TO: REGIONAL ENGINEERS AND HIGHWAY BUREAU CHIEFS
EMULSIFIED ASPHALT MANUFACTURERS

SUBJECT: EMULSIFIED ASPHALT QUALIFICATION PROCEDURE

1.0 PURPOSE

To establish a procedure whereby Emulsified Asphalt 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 that supply Emulsified Asphalt to State and local agency projects. A source shall be an emulsified asphalt manufacturing plant that stores large quantities of asphalt emulsions in dedicated permanent storage tanks. A source shall be responsible for the quality and specification compliance of the produced asphalt emulsions.

3.0 REFERENCES

Emulsified asphalt used on Department projects must meet the specification requirements of the IDOT Standard Specifications for Road and Bridge Construction. Specifically, Article 1032.06, Emulsified Asphalts.

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 emulsified asphalt 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.

**INDEPENDENT ASSURANCE SAMPLE (IND)** - 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 SAMPLES (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.

**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 – An asphalt emulsion 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 book entitled “Standard Specifications for Road and Bridge Construction”.

STATE – The state of Illinois.
5.0 EMULSIFIED ASPHALT 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 “Emulsified Asphalt 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, emulsified asphalt 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 emulsion 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 (QPL) of Emulsified Asphalt.

5.2 QUALIFIED SOURCE’S RESPONSIBILITY

5.2.1 Submit, by mail or 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 type of emulsified asphalt furnished. This 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 names and locations, 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 and any procedures to address failing materials.

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 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 Retain all samples taken for Quality Control testing for not less than 30 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 and on the BMPR 3555 Certificate of Analysis on Emulsified Asphalt 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.

5.2.5 Maintain copies of bills of lading and of quantities of emulsified asphalt shipped for a period of at least three years.

5.2.6 Have the source primary laboratory facility (test methods and equipment) regularly 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 emulsified asphalts produced. A copy of the AASHTO Re:source report on the lab inspection shall be provided 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 be sent to the Bureau upon request. The cost of these inspections shall be borne by the source.

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, random split samples, retained
samples, and investigative samples will be conducted by the Bureau to verify the source's laboratory testing and the emulsified asphalts' 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 emulsified asphalt 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.

a) Immediately notify the Department and contractor of the shipment in question.
b) Identify the material or type of emulsified asphalt and the quantity shipped.
c) Cease future shipments until the emulsified asphalt complies with the specifications.
d) Notify the Department prior to resuming shipments.
e) Implement any mutually agreed upon procedures for the disposition of the material.
f) 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 type of asphalt emulsion 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 (QPL) of Emulsified Asphalt for that type of asphalt emulsion.

5.3.5 A source shall be removed from the Qualified Product List (QPL) of Emulsified Asphalt Sources if the test results obtained on asphalt emulsion samples indicate a pattern of non-conformance to any specification requirement.

5.3.6 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 from which emulsified asphalt was drawn.
b) Sequence number identifying the Certificate of Analysis form.
c) Where used (contract number, section, county, etc.).
d) Consignee & destination.
e) Bill of lading number.
f) Date of shipment.
g) Particular type of emulsified asphalt.
h) Name and location of source.
i) Weight per gallon at 15.6°C (60°F).
j) Gross, tare and net weights.
k) Specific identity of material last transported.

5.3.7 For diluted asphalt emulsions the following must be included on the bill of lading: the percent asphalt residue of the certified asphalt emulsion, the weight of the undiluted asphalt emulsion and the weight of the additional added water.
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 does not make a reasonable attempt to prevent the contamination of emulsified asphalt.

c) A qualified source that fails to follow its Quality Control Plan submitted and reviewed by the Bureau.

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 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 data on the current Qualified Product List of Emulsified Asphalt Sources to determine the acceptability of the emulsified asphalt.

(a) If the bill of lading shows a source location and qualified product which are on the Qualified Product List of Emulsified Asphalt Sources, then emulsified asphalt 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 Emulsified Asphalt Sources, but the bill of lading does contain the MISTIC test identification approval number, then the emulsified asphalt 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 Emulsified Asphalt Sources and does not contain the MISTIC test identification approval number, the emulsified asphalt will not be accepted for use on State and local agency projects.

6.0 DOCUMENTATION

6.1 Test results of 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 Qualified Product List of Emulsified Asphalt Sources on the Department's website. The QPL 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 QPL when the status of any source changes. The approved Qualified Product List of Emulsified Asphalt Sources is available at Emulsified Asphalt.

6.3 Personnel on projects receiving emulsified asphalt 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 emulsified asphalts delivered to the project, the bills of lading shall be maintained in the project files.

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

7.0 CLOSING NOTICE

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

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