Electric Sector Modernization Plan: EDC Draft Proposed Structure

1.0 Executive Summary

- 1.1 Vision: Enabling a Just transition to a reliable and resilient clean energy future
- 1.2 Plan overview and alignment with the Clean Energy and Climate Plan
- 1.3 Service territory overview (customers, load, transmission, distribution, generation)
- 1.4 How our customers will experience the clean energy transition
- 1.5 5-year Electric Sector Modernization Plan Investment Summary

2.0 Compliance with the EDC requirements outlined in the 2022 Climate Act

3.0 Stakeholder Engagement

- 3.1 Customer outreach
- 3.2 EJC outreach
- 3.3 Stakeholder meetings and information exchange (incl. two technical sessions)
- 3.4 Stakeholder input and tracking
- 3.5 Key takeaways from stakeholder engagement

4.0 Current State of the Distribution System

- 4.1 Planning sub-regions
- 4.2 Sub-region 1
  - 4.2.1 Customer demographics
  - 4.2.2 Economic development
  - 4.2.3 Electrification growth
  - 4.2.4 DER adoption
  - 4.2.5 Capacity deficiency
  - 4.2.6 Aging infrastructure
  - 4.2.7 Reliability and resilience
  - 4.2.8 Siting and permitting
- 4.3 Sub-region N (as above)
- 4.4 Technology platforms that we have in place today

5.0 5- and 10-Year Electric Demand Forecast

- 5.1 5- and 10-year electric demand forecast at the jurisdiction level
- 5.2 Sub-region 1
  - 5.2.1 Demand – summer and winter
  - 5.2.2 Weather normalized econometric forecast
  - 5.2.3 Large load (step/spot load)
  - 5.2.4 Energy efficiency
  - 5.2.5 Solar PV growth
  - 5.2.6 Electric vehicles
  - 5.2.7 Heat Electrification
- 5.3 Sub-region N (as above)

6.0 5- and 10-Year Planning Solutions: Building for the Future

- 6.1 Summary of existing investment areas and implementation plans (existing asset management and core investments, including EV and EE programs)
- 6.2 Design criteria changes (if applicable)
- 6.3 Technology platforms we are implementing (including AMI, VVO, FLISR, ADMS, DERMs (to optimize 20-year solution set), Automated interconnection tools, etc.)
- 6.4 Planning sub-regions
- 6.5 Sub-region 1
  - 6.5.1 Major substation projects
  - 6.5.2 Non-Wire Alternatives
  - 6.5.3 Alternative cost allocation to interconnect solar projects
  - 6.5.4 Alternative cost allocation to interconnect battery storage projects
  - 6.5.5 Equity and EJ outreach
- 6.6 Sub-region N
  - 6.6.1 Major substation projects
  - 6.6.2 Non-Wire Alternatives
  - 6.6.3 Equity and EJ outreach
- 6.7 Sub-region N (as above)

7.0 5-year Electric Sector Modernization Plan

- 7.1 Investment Summary 5-year chart – Base reliability, existing programs (e.g., CIP, EV, EE, GridMod, AMI), and new proposals. Impact on GHG emission reductions
  - 7.1.1 Alternatives to proposed investments
  - 7.1.2 Alternative approaches to financing
  - 7.1.3 Customer benefits
- 7.2 Investment Summary 10-year chart

8.0 2035 - 2050 Policy Drivers: Electric Demand Assessment

- 8.1 Buildings: Heating electrification and energy efficiency assumptions and forecasts
  - 8.1.1 Technology assumptions
  - 8.1.2 Adoption propensity assumptions
  - 8.1.3 Building code assumptions
  - 8.1.4 Demand response scenarios – impacts on heating demand
- 8.2 Transport: Electric vehicle assumptions and forecasts
  - 8.2.1 Technology assumptions
  - 8.2.2 Adoption propensity assumptions
  - 8.2.3 Mileage, and time of day assumptions
  - 8.2.4 Managed charging scenarios – impacts on EV demand
- 8.3 DER: PV/ESS – State incentive driven assumptions and forecasts
  - 8.3.1 Technology assumptions
  - 8.3.2 Adoption propensity assumptions
  - 8.3.3 Time of day assumptions
- 8.4 Offshore wind forecasts (procurement mandates, Generator Interconnection Agreement status, Points of Interconnections)

9.0 2035 - 2050 solution set – Building a decarbonized future

- 9.1 Behind the meter incentive design scenarios (impact on electrification demand)
  - 9.1.1 Buildings: Winter demand response scenarios and associated preliminary incentive designs
  - 9.1.2 Transport: Electric vehicle charging demand management scenarios and associated preliminary incentive designs (discussion of both $/kW incentives to attract participation and ongoing c/kWh incentives to subsidize O&M especially in targeted EJ communities)
  - 9.1.3 Other load management response scenarios and associated preliminary incentive designs
  - 9.1.4 Battery storage charge management and associated preliminary incentive designs
- 9.2 Aggregate substation needs
- 9.3 Non-wires alternatives – impact on substation deferral
- 9.4 Decarbonized gas solutions – Geothermal, Hydrogen, Renewable Natural Gas (linked to ESMP and heat pump deployment plans)
- 9.5 System optimization – impacts on electrification demand
- 9.6 Alternative cost-allocation and financing scenarios – impact on investments
  - 9.6.1 CIP 2.0 (Solar) projects and cost allocation
  - 9.6.2 CIP 3.0 (battery storage) projects and cost allocation
- 9.7 Enabling the Just Transition through Policy, Technology, and Infrastructure Innovation
  - 9.7.1 Aggregation of all clean technology incentives (in respective scenarios) focused on EJ communities
  - 9.7.2 Discussion of potential to use incentives and dis-incentives to align with distribution upgrades
  - 9.7.3 Potential incentive allocation movement among clean technologies ultimately flowing toward disadvantaged communities

10.0 Reliable and Resilient Distribution System

- 10.1 Distribution reliability programs
- 10.2 Distribution resiliency hardening programs
- 10.3 Asset Climate Vulnerability Assessment (such as Flood Impacts, Wind Speeds, High Heat Impacts, Ice Accretion, Wildfire and Drought)

11.0 Integrated Gas-Electric Planning

- 11.1 Transparent electric sector modernization plan
- 11.2 Coordinated gas-electric planning process
- 11.3 Safe and reliable gas infrastructure
- 11.4 Alternative gas infrastructure
- 11.5 Gas-electric coordinated planning working group

12.0 Workforce, Economic, and Health Benefits

- 12.1 Overview of key impact areas