DRAFT MEMORANDUM OF THE GMAC EQUITY WORKING GROUP
November 3, 2023

I. BACKGROUND

Pursuant to G.L. c. 164, §§ 92B-92C, the Grid Modernization Advisory Council (GMAC or the Council) is charged with reviewing and providing recommendations to the state's investor-owned electric distribution companies' (EDCs) electric-sector modernization plans (ESMPs). The Equity Working Group, a subcommittee of the GMAC, was established on September 14, 2023, to review the inclusion of equity in the ESMPs. The Council's full Charter is located at the Grid Modernization Advisory Council's website.

The Equity Working Group is comprised of Grid Modernization Advisory Council members, two members external to the Council and the Massachusetts Department of Energy Resources. The state's EDCs have one non-voting representative.

The Equity Working Group consists of the following representatives:

Kathryn Wright, Chair	Barr Foundation
Chris Modlish	Attorney General's Office
Julia Fox	Department of Energy Resources
Erin Engstrom (non-voting)	Eversource
Mary Wambui	Planning Office for Urban Affairs
Vernon Walker	Clean Water Action
Kyle Murray	Acadia Center
Larry Chretien	Green Energy Consumers Alliance

The Equity Working Group held four meetings over the course of the GMAC ESMP review period. Meetings consisted of GMAC consultant-led and EDC-led presentations, discussion amongst working group members, and an opportunity for public comment. Equity Working Group members provided initial comments, metrics, and recommendations and deliberated over a final set of recommendations on November 3, 2023. The Equity Working Group presents this memorandum to the GMAC for adoption into its full set of recommendations.

In this memorandum, the Equity Working Group presents justice-oriented equity definitions, a set of comments from the ESMP review, and recommendations for the EDCs' ESMPs. A table of proposed metrics is included at the end of this memorandum. The Equity Working Group proposes the following recommendations to revise the ESMPs first published in September 2023 by National Grid, Eversource, and Unitil.

I. DEFINITIONS

The ESMPs have differing definitions of the term equity throughout the documents. The Equity Working Group encourages the EDCs to use consistent definitions to ensure that customers are given the same consideration no matter where they reside in the Commonwealth. We support the use and application of the below definitions from the energy and planning literature in the ESMPs and metrics.

In Massachusetts, an **environmental justice population** is a neighborhood where one or more of the following criteria are true:

1. the annual median household income is 65 percent or less of the statewide annual median household income
2. minorities make up 40 percent or more of the population
3. 25 percent or more of households identify as speaking English less than "very well"
4. minorities make up 25 percent or more of the population and the annual median household income of the municipality in which the neighborhood is located does not exceed 150 percent of the statewide annual median household income.[1]

Referencing the Pacific Northwest National Laboratory's definition of **energy equity**:

> Energy equity recognizes that disadvantaged communities have been historically marginalized and overburdened by pollution, underinvestment in clean energy infrastructure, and lack of access to energy-efficient housing and transportation. An equitable energy system is one where the **economic, health, and social benefits of participation** extend to all levels of society, regardless of ability, race, or socioeconomic status. Achieving energy equity requires intentionally designing systems, technology, procedures, and policies that lead to the fair and just distribution of benefits in the energy system.

Energy justice is defined as "the goal of achieving equity in both the social and economic participation in the energy system, while also remediating social, economic, and health burdens on those historically harmed by the energy system ('frontline communities')."[2]

Energy justice can be further defined by the following three-part framework:[3]

> **Distributive** justice is focused on the injustices regarding the physical benefits and risks of energy systems such as the location of production facilities or the access of energy services.
>
> **Procedural** justice calls for equal and fair procedures. Everyone regardless of social status, income, or race should be allowed to participate in decision-making processes.
>
> **Recognition** justice is focused on identifying which part of society is affected by injustice, recognizing and addressing others' needs.

It is also important to define disadvantaged communities alongside EJCs to ensure there is clarity around these demographic descriptions and appropriate targeting of responses to energy system inequities.

Disadvantaged communities (DACs) can be defined as follows:

> "A census tract ranked in or above the 80th percentile of the cumulative sum of the 36 burden indicators [fossil dependence (2), energy burden (5), environmental and climate hazards (10), socio-economic vulnerabilities (19)] for its state and with at least 30% of households classified as low-income. This definition advances the operationalization of energy equity by providing a consistent and measurable sociodemographic overlay for evaluating disparities in energy system performance. At the same time, it is worth noting some limitations of this definition:
>
> - Census tract data may not completely reflect customer-level inequities.
> - Communities are not necessarily spatially contiguous, as community can also refer to dispersed groups of people that experience similar conditions.

[1] Massachusetts Executive Office of Energy and Environmental Affairs, Environmental Justice Populations in Massachusetts. From https://www.mass.gov/info-details/environmental-justice-populations-in-massachusetts, accessed October 31, 2023.
[2] Initiative for Energy Justice (IEJ), *The Energy Justice Workbook* at 9. IEJ was founded by Shalanda H. Baker, Subin DeVar, and Shiva Prakash.
[3] Carnegie LaBelle, Michael, "In pursuit of energy justice," *Energy Policy*, Vol. 107, August 2017: 615-620.

- Not all communities that bear burdens of the energy system are DACs, and vice versa. These can be considered areas for further refinement in defining the target population or sociodemographic overlay for examining energy system inequities."[4]

A complementary definition can be referenced in recently introduced legislation by the Massachusetts Office of the Attorney General (AGO). [5]

II. COMMENTS FROM REVIEW OF THE ESMPs

After reviewing the ESMPs, the Equity Working Group developed several high-level comments on the draft ESMPs.

The EWG has several high-level concerns. The EDCs failed to provide meaningful opportunities for stakeholder engagement for input prior to drafting the ESMPs, limiting the level of stakeholder input in this overall process from the outset. The ESMPs do not articulate clear goals related to equity, or even describe a baseline of current equity issues experienced among EDC customers. The ESMPs discuss equity primarily in the context of stakeholder engagement, workforce development, energy efficiency, and electric vehicle infrastructure program incentives. The ESMPs do not address key impacts in areas of affordability or reliability in disadvantaged communities and environmental justice communities. Future ESMPs must include early stakeholder engagement to inform the ESMP's engagement plans and modeling assumptions. In addition:

- Identification and definitions of customer base and locations of EJCs vary from plan to plan. These should be consistent across plans and presented via visualizations.

- The GMAC expressed concerns that the Community Engagement Stakeholder Advisory Council (CESAG) would contribute to "working group fatigue" and be potentially replicative of other efforts. The EWG agrees with the GMAC's concerns. The CESAG should not be utility-led and should include direct community leadership. Members and the organizations that have participating representatives should be compensated. Ideally, the CESAG could nest within an existing process rather than creating an entirely new body.

- All three ESMPs lack detail and explanation of customer benefits, particularly net benefits specific to environmental justice and disadvantaged communities. The ESMPs do not adequately account for the increasing energy burdens[6] associated with the ESMPs. There is very little quantification of benefits or rate impacts throughout the plan. It was not possible for the Equity Working Group to evaluate the ESMPs' impact on affordability and recognition justice without this data, which are top priorities for disadvantaged communities and EJCs.

- Grid modernization is likely to affect rate design, which may have a disproportionate impact on low- to moderate-income (LMI) ratepayers. The ESMPs do not offer details on how the EDCs will mitigate those impacts. We would encourage a broader conversation about rate reform and rate-design options with the Department of Public Utilities (DPU) and other advisory bodies such as the GMAC, where appropriate.

- The ESMPs, but in particular Unitil's and National Grid's, lack specificity and detail about their hiring and training processes, efforts to target EJCs and disadvantaged communities in workforce development, and employee retention. The ESMPs should articulate how the EDCs will complement and build on existing

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[4] Barlow, Jay, Rebecca Tapio, and Bethel Tarekegne. "Advancing the State of Energy Equity Metrics." *The Electricity Journal* 35, no. 10 (December 1, 2022): 107208, p. 3-4. https://doi.org/10.1016/j.tej.2022.107208.

[5] The AGO recently introduced legislation employing and defining the term "disadvantaged community" as ″a community in Massachusetts bearing disproportionate economic, health, or environmental burdens, including, but not limited to, poverty, high unemployment, air and water pollution, disproportionate heat exposure, lack of access to green space, and presence of hazardous and solid waste and material, as well as high incidence of cardiovascular and respiratory disease and high rates of mortality." See https://malegislature.gov/Bills/193/H4143.

[6] Energy burden is "the share of a household's income that is spent on energy utilities." M. A. Brown, et al., *High Energy Burden and Low-Income Energy Affordability: Conclusions from a Literature Review* (2020), at 3, 4.

efforts to recruit underrepresented groups and discuss how the EDCs are working to not just train but retain new workers and offer additional specifics about the type of job growth and job transitions expected with electrification.

- The ESMPs described incentive and financing programs targeted for LMI customers. Equity requires a holistic approach. Beyond incentivizing the cost of equipment, the utilities need to engage LMI customers, disadvantaged communities, and EJCs to understand their current relationship with the electricity system; hear and respond to what customers want from the electric grid in the future; and work with community partners to target outreach about future distribution infrastructure and customer-facing opportunities to support the grid.

- Currently the ESMPs do not consistently report on the EJCs and/or disadvantaged communities within their service territories. In addition, there is a lack of EJC-specific data to illustrate climate impacts, investment impacts, integrated gas-electric planning, and long-term solutions planning. The Equity Working Group recommends the EDCs to improve and publish EJC data. This includes adopting uniform mapping, customer counts by type of EJC and by subregion, and reliability metrics (SAIDI/SAIFI/CKAIDI/CKAIFI) for EJCs versus the general territory.

- The ESMP's place a strong emphasis on constructing additional distribution infrastructure in both their five- and ten-year plans. The EDCs need to consider customer-sited solutions such as distributed energy resources and non-wires alternatives administered by third parties. The public needs to understand which solutions are most impactful from a reliability and affordability perspective. Infrastructure construction should be minimized where possible.

There is additional documentation beyond the ESMPs that the EDCs plan to file at the Department of Public Utilities (DPUs) that the GMAC and Equity Working Group were unable to review at the time of writing these recommendations. We highly encourage the Commonwealth to provide the DPU with appropriate staffing and resources to adequately review and respond to the ESMPs. The ESMP review also needs to weigh the ongoing work of the advisory committees on Clean Energy Transmission and Clean Energy Siting and Permitting, which have strong connections to this work, but could not be meaningfully integrated into our review and comments.

The ESMPs represent a first step in modernizing the electric grid in light of the state's climate goals; future planning, stakeholder engagement, accountability, and oversight over this ESMPs can improve in subsequent cycles if adequate timing is provided.

III. ESMP RECOMMENDATIONS

Below are the Equity Working Group's recommendations to improve and enhance equity in the ESMPs. As an appendix to this document, the Equity Working Group provides specific recommendations for metrics and ways to resolve gaps in the ESMPs by topic. The Equity Working Group requests responses from the EDCs on which of these suggested metrics will be pursued for this ESMP, which metrics could be tracked in a future ESMP and suggestions for alternative metrics. At the time of writing, the suggested metrics on community engagement that the EDCs submitted are only responsive to procedural equity (see Appendix B for the EDCs' proposed engagement metrics).

PROCEDURAL	1. Environmental justice and equity metrics should reflect the impact of the work, not just efforts. For example, the utilities offered to track attendance and the number of community engagement meetings. Metrics should also include how the EDCs responded to customer concerns and which suggestions were implemented. 2. All public-facing materials should be reviewed for plainspoken language, visualizations, clarity, transparency, and completeness.

	3.	The electricity distribution companies (EDCs) should work to consolidate overlapping stakeholder engagement efforts to maximize the use of participants' time.
	4.	Stakeholder engagement should begin at the very earliest planning stages for all project types that will have impacts on consumers, including, but not limited to, rate impacts, service reliability, construction, disruptions, etc. Specific stakeholder engagement requirements within the ESMP process, including but not limited to adequate community notification, community compensation, and awareness can be referenced in the Advanced Energy Group Grid Modernization Task Force Recommendations.[7]
	5.	Community-based organizations and community leaders should have representation and leadership within working groups created by the ESMPs (e.g., CESAG).
	6.	The EDCs should track and publish baseline equity-related data and continue to provide regular progress updates.[8]
RECOGNITION	7.	The ESMPs should provide detailed workforce development plans to recruit, hire, train, and retain people from disadvantaged communities and EJCs.
	8.	The EDCs should publicize linkages between grid modernization planning and overall environmental burdens and benefits, particularly related to environmental impacts that have historically disproportionately affected EJCs and disadvantaged communities. Benefits of grid modernization should include reduced greenhouse gas emissions, improved air quality, improved health outcomes, and reduced excess mortality.
	9.	The EDCs should work with local organizations in communities hosting distribution infrastructure to develop the community benefits agreements referenced in the ESMPs. Local collaboration can help ensure the agreements recognize and respond to community concerns.
DISTRIBUTIVE	10.	Rates, incentives, and benefits associated with grid modernization should be clearly spelled out for consumers along with how to access assistance for customers in arrears. The benefits and requirements for programs which will provide an opportunity for consumers to participate on the grid must also be transparently explained. The ESMPs need to include the net benefits for customers after considering the anticipated costs of grid upgrades to help the GMAC, DPU, and other stakeholders determine what is fair and reasonable. The ESMPs should also include distributional equity analysis plans to understand the impacts and keep energy burdens at a manageable level for customers across all income groups, regardless of whether net benefits are provided.[9]
	11.	Disadvantaged communities, EJCs, and LMI customers should have priority access to innovative financing, technology, energy-efficiency upgrades, building weatherization, and electrification adoption.
	12.	The EDCs should work to rectify any existing differences in service quality by working with disadvantaged communities and EJCs. The EDCs should also work to

[7] See https://www.mass.gov/doc/october-23-2023-gmac-equity-working-group-meeting-3-written-public-comment/download.
[8] See Appendix A: GMAC Equity Working Group equity assessment table for detailed metrics.
[9] A framework is being explored by the National Equity Screening Project. This resource was also recommended in the comments submitted by Advanced Energy Group Boston's stakeholder taskforce. See https://www.nationalenergyscreeningproject.org/resources/energy-equity-and-bca/ for more information.

	rectify anticipated future differences in service quality in communities whose infrastructure is vulnerable to climate change impacts, as identified by the EDCs' climate vulnerability assessments.

APPENDIX A: EQUITY WORKING GROUP'S PROPOSED METRICS

Table 1. —Equity Assessment

Category	Problem Statement	How ESMPs Propose to Address This	EWG's Desired Outcomes from Final ESMPs	Metrics of Success
1. Accessibility and community engagement	a. Siting and grid modernization decisions have historically been made without significant stakeholder input b. Not all relevant information is shared with the public c. Information is overly technical and in many cases is not translated	d. Written informational materials are produced in multiple languages e. Utility-led Community Engagement Stakeholder Advisory Group (CESAG) f. DPU-required joint stakeholder meetings in Fall 2023 g. Eversource states the urgency of near-term projects (2025–2029) may afford less engagement than later (2030 and after) h. For projects, the utilities have stated they will engage impacted communities before submitting filings to the Energy Facilities Siting Board (however, it is unclear which specific projects this would apply to) i. Utilities have discussed negotiating community benefit agreements for communities impacted by projects, but form of agreements unclear. j. National Grid plans for public engagement on multiple channels, including translation where needed and an initiative to engage Federally Recognized Tribes in New England k. Eversource's pending Grid Resiliency and Innovation Partnership (GRIP) program application included a community engagement plan designed to lead to a community benefit agreement	l. Plain language is used / layperson's terms and translation of materials m. Utilities provide easy-to-interpret visualizations n. There are clear avenues for input early in planning processes o. Stakeholder input is used to inform data-driven decisions p. Stakeholder engagement exists beyond infrastructure siting and is integrated more broadly with grid modernization investments q. Utilities publicize the data they currently have on equity (disparities in program participation, % of customers with high energy burden, etc.), enabling stakeholders to participate with full information about the baseline	r. Fewer customer complaints s. Fewer infrastructure siting delays t. Survey and other data indicate stakeholders' demonstration of positive and improving experiences with EDCs over time u. Participation is tracked and includes diverse demographics v. Documented responses to community comments presented in engagement and via the CESAG w. Inventory of documents available in multiple languages x. Number of executed community benefits agreements y. Increase in community participation in utility surveys, events or other engagement venues from EJCs z. Documentation of stakeholder partnerships and community leadership on working groups and committees

2. Workforce and economic benefits	a. There is a lack of economic opportunities for historically underserved populations. The energy sector has a lack of diversity, particularly in leadership or higher-wage roles[10] b. Immigrants, workers of color, and women are disproportionately impacted by wage and hour violations[11]	c. Community Solar Resilience Program (Eversource) prioritizes workforce development for minority- and women-owned enterprises (MWEs) d. National Grid identified temporary and permanent, union, non-union, and management roles needed, and using a "strategic workforce development" program to hire underrepresented people in their workforce e. Eversource has workforce development programs, Electric Power Utility Technology Program and Clean Energy Pathways, which aims to expand the energy efficiency workforce and increase access to individuals who are historically underrepresented f. Eversource applied to the U.S. Department of Energy Grid Resiliency and Innovation Partnership (GRIP) program which would create a pipeline for clean energy jobs with local partnerships	g. Well-paid permanent jobs h. Full-time positions i. Jobs located within or near EJCs[12] j. Jobs accommodating of different languages k. Workforce training for entry-level employees l. Opportunities for learning, development, and advancement m. Increased job safety n. Clear plans for recruitment, training, and retention for underserved populations o. Integration of EDCs' efforts with existing training programs throughout Massachusetts	p. Hours of work per employee at minimum wage q. Number of additional jobs with livable wages r. Reduced hazardous occupational exposures resulting in injuries, deaths, and chronic disease s. An additional ~38,000 workers to support grid modernization and to reach the Commonwealth's clean energy goals t. Job placement rates for utility-proposed programs u. Post-training position retention rates for new employees v. Increases in local hire requirements or supplier diversity requirements w. All ESMPs need to be provide clarity on the incremental job impacts of the plan. Categories of anticipated job growth should be shared with public and educational partners. x. Job training programs by geographic service territories to address "training deserts"
3. Health benefits	a. Emissions from burning natural gas b. Emissions from burning heating oil c. Emissions from grid electricity source mix d. While air emissions impact the entire state, recent studies have indicated impacts are higher in EJ communities[13]	e. Eversource acknowledges inequities in health impacts from pollution/high GHG emissions plans to electrify transportation to mitigate impacts do not factor in equity f. National Grid generally highlights that energy efficiency programs and electrification measures will improve health overall and that EJ/LMI customers are currently impacted the most g. Plans offer no quantification of health benefits	h. Less air pollution i. Better indoor air quality j. Improved cardiovascular, respiratory, kidney, and cerebrovascular health outcomes k. Reduced excess mortality l. Improved quality of life m. Increased stakeholder education on climate-related health impacts	n. Reduced statewide incidences of heart disease, bronchitis, and lung cancer from inhalable particulate matter (PM) o. Reduced statewide incidences of asthma, respiratory and lung diseases from nitrous oxide (NO_x) from fuel combustion p. Reduced statewide incidences of respiratory infections and lung disease from sulfur dioxide (SO_2) released from fuel combustion q. Calculations in the ESMPs of the incremental impact of the grid modernization plan on health indicators
4. Financial benefits and incentives	a. Renters, low-income, and non-English-speaking households are less likely to have used Mass Save	c. National Grid has incentives covering up to 100% of costs of EV charging equipment, energy efficiency upgrades, and weatherization for EJCs[15]	j. Access to innovative financing or tech k. Installation of energy-efficiency upgrades	n. Increases in: a. Community solar enrollment in EJCs b. Residential solar enrollment in EJCs c. EVSE enrollment in EJCs

[10] Massachusetts Clean Energy Center, "Powering the future: a Massachusetts clean energy workforce needs assessment," July 2023, page 63. From https://www.masscec.com/sites/default/files/documents/Powering%20the%20Future_A%20Massachusetts%20Clean%20Energy%20Workforce%20Needs%20Assessment_Final.pdf, accessed October 19, 2023.
[11] Secretary Marty Walsh, U.S. Department of Labor, "How we're addressing equity for underserved workers," April 22, 2022. From https://blog.dol.gov/2022/04/14/how-were-advancing-equity-for-underserved-workers, accessed October 3, 2023.
[12] In Massachusetts, an EJC is defined as the residents of a U.S. Census block group that meet one or more of four criteria under the following categories: (1) the annual median household; (2) self-identified minority status; (3) English language proficiency; and (4) combination of median household income and minority status. Whenever reporting metrics related to EJCs, the EDCs should break down the data according to the four EJC definition criteria.
[13] Boston College, MassCleanAir. From https://www.bc.edu/bc-web/centers/schiller-institute/sites/masscleanair.html, accessed October 19, 2023.
[15] National Grid, Future Grid Plan, "Exhibit 6.3: Summary of EJC Incentives and Offerings," September 2023: page 238.

	energy efficiency incentives[14] b. Low to moderate income housing is more likely to have pre-weatherization barriers creating challenges for both energy efficiency and electrification	d. Eversource offers a plethora of EV charging equipment incentives for EJCs[16] e. Unitil currently offers low-income residential customers 100% of the cost of improvements for energy efficiency and up to 100% of EVSE installation costs for multi-unit dwellings (MUDs) of up to four units and $1,700 of capital costs[17] f. Three programs—Eversource Community Solar Access Program (ECSAP), Community Solar Resilience Program, and Affordable Solar Access Program—are geared toward EJCs g. At present, additional net benefits such as health, economics, and greenhouse gas emissions are largely described qualitatively h. A public park atop Kendall Square underground substation is proposed (Eversource) i. EDCs identified customer benefits associated with investments and alternatives including safety, grid reliability and resilience, electrification of buildings and transportation, reduced GHG emissions and air pollutants, mitigation of impacts to the ratepayer, and more; to be filed with the DPU in January 2024	l. Widespread updated weatherization to ready residential units for energy-efficiency upgrades m. Widespread adoption of electric vehicles	d. Energy-efficiency upgrade enrollment in EJCs e. Customer ownership of DERs within EJCs f. Participation in all programs by renters g. Pre-weatherization and electrical upgrade support o. For community solar customers: a. Percent reduction (or increase) in energy rate (cents) per kWh after enrollment in community solar b. Percent reduction (or increase) in overall bill amount after enrollment in community solar p. Comparison of EV/solar electrification adoption by zip code and by census block group to identify communities underserved by programs q. Net economic, greenhouse gas emissions, and health benefits resulting from ESMPs (in aggregate and per capita) r. Integration of tracking and metrics for renters from the EEAC process a. Tracking the offset of what non-wires solutions accomplish
5. Affordability	a. Low-income Massachusetts households spend a disproportionately high percentage of their income on energy[18] b. As electrification increases energy usage, current rate structures may increase affordability challenges. c. Gas introduces significant volatility into the region's energy prices[19]	d. Advanced metering infrastructure (AMI) e. Demand response f. Improved customer communications g. Distributed energy resources (DER) h. Eversource proposes an Affordable Solar Access Program and plans to tackle on-bill financing	i. Access to utility incentives j. Future rates are designed fairly and with public participation k. Utility service charges are on an income-based sliding scale l. EDCs include plans for future performance incentive mechanisms that incentivize the EDCs to limit energy burden for customers at all income levels m. Access to customer-sited opportunities n. Utilities develop and enroll customers in arrear forgiveness programs	p. Percent reduction (or increase) in rates / residential energy rate (cents) per kWh q. Percent reduction (or increase) in bills r. Percent reduction in energy burden by customer income bracket s. Reduction in number of customers, by income bracket, with excess energy burden t. Reduction in number of customers in arrears u. Anticipated net cost per customer of ESMPs v. Rate reform recommendations and impacts of alternative rate structures for electrification customers, particularly in winter

[14] Massachusetts Clean Energy Center, EmPower program. From https://www.masscec.com/program/empower-massachusetts, accessed October 3, 2023.
[16] Eversource, Electric Sector Modernization Plan, "Table 42: Overview of EJC and low-income offerings," September 2023: page 282.
[17] Unitil, ESMP 2025–2050, September 2023: page 66.
[18] MassCEC Empower.

			o. Utility costs for the ESMP are publicly disclosed in a uniform digestible format	w. Percent and count of residential customers disconnected for non-payment, including by census block group[20] x. Percent and count of residential customers with accounts past due more than 60 days y. Potential bill impacts
6. Resilience and reliability	a. EJCs are receiving differing power quality and reliability than other customers [21] b. Urban heat island impacts denser, less forested communities across Massachusetts, which tend to be EJ communities[22]	c. Resilient Neighborhoods Program (National Grid) is designed to address climate-related power outages, prioritizing EJCs d. Investments in vegetation management, hardening and undergrounding infrastructure across all plans e. There are proposed new design and construction standards based on results of climate vulnerability study f. Joint-EDC Equitable Transactional Energy Study offering "a more dynamic locational value compensation framework" to offer options for consumers to participate in virtual power plants (VPPs) that offer a better representation of distributed energy resources in EJCs g. Eversource plans to use their equity framework for construction of proposed new substations h. Plan lacks specific mention of EJCs and resiliency measures	i. Increased resilience against outages from infrastructure failures, storms, accidents, other j. Reduced methane leaks k. Cleaner water for human consumption, recreation, and natural ecosystems l. Increased access to land for recreation, agriculture, and infrastructure; decreased erosion and ecosystem destruction m. Increased reliability against outages and/or brownouts n. Increased publication and access data to climate-related impacts on EJCs	o. Fewer incidences and shorter durations of power outages p. Increased deployment of distributed energy resources in EJ communities during outages q. Shorter outage periods, particularly in EJC communities r. Targeted infrastructure investments based on climate vulnerability to flooding, heat and other anticipated impacts. s. Decrease or elimination of disconnection during heat waves

[20] In a 2022 Issue Brief, National Consumer Law Center notes that: "based on national survey data and credit and collection data available in other jurisdictions, household of color (even when adjusting for income) disproportionately experience energy insecurity – more frequent threats of termination or actual disconnection of utility service, higher energy burdens, and a greater likelihood that the household will have to forgo other basic necessities to pay an energy bill. While we do not have the zip code or census tract data necessary to assess this disparate impact in most states, including Massachusetts, the available data from a small number of states suggest that these disparities exist in most and must be addressed directly." NCLC, *Issue Brief February 2022: Massachusetts Residential Utility Customers Still Owe Nearly $100M More in Arrears Than at the Start of the Pandemic* (Feb. 2022), at 1 (footnotes omitted).

[21] Jill Collins, Conservation Law Foundation, "Not all electrical outages are experienced equally: utilities must act now to prevent further environmental injustice," February 8, 2023. From https://www.clf.org/blog/not-all-electrical-outages-are-experienced-equally/, accessed October 3, 2023.

[22] Walkey, John, and Paula Garcia, *Commonwealth Magazine*, "For environmental justice communities, tackling climate change can't wait," September 22, 2023. From https://commonwealthmagazine.org/environment/for-environmental-justice-communities-tackling-climate-change-cant-wait/, accessed October 3, 2023.

APPENDIX B: EDCS' PROPOSED STAKEHOLDER ENGAGEMENT METRICS—*received on October 5, 2023*

1. The number of outreach and involvement meetings **about the respective EDCs ESMP filing** with stakeholders, including EJCs, municipal leaders, community-based organizations, and customers (i.e., residential, commercial and industrial, and DER customers)
2. The number of outreach and involvement meetings **about specific ESMP infrastructure projects** with stakeholders, including EJCs, municipal leaders, community-based organizations, and customers (i.e., residential, commercial and industrial, and DER customers)
3. The number and category of **requests made as part of stakeholder feedback on specific ESMP infrastructure projects, classified into visual mitigation, access accommodations, work hours, right-of-way maintenance, informational accommodations, engineering accommodations, and damage prevention, as well as the EDCs' response to these requests** classified as under consideration, implemented, not accepted with reason, and other. *

*** Additional descriptions**

- **Visual mitigation:** shrubs/tree planting or relocating objects out of a specific line of sight.
- **Access accommodations:** adjusting work zones to allow for continuity of access for school bus, elderly services, or regional transit.
- **Work hours:** adjusting work hours to accommodate traffic/pedestrian management or construction noise.
- **Right-of-way maintenance:** backfilling and repaving based on feedback from stakeholders, usually public way managers such as DPW or DOT.
- **Informational accommodations:** using local feedback to tailor outreach methods such as timing of meetings, translation of content into appropriate languages, and ADA access.
- **Engineering accommodations:** adjusting engineering design, to the extent practicable, to address stakeholder concerns.
- **Damage prevention:** identifying conditions prior to construction to ensure the integrity of adjacent utilities, businesses, residents, and structures.

APPENDIX C: ADDITIONAL EDC PROPOSED METRICS—*received on October 19, 2023*

In establishing new metrics proposed below, the EDCs follow the principles that a metric must be objective, measurable by the EDC, and within the control of the EDC. Consistent with these principles, the EDCs have achieved alignment in developing the following additional metrics applicable to the incremental investments proposed in their respective ESMPs:

1. Using commercially reasonable efforts, the achievement dates of ready for load ("RFL") for major ESMP infrastructure projects which will be measured from the time the EDC receives: (1) a final, non-appealable order from the Department of Public Utilities ("Department") approving a cost recovery mechanism applicable to the project; and (2) all required permits and approvals for such projects through final, non-appealable state or federal orders and local permitting processes.
2. The percentage of customers covered by/benefiting from incremental resiliency investments outlined in the EDC's ESMPs.
3. The increase in: (a) DER hosting capacity, and (b) load serving capacity by substation demonstrated by an increase in transformer rating installed. This metric will additionally include reporting information specific to environmental justice communities ("EJCs"), stating what percentage of benefits is located in an EJC. This metric will be measured from the time the EDC receives: (1) a final non-appealable order from the Department approving a cost recovery mechanism applicable to the substation project, and (2) for specific projects at the time when all required permits and approvals for such projects are received, including through final, non-appealable state or federal orders and local permitting processes.
4. A measure of the greenhouse gas reduction impact of investments enabled in alignment with statewide greenhouse gas reduction targets. This metric will be measured from the time the EDC receives (1) a final non-appealable order from the Department approving a cost recovery mechanism applicable to the investment, and (2) for specific projects at the time when all required permits and approvals for such investments are received, including through final, non-appealable state or federal orders and local permitting processes. The EDCs have contracted with an expert consultant to analyze the net benefits of each EDC's incremental investments, which will include greenhouse gas reduction analyses. The EDCs welcome input from the GMAC regarding recommended approaches to analyzing and measuring greenhouse gas reduction benefits.
5. For the EDC's distributed energy resources management system ("DERMS"), (a) the number of participating sites, (b) the amount (kW) of non-company owned dispatchable assets that the utility can control, and (c) number of instances sites are dispatched. The EDCs note that this metric is already under consideration by the Department as a proposal through 2025 in D.P.U. 21-80, D.P.U. 21-81, and D.P.U. 21-82. The EDCs propose that the metric would continue for incremental DERMS investments in 2026 and beyond.

Lastly, as the GMAC is aware, the EDCs are currently subject to a wide array of metrics associated with various aspects of investments that are currently being pursued outside of their ESMPs. Such metrics have been approved by the Department (or are pending review by the Department). A link to a spreadsheet describing these metrics is provided here, Pre-existing Metrics for EDCs, for informational purposes, and to demonstrate the broad categories of metrics already tracked by the EDCs, or proposed to be tracked, supporting the goals and policies of the Commonwealth established in other proceedings.