February 8, 2022

Maryland House of Delegates
Economic Matters Committee
Delegate C.T. Wilson, Chair
Delegate Brian M. Crosby, Vice Chair

Testimony of Veena Singla, Natural Resources Defense Council, in support of House Bill 108

Energy efficiency can deliver a wealth of benefits for low-income households, beyond just saving energy. Benefits can include healthier indoor conditions as measures like improved building insulation keep homes at more consistent temperatures-- warmer in the winter and cooler in the summer. Reducing extreme temperatures indoors has health benefits, such as reducing the frequency and severity of asthma attacks.

HB108 contains important provisions to ensure that healthier insulation materials are used in energy efficiency upgrades. As we are emerging from the current pandemic, it is important that materials used for energy efficiency do not contain substances that can compromise health or increase COVID-19 risk factors, such as poor respiratory health. This bill requires insulation to be free of respiratory sensitizing chemicals and formaldehyde, ensuring that low-income homes receive the full benefit of healthy energy efficiency upgrades.

While some insulation materials like spray foam contain hazardous chemicals, safer materials of comparable and lower cost are widely available and being utilized for weatherization in the affordable housing sector (see Table below). Research by Energy Efficiency for All found that energy efficiency upgrades in low-income multifamily housing do not generally

utilize spray foam because it is more costly, and that fiberglass insulation delivers comparable energy efficiency savings.[1]

States are moving forward on regulations and actions to codify best practices for healthier energy efficiency. The state of California has listed spray foam as a Priority Product under its Safer Consumer Products Program, "to protect workers and consumers from exposure to unreacted methylene diphenyl diisocyanates that could occur during normal use of spray polyurethane foam systems."[2] Recent settlements approved by the Michigan Public Services Commission mandate DTE, Michigan's largest utility, to increase investment in income-qualified energy efficiency programs and requires guidance on healthier materials, including reducing use of spray foam.[3]

Enterprise Green Communities, the only national green building criteria and certification program designed exclusively for affordable housing, recognizes the hazard of materials containing isocyanates and feasibility of safer alternatives and awards credit for not using spray foam insulation materials.[4] Enterprise Green Communities is referenced by 31 states and Washington, D.C.'s Qualified Allocation Plans for the Low Income Housing Tax Credit program.[5]

These actions support that the requirements for healthier insulation in HB108 are both necessary and appropriate. HB 108 will support healthier,

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[1] Making Affordable Multifamily Housing More Energy Efficient: A Guide to Healthier Upgrade Materials. EEFA, 2018; Healthy Building Materials Case Study: Energy Performance of Chicago Properties Retrofit With Fiber Glass Insulation. EEFA, 2019.
[2] https://dtsc.ca.gov/scp/spray-polyurethane-foam-systems-with-unreacted-methylene-diphenyl-diisocyanates/
[3] https://mi-psc.force.com/sfc/servlet.shepherd/version/download/0688y000001noqBAAQ ; https://mi-psc.force.com/sfc/servlet.shepherd/version/download/0688y000001nouXAAQ
[4] https://www.greencommunitiesonline.org/materials
[5] https://www.enterprisecommunity.org/impact-areas/resilience/green-communities

energy efficient homes for low-income Marylanders and I urge a favorable report from the Committee.

Table: Health-based ranking of building insulation materials shows many healthier options[6]

Rank (green = best; red = worst)	Insulation type	Relative installed cost per insulating ("R") value
RECCOMMENDED MATERIALS DO NOT CONTAIN RESPIRATORY SENSITIZERS (ISOCYANATES)	Loose-fill fiber glass	$
	Dense-pack fiber glass	$-$$
	Spray-applied fiber glass	$-$$
	Fiber glass batts/ blankets (Kraft-faced and unfaced)	$
	Fiber Glass Batts/Blankets (PSK-Faced (polypropylenescrim-kraft) or FSK-Faced (foil-scrim-kraft)	$-$$
	Cellulose/Cotton Batts and Blankets (Unfaced)	$$-$$$
	Loose-Fill cellulose	$
	Dense-pack cellulose	$-$$
	Wet-blown cellulose	$-$$
	Mineral wool batts	$
	Mineral wool boards	$$-$$
	Polyisocyanurate (polyiso)	$$-$$$
	Expanded polystyrene (EPS)	$$$
	Extruded polystyrene (XPS)	$$$
	Spray foam insulation (SPF)	Closed cell: $$$; Open cell: $$-$$$

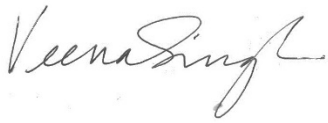
Background

[6] Source: Making Affordable Multifamily Housing More Energy Efficient: A Guide to Healthier Upgrade Materials. EEFA, 2018 (materials are ranked based on chemical content of concern, including isocyanates)

A respiratory sensitizer is a chemical that will lead to hypersensitivity of the airways following inhalation of the chemical and can cause diseases such as asthma, rhinitis, alveolitis and other allergic respiratory diseases. Isocyanates,[7] chemicals used in spray polyurethane foam insulation and sealants, are powerful respiratory irritant and sensitizer chemicals according to the National Institute for Occupational Safety and Health (NIOSH).[8] Isocyanates can cause chronic, debilitating respiratory diseases including asthma, with deaths reported in workers after severe asthma attacks.[9]

NIOSH recommends that "When feasible, employers should substitute a less hazardous material for isocyanates," and notes that "Preventing exposure to isocyanates is a critical step in eliminating the health hazard."[10] Therefore, prohibiting the use of insulation materials for weatherization containing known respiratory sensitizers aligns with these NIOSH recommendations, promotes the use of safer alternative materials that do not contain isocyanates or other similarly hazardous chemicals, and protects the health of weatherization installers and building residents.

Sincerely,



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[7] https://www.cdc.gov/niosh/topics/isocyanates/default.html
[8] NIOSH alert: Preventing Asthma and Death from Diisocyanate Exposure. Available: https://www.cdc.gov/niosh/docs/96-111/
[9] NIOSH alert: Preventing Asthma and Death from Diisocyanate Exposure. Available: https://www.cdc.gov/niosh/docs/96-111/
[10] NIOSH alert: Preventing Asthma and Death from Diisocyanate Exposure. Available: https://www.cdc.gov/niosh/docs/96-111/