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U.S. Environmental Protection Agency
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Mail Code 28221T
1200 Pennsylvania Avenue NW
Washington, DC 20460
(*submitted via regulations.gov*)

Comments of General Motors on Docket ID No. EPA–HQ–OAR–2021-0208 "Revised 2023 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions Standards" Notice of Proposed Rulemaking (NPRM)

General Motors LLC (GM) appreciates the opportunity to offer comments on the Environmental Protection Agency's (EPA's) Notice of Proposed Rulemaking on greenhouse gas emissions for 2023 through 2026 model years; 86 Federal Register 43726 (August 10, 2021).

If you have any questions, please contact me at 313-665-9967.

Sincerely,

Matthew Rudnick
Director – Climate, Environment & Energy Policy
Global Public Policy
General Motors

Executive Summary

For over a century, cars have driven our society, providing unprecedented mobility and transforming the way we live and work. GM leads the development of groundbreaking technologies and businesses that further its vision of zero crashes, zero emissions, and zero congestion. GM supports economy-wide efforts to address climate change including a drive towards an all-electric future and improving the fuel efficiency of our fleet through one national regulatory program that supports and strengthens American jobs and enhances the wellbeing of American consumers. GM supports the emission reduction goals of this proposal. The U.S. auto industry is embarking upon a profound transition as we do our part to achieve the country's climate commitments and GM is leading the way.

GM, and the U.S. auto industry, have made great strides in reducing greenhouse gas emissions since the GHG program was first adopted for the 2012 model year. GM has repeatedly stated a preference for standards through 2026 that continue to improve the greenhouse gas performance of the fleet. Further, we believe the standards should drive American leadership in battery electric vehicles (EVs). America must take the lead in this effort or other nations will dominate in electric vehicles and set global regulatory and industrial standards.

GM strongly believes that EVs are the future of transportation and has consistently advocated for modernized regulations that facilitate a market-facing bridge to that zero emissions future. In 2018, we were the first automaker to call for a National Zero Emission Vehicle (ZEV) program that enables scale by promoting ZEV investment that meets customer demand throughout the entire nation and effectively addresses climate change. GM remains focused on securing a durable National EV Policy that supports U.S. leadership in this transition.

Speed is important in reducing greenhouse gas emissions. We strongly believe that the fastest way to achieve an all-electric future is through a national program. GM supports one national program for all 50 states that will reduce regulatory uncertainty and enable all stakeholders to focus cooperatively on reducing greenhouse gas emissions, conserving energy, and growing the economy. The ability to sell the same fleet in all 50 states will also reduce manufacturer burden and consumer price, enabling quicker fleet turnover with sales of newer, more efficient vehicles.

GM plans to become carbon neutral in its global product portfolio and its operations by 2040 and has set science-based targets in line with the Paris Agreement and the U.S. Nationally Determined Contribution in support of that goal. Now is the time for policies that address climate change while promoting American industry, American workers, and American innovation in transportation technology. These policies should support investment in advances like EVs and complementary business models that will maintain U.S. leadership in global mobility. Implemented well, they can promote stable American industrial leadership while delivering significant environmental benefits.

Recently, we shared our aspiration of achieving 40-50% of annual U.S. sales volumes of all electric vehicles by 2030, with the higher end of the range enabled by supportive policies. For GM, that means going all-in on battery electric vehicles and selling them to customers across the United States. We additionally recognize that this proposal will set the baseline for a future rulemaking by the Biden

Administration for the 2027 model year and beyond.[1] We fully expect that rulemaking to leverage and accelerate the ambitious progress by industry toward our shared – and ultimate – goal of an all-electric, low-carbon transportation future.

GM supports the emission reduction goals of this proposal and believes that the environmental benefits can and should be achieved through high-volume electric vehicle sales that will set the industry on a stronger trajectory to greater GHG reductions in model year 2027 and later. The auto industry is embarking upon a profound transition as we do our part to achieve the country's climate commitments.

GM Is Making Substantial Progress Toward its Goal of an All-Electric Future

Every day, GM is moving closer to an all-electric future. We have committed more than $35 billion to EV and AV development, with plans to launch more than 30 EVs globally by the end of 2025, and we aspire to eliminate tailpipe emissions from new light-duty vehicles by 2035. In the U.S. we have announced more than $9 billion in investments to manufacture EVs and battery cell plants in Michigan, Ohio, and Tennessee. Even as we manage short-term challenges like COVID-19 and the semiconductor shortage, we continue to accelerate our investment in EVs. We have made significant strides towards an all-electric future, most recently announcing new vehicles, technological breakthroughs, and efforts to make the charging experience seamless for customers, including:

- Announcing a high-volume battery-electric Silverado, to be built at Factory Zero in Detroit-Hamtramck for both fleet and retail customers, with a GM-estimated 400 miles of range on a full charge for certain configurations.
- Unveiling the production version of the Tennessee-built Cadillac LYRIQ, an all-electric crossover, nine months earlier than planned due to our virtual engineering and software expertise.
- Unveiling both the GMC HUMMER EV and the GMC HUMMER EV SUV, all-electric Super Trucks, to be built at Factory Zero in Detroit-Hamtramck.
- Launching the redesigned Chevrolet Bolt EV and new Bolt EUV built in Orion, Michigan.
- Introducing BrightDrop, a business created to help commercial delivery fleets maximize productivity, improve safety, and reduce their carbon footprint. We are on track to begin delivering EV600 vans to our first customer, FedEx Express, later this year.
- Announcing that Ultium Cells LLC, our joint venture with LG Energy Solution, will begin construction of a new battery cell plant in Spring Hill, Tennessee. It will open in 2023, a year after our Lordstown, Ohio cell plant. Combined, these facilities will create over 2,000 new American jobs. In addition to these two facilities, we announced that we will build two additional cell manufacturing plants in the U.S. later this decade.
- We signed a joint development agreement and increased our investment in SolidEnergy Systems, one of several companies we are working with to help commercialize lithium-metal batteries, which have incredible potential to deliver even better EV performance, more range and lower costs for customers.

[1] *See* Executive Order 14037, Aug 5, 2021 (86 FR 43583).

- We will build two EVs for Honda using our Ultium technology – one SUV for the Honda brand, and one for the Acura brand.
- We introduced Ultium Charge 360, an innovative and holistic approach that integrates charging networks with our mobile apps and other products and services to simplify the charging experience for our EV customers. Through this initiative, we are offering customers access to more than 60,000 plugs across the U.S. and Canada.

Significant EV Investments Are Needed to Meet Climate Goals

These commitments towards an all-electric future demonstrate GM's seriousness in achieving the environmental benefits envisioned by the proposed standards. Accordingly, GM supports the proposal and is committed to working constructively to achieve those benefits. GM believes that industry compliance should primarily be met through increased sales of battery electric vehicles that will encourage mass adoption and help the U.S. claim a leadership position in auto electrification. We believe that focusing on a battery electric vehicle compliance pathway is a key component to setting the industry on an irreversible path towards a tailpipe-free light duty fleet. Concentrating industry on this pathway would also provide the necessary clarity for all stakeholders to make the critical investments in the nationwide charging infrastructure that will be required. Increasing battery electric vehicle volumes in the period of this rulemaking would provide a strong foundation for the industry to make the GHG reductions necessary to meet the Paris Climate objectives and provide a model for the next set of regulations targeting 2027-2035 which will need to focus on battery electric vehicle deployment.

Complementary Policies are Essential to the Nation's Transition to an All-Electric Future

GM supports the creation of a federally managed task force including stakeholders from the automotive industry, suppliers, and the public utilities commissions, to ensure that necessary complementary EV policies are enacted in the following areas, among others: Consumer Incentives and Education, EV Charging Infrastructure, Battery Research, and EV Raw Material Supply Chain.

Consumer Incentives and Educating the General Public

The 200,000 unit per manufacturer cap on the $7,500 Federal EV Tax Credit, 26 U.S.C. § 30D, should be modified to ensure that the credit does not penalize first movers in this space, currently putting companies like GM at a severe pricing disadvantage in the market for several years.

- This incentive should be available to consumers at the point of sale and should be able to be used by all retail, commercial, and government entities.
- A federally funded program should be established to drive EV adoption through federal, state, and local government fleet EV purchase commitments (recognizing that many government fleets cannot take advantage of tax credits).
- A federally funded national EV-awareness campaign should be established, including EV experience centers across the United States, K-12 education programs, and media programs that highlight the benefits of driving electric for both retail consumers and fleet operators.

EV Charging Infrastructure

GM recognizes that increased EV charging infrastructure is necessary for battery electric vehicles to achieve scale. To support this development, GM recommends the following initiatives for federal leadership and support:

- Reestablish and reform the EVSE (Electric Vehicle Supply Equipment) Infrastructure Tax Credit, 26 U.S.C. § 30C, to convert it into a refundable tax credit that can be used by all retail, commercial, and government entities.
- Establish a federal grant program to accelerate public and private workplace charging.
- Establish a federal grant program to accelerate investment in urban and high-density DC fast-charging hubs.
- Establish a national building code that requires all new residential construction (single family homes and multi-unit dwellings) to support EV charging.
- Establish a federal program to ensure all EV charging stations in the U.S. are easily identifiable to consumers (e.g. some uniformity in appearance).
- Enactment of the provisions of EV infrastructure included in the Bipartisan Infrastructure Bill passed by the U.S. Senate on August 10, 2021 and presently pending before the U.S. House of Representatives.

Battery Research and EV Raw Material Supply Chain

Today, there is an urgent global race to own the intellectual property and manufacturing footprint of battery electric and autonomous vehicle technologies, and to spur these global ambitions through deliberate and national industrial policies. Supply chains for sourcing and processing battery grade critical minerals in the U.S. are currently undeveloped. To compete in this global race, the U.S. government must adopt policies to promote domestic EV battery technologies, for example:

- Increasing the R&D investment in emerging battery cell technologies (cobalt lean/cobalt-free, Li-metal solid state and silicon-dominant negative electrode, etc.).
- Providing grants for public/private battery cell learning laboratories.
- Investing in U.S.-based battery cell and battery pack manufacturing capacity.
- Supporting growth of domestic EV battery supply chains, including extraction and processing of critical minerals for batteries, motors, and magnets.
- Enactment of the provisions for Battery Materials Research, EV and battery raw material processing, and battery cell manufacturing included in the Bipartisan Infrastructure Bill passed by the U.S. Senate on August 10, 2021 and presently pending in the U.S. House of Representatives.

Harmonization between EPA and CARB's GHG Programs and NHTSA's CAFE Program

In 2012, when the Obama Administration developed the initial 2017-2025 model year standards, attempts were made to harmonize the various programs as fully as possible. In fact, the Administration said in its regulatory announcement that "Continuing the National Program ensures that auto manufacturers can build a single fleet of U.S. vehicles that satisfy requirements of both federal programs as well as California's program." However, the "One National Program" still amounts to three separate regulatory programs, created under three separate regulations, managed by three separate regulatory agencies. As a result, the mechanics of the three programs and the regulatory

incentives permitted in each are different. Resulting from an extensive list of differences[2] and acknowledged by NHTSA in its recent CAFE NPRM,[3] compliance with one program does not guarantee compliance with all.

EPA's proposed GHG program is historically stringent. It is aligned with GM's and the nation's Paris Agreement commitments, and it achieves greater overall emission reductions than the Settlement Agreements entered into by California and several OEMs. Accordingly, GM believes that the Federal government should take all appropriate action to ensure that compliance with EPA's program for the 2021-2026 model years is deemed compliant with both the NHTSA and CARB programs for those years. GM further stresses that if an OEM complies with the EPA program, it should not be subject to civil penalties in the NHTSA program that may arise from the geographic location of its supply chain, or from the distinct requirements in California's program.

The certainty that EPA's proposed standards will serve as harmonized 50-state standards will enable industry to focus on innovation and investment in tailpipe-free solutions, and enable all three regulatory agencies and other stakeholders to put the nation's precious resources toward the complementary policies that are critical to achieving the low-carbon transportation future that we all desire. It will also help ensure that investments are focused on tailpipe-free solutions rather than marginal internal combustion engine improvements that divert resources from innovations needed to achieve the goals of the Paris Agreement.

Responses to Other Requests for Comment

General Motors believes regulatory incentives for real world off-cycle emissions reductions will continue to play an important role in reducing CO_2 emissions and increasing fuel economy. As such, GM supports EPA's proposal to raise the cap on off-cycle technologies. As discussed in previous comments by GM and industry, there are technologies and innovations that are important for EPA to acknowledge in its program to ensure continued progress toward meeting the agency's standards.[4]

GM acknowledges EPA's request for comment on a potential stringency increase of 5 to 10g/mi for the standards proposed for the 2026 model year. GM does not believe the current record includes sufficient technical analysis of this potential increase upon which to comment. GM believes that such analysis should include, among other things, (i) the likely impact of such an increase on BEV versus PHEV penetration in light of projected charging infrastructure expansion and consumer acceptance during the timeframe, and (ii) the impact of increased BEV versus PHEV penetration on United States' ability to meet its Nationally Determined Contribution under the Paris Agreement. GM would welcome the opportunity to provide additional comments if EPA chooses to supplement the proposal with sufficient technical analysis.

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[2] *See* EPA-HQ-OAR-2021-0208-0130 (June 29, 2021).

[3] 86 FR 49814-49816 (September 3, 2021).

[4] *See* NHTSA-2018-0067-12073 (October 26, 2018) and EPA-HQ-OAR-2018-0283-6186 (October 26, 2018); NHTSA-2018-0067-11858, EPA-HQ-OAR-2018-0283-4126. *See also* "EPA Decision Document: Off-Cycle Credits for Fiat Chrysler Automobiles, Ford Motor Company, and General Motors Corporation" EPA-420-R-15-014 (September 2015) ("EPA has evaluated the application and finds that the methodologies described therein are sound and appropriate. Therefore, EPA is approving the credits requested by GM.").

Alliance Comments

GM, as a member of the Alliance for Automotive Innovation, incorporates by reference the comments submitted by the Alliance on this rulemaking.

Conclusion

GM looks forward to working with all stakeholders to develop regulations that are complemented by strong federal, state, and local policies that will achieve our shared goal of emission reductions. GM will continue to focus on working with the Biden Administration on regulations and complementary EV policies that will support the industry's transition to zero emission vehicle future.

GM supports one national program across all 50 states and urges the federal government to pursue a regulatory program that encourages holistic consideration of the most cost-effective means to decarbonize the transportation sector and transition to an all-electric vehicle future that benefits the industry, its workforce, the nation, and our global climate.