DOCKETED	
Docket Number:	19-SB-100
Project Title:	SB 100 Joint Agency Report: Charting a path to a 100% Clean Energy Future
TN #:	230976
Document Title:	Johns Manville and Alcal Specialty Contracting, Inc Comments - Responding to November 18, 2019 SB-100
Description:	Johns Manville and Alcal Specialty Contracting, Inc Comments - Responding to November 18, 2019 SB 100 the "100 Percent Clean Energy Act of 2018" Technical Workshop
Filer:	System
Organization:	Johns Manville and Alcal Specialty Contracting, Inc.
Submitter Role:	Public
Submission Date:	12/2/2019 4:56:54 PM
Docketed Date:	12/2/2019

Comment Received From: Johns Manville and Alcal Specialty Contracting, Inc.
Submitted On: 12/2/2019
Docket Number: 19-SB-100

Comments Responding to November 18, 2019 SB 100 the 100 Percent Clean Energy Act of 2018â€ Technical Workshop

Additional submitted attachment is included below.

December 2, 2019

VIA ELECTRONIC FILING

California Energy Commission
Re: Docket No.: 19-SB-100
1516 Ninth Street
Sacramento, California 95814-5512

Re: Comments Responding to Monday, November 18, 2019 SB 100 the "100 Percent Clean Energy Act of 2018" Technical Workshop

Thank you to the staffs of the California Energy Commission (CEC), California Public Utilities Commission (CPUC), and California Air Resources Board (CARB) for working to both ensure a safe and healthy future for all Californians as well as to provide leadership to the nation and world on climate, energy and environmental issues.

Johns Manville (JM) and Alcal Specialty Contracting, Inc. offer these comments in support of this work and in response to the November 18, 2019 SB100 Technical Workshop (Workshop):

- Per Commissioner McAlister's introduction at the Workshop, the basic requirement of SB100 is to reach 100% zero-carbon electricity resources taking into account the following high-level goals:
    - Reliability
    - Affordability
    - Energy equity
    - Reliance on innovation and emerging technologies
    - Minimization of potential adverse impacts of renewable energy (RE) and zero-carbon energy resources, e.g.,
        - Land use impacts
        - Localized emissions impacts
- We were heartened to hear about these high-level goals because we have formulated and are in the process of implementing a concept that would simultaneously work to achieve all these high-level goals in pursuit of the 100% zero-carbon electricity goal
- Some background on SB100
    - Establishes a state policy that requires eligible renewable energy (RE) resources and zero-carbon resources supply 100% of all retail sales of electricity to California end-use customers and 100% of electricity procured to serve all state agencies by December 31, 2045
    - Also establishes interim goals of:
        - 33% renewables on the grid by December 31, 2020,
        - 44% renewables on the grid by December 31, 2024,

        - 52% renewables on the grid by December 31, 2027, and
        - 60% renewables on the grid by December 31, 2030
- Energy efficiency (EE) in existing homes and buildings (EBs) is crucial to meeting both the interim and final goals of SB100 and a variety of other legislative mandates including but not limited to AB32 and SB32
    - EE in existing buildings reduces the amount of renewable energy required, often at lower cost
    - But EE also has important benefits beyond mere energy savings and heating/cooling cost reductions to homeowners
        - Many older, poor-performing homes (of which there are millions in the state) are located in disadvantaged communities. Retrofitting those homes will achieve greater climate and energy equity, environmental justice and economic resilience
        - EB Energy efficiency improvements/residential retrofits achieve important health benefits for vulnerable populations (children, sick, and elderly)
            - Energy savings reduce emissions from fossil fuels supplying the CA grid and on-site heating, which means lower fine particulate and NOx emissions and hence less ground-level ozone formation
            - Attic Floor Air Sealing eliminates/reduces pathways for potentially harmful particulates intrusion into the conditioned space of the home
            - In fact, EPA estimates the health benefits at approximately 7 cents per kWh saved (see DOE's Public Health Benefits per kWh of Energy Efficiency and Renewable Energy in the United States: A Technical Report, July 2019).
- Energy efficiency retrofits have proven benefits to homeowners
    - Retrofits Immediately increase home value in excess of the retrofit cost. Remodeling Magazine's research team shows attic insulation alone returns on average 16% in increased home value when bringing a home up to R-30 (Home values increase $116 for every $100 spent on R-30 attic insulation)
    - Provides EE benefits that are durable and will last the lifetime of the home, unlike appliances, lighting and HVAC systems that have potentially costly maintenance, and replacement requirements every 5-10 years
    - Deliver comfort and performance benefits 24/7 365 days/year, not just when turned on or when being used
    - Provide excellent financial benefits. For example, a $4,000 retrofit today has a net present value of $5400 using a 25-year time period and a conservative $600 per year in energy expense savings
    - Deliver benefits directly to homeowners/occupants while also delivering the state significant energy consumption reductions, greenhouse gas reductions, and decarbonization through conservation – all with very few behavioral modifications required by homeowners/occupants.

- Since RE is non-dispatchable, procurement of significant (or, as was presented at the Workshop, "mammoth") amounts of energy storage will be required as carbon-free firming power for wind and solar
    - To avoid construction and deployment of new natural gas peaking plants, Li-ion and other chemical batteries will have to provide much of the required energy storage; however, hard returns to eliminate orphan and widow lines, EE- and DR-enabled thermal energy storage can serve as an important supplement to batteries
    - EE/DR thermal storage is achieved when older, poor performing homes are retrofitted to make them more energy efficient via air sealing and additional insulation, along with smart thermostats. All such homes can then be networked and controlled en masse to pre-cool them using the abundant solar resource during the day so that less energy is needed in the evening, when the Duck Curve challenge must be overcome (see LBNL's Reducing Residential Peak Electricity Demand with Mechanical Pre-Cooling of Building Thermal Mass, Aug. 2019)
    - This type of thermal energy storage has several advantages over chemical battery storage (both in the distribution grid and BTM)
        - Safety: EE thermal storage enhances health, safety, comfort and savings at no risk to occupants
        - Durability: lasts for the life of the home
        - Supply chain security: all materials are made in USA and all embodied labor is domestic
        - Benefits focused on disadvantaged communities in the state, not on out of state utility shareholders

In implementing SB 100 and producing the report required by it, please include the critical importance of EE and EE-enabled thermal energy storage as part of its findings and recommendations.

Thank you for the opportunity to express our views on this matter, and for the hard work of all three agencies on meeting California's target of 100 percent clean energy.

Respectfully submitted,

Bruce Ray
Associate General Counsel
Johns Manville

Gregory Sutliff
Director, Home Services Division
Alcal Specialty Contracting, Inc.

December 2, 2019

About Johns Manville

Johns Manville, a Berkshire Hathaway company (NYSE: BRK.A, BRK.B), is a leading manufacturer and marketer of premium-quality building and specialty products, including various forms of insulation. In business since 1858, the Denver-based company has annual sales over $3 billion and holds leadership positions in all of the key markets that it serves. Johns Manville employs 8,000 people and operates 42 manufacturing facilities in North America (including two facilities in California), Europe and China. Additional information can be found at www.jm.com

About Alcal

Alcal Specialty Contracting, Inc. (Alcal) is a subsidiary of Pacific Coast Building Products, Inc. a family owned business since 1953. Alcal is a large sub-contracting firm and privately held, diversified specialty contractor that has operated continuously since 1971. It employs over 900 people and has branches in California, Nevada, Arizona, Colorado, Washington, and Hawaii. Its installed products include roofing, waterproofing, insulation, firestop, contract glazing, and garage doors for both commercial and residential construction. The company is a signatory to several unions including the Roofers, Glaziers, and Carpenters Union. Additional information can be found at:
https://www.alcal.com/