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NRDC Comments on Steam Trap and CEH Measures

Additional submitted attachment is included below.

Dear Commissioner McAllister and Energy Commission Staff:

On behalf of the Natural Resources Defense Council (NRDC) and its more than 450,000 members and activists in California advocating for affordable and equitable decarbonization and clean air policies in buildings to help mitigate the climate crisis, we respectfully submit the following comments in response to the California Energy Commission's (CEC's) proposals for steam trap monitoring and controlled environmental horticulture (CEH) in the 2022 Title 24 building energy standards presented during the October 27, 2020 workshop. NRDC supports both of these measures as proposed, which are two of the single largest emissions reduction measures under consideration for the 2022 cycle.

NRDC supports the steam trap measure as proposed which will result in significant natural gas savings. Steam leaks due to steam traps failed open are a significant source of wasted steam in industrial systems. Without fault detection, these leaks can go undiscovered for long periods of time resulting in significant wasted steam and consequently natural gas combustion and resulting air and climate pollution. The mandatory measures proposed would require automatic fault detection and diagnostics (FDD) and steam trap strainer and blow-off valve assemblies for new facilities and new equipment in existing facilities. This is a common-sense requirement that will help reduce the likelihood of steam trap failure and help system operators detect and correct failures when they do occur, leading to emissions reductions and energy bill savings.

NRDC also supports the controlled environmental horticulture (CEH) requirements as proposed. CEH, in particular cannabis production facilities, are an energy-intensive and rapidly growing end-use in California. As documented in the Investor Owned Utilities (IOUs) Codes and Standards Enhancement (CASE) report, these facilities are projected to consume over 380 gigawatt hours by 2022, an increase of over 160 percent compared to 2017. Indoor cultivation is inherently energy-intensive when compared to outdoor production and should therefore be held to the highest energy efficiency standards that are cost-effective. Other states regulations and utility programs have shown that significant energy savings are achievable, cost-effective,

and do not harm production. For example, Massachusetts has required light emitting diode (LED)-equivalent efficiency levels for lighting since 2018 and utility programs in the Pacific Northwest have installed LED lights at many indoor growing facilities with successful results. While it is true that growing with LED lights does have a learning curve and requires adjustment of temperature and humidity conditions, with these adjustments, production can meet or exceed that of facilities using high pressure sodium (HPS) lamps. For example, when looked at systematically, one study found that production with LEDs was actually higher than with HPS lamps.¹ We therefore support the required photosynthetic photon efficacy (PPE) level proposed for large new indoor grow facilities of 2.1 micromoles/joule, which will require LED-level efficiency for these large facilities. These levels are cost-effective and have been shown to be achievable in other states' standards and programs. Limiting this requirement to just new facilities built in 2022 and beyond will allow these facilities to be designed for LEDs from the start, with properly adjusted temperature and humidity levels.

In summary, we support the measure proposed for both steam traps and CEH. These measures are cost-effective, reasonable, and will result in significant energy and emissions reductions.

Sincerely,

Pierre Delforge
Senior Scientist
Natural Resources Defense Council

¹ Magagnini et al,
The Effect of Light Spectrum on the Morphology and Cannabinoid Content of Cannabis sativa L.m
<https://www.karger.com/Article/Fulltext/489030>