General Program Instructions

For Environmental Product Declarations (EPD)

NATIONAL READY MIXED CONCRETE ASSOCIATION

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General Program Instructions

These instructions are used in the operation of the National Ready Mixed Concrete Association (NRMCA) program to verify and publish Type III Environmental Product Declarations (EPDs) for ready mixed concrete products, primary concrete ingredients and ancillary concrete-related products. These instructions meet the requirements of ISO 14025 Environmental labels and declarations – Type III environmental declarations – Principles and Procedures. This voluntary program is intended to assist industry users and stakeholders in their understanding about environmental considerations of concrete products and materials, and to further environmental performance. As a Program Operator (PO), NRMCA's role is specific to the independent verification of EPDs in accordance with ISO 14025 and on-going support with other POs in the development and renewal of the Concrete Product Category Rule (PCR). These General Program Instructions will detail direct and indirect Program Operator responsibilities.

These general instructions and associated published documents can be found on the NRMCA Environmental Product Declaration webpage www.nrmca.org/epd. These general instructions are used in synchronization with the NSF International Program Operator General Instructions and the NSF PCR for Concrete, as listed in the below PCR Development, Review and Maintenance section.

Program Scope

The scope of the NRMCA EPD Program is to facilitate the development, verification and publishing of Type III EPDs for ready mixed concrete products, concrete's raw material ingredients and ancillary concrete products in concert with applicable PCR. The primary region is for the North American ready-mixed concrete industry; however, other global regions may be considered if product categories are defined and utilizes similar naming conventions found in North American standards, methodologies and applicable PCRs.

Program Objectives

The objective of the NRMCA EPD Program is to facilitate the development and verification of credible, consistent and defensible Type III EPDs for Business to Business (B-to-B) applications. The EPDs are intended to assist specifiers, purchasers and manufacturers of concrete related products to disclose environmental impacts; however, EPDs will not represent environmental claims regarding the superiority or equivalence of one product versus a competing product that performs the same function.

Program Operator

The National Ready Mixed Concrete Association (NRMCA) is the Environmental Product Declaration (EPD) Program Operator. NRMCA, based in Alexandria, VA, is a 501 (c) (6) non-profit organization that represents the producers of ready mixed concrete and the companies that provide materials, equipment and support to the industry. Founded in 1930, the Association provides its members with education, training, certification, promotion, research, engineering, safety, environmental, technological, lobbying and regulatory programs to enhance the success of the ready mixed concrete industry. As the Program Operator, NRMCA will adhere to all sections contained within these General Program Instructions, with specific attention pertaining to independent Type III EPD verification and publication criteria.

Intended Audiences

Depending on the specific PCR, the intended audience for EPDs developed in this program are business-to-business (B-to-B) companies within the design, manufacturing and construction of the ready-mixed concrete industry's associated products.

Interested Parties

Interested parties are identified in the PCR development and/or renewal process, and separately when independently verifying EPDs. Each are referenced within their respective section of these General Program Instructions. However, only those with adequate knowledge of the products, the industry and methodologies to determine environmental stresses via life cycle assessment (LCA) are considered. The names of those organizations are published and publicly available.

Definition of Product Categories

The product categories are defined in the PCR using recognized product category code naming conventions, such as the UNSPSC (http://www.unspsc.org/). The PCR for ready-mixed concrete, primary raw materials or ancillary concrete-related products define the product category. In cases where UNCPC doesn't adequately distinguish product categories in the functional context of LCA and product declarations, the general UNCPC code or NAICS (North American Industry Classification System) and UNSPSC (United Nations Standard Products and Services Code) may be supplemented with a separate identifier.

PCR Development, Review and Maintenance

NRMCA serves as a key stakeholder in the development of PCRs that are applicable to the concrete industry such as concrete products, concrete ingredients or ancillary concrete-related products. NRMCA relies on the expertise of other Program Operators when developing PCRs. NRMCA takes on a role of commissioner, sponsor, participant, contributor and facilitator that supports the lead organization developing or renewing the PCR. The lead Program Operator executes the development or renewal of PCR in accordance with applicable ISO standards such as 21930:2017 and 14025:2006. Only when published will NRMCA utilize a PCR within these instructions while being mindful that it is applicable only to the ready-mixed concrete industry.

The inaugural PCR was developed by the Carbon Leadership Forum (CLF) and released November 30, 2012 with subsequent revisions and clarifications.

NSF International published version 2.0 of the Concrete PCR, released 2/22/2019, and currently manages the PCR. When developing the PCR, NSF International adhered to applicable ISO standards and their Program Operator Rules found here: https://www.nsf.org/newsroom_pdf/NSF_Program_Operator_Instructions-news.pdf.

The current PCR is version 3.2 (including deviation) – extension, released 2/28/2024, valid through 2/28/2025. It can be found here: https://d2evkimvhatqav.cloudfront.net/documents/PCR-Product-Category-Rules/NSF-1112-19-w-2024-dev-2024Ext.pdf.

Management of the Data and Documentation

NRMCA shall manage data and documentation in accordance with NRMCA's procedures for the control of documents and ISO 14044, Clause 5.

NRMCA will maintain a directory of EPDs verified within this program and have that it available to the public via: www.nrmca.org/epd.

NRMCA may, where applicable, reference other Program Operators and their PCRs and/or EPDs and list EPDs in relevant publicly-available repositories, where doing so would benefit the ready-mixed concrete industry.

Data Confidentiality and Management

Any confidential data or information supplied by or on behalf of parties seeking an EPD under this program will not be used for any purpose other than in connection with the generation of EPDs and related activities pertaining to verification. All data will be safeguarded, except for summary data and information that is required to be published in an EPD in accordance with the applicable PCR. NRMCA will prevent access by unauthorized persons. NRMCA employees, subcontractors, consultants, verifiers and stakeholder experts have entered into confidentiality agreements prior to having access to any such confidential information. All electronic and hardcopy data will be securely archived for any future communication with the client. Otherwise, NRMCA will return, upon request, all hardcopy or electronic documents, records, notebooks, computer media or other stored information containing confidential information in its possession or control. NRMCA, may from time-to-time use the published EPD results to develop industry baselines and averages for the purposes of benchmarking or developing and publishing industry average EPDs.

LCA for EPD Development

NRMCA will ensure that LCA practices are performed in accordance with the finalized PCR and ISO standards for the product category under consideration.

The manufacturer, or the LCA practitioner appointed by the manufacturer, supplies NRMCA with a project report describing the LCA work underlying the EPD. The project report is not made available to the public. Results, data, methods, assumptions and limitations, and conclusions of the LCA shall be provided in the project report. Results shall be transparent and presented in enough detail to allow an independent EPD verifier to confirm the following:

- Conformance with the ISO 14040 series of standards including ISO 14044, Section 5.2 and ISO 21930 (for building products);
- Conformance with the most current NRMCA general program instructions;
- That data evaluation includes coverage, precision, completeness, representativeness, consistency, reproducibility, sources and uncertainty;
- The plausibility, quality and accuracy of the LCA-based data;
- The quality and accuracy of additional environmental information;
- The quality and accuracy of the supporting documentation.

Procedure of Independent EPD Verification

NRMCA will ensure that a qualified practitioner reviews and verifies each EPD certified under this Program. Verifiers shall be an individual or organization with expertise in LCA methodology, knowledge of products manufacturing and related environmental aspects and possess knowledge of the category rules for concrete-related products.

NRMCA has vetted verifiers based on their competency in relevant standards in the fields of environmental labeling and declarations, the regulatory framework within which requirements for Type III environmental product declarations have been prepared, and the Type III environmental product declarations program. Independency for NRMCA verifiers adhere to 14025:2006, Clause 8.2, Independence and competencies of verifiers. The independent verification of the EPD and underlying LCA report and EPD shall, as a minimum, confirm the following:

- ISO 14020 and the relevant requirements of ISO 14025:2006, Clause 8.1.3, Independent verification of data and ISO 14025:2006, Clause 8.1.4, Independent verification of the Type III environmental declaration.
- Conformance with the current and relevant PCR; and
- General program instructions

NRMCA maintains a public list of independent verifiers.

Appendix A provides additional detail for verifying EPDs when utilizing integrated software tools.

Funding Sources and Program Fees

The program will be funded through NRMCA EPD Program fees. Program fees will be negotiated with each manufacturer or organization seeking EPD verification. Where appropriate, standard program fees will be published at www.nrmca.org/epd.

Periodic Review of Program Instructions

NRMCA will review the program rules at least every five years to ensure the general instructions are up-to-date and consistent with relevant standards and practices.

Use of the NRMCA Certified EPD and NRMCA Certified EPD Logo

Verified and published EPDs are the property of the commissioner, i.e., product producer. The information in the EPDs under this program shall not be quoted in whole or in part without written consent from EPD owner. The NRMCA Certified EPD, and accompanying logo, can only be used for the intended purpose to communicate the environmental impacts as listed in the EPD and can only be used by EPD owner. NRMCA reserves the right to legal action against manufactures or organizations that misuse or misrepresent the NRMCA Certified EPD Logo or contained within NRMCA Certified EPDs.

Monitoring and Coordinating with Related EPD Programs

NRMCA will strive to keep up-to-date on the general rules of related EPD Programs and PCR development. The goal is to make EPDs verified by NRMCA as consistent as possible with those in other EPD Programs, and to support the use of that information with full life cycle thinking in green building rating systems and green procurement programs.

Reference Documents and Relevant Standards

PCRs adopted and EPDs developed and verified under this program will comply with the following international standards:

- ISO 14020 Environmental labels and declarations—General principles
- ISO 14025:2006 Environmental labels and declarations—Type III environmental declarations – principles and procedures
- ISO 14040 Environmental management—Life cycle assessment—Principles and framework

- ISO 14044 Environmental management—Life cycle assessment—Requirements and guidelines
- ISO 21930:2017 Sustainability in building construction — Environmental declaration of building products

Appendix A: Independent Verifier Notes Regarding "Supplemental," "On-Demand," "Self-Generating," or "Automated" EPD Software Generating Tools

Supplemental EPD from a previous peer-reviewed LCA report Verification Procedures.
Where additional EPDs are developed from a previous peer-reviewed LCA report, the verifier will perform a background analysis of the LCA documents to check if the initial peer-review has been carried out in accordance with the ISO guidelines and ensure that the LCA is in conformance with the PCR. Supplemental EPDs will maintain the same expiration date as those submitted during the original LCA report. Therefore, supplemental EPDs will have an expiration date less than five years.

On-demand/automated EPD Generating Software Tool Verification Procedures
Where software tools are integrated within the product producer's operations and can automate the process of generating mix specific EPDs, initial verification of the software system shall be independently performed in accordance with:

- International Organization for Standardization. (2000). Environmental labels and declarations -- General principles (ISO 14020:2000)
- International Organization for Standardization. (2006). Environmental labels and declarations -- Type III environmental declarations -- Principles and procedures (ISO 14025:2006)
- International Organization for Standardization. (2006). Environmental management -- Life cycle assessment -- Requirements and guidelines (ISO 14044:2006)
- International Organization for Standardization. (2014). Environmental management -- Life cycle assessment -- Critical review processes and reviewer competencies: Additional requirements and guidelines to ISO 14044:2006. (ISO/TS 14071:2014)
- International Organization for Standardization. (2017). Sustainability in buildings and civil engineering works -- Core rules for environmental product declarations of construction products and services (ISO 21930:2017)
- Product category rules for product categories within the program scope, including but not limited to:
    - NSF International. (2024). NSF 1112-19 with 2024 deviation: Product Category Rule (PCR) for Environmental Product Declarations: PCR for Concrete. Version 2.3 – 2024 Extension. February 2024,
    - NSF International. (2021). Product Category Rule (PCR) for Environmental Product Declarations: PCR for Portland, Blended, Masonry, Mortar, and Plastic (Stucco) Cements. Version 3.2. March 2021,
    - NSF International. (2021). Product Category Rule for Environmental Product Declarations: PCR for Precast Concrete – UNCPC: 37550. Version 3. May 30, 2021.
    - NSF International. (2023). NSF/ASTM 1126-23: Product Category Rule (PCR) for Environmental Product Declarations: PCR for Construction Aggregates. Version 2. December 2023,
    - UL. (2022). Product Category Rules for Building-Related Products and Services Part A: Life Cycle Assessment Calculation Rules and Report Requirements. UL 10010. Version 4. March 28, 2022,
    - UL. (2022). Product Category Rules (PCR) Guidance for Building Related Products and Services Part B: Concrete Masonry and Segmental Concrete Paving Product EPD Requirements, UL 10010 – 29. Version 2. March 1, 2022,

- UL. (2022). Product Category Rules (PCR) Guidance for Building Related Products and Services Part B: Expanded Shale, Clay and Slate Lightweight Aggregate EPD Requirements, UL 10010 – 37. Version 2. January 25, 2022.

Including superseding versions of the above standards, and

- These NRMCA General Program Instructions.

NRMCA will accept the verification of software tools by other Program Operators or LCA practitioners with evidence that it meets the above standards.

For initial EPD verification, a third-party report per ISO 14044 is developed, representing the range of expected EPD results. The independent verifier uses this report and has access to the electronic LCA files behind that report and validates that permutations of those files yield similar (within 5%) results as permutation of the EPD automation software.

An "automated" EPD software system does not require independent verification of every EPD generated. However, NRMCA must either be notified when a new EPD is generated or have access to a directory possessing newly generated EPDs. This is required for NRMCA to assess LCIA results as being reasonable. If impact assessment results exceed typical thresholds (i.e., Global Warming Potential – GWP), when compared to similar mixes or industry-average impact results, these will be considered outliers and are audited. Statistical outliers must be sent to NRMCA for review, and authorization to publish. Tool providers will calculate outliers based on NIST methodology: http://www.itl.nist.gov/div898/handbook/prc/section1/prc16.htm. Additionally, the software tool must provide continuous statistical analysis of each EPD generated.

In addition to access to an EPD directory, yearly independent reviews may be required for either consistent software tool operations or if new LCI data (primary or secondary) is integrated into the EPD generating software tool. When new LCI data is added to a previously verified software tool, independent verification must confirm the LCA is still in compliance with the PCR and perform updated input-output testing of calculations of the new LCI data. When the PCR is updated, software verifications must also be performed in accordance with this section.