

Webinar for Potential Applicants to RFQ 24-1: Benefits Assessment of Accelerated Turnover of the On-Road Diesel Vehicle Fleet in the United States

Health Effects Institute

March 19, 2024

The meeting will begin shortly.

A few logistics before we start:

- If you experience logistical difficulties, please email Robert Shavers: rshavers@healtheffects.org
- You can turn on **closed captioning** for the event at the bottom of your screen to the *right* of the Q&A button
- Please put questions about the RFQ or application process in the **Q&A** box
- The recording is for internal purposes only
- After the webinar, HEI will post the webinar slides and all questions and answers to the HEI website



Today's Agenda

1. Welcome and Introduction to HEI
2. Overview of the RFQ and Expectations for Applications
3. Question and Answer Session

Introduction to HEI

The Health Effects Institute

An independent, nonprofit corporation chartered to produce policy-relevant, high-quality, and impartial science

Funded jointly by government and the worldwide motor vehicle industry and, occasionally, private foundations

Funds research that is selected, conducted, overseen, and reviewed independently of HEI's sponsors

Does not take policy positions

How HEI Provides Impartial Science



Overview of the RFQ and Expectations for Applications

Motivation for Heavy-Duty Vehicle Impact Analysis

Substantial improvements can be achieved with new technology heavy-duty diesel engines (HEI ACES study*)

A substantial portion (40%-50%) of the current fleet of trucks and buses are pre-2010 vehicles that do not meet the newest standards

Older, more polluting vehicles are often found in urban areas and environmental justice communities

An opportunity exists to identify the exposure and health benefits that could be achieved by replacing pre-2010 diesel vehicles with new cleaner technologies



Heavy-Duty Diesel Fleet Turnover Panel



Marianne Hatzopoulou, Ph.D., Chair, Professor and Department Chair, University of Toronto and HEI Research Committee



Jane Lin, Ph.D., Professor, University of Illinois Chicago



Christopher Tessum, Ph.D., Assistant Professor, University of Illinois at Urbana-Champaign



Tara Ramani, Ph.D., P.E., Research Engineer, Texas A&M Transportation Institute



Deb Niemeier, P.E., Ph.D., NAE, Clark Distinguished Chair in Energy and Sustainability and Professor, University of Maryland



Kanok Boriboonsomsin, Ph.D., P.E., Research Engineer and Associate Director at CE-CERT, UC Riverside

RFQ 24-1: Benefits Assessment of Accelerated Turnover of the On-Road Diesel Vehicle Fleet in the United States

What are the potential emissions, air quality, human exposure, or health benefits that could be achieved by replacing older medium- and heavy-duty diesel vehicles in the United States with cleaner vehicle technologies?

Specific Aims of RFQ 24-1

1. Using a robust screening approach, identify an urban hotspot of older medium- and heavy-duty vehicle fleet activity in the United States that geographically overlaps with or is adjacent to a community that would be expected to benefit from reduced emissions associated with accelerated turnover of older medium- and heavy-duty diesel vehicles.
2. Quantify the baseline potential effects of accelerating medium- and heavy-duty diesel vehicle fleet turnover in the selected hotspot on air pollutant emissions, concentrations, community exposures, and health via phasing out the older medium- and heavy-duty diesel vehicles.
3. Identify current challenges or barriers to replacement of the older vehicles through engagement with owners and operators of medium- or heavy-duty diesel vehicles and other audiences who are potential beneficiaries of fleet turnover or have relevant experience.

Criteria for Evaluating Research Applications

- Relevance to the aims and key study design considerations of the RFQ and HEI's overall mission
- Scientific merit and rigor
- Experience, competence, and diversity of the research team
- Adequacy of facilities
- Reasonableness of the proposed budget
- Plans for disseminating results

Key Study Design Features: Definitions

Near-term benefits can be achieved in the next 5-10 years using existing technologies

Older medium- and heavy-duty diesel vehicles are Federal Highway Authority (FHWA) Class 3-9 diesel-powered vehicles that are 2010 or older model years

Hotspots are areas of elevated emissions from older medium- and heavy-duty diesel vehicles

Key Study Design Features: Identification of the Study Site

The description of the **screening approach** should include

- Site selection criteria

- Data sources or tools that will be used

- Potential benefits to the community that geographically overlaps with or is adjacent to the study site

- Relevant spatial scales and population characteristics

Other considerations only after the initial stages of screening

- The incremental contribution of the study to previously available information

- Availability of local data

Applicants may either describe a rigorous methodology to identify a site or propose a specific site with justification

Key Study Design Features: Benefits Assessment

Methodological Approach

Consider **where the vehicles operate** and consider a range of **ages and types of vehicles**

Might include **scenario analyses** and **health benefits assessments** or analyses related to changes in **air quality** and **potential exposures**

Spatial resolutions should reflect the spatial resolution of the emissions and impacts

Averaging times for air quality or exposure should be relevant to health effect endpoints

The **base year** should be the most recent year where sufficient data are available to complete the objectives

Pollutants

Must include **nitrogen oxides (NO_x)**

May include other pollutants

Key Study Design Features: Engagement

Intended to provide qualitative or quantitative information on the potential opportunities and barriers associated with replacing older medium- and heavy-duty diesel vehicles

Proposal details

- Engagement must include truck owners and operators

- Describe the audiences to be engaged and techniques to be used

- Include a preliminary engagement plan

Eligible Organizations

Lead organizations may be established consulting or research organizations based in the United States with the appropriate expertise to complete the work in the indicated timeframe and budget

Scientists from non-regulatory government agencies can participate but not lead a study

Questions about eligibility may be directed to Dr. Allison Patton,
apatton@healtheffects.org

Research Team

Principal Investigator (PI)

Must be affiliated with an eligible institution

Must be an expert in a relevant field with a track record of producing high-quality and objective research on the topic of the RFQ and leading multidisciplinary teams

Other team members

Must have the broad range of knowledge necessary to conduct the proposed research and engage with experts who represent multiple sectors

We encourage diverse research teams and have adopted the NIH definition of underrepresented populations in environmental health research

Any potential participation of HEI sponsors in advising the study must be described

Data Access and Facilities

Either existing or primary data can be used

Existing data must be described in detail and available to the study team prior to the start of the contract period

Primary data collection as part of the study is allowable

Follow HEI's data sharing policy

Research team must have access to or the ability to purchase all resources needed to support the proposed research

Timeline and Budget

HEI expects to fund one study of 18 months in length under this RFQ

Maximum of \$500,000 (total budget)

Can be used for personnel, equipment, supplies as needed

Includes preparation of the final report

HEI issues cost-reimbursement contracts (not grants)

Limits on overhead

For-profit institutions: Contact HEI to discuss any indirect costs or fees

Non-profit institutions: Indirect capped at 30% of direct costs, and applications should go through the normal processes for their institutions

Project Milestones

- Meet with HEI's Heavy-Duty Diesel Fleet Turnover Panel at key points during the study
- Progress report at the midpoint of the analysis period
- Draft final report after the conclusion of 15 months of work
- Final report at the end of the study period

Investigator Commitments

- Adhere to Ethics and Quality Assurance / Quality Control policies
- Meet project milestones
- Present a poster at HEI's Annual Conference
- No changes to proposed work or budget without Panel approval to ensure the study stays true to its original goals and the RFQ

PLEASE REVIEW HEI'S PROCESS BEFORE APPLYING:

<https://www.healtheffects.org/research/investigators/commitments>

Important Dates

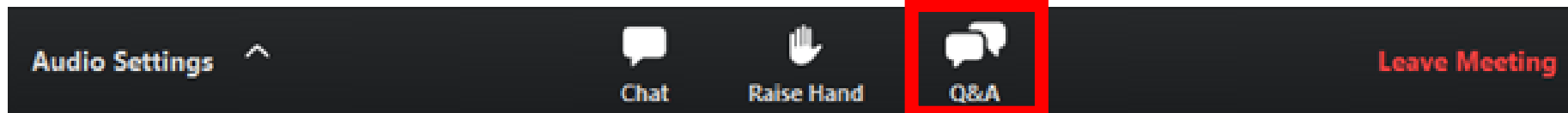
Date	Action
April 4, 2024	Emails indicating intent to apply due via email to apatton@healtheffects.org
April 18, 2024	Full applications due via email to funding@healtheffects.org
May 2024	HEI Diesel Fleet Turnover Panel reviews full applications
Summer 2024	Ethics approvals and contract negotiations
September 1, 2024	Anticipated study initiation

More information on this and other funding opportunities:

<https://www.healtheffects.org/research/funding/>

Question & Answer Period

Please type your questions about the RFQ and application process via the Q&A function.



We will post the webinar Q&A summary to our website

For general questions related to the HEI application process, please visit: <https://www.healtheffects.org/faqs>

If you have additional questions, please contact Dr.Allison Patton: apatton@healtheffects.org