DER-VET Task Force

ESIC Working Group 1: Grid Services and Analysis

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Software Update

Key to text coloring:

- green text is work that is ready to be published (in the next update)
- blue text is on-going work that should be ready for the next update
- red text is work that may may not be a part of the next update

DER-VET Software Update (Recap of completed work I)

- *Latest Available Version: v1.2.2 (updated July 11th, 2022)*

- Completed Bugs and Features ready for the next update:
  - Improved Reliability Sizing module
    - Defines a better window for checking infeasibility (includes a 72-hour continuous period)
    - Fixes the size of non-ESS DERs first and then iterates on ESS sizing
  - Avoid a post-optimization error when different construction-years are specified
  - Auxiliary load is not getting included in the Net Load results
  - Proper setting of the binary parameter in the GUI
  - The GUI disallows a negative decommissioning cost
  - GUI 1-minute frequency cases will fail
  - Results files incorrectly show percent values as fractions of 1
  - External Incentives in the GUI should apply to the Start Year, if called for

- *We expect to release an update ASAP!*

DER-VET Software Update (Recap of completed work II)

- *Latest Available Version: v1.2.2 (updated July 11th, 2022)*

- Completed Bugs and Features ready for the next update:
  - Selecting a non User-Defined Analysis Horizon Mode will fail in the GUI
  - Update the Storagevet README file with install instructions seen in the DER-VET README
  - Add validation tests on pre-defined use cases
  - Revenue from RA, DR, & other services should grow each year after the optimization year
  - Disallow negative DA energy prices when sizing any technology in the GUI (DER-VET CLI will provide a strong warning but will run)
  - Cost vs. Benefit by Value Stream GUI plot fails to render Stacked Benefits in some cases

- *We expect to release an update ASAP!*

DER-VET Software Update (Current Issues)

- Known Bugs and Features currently being worked on:
  - POI Constraints are buggy
    - Using the max_export and max_import parameters will work but the resulting constraint is off by a factor of 2 – now fixed
    - (Related) The minimum-discharge and maximum-charge constraints set in the Resource-Adequacy and Demand-Response Services are broken – now fixed
    - User Services constraints are broken
      - They do not consider generation from Intermittent Resources – now fixed
    - More tests are being written to ensure these constraints are reliable and accurate
  - Optimization errors with multiple batteries
  - DR service should be compatible with other services
  - Controllable Load Technology cannot be saved in the GUI (and is incomplete)