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**May 13, 2019**

**RESPONSE TO PUBLIC COMMENTS**

City Response to the Public Comments Received Regarding the Proposed New Requirements for the Supply of Commercial Grade Concrete (CGC) and Portland Cement Concrete (PCC)

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From February 13 through April 5, 2019, the City received public comments on the proposed requirements for product-specific Environmental Product Declarations (EPD) for the supply of Commercial Grade Concrete (CGC) and Portland Cement Concrete (PCC). Following the end of the public comment period, an internal City workgroup reviewed the public comments received and developed the following responses. Some of the questions/comments received were abridged (and repeat comments/questions grouped) for the purposes of this document. Some comments received were simply statements of support for the EPD requirement, and since no City response is required, those comments are not captured in this document.

The revised (and now final) requirements for product-specific Environmental Product Declarations (EPD) for the supply of Commercial Grade Concrete (CGC) and Portland Cement Concrete (PCC) is available online at: <https://www.portlandoregon.gov/brfs/article/731696>.

**QUESTIONS/COMMENTS RECEIVED**

- 1. Consider establishing regional maximum values for GWP specific to producers in a region of Oregon. This would be representative of the local materials and the local transportation infrastructure.**
  - A. The City will utilize the initial year of the EPD submittal requirement to gather GWP data on the concrete mixes utilized on City projects and then evaluate the feasibility of establishing a more localized GWP maximum value prior to implementing a GWP threshold.
- 2. Consider a requirement for three options for each specified type of mix be submitted for GWP values and mix design characteristics such as set time, finishability, workability, strength gain, and impacts to the construction schedule. This way the engineer and/or owner may determine how the project will be impacted.**
  - A. During the initial year of the EPD submittal requirement, the City will pursue obtaining additional information and data on how lower GWP concrete mixes impact design characteristics. This additional information will be reviewed by the City prior to implementing a GWP threshold.
- 3. How will “below the regional average” be defined given that an EPD’s GWP measurement has a margin of error around 10%?**
  - A. Since confidence intervals are not calculated for EPDs, we do not believe it is appropriate to refer to EPD GWP data as having a certain margin of error. That said, per the response to comment #1 above, the City will evaluate the feasibility of establishing a more localized GWP maximum value prior to implementing a GWP threshold.

- 4. Specifying concrete through prescriptive measures and combining that with a GWP threshold could be problematic because prescriptive measures like minimum percent cement requirements or water/cement ratios directly impact GWP. There is potential for the GWP and prescriptive measures may conflict, making impossible to supply a compliant mix. Similarly, consider the impact Supplemental Cementitious Materials (SCM) used to lower the GWP will have, such as: set times, strength gain, finishability, construction schedule, and durability.**
  - A. During the initial year of the EPD submittal requirement, the City will pursue obtaining additional information and data on how lower GWP concrete mixes impact design characteristics. This additional information will be reviewed by the City prior to implementing a GWP threshold.
- 5. Does the requirement timeline really allow enough time for local producers to comply? Both for the 2020 and 2021 deadlines.**
  - A. Given the number of concrete producers already participating in the [Oregon DEQ/OCAPA EPD Program](#), and the resources available through that program, the City believes the January 1, 2020 start date is appropriate. However, the City will be adjusting the proposed start date for a GWP threshold requirement to allow for a data review period (see responses to comments #1 and #2) and public notification period of such GWP threshold.
- 6. How will the regional average/benchmark for concrete compressive strengths not measured in the National Ready Mix Concrete Association's (NRMCA) report, such as a 4500psi mix, be determined?**
  - A. The City anticipates being able to average between surrounding strength classes in such cases.
- 7. Allow for (using a weighting methodology like in the USGBC LEED standard) industry-wide EPDs when the manufacturer is explicitly recognized as a participant by the program operator. This reduces the cost burden to small businesses of producing an EPD.**
  - A. Allowing for industry-wide EPDs does not provide the level of data the City feels is necessary to accurately pursue reducing the carbon intensity of the City's concrete use. Also, any Oregon concrete producer (whether large or small) can utilize the resources available through the [Oregon DEQ/OCAPA EPD Program](#). This program reduces the cost burden to concrete producers of developing EPDs.
- 8. Consider taking this effort a step further by using the City's purchasing power to encourage local ready-mix plants to adopt carbon capture strategies such as CarbonCure: <https://www.carboncure.com/>. This would reduce carbon emissions further and would then be available for use by all sectors.**
  - A. The City's focus is on reducing the carbon intensity of the City's concrete use, and thus, requirements will focus on this outcome. How producers achieve reductions in carbon intensity of their mixes is up to them.
- 9. Consider producing a regional EPD tool for all producers serving the City to use.**
  - A. Given the existing [Oregon DEQ/OCAPA EPD Program](#), the City is not considering this course of action at this time.
- 10. Proposed requirements unfairly target the concrete industry when other industries are identified as the State of Oregon's greatest polluters.**
  - A. The City is basing this course of action on greenhouse gas (GHG) impact data specific to the City's supply chain. It is not based on Statewide emissions data.

- 11. Proposed requirements, which are focused on embodied carbon of a single material, ignores design decisions. This misses the bigger picture that buildings and infrastructure projects have significant impacts over the entire life cycle (use phase, end-of-life phase).**
  - A. The City has many other policies and established practices, such as the City's Green Building Policy, that focus on design decisions and reducing the life-cycle impacts the built environment. Once a project decides to use concrete, the City seeks to reduce the carbon intensity of the concrete. It is not an either/or scenario.
- 12. This is not a good approach because there are more environmental impacts than just carbon/GHGs.**
  - A. Research has shown that for the environmental impacts reported in EPDs, lower GWP generally correlates with lower impacts in all other impact categories. Therefore, GWP is a good indicator of the overall environmental performance of a concrete mix.
- 13. This is not a good approach because EPD results are not comparable given the variation and uncertainties in background data.**
  - A. The City disagrees with this statement and considers product-specific Type III EPDs that are 3rd party verified against the same Product Category Rules (PCR) to be reliable for comparing the environmental impact of products with the same function. Additionally, the new ready mix concrete PCR requires the use of standard background data, which makes the resulting EPDs even more comparable.
- 14. Instead of proposed approach, the City should mandate the use of either: (a) LEED v4.1 MRc2 EPD credits; or (b) LEED v4.1 MRc1 Option 4: Whole-Building Life-Cycle Assessment.**
  - A. Since the majority of the City's concrete use is for infrastructure projects (not buildings that would be applicable to USGBC LEED certification) the City is pursuing a concrete EPD requirement that will work for all types of projects.
- 15. Instead of proposed approach, the City should provide incentives that focus on the material performance on the project (achievement in carbon emission reduction at benchmarks below industry average).**
  - A. The City may consider incentives for exceptional low-GWP performance beyond a basic threshold in the future.