# Database Fields for Incorporating Demand Response into Portfolio Analysis - DRAFT

This is a proposal of a set of data that will be collected about existing, proposed and pilot demand response projects to enable these projects to be incorporated into portfolio analysis and other power system models. Please note we may not be able to get all these data for each type of demand response. The focus of this proposal is to come up with a list of reasonably comprehensive fields for a demand response database. The ability to model DR will be in-part based on the availability of these data.

This database is not intended to cover all Demand-Side Management. It is specifically aimed at demand that responds to a signal from a control center either at a utility or third-party. It is also not intended to capture historical use of DR, e.g. for adjusting loads. This is intended for use in forecast models.

The fields are listed as follows:

* Field Name\* - (Units) Description (Cross-reference with existing data)

The underline indicates a cross-referenced field and the asterisk indicates that seasonal values should be given when available.

Please submit any comments or concerns regarding this draft to Ben Kujala ([bkujala@nwcouncil.org](mailto:bkujala@nwcouncil.org)) by March 28th for consideration.

We are proposing the following fields for a PNDRP demand response database:

Initial Costs:

* Capital Cost - ($ per MW) Upfront cost to implement program
* Incremental Purchase Size - (MW) Size of the increments that must be purchased
* Max Available Capacity - (MW) The amount of capacity available for purchase

Program Definitions:

* Resource Life - (Years) Life span of the equipment
* Program Type - One of the following: Direct Load Control, Interruptible Load, Critical Peak Pricing with Load Control, *Load as a Capacity Resource*, Spinning Reserves, Non-spinning Reserves, Emergency Demand Response, Regulation, Demand Bidding & Buy Back, *Time-of-Use*, Critical Peak Pricing, Real-Time Pricing, Peak-Time Rebate, System Peak Response Tariff. Not the italicized items likely fall outside the scope of this database. (FERC-731, NERC DADS)
* Expected Opt-out Percentage\* - (%) Percentage of load expected to opt-out of a noticed event, zero if opting-out is not an option
* Forced Outage Rate\* - (%) Probability of load being unable to respond or unavailable
* Automated Response - (TRUE or FALSE) Is the DR response automated
* Aggregated Demand Resource - (TRUE or FALSE) Is the DR provided by an aggregator (NERC DADS)
* Dispatchable - (TRUE or FALSE) Demand-side management resource that is curtailed according to a signal from a System Operator (NERC DADS)

Program Costs:

* Capacity Payment Rate ($/kW-month) - For capacity programs only, enter the amount, in dollars per kilowatt-month, that participating customers are paid. If multiple rates are paid, enter the average payment rate for all capacity covered by the program. If not a capacity program, leave blank. (FERC-731)
* Energy Payment for MWh Curtailed ($/MWh) - Enter the amount, in whole dollars per MWh, that participating wholesale customers are paid for each MWh curtailed. If payments are not based on MWh curtailed, leave blank. (FERC-731)

Event Attributes:

* Potential Peak Reduction\* (MW) - Provide the potential peak reduction in megawatts attributable to the group of customers in this program/tariff. For utilities, this is the sum of potential demand reduction capability achieved by the program participants at the time of their annual peak load. (FERC-731)
* Minimum Reduction\* - (MW) Estimated minimum response of load decrease (FERC-731)
* Maximum Reduction\* - (MW) Estimated maximum response of load decrease
* Minimum Increase\* - (MW) Estimated minimum response of load increase
* Maximum Increase\* - (MW) Estimated maximum response of load increase
* Maximum Duration of Event - (Hours) Maximum number of hours DR can be deployed or 24 for programs without a maximum (FERC-731)
* Minimum Duration of Event - (Hours) Minimum deployment of DR for a event or zero if there is no minimum requirement (FERC-731)
* Required Advanced Deployment Notice - (Hours) Advanced notice required for an event or zero if notice not required (Response Time in FERC-731)
* Energy Payback Multiplier - (%) The percent of energy payback expected, zero if there is not an increase in energy usage after the event ends
* Specific Event Limits - Enter the maximum number of times a program participant can be called on to reduce energy consumption per year. If not applicable, leave blank (FERC-731)