

# Support for NYISO Capacity Accreditation Project

Eduardo Ibanez, Ph.D.; Mitch Bringolf, Wes Hall

GE Energy consulting



Goal: Support the NYISO in the selection of the technique used to determine the capacity credit or capacity value for different resources types, using GE MARS

Today we will provide an overview of two proposed sensitivities:

- NYISO Level of Excess (LOE)
- NYISO 2022 RNA for model year 2030



The first proposed sensitivity will perform the capacity value calculations using the LOE database

In layman's terms, the LOE database is very similar to the 2022 LCR database used to date, but has increased margins, which lead to a smaller base-case LOLE of 0.0548 days/year (instead of 0.10006)

The capacity value calculations will be performed for the same list of resource types and zones, as presented in previous presentations:

• We only plan to model the 50 MW and 100 MW cases, to cut down on total number of simulations

Both ELCC and MRI techniques will be used to calculate results



The second proposed sensitivity will use a version of the RNA database, to represent a "business-asusual" future scenario

The model used will be the 2022 1st pass Base Case for study year 2030, recently assembled by the NYISO Reliability Planning team

The capacity value calculations will be performed for the same list of resource types and zones, as presented in previous presentations:

• We only plan to model the 50 MW and 100 MW cases, to cut down on total number of simulations



The LOLE for the 2022 RNABase Case for study year 2030 is well below criteria

GE and NYISO propose applying the LCR optimizer to the case, to bring the case to criteria

The following steps will be taken in applying the LCR optimizer to study year 2030 of the 2022 RNA Base Case:

- Update peak loads based on the forecast used in the 2022 RNA Base Case
- Use list of units, EFORd, etc. in the 2022 RNABase Case to calculate zonal and system ICAP and UCAP
- Use current cost curves from the current IRMprocess

The LCR optimizer will modify the database and determine the optimal IRM and LCR values that yield the least-cost case at criteria





### 5/24/2022

Confidential. Not to be copied, reproduced, or distributed without prior approval.

#### CAUTION CONCERNING FORWARDLOOKING STATEMENTS:

This document contains "forward-looking statements" – that is, statements related to future events that bytheir nature address matters that are, to different degrees, uncertain. For details on the uncertainties that maycause our actual future results to be materially different than those expressed in our forward-looking statements, see http://www.ge.com/investor-relations/disclaimer-cautionconcerning-forwardlooking-statements as well as our annual reports on Form 10-Kand quarterly reports on Form 10-Q. We do not undertake to update our forwardlooking statements. This document also includes certain forward-looking projected financial information that is based on current estimates and forecasts. Actual results could differ materially. to total risk-weighted assets.]

### NON-GAAP FINANCIAL MEASURES:

In this document, we sometimes use information derived from consolidated financial data but not presented in our financial statements prepared in accordance with U.S. generally accepted accounting principles (GAAP). Certain of these data are considered "non-GAAP financial measures" under the U.S. Securities and Exchange Commission rules. These non-GAAP financial measures supplement our GAAP disclosures and should not be considered an alternative to the GAAP measure. The reasons we use these non-GAAP financial measures and the reconciliations to their most directly comparable GAAP financial measures are posted to the investor relations section of our website at www.ge.com. [We use non-GAAP financial measures including the following:

- Operating earnings and EPS, which is earnings from continuing operations excluding non-service-related pension costs of our principal pension plans.
- GE Industrial operating & Vertical earnings and EPS, which is operating earnings of our industrial businesses and the GEC apital businesses that we expect to retain.
- GE Industrial & Verticals revenues, which is revenue of our industrial businesses and the GE Capital businesses that we expect to retain.
- Industrial segment organic revenue, which is the sum of revenue from all of our industrial segments less the effects of acquisitions/dispositions and currency exchange.
- Industrial segment organic operating profit, which is the sum of segment profit from all of our industrial segments less the effects of acquisitions/dispositions and currency exchange.
- Industrial cash flows from operating activities (Industrial CFOA), which is GE's cash flow from operating activities excluding dividends received from GECapital.
- Capital ending net investment (ENI), excluding liquidity, which is a measure we use to measure the size of our Capital segment.
- •GE Capital Tier 1 Common ratio estimate is a ratio of equity



## Additional slides



ELCC results for the 100 MW representative SCR unit added to the 2022 final LCR model

Representative SCR unit added to the existing SCR Emergency Operating Procedure (EOP), which has a 5 days per month call limit and no hourly run time limitation



ELCC results for the 100 MW representative SCR unit added to the 2022 final LCR model

Representative SCR unit added as a 4-hour energy-limited unit that can be called once per day, starting at 1 pm

• Not subject to the 5 days per month call limit

SCR results compared to the ELCC results of a 4hour energy-limited unit ("4-hour ELR") using the dynamic model





10

ELCC results for the 100 MW representative SCR unit added to an adjusted 2022 final LCR model

- Existing SCRs are modeled as 4-hour energylimited units that can be called once per day, starting at 1 pm
  - Not subject to the 5 days per month call limit
- LOLE lowered to 0.092 compared to the 0.10 LOLE of the unadjusted 2022 final LCR model

Representative SCR unit modeled the same as the existing SCRs

SCR results compared to the ELCC results of a 4-hour energy-limited unit ('4-hour ELR') using the dynamic model





ELCC results for the 100 MW representative SCR unit added to an adjusted 2022 final LCR model

- Existing SCRs are modeled as 4-hour energy-limited units that can be called once per day
  - SCRs in Zone F started at 12 pm
  - . SCRs in Zone J started at 2 pm
  - . SCRs in all other zones started at 1 pm
- LOLE lowered to 0.068 compared to the 0.10 LOLE of the unadjusted 2022 final LCR model

Representative SCR unit modeled the same as the existing SCRs

SCR results compared to the ELCC results of a 4-hour energy-limited unit ("4-hour ELR") using the dynamic model



