution and Transmission feeder data, service lines, and service transformers onto external portal or not. Some of the examples of restricted regions are,

1. Army and Naval base.
2. Important Government Buildings that are federal and state regulated.
3. Major Substations
4. Major Transformers
5. Major Research Centers and Scientific Labs

Portal Development

It is very important to know various stages of data preparation that goes into Distributed Resource Plan. Below is the architecture for data flow,

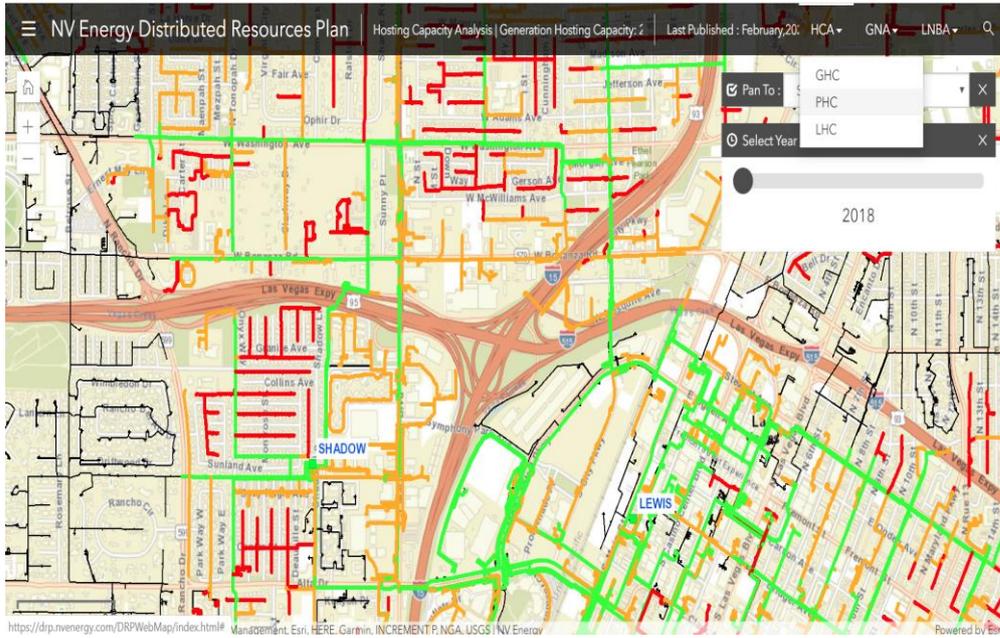


DRP Key Features

DRP key feature includes,

1. Security Features
2. Publishing Features
3. Downloadable Features such as downloading the LNBA and GHC, PHC, and LHC data for Feeder originating from the BANK(Transformer) located at a Substation.
4. Hosting Capacity Features
5. Generation Capacity Features
6. 3 Year Plan and 6 years forecast data
7. Photo Voltaic Load Features
8. Location Net Benefit Features
9. Grid Needs Assessment Features

A sample portal view is given below for the readers to know how the portal looks showing feeder data,[\[2\]](#)



Access Nevada State Guidelines if you are operating out of NEVADA state



[PUC Guidelines1.pdf](#)

Conclusion

The Author concludes that this paper will help other Utilities in their DRP portal development work that requires the utility company to show their Feeders, Banks, Service Transformers, hosting capacity load, and have downloadable documents for businesses to look at the load capacity and do appropriate investments establishing renewable alternatives to make both grid and customers of Grid highly beneficial and pay less than what is charged by Utilities today.

BIBLIOGRAPHY

The author used following reference in this paper that are public available in respective sites mentioned in the URL.

[1] <https://blog.aee.net/top-10-utility-regulation-trends-of-2019-so-far> {Available Online and Accessed 08-09-2020}- Utility Trends

[2] <https://drp.nvenergy.com/DRPWebMap/index.html>

Published by NV Energy in May 2020 for Public Preview and Access- Login and Registration Required

[3] https://www.pge.com/en_US/for-our-business-partners/distribution-resource-planning/distribution-resource-planning-data-portal.page?ctx=large-business

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