

State of Illinois
Department of Transportation
Bureau of Materials
Springfield

POLICY MEMORANDUM

Revised: May 21, 2021

1-08.3

This Policy Memorandum supersedes number 1-08.2 dated June 5, 2020.

TO: REGIONAL ENGINEERS AND HIGHWAY BUREAU CHIEFS
ASPHALT PRODUCERS AND ASPHALT TERMINAL SOURCES

SUBJECT: PERFORMANCE GRADED ASPHALT BINDER QUALIFICATION PROCEDURE

1.0 PURPOSE

To establish a procedure whereby Performance Graded Asphalt Binder produced from a **source** may be qualified for use on **State** or **local agency** projects based on a uniform **quality control** program.

2.0 SCOPE

This procedure shall apply to all **sources** which supply (produce) Performance Graded Asphalt Binder to (for) **State** and **local agency** projects. A **source** shall be a refinery or asphalt terminal that stores large quantities of asphalt binder in dedicated permanent storage tanks. A Performance Graded Asphalt Binder **source** shall not be a hot-mix asphalt **contractor**. A **source** shall be responsible for the quality and **specification** compliance of the produced grade(s) of asphalt binder.

3.0 REFERENCES

Performance graded asphalt binder used on **Department** projects must meet the **specification** requirements of the IDOT **Standard Specifications** for Road and Bridge Construction. Specifically, Article 1032.05, Performance Graded Asphalt Binder.

4.0 DEFINITIONS

AASHTO – American Association of State Highway and Transportation Officials.

AASHTO RE:SOURCE – Administrator of the Accreditation, Laboratory Assessment, and Proficiency Sample Programs for **AASHTO** (formerly the AASHTO Materials Reference Laboratory or AMRL). **Re:source** is part of the Engineering and Technical Services Division of **AASHTO**.

ACCEPTANCE SAMPLES (ACC) – Samples taken at the **source**, witnessed by **Department** representatives and tested by the **Bureau laboratory** to verify acceptability of unqualified material. Material acceptance is given to the quantity of **performance graded asphalt binder** in the tank, batch or lot.

BUREAU - Central Bureau of Materials (CBM), Illinois Department of Transportation, 126 East Ash Street, Springfield, Illinois 62704-4766.

BUREAU LABORATORY – The **Department's** central laboratory maintained and operated by the Central Bureau of Materials.

CONTRACTOR – The individual, firm, partnership, joint venture, or corporation contracting with the **Department** for performance of prescribed work.

DEPARTMENT - Illinois Department of Transportation (IDOT), including its **Districts** and Central Bureau offices.

ENGINEER – Chief Engineer of the **Department** of Transportation of the **State** of Illinois, or authorized representative as defined in Section 101 of the **Standard Specifications**.

INDEPENDANT ASSURANCE (IND) SAMPLE - A sample used to provide an independent check, or **quality assurance** on the reliability of the **Manufacturer's** or Supplier's **quality control** program.

INSPECTOR – The authorized representative of the **Engineer** assigned to make detailed inspection of any or all portions of the work, material, product, etc..

INVESTIGATIVE SAMPLES (INV) - Samples taken at the **source** or destination, witnessed by **Department** or **local agency** representatives, and tested by the **Bureau laboratory** to verify acceptability of **source** certified material.

LABORATORY – A testing laboratory of the **Department** or any other testing laboratory which may be designated by the **Engineer**.

LOCAL AGENCY - Municipality or City, County or Road District.

MANUFACTURER – A term synonymous with **Producer**.

MISTIC – Materials Integrated System for Test Information and Communication. A **Department-wide** database containing materials inspection and test information.

PRELIMINARY (PRE) –Samples taken by the **producer** or **Inspector** and tested in advance of the use of a material.

PROCESS CONTROL SAMPLES (PRO) - Samples taken and tested by the **source** for **quality control**.

PRODUCER – An individual or business entity producing materials and/or products for performance of prescribed work.

QUALIFICATION SAMPLES (PRE) - Annual split samples taken by the **source** and tested by both the **Bureau Laboratory** and the **Source Laboratory** to evaluate test equipment, procedures and product acceptability.

QUALITY ASSURANCE (QA) – All the planned and systematic actions necessary to provide adequate **Department** confidence that materials; manufactured, fabricated or constructed items; processes; products; designs; conducted test procedures; etc. will satisfy the requirements of the **Specifications**, **Quality Control Plan**, etc., as applicable.

QUALITY CONTROL (QC) - The sum total of activities performed by a **Source**, **Producer**, **Contractor**, **Manufacturer**, etc. to make sure materials; manufactured, fabricated or constructed items; processes; products; designs; conducted test procedures; etc. will satisfy the requirements of the **Specifications**, **Quality Control Plan**, etc..

QUALITY CONTROL PLAN (QC PLAN) – A document which details how a **Source**, **Producer**, **Manufacturer**, etc. will manage the equipment, materials, production, design, and testing methods, etc. to ensure the **Specifications** and other applicable requirements are met.

RANDOM SPLIT SAMPLES (IND) - **Independent assurance samples** taken at the **source**, witnessed by **Department** representatives, and tested by both the **Bureau laboratory** and the **source laboratory** to evaluate test equipment, procedures, and verify acceptability of **source** certified material.

RESIDENT ENGINEER (RE) – The authorized representative of the **Engineer** in immediate charge of the engineering details of a construction project.

RETAINED SAMPLES - Samples taken and held by the **Source** for **quality control**.

SOURCE – The name and location where a manufacturing process takes place such as a plant, refinery, or terminal. Generally used for cement, asphalt, and finely divided minerals.

SOURCE LABORATORY – A performance graded asphalt binder testing **laboratory** not operated by the **Department**.

SPECIFICATIONS - **Specifications** for materials; manufactured, fabricated or constructed items; processes; products; designs; conducted test procedures, etc. which includes the **Standard Specifications**, supplemental **specifications** and recurring special provisions, highway standards, shop drawings, contract plans, project special provisions, **AASHTO Specifications**, **ASTM Specifications**, etc., as applicable.

STANDARD SPECIFICATIONS – The **Department's** current **Standard Specifications** for Road and Bridge Construction.

STATE – The state of Illinois.

5.0 PERFORMANCE GRADED ASPHALT BINDER QUALIFICATION PROCEDURE

5.1 REQUIREMENTS FOR INITIAL QUALIFICATION

- 5.1.1 **Sources** requesting qualified status for their facilities shall make application in writing to the **Bureau**. This application shall include the following.

- a) The Company Acknowledgement Statement. [BMPR 101 Acknowledgement by Company](#).
 - b) A statement that the **Source** agrees to the terms, conditions and performance standards of the Bureau of Material's Policy Memorandum entitled "Performance Graded Asphalt Binder Qualification Procedure".
 - c) A statement that a routine procedure will be followed that makes a reasonable attempt to prevent the contamination of the material to be loaded into tank trucks or cars by the material previously carried.
 - d) A detailed **Quality Control Plan** as described in Article 5.2.2.
 - e) Evidence that the **Source** primary testing **laboratory** is inspected by **AASHTO Re:source**. The **laboratory** must maintain accreditation through continued participation in the **AASHTO Re:source** audit and inspection program. If the proposed **laboratory** is not inspected, then a statement that inspection for the testing **laboratory** by **AASHTO Re:source** has been requested, must be provided.
- 5.1.2 To be considered for qualification, a **source** must have an acceptable quality history. The judgement of an acceptable quality history will be based upon the **Department's** historical data. In the event no quality history exists, one will be established by testing an adequate number of samples obtained from the **source** production and **random split sampling (IND)**. During this pre-qualification period, performance graded asphalt binder from a **source** seeking qualification will be accepted only if it is from a **Bureau** pre-tested tank. Copies of bills of lading indicating the **source** of the asphalt binder shall accompany each load and shall be presented at **destination**. The bills of lading shall include information required in Article 5.3.9. The **source** shall also note the **MISTIC** Test Identification approval number on each bill of lading.
- 5.1.3 When a satisfactory quality history has been determined; **source** production will be accepted on the **manufacturer's** certification. The **Department** will place the **source** and qualified product(s) on the Qualified Product List of Performance Graded Asphalt Binder.
- ## 5.2 QUALIFIED SOURCE'S RESPONSIBILITY
- 5.2.1 Submit, electronically, a certified statement to the **Bureau** by March 31st of each year. The certified statement shall affirm that all materials to be furnished to **State** and **Local Agency** projects shall be tested according to the **Source Quality Control Plan** before shipment and shall conform to the **Department's** latest **specification** requirements for the types of materials furnished. The certified statement shall also include:
- a. The Company Acknowledgement Statement, if not already on file with the **Department**. Click the following for a link to this statement [BMPR 101 Acknowledgement by Company](#).
 - b. A statement that a routine procedure will be followed that makes a reasonable attempt to prevent the contamination of the material to be loaded into tank trucks or cars by the material previously carried.
 - c. Signature, including secure electronic signature, from a responsible officer of the **source** with authority to bind the **source** to the contract.
- 5.2.2 Submit, annually, a detailed **Quality Control Plan** to the **Bureau** for review. The plan shall identify the **Source** location, **Source Laboratory** name and location, and a complete description of the types and frequencies of the **quality control tests** to be performed. The

- plan shall include the procedures in place to prevent contamination of materials when loading into transports.
- 5.2.3 Be responsible for inspection costs associated with the initial plant qualification and subsequent sampling inspections. The **Source** is only responsible for payment if they are more than 50 miles outside the IL state line AND if the inspections cannot be completed within one day's normal work hours (7.5 hours). The **Source** shall pay for transportation, per diem (meals), lodging and incidental travel costs incurred by the **Bureau inspector**. The costs shall not exceed the limits established by the **Department's** travel regulations. At the **Bureau's** option, sampling arrangements may be made through an independent third party inspection agency.
- 5.2.4 Submit **Qualification Samples (PRE)** as follows: Prior to shipping, one (1) sample of each qualified performance graded asphalt binder shall be submitted to the **Bureau Laboratory** annually to be used for product qualification and to determine test result correlation between the **source quality control laboratory** and the **Bureau Laboratory**. The **Source** test data shall accompany all **Source Qualification Samples** submitted to the **Bureau Laboratory**.
- 5.2.5 Retain all samples taken for **quality control** testing for not less than 60 days. Maintain records of **quality control** testing data for a period of at least three years. Furnish the **Bureau** reports of **specification** compliance test results. These test results shall be submitted within one week of completion on the [BMPR 3415 Certificate of Analysis on Performance Graded Asphalt Binder](#) form. This form may be submitted by mail or electronically and must include a physical signature/secure electronic signature of the **source's** responsible officer with authority to bind the **source** to the authenticity of the test results. If the **quality control** testing is performed by a **laboratory** other than the **source**, a copy of the test report from that **laboratory** must also be provided.
- 5.2.6 Maintain copies of bills of lading and of quantities of performance graded asphalt binder shipped for a period of at least three years.
- 5.2.7 Have the **source** primary **laboratory** facility (test methods and equipment) inspected by **AASHTO Re:source** in accordance with the **AASHTO Re:source** schedule (typically 18-24 months). The **laboratory** shall demonstrate all required tests for the binders produced. A copy of the **AASHTO Re:source** report on the lab inspection shall be made available to the **Bureau** upon request, accompanied by documentation of resolution of any discrepancies in the report. **Source** satellite **laboratory** equipment and procedures shall be inspected regularly by **AASHTO Re:source** or annually by the **source's** primary **AASHTO Re:source** inspected **laboratory** staff. A copy of the report of the satellite **laboratory** inspection shall also be made available to the **Bureau** upon request. The cost of these inspections shall be borne by the **source**.
- 5.2.8 Each **source** that is identified as a major supplier of PG 64-22 shall provide the monthly price of this grade of asphalt binder with no shipping or transportation costs included. A list of major suppliers will be developed annually by the **Bureau** of Materials. The list will be based on the amount of PG 64-22 from each **source** assigned in **MISTIC** to hot-mix asphalt from the previous calendar year. The **Bureau** will notify each **source** in writing by March 1st of each year of their inclusion in the list of major suppliers. PG 64-22 prices will be used to determine the monthly Bituminous Price Index available at [Price Indices](#).

When required, major suppliers must submit their contact information including the company representative's name, the **source** name, phone number and location as well as the price of PG 64-22. The price submitted should reflect the price on the day the quote is given.

The Bituminous Price Index should be posted on the first day of each month. To meet this requirement, all major suppliers must submit their pricing information at least three business days before the end of the month. Information should be emailed to the Cost Estimate Engineer with the Bureau of Design and Environment at DOT.DandEBitPrice@illinois.gov.

5.3 REQUIREMENTS FOR QUALIFIED SOURCES

- 5.3.1 An evaluation of product uniformity based on the **manufacturer's process control samples, independent assurance samples, qualification samples, random split samples, retained samples, and investigative samples** will be conducted by the **Bureau** to verify the **source's laboratory** testing and the PG binders' **specification** compliance.
- 5.3.2 Unscheduled visits will be made to all **sources** periodically by an **inspector** from the **Bureau**. At this time, the **inspector** shall obtain any of the following types of samples: **acceptance, investigative, independent assurance/random split, or retained**. If one of these asphalt binder samples taken at the **source** does not meet any **specification** requirement then it fails, and the **source** will be informed in writing of the failing test result. The **Bureau** and the **source** shall discuss the failure, the root cause of the failure, and determine the immediate actions that need to be taken.
- 5.3.3 The **source's Quality Control Plan** shall list the actions that are triggered by failing test results.
- Immediately notify the **Department** and **contractor** of the shipment in question.
 - Identify the material or grade of asphalt binder and the quantity shipped.
 - Cease future shipments until the asphalt binder complies with the **specifications**.
 - Notify the **Department** prior to resuming shipments
 - Implement any mutually agreed upon procedures for the disposition of the material
 - If a mutual agreement is not obtained, the **Department** shall have final authority in the decision on **specification** compliance.
- 5.3.4 After a failing test result, the **Source's** production of this recently failed asphalt binder grade will be monitored more closely to ensure a proper quality history is maintained. If it is determined that the **source** is not capable of maintaining a positive quality history, then the **source** shall be removed from the Qualified Product List of Performance Graded Asphalt Binder for that grade of asphalt binder.
- 5.3.5 The test results obtained on **qualification samples** by the **source laboratory** and the **Bureau laboratory** shall be compared to determine differences in testing that may occur between the two laboratories. If it is found that the two laboratories differ significantly or by more than **AASHTO's** allowed precision for multiple laboratories, then this difference must be resolved to the mutual satisfaction of both laboratories.
- 5.3.6 **Investigative samples** shall be randomly taken at the bituminous hot-mix plant or destination. All asphalt binder sampling must be witnessed by the **Resident Engineer**. The

minimum sampling frequency for asphalt binders at each active bituminous hot-mix plant shall be one line sample per week for each grade of asphalt binder being used.

- 5.3.7 Samples as obtained in Articles 5.2.4, 5.3.2 and 5.3.6 shall be sent to the **CBM laboratory** to be tested for conformance to the **Department's specifications**. All destination samples sent to the **Bureau laboratory** shall be accompanied by the corresponding bills of lading and LM6 Sample Identification forms. In the event of a failing test result, the qualified **Department inspector** indicated on the LM6 will be informed in writing of the failure. This **inspector** will then be required to inform the **Resident Engineer** on the job of the failure. The **Resident Engineer** will work with the involved parties to obtain a resample at the destination. To ensure quality, the RE may require additional destination sampling and testing of the asphalt binder in question. For each job the **Department's** response to the failure will be decided by the affected District. If needed, the Central Bureau of Materials will be available in an advisory capacity.
- 5.3.8 A **source** shall be removed from the Qualified Product List of Performance Graded Asphalt Binder **Sources** if the test results obtained on asphalt binder samples indicate a pattern of non-conformance to any **specification** requirement.
- 5.3.9 Copies of bills of lading shall accompany each load and be presented for filing at destination. The bills of lading shall contain the following information:
- a) **Source** tank number(s) from which PG asphalt binder was drawn.
 - b) Sequence number identifying the Certificate of Analysis form.
 - c) Where used (section, county, contract number, etc.).
 - d) Consignee & destination.
 - e) Bill of lading number.
 - f) Date of shipment.
 - g) Particular grade of performance graded asphalt binder.
 - h) Name and location of **source**.
 - i) Specific gravity at 15.6° C (60° F).
 - j) Gross, tare and net weights.
 - k) Specific identity of material last transported.

In addition to the above, the **source's** copies of the bills of lading representing rack blended loads shall show the actual gallons or percent of each component material delivered.

5.4 REVOCATION OF A SOURCE'S QUALIFICATION

- 5.4.1 The **Department** may revoke a **source's** qualification for any of the following reasons:
- (a) A qualified **source** that fails to meet the **Department's** criteria for qualification status.
 - (b) A qualified **source** that fails to follow a routine procedure to inspect the transport tanks, trucks or cars and does not make a reasonable attempt to prevent the contamination of asphalt binders.
 - (c) A qualified **source** that fails to follow its **Quality Control Plan** submitted and reviewed by the **Bureau**.

- (d) A qualified **source** identified as a major supplier that fails to submit prices as required in 5.2.8. If a **source** fails to submit a price by the first day of the month more than two times during a twelve month period.

5.4.2 The **source** may re-apply for qualification status at the end of the revocation period. Re-application shall be in writing to the **Bureau** and include the specific steps taken to correct the cause for the loss of qualification.

5.5 ACCEPTANCE PROCEDURES

5.5.1 Material will be identified by the bill of lading accompanying the shipment. **Department** field representatives will check the bill of lading of each shipment to determine its identity and **source**. This information will then be compared with the current Qualified Product List of Performance Graded Asphalt Binder **Sources** to determine the acceptability of the asphalt binder.

(a) If the bill of lading shows a **source** location and qualified product which are on the Qualified Product List of Performance Graded Asphalt Binder **Sources**, then the asphalt binder shall be accepted for use on **State** and **local agency** projects.

(b) If the bill of lading shows a **source** location or product which is not on the Qualified Product List of Performance Graded Asphalt Binder **Sources**, but the bill of lading does contain the **MISTIC** test identification approval number, then the asphalt binder shall be accepted and used.

(c) If the bill of lading shows a **source** location or product which is not on the current Qualified Product List of Performance Graded Asphalt Binder **Sources** and does not contain the **MISTIC** test identification approval number, then the asphalt binder will not be accepted for use on **State** and **local agency** projects.

6.0 DOCUMENTATION

6.1 Test results of **qualification samples, acceptance samples, random split samples, retained samples, independent assurance samples, investigative samples, and process control samples** shall be maintained at the **Bureau** and shall be made available to authorized agencies upon request and for review by the **source**.

6.2 The **Bureau** will maintain a current Qualified Product List of Performance Graded Asphalt Binder **Sources** on the IDOT website. The list will include the name of the **source**, the **source** number, the location of the **source**, and the **source's** qualified products. The **Bureau** will update the list with any necessary changes. The approved Qualified Product List of Performance Graded Asphalt Binder **Sources** is available at [Qualified Product List of Performance Graded Asphalt Binder Sources](#).

6.3 Personnel on projects receiving asphalt binder from a **source** whose qualification has been revoked will be notified immediately by the district office.

6.4 Copies of bills of lading shall accompany each load. In the case of asphalt binder delivered to the project, the bills of lading shall be maintained in the project files.

- 6.5 When performance graded asphalt is used in bituminous plant mixtures, the bills of lading shall be maintained at the mix plant.

7.0 CLOSING NOTICE

Archived versions of this policy memorandum may be examined by contacting the **Bureau**.

The current **Bureau** Chief of Materials has approved this policy memorandum. Signed documents are on file with the **Bureau**.