Hydrogen
WASHINGTON GREEN HYDROGEN ALLIANCE

March 3, 2026

Washington State Department of Ecology

RE: Comments on Preproposal Statement of Inquiry Regarding Chapter 173-424 WAC (Clean Fuels Program Rule)

The Washington Green Hydrogen Alliance (WGHA) appreciates this opportunity to comment on the preproposal statement of inquiry regarding revisions to the Clean Fuels Program Rule. The WGHA mission is to advocate for policies and projects that advance renewable and green electrolytic hydrogen production, distribution, and end use in Washington State. Our member companies include Douglas County PUD, Tacoma Power, Toyota Motor North America and Hyfluence.

LDV/MDV HRI

The Hydrogen Refueling Infrastructure (HRI) capacity credit is one of the key provisions to address the fundamental requirement that hydrogen infrastructure must be built out in advance to enable zero emission fuel cell electric vehicle (FCEV) deployment. We believe that it is important to keep all avenues open for electrification including FCEVs for light-duty (LD) vehicles and medium-duty (MD) vehicles. LD and MD FCEVs enable environmental equity by providing ZEV options for consumers who believe they cannot or choose not to own BEVs because of range anxiety, charging times, or other concerns, and who would otherwise operate gasoline or diesel-powered vehicles. FCEVs are also good ZEV options for fleets that have high usage rates and insufficient electrical infrastructure capacity to charge BEVs. LD FCEVs are readily available at commercial scale and as HRI becomes available, will help support hydrogen demand while medium and heavy-duty OEMs scale up to commercial production.

Recently, Washington state opened the first publicly available LD hydrogen station in East Wenatchee at Douglas County PUD. Additionally, Toyota Mirai FCEVs are already deployed in the state with more expected with commercially available LD FCEVs are also available from at least additional 2 OEMs.

However, midstream of the previous rulemaking, Ecology eliminated HRI capacity credits for LD and MD vehicles using the following statement in CR-102 as its rationale.

> *2.3.7 Modifying ZEV capacity crediting*
> *The proposed rule amendments would reorganize requirements related to ZEV capacity crediting, retaining multiple baseline requirements and aggregate credit pools, but adjusting certain requirements. We expect the general reorganization proposed for these requirements to result in no impact beyond the changes identified*

above. This is because we do not expect (under the baseline or proposed rule) significant participation of light- and medium-duty hydrogen refueling infrastructure, which is the category eliminated under the proposed amendments.

WGHA commented in that rulemaking that we believed that this statement was arbitrary, subjective and not supported by evidence or in statute [RCW 70A.535.050(2)(a)] and we continue to believe so.

> RCW 70A.535.050(2)(a)
> *(2)(a) The rules adopted under RCW 70A.535.030 and 70A.535.025 must allow the generation of credits based on capacity for zero emission vehicle refueling infrastructure, including DC fast charging infrastructure and hydrogen refueling infrastructure.*

We believe the intent and clear statement of "The rules…must allow the generation of credits based on capacity for zero emission vehicle refueling infrastructure" is to provide HRI capacity credits for fueling of all types of FCEVs and thus enable the deployment of all types of zero emission fuel cell electric and battery electric vehicles. Further, this provision does not give Department of Ecology the authority to limit what category of zero emission vehicle it applies to.

Therefore, we once again strongly request that the HRI provision for LD and MD vehicles be reinstated in the rule. HRI capacity credits must be available for hydrogen fueling infrastructure serving all vehicle classes, both to comply with RCW requirements and, importantly, to accelerate the deployment of all forms of low-carbon fuels for zero-emission vehicles as quickly as possible.

Specific Recommendation:

After WAC 173-424-560 Generating and calculating capacity credits for ZEV fueling infrastructure pathways. (2) Heavy-duty DC fast charging infrastructure (HD-FCI) pathways, add a new section as follows:

(x) Light- and medium-duty Hydrogen refueling infrastructure (HRI) Pathways.

See Attachment 1 for proposed regulatory wording.

Hydrogen Renewable Content Rules

The imposition of an 80% renewable hydrogen content requirement exclusively for hydrogen raises pertinent questions on discriminatory treatment for electrolytic hydrogen since this is not required for electric charging.

In 2021 the legislature saw fit to add a definition of "green electrolytic hydrogen' to the RCWs where "renewable hydrogen" first appeared in 2019, recognizing that by 2030, the state's

Clean Energy Transformation Act (CETA) requires that electricity used to serve load in the state has to come from 80% carbon free generation, with the remaining 20% being carbon neutral; and by 2045, all electricity has to be from carbon free generation.

This 80% renewable hydrogen requirement places hydrogen at a competitive disadvantage against electricity used to charge BEVs, which does not have a similar minimum renewable requirement. The hydrogen eligible for capacity credits should include both hydrogen electrolyzed with CETA compliant electricity (green electrolytic hydrogen), similar to the electricity used to charge BEVs, and renewable hydrogen. Non-fossil electrolyzed hydrogen content should only be required to conform to CETA requirements. Adding "green electrolytic hydrogen" will conform to CETA electricity requirements and thus also include the use of "nonemitting generation" for hydrogen production. "Nonemitting generation" is allowed under CETA to meet all other uses of electricity in the state and would be included as a clean hydrogen pathway by including "green electrolytic hydrogen" consistent with state law.

Specific Recommendation:

WAC 173-424-110 Definitions
We request that the definition of green electrolytic hydrogen is added as follows:

(x) "Green electrolytic hydrogen" means hydrogen produced through electrolysis and does not include hydrogen manufactured using steam reforming or any other conversion technology that produces hydrogen from a fossil fuel feedstock.

WAC 173-424-120 Applicability
We request that "green electrolytic hydrogen[1]" to section (d) as shown below:

(d) Hydrogen. Effective January 1, 2030, hydrogen dispensed as a vehicle fuel must be at least 80 percent renewable *hydrogen or green electrolytic hydrogen*,

Thank you for your consideration and feel free to reach out to me at michael.lord@wagreenhydrogen.com or Dave Warren at dave@warren-group.net if you have any questions or concerns.

Michael Lord, Executive Director
Washington Green Hydrogen Alliance
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[1] RCW 54.04.190 and numerous other locations in the RCW "Green electrolytic hydrogen" means hydrogen produced through electrolysis and does not include hydrogen manufactured using steam reforming or any other conversion technology that produces hydrogen from a fossil fuel feedstock.

Attachment 1 – WAC-424-560 Generating and calculating capacity credits for ZEV fueling infrastructure pathways.

After (2) Heavy-duty DC fast charging infrastructure (HD-FCI) pathways, add a new section "*(x) Light- and medium-duty Hydrogen refueling infrastructure (HRI) Pathways"*.

(x) Light- and medium-duty Hydrogen refueling infrastructure (HRI) Pathways.

(a) *HRI Pathway Eligibility.* A hydrogen station owner may submit a LMD-HRI application to certify an HRI pathway subject to the following eligibility conditions:

i. The proposed LMD-HRI station must be located in Washington.

ii. The station must be open to the public, meaning that no obstructions or obstacles exist to preclude vehicle operators from entering the station premises, no access cards or personal identification (PIN) codes are required for the station to dispense fuel, and no formal or registered station training shall be required for individuals to use the hydrogen refueling station

iii. The HRI pathway application must be received on or before December 31, 2030.

iv. The following stations are not eligible for HRI crediting as LMD-HRI stations:

(A) Any station receiving or spending funds pursuant to any settlement related to any California or Federal regulation enforcement; or

(B) Any station built as a required mitigation measure pursuant to the State Environmental Policy Act; or

(C) Any LMD station co-located with a HD-HRI station that is not a public LMD-HRI station.

(b) *LMD-HRI Application Requirements.* For each LMD hydrogen refueling station, the station owner must submit an application in the WFRS containing the following information:

i. Name and address of the owner of the proposed station.

ii. Contact person for the owner entity:

(A) Name;

(B) Title or position;

(C) Phone number;

(D) Mobile phone number;

(E) Email address.

iii. Name, street address, latitude, longitude, and a location description for the proposed station.

iv. Expected daily permitted hours of operation for the station. If the daily permitted hours are less than 24 hours, the applicant must provide documentation from a permitting authority demonstrating that daily permitted hours for the station are limited.

v. The station nameplate refueling capacity for the permitted hours of operation calculated using HyCap (March 12, 2025), which is incorporated herein by reference, or an equivalent model or capacity estimation methodology approved by ecology. The applicant must submit a completed model with the application.

vi. The LMD-HRI refueling capacity for a LMD-HRI station is calculated using the following equation:

$$CCBBCC_{OORRIICC} = FF_{LLCCXXBBIIIIIICCSSII} \times EEFF_{OORRIICC}$$

where:

$CCBBCC_{OORRII}{}^{CC}$ is the HRI refueling capacity (kg/day) for the LMD-HRI station; and

$FF_{LLCCXX}{}^{BBIIIIIICCSSII}$ is the factor applied to the station based on LMD-HRI site type:

- For a public LMD-HRI station, 62.5%
- For a private LMD-HRI station, 31.5%

$EEFF_{OORRII}{}^{CC}$ is the nameplate refueling capacity for the LMD-HRI station determined in subsection (E) above or 1,200 kg/day, whichever is less.

vii. The number of dispensing units at the station.

viii. Expected source(s) of hydrogen, CI value(s), and method(s) used for delivery.

ix. Expected date that the station will be operational.

x. A signed attestation letter from the applicant attesting to the veracity of the information in the application packet. The attestation letter must be submitted as an electronic copy, be on company letterhead, be signed by an officer of the applicant with authority to attest to the veracity of the information in the application and to sign on behalf of the applicant, be from the applicant and not from an entity representing the applicant (such as a consultant or legal counsel), and include the following attestation:

I, an authorized representative of _____ (applicant entity), attest to the veracity of the information submitted as part of the Light- and Medium-Duty Hydrogen Refueling Infrastructure (LMD-HRI) application, attest that the proposed station is not receiving funds pursuant to any enforcement settlement related to any California or Federal regulation, and declare that the information submitted accurately represents the anticipated and intended design and operation of the hydrogen refueling station. Further, I understand and agree to each of the statements in the attached application. I am a duly authorized officer with authority to attest to the veracity of the information in the application and to sign on behalf of the respective applicant.

I understand that the following information in the LMD-HRI application will be made available on the LCFS website: Name of the Applicant Entity, Station Name, Station Owner, Station Address, Number of Dispensing Units, LMD-HRI Refueling Capacity, Publicly Accessible Hours, and Effective Date Range for HRI Crediting.

By submitting this application, _____(applicant entity) accepts responsibility for the information herein provided to CARB. I certify under penalty of perjury under the laws of the State of California that I have personally examined, and am familiar with, the statements and information submitted in this document. I certify that the statements and information submitted to CARB are true, accurate, and complete.

_____ _____ _____

Signature Print Name & Title Date

xi. CBI must be designated pursuant to the requirements described in section 95488.8(c).

xii. An application and supporting documents must be submitted electronically via the LRT-CBTS unless ecology has approved or requested in writing another format.

(c) *Application Approval Process*.

(i) The LMD-HRI application must be approved by the ecology before the station may generate HRI credits. LMD-HRI applications will be evaluated for approval on a first come, first served basis. If estimated potential HRI credits from all

approved HRI and LMD-HRI stations exceed 2.5 percent of deficits in the prior quarter, ecology will not approve additional HRI pathways for LMD-HRI stations and will not accept additional LMD-HRI applications until estimated potential HRI credits for approved HRI and LMD-HRI stations are less than 2.5 percent of deficits. If estimated potential HRI credits from an individual applicant's approved HRI and LMD-HRI stations exceed 1 percent of deficits in the most recent quarter for which data is available, ecology will not approve additional HRI pathways for that applicant's LMD-HRI stations and will not accept additional LMD-HRI applications from that applicant until the applicant's estimated potential HRI credits for that applicant's approved HRI and LMD-HRI stations are less than 1 percent of deficits.

Estimated potential HRI credits for LMD-HRI stations will be calculated using the following equation:

$$CCSSIIIIIIIICCIIII = \frac{AAooooIISSCCIIGG}{CCCCDDCCDDDDDD_{LLCCXX-OORRIICCIICCSSII\ AAIIII}} \times CCBBCC_{CCooIIIIIIICCSSIIIIIILLCCXX-OORRII}$$

$$CCCCDDCCDDDDDD_{LLCCXX-OORRII} \qquad CCBBCC_{LLCCXX-OORRII}$$

where:

$CCCCDDCCDDDDDD_{LLCCXX-OORRII}{}^{CCSSIIIIIIIICCIIII}$ means the estimated potential HRI credits from all approved HRI and LMD-HRI stations;

$CCCCDDCCDDDDDD_{LLCCXX-OORRII}{}^{CCIICCSSII\ AAIIII}$ means the total HRI credits generated by

operational HRI and LMD-HRI stations in the most recent quarter for which data is available;

$CCBBCC_{LLCCXX-OORRII}{}^{CCooIIIIIIICCSSIIIIII}$ means the total HRI and LMD-HRI capacity of HRI

and LMD-HRI stations that were operational in the prior quarter; and

$CCBBCC_{LLCCXX-OORRII}{}^{AAooooIISSCCIIGG}$ means the total HRI and LMD-HRI capacity of all

approved HRI and LMD-HRI stations, both operational and nonoperational.

The estimated potential HRI credits for HRI and LMD-HRI stations for an individual applicant will be calculated using the same equation as specified in subsection (B) above, where:

$CCCCDDCCDDDDDD_{LLCCXX-OORRII}^{CCSSIIIIIIIICCIIII}$ means the estimated potential HRI credits from the applicant's approved HRI and LMD-HRI stations;

$CCCCDDCCDDDDDD_{LLCCXX-OORRII}^{\text{Pr } CCSSII\ AAIIII}$ means the total HRI credits generated by the

applicant's operational HRI and LMD-HRI stations in the most recent quarter for which data is available;

$CCBBCC_{LLCCXX-OORRII}^{CCooIIIIIIICCSSIIIIII}$ means the total HRI and LMD-HRI capacity of the

applicant's stations that were operational in the most recent quarter for which data is available; and

$CCBBCC_{LLCCXX-OORRII}^{AAoooolISSCCIIGG}$ means the total HRI and LMD-HRI capacity of the

applicant's approved stations, both operational and nonoperational.

ii. After receipt of an application designated by the applicant as ready for formal evaluation, ecology will advise the applicant in writing either that:

(A) The application is complete, or

(B) The application is incomplete, in which case ecology will identify which requirements of section 95486.3(a)(2) have not been met.

(I) The applicant may submit additional information to correct deficiencies identified by ecology.

(II) If the applicant is unable to achieve a complete application in the quarter of ecology's receipt of the original application, the application will be denied on that basis, and the applicant will be informed in writing. The applicant may submit a new application for the station.

(C) At any point during the application evaluation process, ecology may request in writing additional information or clarification from the applicant.

iii. Ecology will not approve an application if ecology determines, based upon the information submitted in the application and any other available information, that the application does not meet

requirements in subsections 95486.3(a)(1) and (a)(2). If ecology does not approve the application, the applicant will be notified in writing and the basis for the disapproval shall be identified.

iv. If ecology determines that the applicant and application have met all requirements for approval pursuant to subsections 95486.3(a)(1) and (a)(2), ecology will approve the application and provide an approval summary on the LCFS website including the LMD-HRI station location and assigned identifier, number of dispensing units, LMD-HRI refueling capacity, and effective date range for HRI pathway crediting.

v. *Crediting Period.* HRI crediting for LMD-HRI stations is limited to 10 years starting with the quarter ecology approves the LMD-HRI application.

d) *Requirements to Generate HRI Credits.* To generate credits using the HRI pathway, the LMD-HRI station must meet the following conditions. The applicant must maintain, and submit to CARB upon request, records demonstrating adherence to these conditions.

i. The applicant must update the LMD-HRI refueling capacity if different from the design LMD-HRI refueling capacity provided in the application. Any station design or operational information that deviates from the original LMD-HRI application must be declared to ecology, and a new attestation must be submitted pursuant to section 95486.3(a)(2)(J).

ii. For a LMD-HRI station available to the public, no obstructions or obstacles exist to preclude vehicle operators from entering the station premises, no access cards or personal identification (PIN) codes are required for the station to dispense fuel, and no formal or registered station training shall be required for individuals to use the hydrogen refueling station.

iii. For a public LMD-HRI station that charges a fee for service, the station uses a public point of sale terminal that accepts major credit and debit cards.

iv. The station is connected to the Station Operational Status System (SOSS), is listed open for retail, and:

(A) The station passed final inspection by the appropriate authority having jurisdiction and has a permit to operate.

(B) The station owner has fully commissioned the station, and has declared it fit to service retail light- and medium-duty FCV drivers. This includes the station owner's declaration that the station meets an appropriate SAE fueling protocol.

(C) At least three OEMs have confirmed that the station meets protocol expectations, and their customers can fuel at the station.

(D) All retail dispensers installed in the hydrogen refueling station have been inspected for compliance with NIST Handbooks 130 and 44 standards as adopted in chapter 16-662 WAC and have a seal of approval issued by the Washington state department of agriculture.

v. The FSE registration must be completed pursuant to WAC 173-424-300 (1)(h) and the quantity of dispensed hydrogen must be reported as required in WAC 173-424-420.

vi. Dispensed hydrogen meets the following CI and renewable content requirements on a company-wide, weighted average basis. Ecology will consider all the stations registered by an entity with a unique FEIN in the LRT-CBTS for calculating the company-wide weighted average CI and renewable content.

(A) CI of 120 gCO_2e/MJ or less: and

(B) Renewable content of 50 percent or greater; and

(C) Starting January 1, 2030, the renewable hydrogen requirements specified in WAC 173-424-120 (4)(d).

vii. If the applicant fails to demonstrate the operability within 24 months of approval and if the estimated potential HRI credits from HRI and LMD-HRI stations exceed 2.5 percent of deficits in the most recent quarter for which deficit data is available, then the application will be canceled. The applicant may submit a new application for the same LMD-HRI station the following quarter.

e) *Calculation of HRI Credits.* HRI credits for LMD-HRI stations will be calculated using the following equation:

$$CCCCDDCCDDDDDD_{LLCCXX-OORRII}\ (MMMM)$$
$$= CCCC_{BBIIIIIIGGIIIIGGCCIIBBSSIICCIIII} \times EEEEEE_{CCIIBBSSIICCIIII} - CCCC_{OORRII} \times EE_{OO2}$$
$$\times CCBBCC_{LLCCXX-OORRII} \times NN \times UUMM - HH2_{GGCCBBoo} \times CC$$

where:

$CCCC_{BBIIIIIIGGIIIIGG}{}^{CCIIBBSSIICCIIII}$ is the average carbon intensity requirement of gasoline for a

given year as provided in section 95484(d);

$EEEEEE^{CCIIBBSSIICCIIII}$ is the dimensionless Energy Economy Ratio for H2/FCV relative to gasoline as listed in Table 5;

$CCCC_{OORRII}$ is the company-wide weighted average CI for dispensed hydrogen during the quarter or 0 g/MJ, whichever is greater;

EE_{OO2} is the energy density for hydrogen in MJ/kg as listed in Table 4;

$CCBBCC_{LLCCXX-OORRII}$ is the HRI refueling capacity for the LMD-HRI station (kg/day);

NN is the number of days during the quarter;

$UUMM$ is the uptime multiplier which is the percentage of time that the LMDHRI station is available as reported to SOSS during the quarter;

$HH2_{GGCCBBoo}$ is the quantity of hydrogen dispensed during the quarter (kg);

CC is a factor used to convert credits to units of metric tons from gCO_2e and has the value of:

$$CC = 1.0xx10^{\frac{-6(MMMM)}{(CCCCCC_2DD)}}$$

(f) *Reporting and Recordkeeping Requirements.* The following must be reported to ecology each quarter as set forth in section 95491 before credits will be issued to the LRT account associated with an approved HRI pathway.

i. Station availability. This is the percentage of hours the station is available for fueling during the quarter relative to the permitted hours of operation for the station, as reported to the SOSS. Any period of time that SOSS reports that a portion of the station capacity is not available will count as a pro-rated amount of station availability, proportional to the percentage of the station capacity that remains available for fueling for this period of time.

ii. Company-wide, weighted average renewable content (percent) for dispensed hydrogen.

iii. Cost and revenue data. Provide an annual account of the following costs borne and revenues received by the station owner up through the most recent reporting quarter per station. The cost and revenue account must be included in the annual report submitted pursuant to section 95491.

(A) Total capital expenditures ($), including a breakdown by equipment, labor, materials, land, and fees ($). Costs for on-site generation, land, working capital and off-site facilities are not included in the initial capital expenditure;

(B) Total delivered cost ($) of hydrogen and average delivered cost ($/kg) for hydrogen;

(C) Total maintenance costs ($);

(D) Total land rental cost ($);

(E) Total grant revenue or other external funding received towards capital expenditures ($);

(F) Total grant revenue or other external funding received towards operational and maintenance expenditures ($);

(G) Total revenue ($) received from sale of hydrogen and average retail price ($/kg) for hydrogen sold; 8. Other operational expenditures ($).

(H) Other operational expenditures ($)