

# Oregon DEQ Non-road Diesel Equipment Emission Inventory – Stakeholder Data Request

The following assistance will be requested from AGC members:

## Commercial Structure Profile

ERG requests AGC assistance identifying estimators and/or other subject matter experts familiar with commercial building construction throughout Oregon. Ideally we are looking for a group of 3-5 experts with experience bidding and managing projects, from small, single-story units to large multi-story structures, with varying footprints and lot sizes, in different regions of the state. Participants will work collaboratively with ERG and each other to develop representative profiles. Communication among the experts is critical to obtaining a representative profile.

The end product of the effort will be an Oregon-specific version of the composite commercial structure equipment use profile. A composite commercial structure equipment use profile developed by ERG for the state of Texas will be used as a starting point. This profile consists of 15 basic tasks, provided separately to AGC.

For each task experts will be asked to:

- Review/adjust the tasks included in the base profile
- Provide generic equipment assignments and productivity estimates for tasks with relatively low variability
  - o E.g., requirements for Task 8, Backfill Trench, and Task 10, Spread Crushed Stone, it may be easier to generalize task needs
- Review past projects to compile “composite” equipment and productivity assignments for more variable tasks
  - o E.g., cut and fill requirements can vary dramatically, and characterizing this task requires averaging across many projects. Determining the required number of projects and project selection is possibly the most challenging step in the process
- Help estimate the frequency of “intermittent” tasks
  - o E.g., building and pavement demolition tasks were present in 16% of the projects sampled for the Texas profile
- Help identify when/where task profiles should be broken into distinct subsets
  - o E.g., projects in forested and arid areas may warrant entirely separate profiles for certain earthwork tasks
  - o Alternatively, productivity adjustment factors may be developed to reflect the change in equipment hours due to different soil conditions, ground cover, etc.

The steps involved for the expert solicitation process are as follows:

1. ERG presents the base Texas profile and reviews the process employed in the past to develop the composite task profiles.

2. ERG requests initial input on the tasks in the base profile, and discusses the process needed to update it. We recommend conducting the first two steps as part of a half-day or day-long kickoff meeting in Portland.
3. ERG and experts work together on project selection and data compilation.<sup>1</sup>
4. ERG prepares draft equipment profiles for expert review and comment.
5. Iterative review and comment cycles will be held. We anticipate at least two iterations developing the composite profiles and activity adjustment factors (if applicable).
6. ERG prepares final profiles and accompanying documentation for DEQ and AGC review.

The time commitment required of each expert may vary significantly depending upon how many tasks can be “generalized”, how many prior projects need to be evaluated, and the format and organization of each company’s project records. In our estimate, 80 hours or more per expert may be necessary over a time period of up to 8 months. (Hopefully some data collection activities can be delegated to more junior staff within each organization.) That said, ERG will assist each participant however we can to help reduce the data collection and compilation burden. This will be one of the main subjects discussed during the kickoff meeting.

## Highway Construction Sector

For this sector ERG will conduct a survey of AGC members that served as general contractors and subcontractors for highway projects conducted across the state. ERG will select a cross-section of projects that occurred in 2017, grouped by project type:

- New highway / extensions
- Bridgework
- Widen existing roads / add turn lanes
- Repair / resurface
- Miscellaneous

ERG will develop a sample of projects for each of the above categories based on the basic project descriptions provided by ODOT, the counties, and the MPOs responsible for project funding and management. For each category, projects will be selected randomly, grouped by region of the state and project size (i.e., by dollar value). ERG will seek input from ODOT, DEQ, and AGC before finalizing the sample selections.<sup>2</sup> The number of projects to be researched is not known at this time, but we estimate roughly 30-50 statewide.<sup>3</sup>

ERG requests AGC assistance recruiting general contractors and their subcontractors to provide equipment use information for the selected projects. The types of questions that will be asked have been provided separately to AGC, and include information on the number, type, model year/tier level, horsepower, and total hours of equipment use for each project. Respondents will be able to respond by

---

<sup>1</sup> ERG will emphasize maintaining data confidentiality during the entire process. The final “composite” profiles will not be attributable to any one company or person.

<sup>2</sup> As one of our selection criteria, ERG will attempt to spread the data collection requests across multiple general contractors so as to not over-burden any one company.

<sup>3</sup> Note – a similar, much smaller survey will be needed for specialty, “one-off” projects as discussed during our meeting in October.

phone (for small subcontractors with limited equipment), via online survey, or using a customized spreadsheet.

Unlike the Commercial Structure Profile task described above, where the subject matter experts need to have a broad and deep familiarity with a wide range of project conditions and requirements, respondents for the highway sector surveys just need to have access to the equipment use records for the specific project(s) selected. The time to compile the required data can vary widely depending upon the size and complexity of the project activities. For example, a small subcontractor with only a few pieces of equipment may be able to compile the requested information in an hour or less, while a large general contractor operating dozens of targeted equipment units may need 20 hours or more.

We estimate the timeline for this data collection effort to be up to 8 months.