

Add these two sections:

105.20 Contractor Quality Control. The contractor shall perform Quality Control (QC) in accordance with the contract and specifications. Contractor QC responsibilities shall include all specified QC material testing and general quality control monitoring of all construction activities to ensure all materials and workmanship meet requirements. The engineer or designee shall perform Quality Assurance (QA) testing and monitoring except as specified otherwise in the contract or specifications.

105.21 Project Safety. The contractor shall develop and implement a plan for project safety as specified in Sec 107.

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SECTION 106 CONTROL OF MATERIAL

106.1 Source of Supply and Quality Requirements.

106.1.1 All material needed in the work shall be furnished by the contractor, unless otherwise stated in the contract. The contractor shall assume full responsibility for ordering material of the required quality and quantity. The contractor shall be responsible for the delivered costs of all material ordered.

106.1.2 The material used in the work shall meet all quality requirements of the contract, and shall be obtained from supply sources that meet the approval of the engineer. If a uniform product is not being furnished from a supply source or if for any reason, the product from any source at any time proves to be unsatisfactory, the contractor may be required to furnish approved material from other sources. The engineer may reject the entire output of any source where it is impractical to secure a continuous flow of uniformly satisfactory material.

106.1.3 Any work incorporating material having no prior approval from the engineer shall be performed at the contractor's risk and may be considered unacceptable and unauthorized and, if so considered, will not be paid for. If a change in source will affect the control or appearance of the work, the use of any one kind or class of material for a specific project from more than one source will be prohibited, except as approved by the engineer. If approved, the engineer will set forth the conditions under which the change may be made.

106.1.4 Material will be subject to inspection or test at any time during production or manufacture or at any subsequent time prior to or after incorporation into the work. The points of inspection will be determined by the engineer. Material for sampling will be selected by the engineer. Material provided by the source solely as a sample of that material for testing verification will not be permitted. Initial inspection, testing and approval or rejection will be made as early as practical. The engineer may waive any of the requirements regarding determination of quality and accept material on certification or visual inspection if, in the judgment of the engineer, the quantity involved is too small or the material use is not sufficiently important to warrant tests.

106.1.5 To expedite the inspection and testing of material, the contractor shall submit a list of proposed sources of material to the engineer at the pre-construction conference or two weeks prior to beginning work, whichever is earlier. The list shall be in a format acceptable to the engineer. At the option of the engineer, material may be approved at the source of supply before delivery is started.

106.2 Local Material Sources.

106.2.1 Designated Sources. The Commission may acquire the right and make available to the contractor the right to take material from sources designated on the plans or described in the contract including the right to use designated property if so specified, for plant site, stockpiles and haul roads. In general, the quality of material contained in such sources will be considered acceptable, but the contractor shall determine the method of operation, equipment and work required to produce a material meeting the specifications from the source. Designation of a source for material will not be a representation of the quantity of acceptable material obtainable or the method, equipment or work required to obtain material from the source. It is not feasible to ascertain from samples the limits for an entire deposit, and variations will be considered as usual and are to be expected. The engineer may order procurement of material from any portion of a deposit and may reject portions of the deposit as unacceptable.

106.2.2 Contractor Furnished Sources. If sources of material are not designated on the plans or described in the contract, or if the contractor desires to use material from sources other than those designated, the contractor shall acquire the necessary rights to take material from the sources and shall pay all costs related thereto, including any that may result from an increase in length of haul. All costs of exploring, meeting environmental requirements and developing such other sources shall be at the contractor's expense. Environmental compliance documentation shall follow MoDOT requirements for contractor furnished borrow, as described in [Sec 203.3](#), and shall be submitted to the engineer for review and approval. The use of material from other than designated sources will not be permitted until representative samples taken by the contractor in the presence of the engineer have been approved and written authority is issued for the use thereof. If sources of material or material deposits are provided by the contractor, the engineer will test the samples and determine the suitability of the material.

106.2.3 Operation of Sources. Whether sources of material are acquired and made available by the Commission or are furnished by the contractor, activities shall be in compliance with all federal and state laws and the areas shall be excavated or worked in such a manner to comply with the current MoDOT Pollution Prevention Plan and minimize siltation of streams, lakes, ponds and reservoirs.

106.2.4 Final Condition of Sources. Unless otherwise permitted, pits and quarries shall be excavated such that water will not collect and stand therein. Sites from which material has been removed shall be left in such a condition to avoid or minimize siltation of streams, lakes, ponds and reservoirs, and shall be left in a neat and presentable condition upon completion of the work.

106.3 Samples, Tests and Cited Specifications. Samples for tests will be taken and shipped to the laboratory in accordance with MoDOT's *Engineering Policy Guide (EPG) 106.3.1*. There shall be no direct charge to the Commission for material taken as samples, either for field tests or for laboratory tests. If a specification of a recognized national standard agency (AASHTO, ASTM, AWS, AWWA, etc.) is designated, the material shall meet either the designated specification if a date is indicated or the latest revision thereof in effect at the time of bid opening. Tests of samples of material will be conducted by the engineer in accordance with the methods specified in the contract or in accordance with the latest methods in effect at the time of bid opening, as prescribed by the national standard agency. Such national standard specifications and methods of tests will include those designated as tentative, interim or amended and officially approved and published by the sponsoring agency. If appropriate methods have not been so prescribed, tests shall be performed in a manner determined by the engineer.

106.4 Plant Inspection. The engineer may inspect material at the source. If plant inspection is undertaken the following conditions shall be met.

106.4.1 The engineer shall have the cooperation and assistance of the contractor and the producer of the material.

106.4.2 The engineer shall be permitted unlimited access to all parts of the plant as required for adequate inspection of the plant equipment and for selection of samples. Facilities shall be furnished for the procurement of samples, performance of the tests and for the protection of testing equipment and supplies when tests are conducted at the source of production.

106.4.3 If bituminous shipments are considered by the engineer to justify testing at the source, laboratory facilities and testing equipment meeting requirements of the prescribed methods shall be provided by the supplier. The space and equipment shall be adequate for the orderly and proper testing of material without interference to or by the refinery personnel.

106.4.4 When requested, a Type 1 field laboratory shall be furnished at the aggregate source in accordance with [Sec 601](#).

106.4.5 The Commission will refuse to provide plant inspection at sources where adequate safety measures are not provided and maintained.

106.4.6 The Commission reserves the right to inspect plant equipment and to retest all material prior to or after incorporation into the work and to reject all material which, when retested, do not meet the requirements of the specifications.

106.5 Storage of Material. The contractor shall be responsible for proper storage and handling of all material to ensure preservation of required quality and shall be arranged such as to facilitate inspection.

106.6 Handling Material. All material shall be handled in such a manner as to preserve the material's quality and fitness for the work. Aggregate shall be transported from the storage site to the work in tight vehicles constructed to prevent loss or segregation of material after loading and measuring.

106.7 Unacceptable Material. All material not in accordance with the specifications, when initially inspected and tested, will be considered defective, and all such material, whether in place or not, will be rejected and unless remedied, shall be removed from the site of the work. Any approved material that, in the judgment of the engineer, is no longer specification compliant will be rejected. Defective material, including any material furnished by the Commission that has been damaged by the contractor after delivery, shall be replaced or reconditioned by the contractor at the contractor's expense.

Rejected material that has been reconditioned or corrected such that the material satisfactorily meets the specifications shall not be used without the engineer's written approval.

106.8 Material Furnished by the Commission. If any material is to be furnished by the Commission, special provisions designating such material will be included in the contract documents. The cost of handling and placing such material after delivery to the contractor will be considered as part of the contract price for that material or work. The contractor shall be responsible for all material upon receipt, and deductions will be made from any monies due to the contractor to make good any shortages and deficiencies, from any cause whatsoever, for any damage that may occur after such delivery and for any demurrage charges.

106.9 Buy America Requirement. On all federal-aid projects, the contractor's attention is directed to Title 23, CFR, titled *Buy America Requirements*. Where steel or iron products are to be permanently incorporated into the contract work, steel and iron material shall be manufactured in the USA except for "minor usage" as described herein. Furthermore, any coating process of the steel or iron shall be performed in the USA. The use of pig iron and processed, pelletized and reduced iron ore manufactured outside of the USA will be permitted in the domestic manufacturing process for steel or iron material.

106.9.1 Any sources other than the USA as defined will be considered foreign. The required domestic manufacturing process shall include formation of ingots and any subsequent process. Coatings shall include any surface finish that protects or adds value to the product.

106.9.2 "Minor usage" of foreign steel, iron or coating processes will be permitted, provided the cost of such products does not exceed 1/10 of one percent of the total contract cost or \$2,500.00, whichever is greater. If foreign steel, iron or coating processes are used, invoices to document the cost of the foreign portion, as delivered to the project, shall be provided and the engineer's written approval obtained prior to placing the material in any work.

106.9.3 For each domestic permanent steel or iron item, the contractor shall furnish to the engineer for approval, a manufacturer's certification identifying the item and certifying that the manufacturing processes for the product occurred in the USA, including the coating process if applicable. For foreign items, a statement of the specific foreign manufacturing location(s) shall be provided.

106.9.4 Upon completion of the project, the contractor shall certify to the engineer that all steel, iron and coating processes for steel or iron incorporated into the contract work were in accordance with this specification, except as noted. All exceptions and associated costs shall be listed in the same document.

106.9.5 When permitted in the contract, alternate bids may be submitted for foreign steel and iron products. The award of the contract when alternate bids are permitted will be based on the lowest total bid of the contract based on furnishing domestic steel or iron products or 125 percent of the lowest total bid based on furnishing foreign steel or iron products. If foreign steel or iron products are awarded the contract, domestic steel or iron products may be used; however, payment will be at the contract unit price for foreign steel or iron products.

106.10 Missouri Domestic Products Requirement. For state funded projects, as noted on the cover of the contract, material shall be in accordance with [Sec 102.18.5](#).

106.11 Units.

106.11.1 Equipment. Equipment such as scales, concrete and asphalt plants, and placement equipment shall be scaled in or measured in English units. Equipment requiring calibration will be calibrated using the equipment's "as manufactured" units.

106.11.2 Material. All material shall be furnished quantified in the specified units of measure for dimensions and other physical aspects. Any cost of re-design due to use of material with units of measure other than as specified by the contract shall be at the contractor's expense.

106.11.3 Project Documentation. All project tickets, paperwork for measurement, certifications or reporting of material shall be in English units.

106.12 Pre-Acceptance List of Material and Sources.

106.12.1 Pre-Acceptance List Description. A PAL will indicate material products or sources that

have complied with all pre-approval requirements for a specific material and indicates a source has committed to continued compliance with applicable contract requirements.

106.12.1.1 Pre-Acceptance List Material. For material acceptance based on PAL approval, [Sec 106.12](#) will govern over all other applicable specifications. All material shall be in full compliance with [Sec 106](#) and all other applicable contract documents, and shall be certified as such by the source of the material. Random sampling of the material will be conducted by the engineer to verify that the material is in compliance with the applicable specifications. Material on a PAL may be used on a project by the contractor prior to the engineer receiving random sample test results.

106.12.1.2 Unavailable PAL Material. If there are no PAL materials or suppliers for a specific PAL listing, or during the transition of a material to the PAL, the material may be accepted following sampling, testing and documentation review of each shipment in accordance with the specifications for that material.

106.12.2 Definition of Terms. The following definitions will apply only to [Sec 106.12](#) and subsections:

(a) **Source.** The manufacturer, supplier, fabricator, source or any other entity that is listed on a PAL as the provider of that specific material or product.

(b) **Intermediate Agent.** A supplier of a PAL material, but who is not listed as the source of that specific material or product on the PAL.

106.12.3 Application for Placement on the PAL. A source may propose a material for PAL inclusion by submitting the information required in these specifications and other applicable contract documents, along with any required samples to Construction and Materials. Consideration of a material for PAL inclusion will be based on compliance with this specification or other applicable contract documents, the material's history and any other applicable criteria. Submittal of a request for PAL inclusion will not guarantee approval. The application shall include the following in a written document with attachments as needed:

(a) A completed, original Product Listing/New Product Evaluation Request Form (M-PAL Form).

(b) A completed, original PAL Program Inclusion Certification and Guarantee Statement Form (M-STMNT Form).

(c) A complete description of the material and how the material may be identified.

(d) A list of all MoDOT specifications applicable to the material.

(e) All documentation required by applicable MoDOT specifications or any other contract document.

106.12.4 Material Term on a PAL. Upon approval, the material will remain on a PAL for three years, provided the material's name, formulation and properties have not changed, the specification requirements have not changed, or the material or source has not been removed from the PAL for non-compliance reasons.

106.12.4.1 Material Reapplication on a PAL. During the last 12 months of a material's term on a PAL, the source shall reapply for placement on the PAL in accordance with [Sec 106.12.3](#). No term expiration notification will be sent to the source, and the source shall be responsible for initiating reapplication.

106.12.4.2 Material Updates. Any name, source, or physical or chemical property changes to the material shall be submitted in writing and approved by Construction and Materials prior to use of the revised material. All physical or chemical changes to a material required to meet new or updated specifications shall be accompanied by identifiable name or identification changes, including revisions of any pertinent product information and certifications affected by the change. This information shall be provided in addition to the documentation required under [Sec 106.12.3](#). When an update is properly submitted and approved, the update will be considered the same as a PAL reapplication, and the expiration date will be extended for three years from the date the changes were approved.

106.12.5 Material Removal from a PAL. Any material proposed for use after removal from a PAL, including use on existing contracts, will not be accepted by PAL methods. Unless stated otherwise, material removed from a PAL for reasons other than failure to re-apply will not be considered for

reinstatement until one year after the date of removal. A material may be removed from a PAL for any of the following reasons.

106.12.5.1 Material and sources may be removed immediately from a PAL based on the discretion of Construction and Materials, for reasons including, but not limited to, failure of material to meet specifications, falsification of documentation, not providing required documentation or notification, lack of response to engineers' inquiries by the material's approved source, unsatisfactory performance in the field or other reasons indicating lack of consistent material quality or suitability.

106.12.5.2 Material that fails more than one random sample test in any 12-month period, for whatever reason, including improper manufacture, improper sampling, or improper supplier or contractor handling, will be subject to removal immediately from the PAL without recourse.

106.12.5.3 If a reapplication in accordance with [Sec 106.12.4.1](#), as determined by postmark, is not received prior to the material's termination date, the material will automatically be removed from the PAL at the end of the material's term. For reinstatement of these materials to a PAL, the source shall submit an application in accordance with [Sec 106.12.3](#).

106.12.5.4 Material that has not been documented as being used on MoDOT projects in any three consecutive years will be removed from a PAL. Once removed, a material will not be reinstated until substantial evidence of recent satisfactory use is provided and specific intended use on MoDOT work is established. No other time suspension will apply for considering reinstatement of these requests.

106.12.5.5 Any material or source removed from a PAL twice for any reason in any two-year period will be subject to permanent removal, with a minimum suspension of three years.

106.12.5.6 If a source has more than two materials removed from a PAL in any three-year period, all material from that source may be subject to removal from all PALs.

106.12.6 Reinstatement of a Material on a PAL. Consideration for reinstatement of a material once removed from a PAL will be no sooner than specified under [Sec 106.12.5](#), will require a written document from the source stating the reasons for removal of the material from a PAL, the action taken to correct those deficiencies, written concurrence from Construction and Materials that the cause has been suitably addressed, followed by an application in accordance with [Sec 106.12.3](#) for PAL approval.

106.12.7 Source Certification and Guarantee. Material to be accepted by the engineer under PAL approval shall include a source's certification, which may include certified test results, and a guarantee in accordance with the applicable material specification in the contract documents. The written documentation shall also certify that the material provided is similar in all aspects to the material originally approved and placed on the PAL, and shall indicate the specific date of approval. An intermediate agent shall furnish a manufacturer and supplier's certification identifying the material, and stating that the material meets all contract document requirements for the specified intended use. Required documentation shall be retained by the manufacturer and each intermediate agent for a period of two years from the date of shipment of the material. The documentation shall be traceable to the destination or destination project and shall be immediately available to the engineer when requested.

106.12.8 Notification of PAL Material Delivery. Prior to delivery to the job site, the source, intermediate agent, shipper or contractor's representative shall notify Construction and Materials by mail, fax or electronically of the impending shipment of PAL material. The source shall ensure that any intermediate agent of the source's approved PAL material carries out the required notification. This notification shall include, at minimum, the following:

- (a) The specific contract number.
- (b) Line number for which the material will be used.
- (c) Type and quantity of material.
- (d) Date of expected delivery to the job site.
- (e) Brand and manufacturer name of the material.

106.12.8.1 All of the above information shall have been received by Construction and Materials five working days prior to delivery of the material to the job site. Additional material may be considered part of the original shipment when the ordered quantity was underestimated or material was lost or damaged. Construction and Materials shall be notified prior to the shipment of additional material.

No material shall be used on a project until Construction and Materials approves such use.

106.12.8.2 Upon approval, the entity providing the notification of material delivery will be informed that the material was approved and an identification number for that specific material will be provided. This identification number shall be written on an orange tag or approved alternate label and shall be attached to the material prior to presentation for use at the job site. Requests for alternate PAL labeling shall be submitted to Construction and Materials for approval. Material without the identification number attached will not be permitted for use on a project.

106.12.9 Sampling of Material. The source for a material shall ensure all users are adequately informed and monitored to ensure proper material sampling and usage. The source shall provide instructions for proper sampling of the material, and sampling shall be performed under the observation of the engineer. The source shall be solely responsible for proper sampling, unless stated otherwise by Construction and Materials.

106.12.9.1 Additional material may be requested by the engineer at the time of shipment to allow random sampling of the material at the project site without creating a material shortage.

106.12.9.2 Sample size and sampling frequency will be at the discretion of the engineer.

106.12.10 Intermediate Agent Responsibilities.

106.12.10.1 Any intermediate agent supplying PAL material to a supplier or contractor shall be responsible for proper handling, storage, sampling (if required to be performed by the agent) and delivery in accordance with applicable specifications and the source's recommendations, including notification of PAL material in accordance with [Sec 106.12.8](#). If the intermediate agent is negligent in performing any of these specified tasks, the intermediate agent may be immediately denied as an intermediate agent for the PAL material without recourse and may be held responsible for material failure in accordance with [Sec 106.12.13](#). If an intermediate agent is disapproved by Construction and Materials, that agent will not be reconsidered as an intermediate agent of any PAL material until one year after the date of removal as an intermediate agent of PAL material. Reinstatement will require a written document from the intermediate agent stating the reasons for removal as an intermediate agent for PAL material, the action taken to correct those deficiencies, and written concurrence from Construction and Materials that the problem has been suitably addressed and that the agent is approved as an intermediate agent of PAL material.

106.12.10.2 An intermediate agent will be allowed to request PAL inclusion for a product manufactured by a separate company that does not have substantial business interest in applying for PAL or for a product that is only used in small quantities. If PAL inclusion is granted, the intermediate agent shall be responsible for any material provided that does not meet the applicable specifications. The intermediate agent shall assume all penalties for noncompliant material, including removal from a PAL in accordance with [Sec 106.12.5](#).

106.12.11 Contractor PAL Use. The source for PAL material shall be listed on the PAL at the time the material is incorporated into the project. The contractor bears the risk that material on the PAL at the time of bidding is no longer on the PAL at the time of incorporation. The contractor may obtain a list of PAL material by contacting Construction and Materials or from MoDOT's website. Use of PAL material shall not relieve the contractor or supplier of any responsibility to provide an inspected and approved material meeting all requirements of the contract documents.

106.12.12 Testing of Material. Test results from any sample will be considered representative of the material, and a final determination of specification compliance will be made on the basis of that sample.

106.12.13 Responsibility for Material Failure. When material has been incorporated into

the project and fails any specified tests, [Sec 106.7](#) will apply. The use of this material on all other projects shall be suspended until notified otherwise by Construction and Materials.

106.13 Quality Control/Quality Assurance (QC/QA). For material or work governed by QC/QA specifications, quality control performed by the contractor following an approved QC plan will determine acceptance of the material when test results are confirmed by the engineer's QA sampling, testing, and assessment. When the engineer's sampling, testing or assessment do not support the contractor's results, work may be suspended and any material in place will be subject to rejection following a review by the engineer. Final acceptance of the material, work or process will be based on the engineer's sampling, testing and assessment.

106.13.1 Quality Control Plan. The contractor shall submit a Quality Control Plan (QCP) to the Engineer for approval prior to beginning work. Separate QC plans for each type of work is allowable. The QCP shall include the following elements:

- a) The name and contact information of the person in responsible charge of the QC testing.
- b) A list of the QC technicians who will perform testing on the project, including the fields in which they are certified to perform testing.
- c) A proposed independent third party testing firm for dispute resolution, including all contact information.
- d) A list of hold points, at a minimum as determined by the engineer.
- e) Lot and subplot sizes and how they will be designated when applicable.
- f) The test methods to be used.

106.13.2 QC Testing and Reporting. QC testing shall be performed per the test method and frequency specified and by personnel who are certified in the MoDOT Technician Certification Program, when applicable, for each test being performed. For areas of testing and inspection not covered by the Technician Certification Program, QC shall coordinate with QA to ensure testing is accurate and follows industry standards. The contractor may utilize sub-contractors, producers or consultants to perform QC testing under the general direction of the contractor.

106.13.2.1 Checklists are available on MoDOT's website to assist QC staff with general quality control monitoring of the work. Submittal of completed checklists is not required, except as specified herein.

106.13.2.1.1 Monitoring and testing of the production of concrete shall be the responsibility of QC. Submittal of a completed 501 Concrete Plant checklist is required for each day of production.

106.13.2.2 All QC reports shall be submitted to the engineer as soon as practical, but no later than the day following the test. QC data shall be immediately provided to the engineer upon request at any time, including prior to the submission of the QC report. No payment will be made for the work performed until acceptable QC results have been received by the engineer and confirmed by QA test results.

106.13.2.3 QC results shall be reported on electronic forms where provided by MoDOT. Forms and the Contractor Reporting Excel2Oracle (CRE2O) worksheets can be found on MoDOT's website. All required forms, reports, supporting information, and materials certifications shall be uploaded to MoDOT's Microsoft Sharepoint® site and organized in

the file structure established by MoDOT.

106.13.3 Non-Conformance Reporting. A Non-Conformance Report (NCR) shall be submitted by the contractor when the contractor proposes to incorporate material into the work that does not meet the testing requirements or for any work that does not comply with the contract terms or specifications. NCRs may be initiated by the Engineer when QA finds material to be non-compliant.

106.13.3.1 Non-Conformance Reports shall be submitted electronically on the NCR form provided on the MoDOT website by uploading the NCR to MoDOT's Sharepoint @ site. After uploading, the contractor shall notify the engineer by email.

106.13.3.2 The contractor shall propose a resolution to the non-conforming material or work. The proposed resolution must be accepted by the engineer and successfully completed before the NCR is closed and the material or work is accepted for payment.

106.13.4 Hold Points. Hold points are events that require QA approval prior to continuation of work. A list of typical hold points is found on MoDOT's website. The engineer will submit to the contractor a project specific hold point list in advance of the work. The engineer may alter the project specific hold point list at any time.

106.13.4.1 Prior to all hold point inspections, the contractor shall verify the work has been completed in accordance with the contract and specifications. When QA identifies any corrective actions needed during a Hold Point inspection, the corrections shall be completed prior to continuing work. The engineer may require a new Hold Point to be scheduled as part of any corrective actions needed. Re-scheduling of Hold Points require a minimum 24-hour advance notification from the contractor unless otherwise allowed by the engineer.

106.13.5 Dispute Resolution. When there are significant discrepancies between the engineer's and the contractor's test results, dispute resolution procedures will be used.

106.13.5.1 Cease Work. The contractor's operations may be required to cease until the dispute is resolved if the test results indicate the material or completed work is subject to failure and/or would impact subsequent operations.

106.13.5.2 Resolution of Differences. The first step in dispute resolution will be to identify differences in procedures and correcting inappropriate procedures before moving to third party resolution. If that does not resolve the dispute, either the contractor or the engineer may request utilization of the previously approved third party to test the material. The test results of the approved third party shall be binding on both the engineer and contractor.

106.13.5.3 Third Party. The third party shall be independent of the contractor, MoDOT consultants and all project subcontractors or suppliers on each specific project. All testing of material for dispute resolution shall be performed by a laboratory accredited by AASHTO in the areas of the material being tested or otherwise approved by the engineer.

106.13.5.4 Third Party Payment. The contractor shall be responsible for the cost associated with the third party testing and resolution if the final result indicates the engineer's test results were correct. Likewise the Commission will be responsible for the cost associated with the third party testing and resolution when the final result indicates the contractor's results were correct.

106.13.5.5 Other Adjustments. The contractor shall not be entitled to any additional payment for costs incurred due to use of the dispute resolution procedures such as, but not limited to, those for delay, cessation of operations, costs to subcontractors, etc. The engineer may give consideration to adjustment of working days if warranted.

106.13.6 Outliers. No test result shall be discarded, except individual test results on a lot basis may be checked for an outlier in accordance with the statistic T in ASTM E 178, at a significance level of 5 percent. If an outlier is found, material from the retained QA sample may be tested, in the presence of the engineer, to determine a replacement test value. The replacement test value shall be used in the PWL determination.

106.14. Percent Within Limits and Payfactors. Where indicated, material or work governed by QC/QA shall be subject to statistical analysis by the engineer. The resulting analysis may be used to determine pay adjustment.

106.14.1. PWL will be based on the mean, standard deviation and quality index of each lot's test results. The upper PWL (PWL_u) and lower PWL (PWL_l) is determined from the table in [Sec 106.14.2.](#)

Total percent within limits, PWL_t, is: $PWL_t = (PWL_u + PWL_l) - 100$.

The mean is: $x_a = (\sum x_i)/n$

Where: x_a = Average of the individual values being considered
 $\sum x_i$ = The sum of all the individual values being considered
 n = The number of individual values under consideration

The Standard Deviation is: $s = (\sum(x_i - x_a)^2/(n - 1))^{1/2}$

The Upper Quality Index is: $Q_u = (USL - x_a)/s$

The Lower Quality Index is: $Q_l = (x_a - LSL)/s$

Where: Q_u = Upper Quality Index
 Q_l = Lower Quality Index
 USL = Pay Factor Item Upper Spec Limit
 LSL = Pay Factor Item Lower Spec Limit

106.14.2 PWL Determination Table. Values in Table I are estimates of the PWL corresponding to specific values of the Quality Index (Q). For Q values less than zero, the table shall be subtracted from 100.

TABLE I Variability-Unknown Procedure Standard-Deviation Method								
Quality Index (Q_u or Q_l)	PWL For Selected Sample Sizes							
	n=3	n=4	n=5	n=6	n=7	n=8	n=9	n=10
0.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
0.01	50.28	50.33	50.36	50.37	50.37	50.38	50.38	50.38
0.02	50.55	50.67	50.71	50.74	50.75	50.76	50.76	50.77
0.03	50.83	51.00	51.07	51.10	51.12	51.13	51.15	51.15
0.04	51.10	51.34	51.42	51.47	51.50	51.51	51.53	51.54
0.05	51.38	51.67	51.78	51.84	51.87	51.89	51.91	51.92
0.06	51.66	52.00	52.14	52.21	52.24	52.27	52.29	52.30
0.07	51.93	52.33	52.49	52.57	52.62	52.65	52.67	52.69
0.08	52.21	52.67	52.85	52.94	52.99	53.02	53.06	53.07
0.09	52.48	53.00	53.20	53.30	53.37	53.40	53.44	53.46
0.10	52.76	53.33	53.56	53.67	53.74	53.78	53.82	53.84
0.11	53.04	53.66	53.91	54.04	54.11	54.16	54.20	54.22
0.12	53.32	54.00	54.27	54.40	54.48	54.54	54.58	54.60
0.13	53.59	54.33	54.62	54.77	54.86	54.91	54.95	54.99
0.14	53.87	54.67	54.98	55.13	55.23	55.29	55.33	55.37

0.15	54.15	55.00	55.33	55.50	55.60	55.67	55.71	55.75
0.16	54.43	55.33	55.68	55.86	55.97	56.04	56.09	56.13
0.17	54.71	55.67	56.04	56.23	56.34	56.42	56.47	56.51
0.18	54.98	56.00	56.39	56.59	56.72	56.79	56.84	56.89
0.19	55.26	56.34	56.75	56.96	57.09	57.17	57.22	57.27
0.20	55.54	56.67	57.10	57.32	57.46	57.54	57.60	57.65
0.21	55.82	57.00	57.45	57.68	57.83	57.91	57.98	58.03
0.22	56.10	57.33	57.81	58.05	58.20	58.29	58.35	58.40
0.23	56.39	57.67	58.16	58.41	58.56	58.66	58.73	58.78
0.24	56.67	58.00	58.52	58.78	58.93	59.04	59.10	59.15
0.25	56.95	58.33	58.87	59.14	59.30	59.41	59.48	59.53
0.26	57.23	58.66	59.22	59.50	59.67	59.78	59.85	59.90
0.27	57.52	59.00	59.57	59.86	60.03	60.15	60.22	60.28
0.28	57.80	59.33	59.93	60.22	60.40	60.51	60.60	60.65
0.29	58.09	59.67	60.28	60.58	60.76	60.88	60.97	61.03
0.30	58.37	60.00	60.63	60.94	61.13	61.25	61.34	61.40
0.31	58.66	60.33	60.98	61.30	61.49	61.62	61.71	61.77
0.32	58.94	60.67	61.33	61.66	61.85	61.98	62.08	62.14
0.33	59.23	61.00	61.68	62.01	62.22	62.35	62.44	62.51
0.34	59.51	61.34	62.03	62.37	62.58	62.71	62.81	62.88
0.35	59.80	61.67	62.38	62.73	62.94	63.08	63.18	63.25
0.36	60.09	62.00	62.73	63.09	63.30	63.44	63.54	63.61
0.37	60.38	62.33	63.08	63.44	63.66	63.80	63.91	63.98
0.38	60.68	62.67	63.42	63.80	64.02	64.17	64.27	64.34
0.39	60.97	63.00	63.77	64.15	64.38	64.53	64.64	64.71
0.40	61.26	63.33	64.12	64.51	64.74	64.89	65.00	65.07
0.41	61.56	63.66	64.46	64.86	65.09	65.25	65.36	65.43
0.42	61.85	64.00	64.81	65.21	65.45	65.60	65.72	65.79
0.43	62.15	64.33	65.15	65.57	65.80	65.96	66.07	66.15
0.44	62.44	64.67	65.50	65.92	66.16	66.31	66.43	66.51
0.45	62.74	65.00	65.84	66.27	66.51	66.67	66.79	66.87
0.46	63.04	65.33	66.18	66.62	66.86	67.02	67.14	67.22
0.47	63.34	65.67	66.53	66.96	67.21	67.37	67.49	67.57
0.48	63.65	66.00	66.87	67.31	67.56	67.73	67.85	67.93
0.49	63.95	66.34	67.22	67.65	67.91	68.08	68.20	68.28
0.50	64.25	66.67	67.56	68.00	68.26	68.43	68.55	68.63
0.51	64.56	67.00	67.90	68.34	68.61	68.78	68.90	68.98
0.52	64.87	67.33	68.24	68.69	68.95	69.12	69.24	69.32
0.53	65.18	67.67	68.58	69.03	69.30	69.47	69.59	69.67
0.54	65.49	68.00	68.92	69.38	69.64	69.81	69.93	70.01
0.55	65.80	68.33	69.26	69.72	69.99	70.16	70.28	70.36
0.56	66.12	68.66	69.60	70.06	70.33	70.50	70.62	70.70
0.57	66.44	69.00	69.94	70.40	70.67	70.84	70.96	71.04
0.58	66.75	69.33	70.27	70.73	71.00	71.17	71.29	71.38
0.59	67.07	69.67	70.61	71.07	71.34	71.51	71.63	71.72
0.60	67.39	70.00	70.95	71.41	71.68	71.85	71.97	72.06
0.61	67.72	70.33	71.28	71.74	72.01	72.11	72.30	72.39
0.62	68.05	70.67	71.61	72.08	72.34	72.37	72.63	72.72
0.63	68.37	71.00	71.95	72.41	72.68	72.63	72.97	73.06

0.64	68.70	71.34	72.28	72.75	73.01	72.89	73.30	73.39
0.65	69.03	71.67	72.61	73.08	73.34	73.15	73.63	73.72
0.66	69.37	72.00	72.94	73.41	73.67	73.55	73.95	74.04
0.67	69.71	72.33	73.27	73.73	73.99	73.95	74.28	74.36
0.68	70.05	72.67	73.60	74.06	74.32	74.35	74.60	74.69
0.69	70.39	73.00	73.93	74.38	74.64	74.75	74.93	75.01
0.70	70.73	73.33	74.26	74.71	74.97	75.15	75.25	75.33
0.71	71.08	73.66	74.59	75.03	75.29	75.46	75.57	75.64
0.72	71.44	74.00	74.91	75.35	75.61	75.78	75.88	75.96
0.73	71.79	74.33	75.24	75.68	75.92	76.09	76.20	76.27
0.74	72.15	74.67	75.56	76.00	76.24	76.41	76.51	76.59
0.75	72.50	75.00	75.89	76.32	76.56	76.72	76.83	76.90
0.76	72.87	75.33	76.21	76.63	76.87	77.03	77.14	77.21
0.77	73.24	75.67	76.53	76.95	77.18	77.34	77.44	77.51
0.78	73.62	76.00	76.85	77.26	77.50	77.64	77.75	77.82
0.79	73.99	76.34	77.17	77.58	77.81	77.95	78.05	78.12
0.80	74.36	76.67	77.49	77.89	78.12	78.26	78.36	78.43
0.81	74.75	77.00	77.81	78.20	78.42	78.56	78.66	78.72
0.82	75.15	77.33	78.12	78.51	78.72	78.86	78.95	79.02
0.83	75.54	77.67	78.44	78.81	79.03	79.16	79.25	79.31
0.84	75.94	78.00	78.75	79.12	79.33	79.46	79.54	79.61
0.85	76.33	78.33	79.07	79.43	79.63	79.76	79.84	79.90
0.86	76.75	78.66	79.38	79.73	79.92	80.05	80.13	80.19
0.87	77.18	79.00	79.69	80.03	80.22	80.34	80.42	80.47
0.88	77.60	79.33	80.00	80.33	80.51	80.63	80.70	80.76
0.89	78.03	79.67	80.31	80.63	80.81	80.92	80.99	81.04
0.90	78.45	80.00	80.62	80.93	81.10	81.21	81.28	81.33
0.91	78.91	80.33	80.92	81.22	81.38	81.49	81.56	81.61
0.92	79.37	80.67	81.23	81.51	81.67	81.77	81.84	81.88
0.93	79.83	81.00	81.53	81.81	81.95	82.05	82.11	82.16
0.94	80.29	81.34	81.84	82.10	82.24	82.33	82.39	82.43
0.95	80.75	81.67	82.14	82.39	82.52	82.61	82.67	82.71
0.96	81.27	82.00	82.44	82.67	82.80	82.88	82.94	82.97
0.97	81.78	82.33	82.74	82.95	83.07	83.15	83.20	83.24
0.98	82.30	82.67	83.04	83.24	83.35	83.42	83.47	83.50
0.99	82.81	83.00	83.34	83.52	83.62	83.69	83.73	83.77
1.00	83.33	83.33	83.64	83.80	83.90	83.96	84.00	84.03
1.01	83.93	83.66	83.93	84.08	84.17	84.22	84.26	84.28
1.02	84.53	84.00	84.22	84.35	84.43	84.48	84.51	84.53
1.03	85.14	84.33	84.51	84.63	84.70	84.74	84.77	84.79
1.04	85.74	84.67	84.80	84.90	84.96	85.00	85.02	85.04
1.05	86.34	85.00	85.09	85.18	85.23	85.26	85.28	85.29
1.06	87.10	85.33	85.38	85.44	85.49	85.51	85.53	85.53
1.07	87.87	85.67	85.66	85.71	85.74	85.76	85.77	85.77
1.08	88.63	86.00	85.95	85.97	86.00	86.01	86.02	86.02
1.09	89.40	86.34	86.23	86.24	86.25	86.26	86.26	86.26
1.10	90.16	86.67	86.52	86.50	86.51	86.51	86.51	86.50
1.11	91.55	87.00	86.80	86.76	86.75	86.75	86.74	86.73
1.12	92.95	87.33	87.07	87.01	87.00	86.99	86.98	86.96

1.13	94.34	87.67	87.35	87.27	87.24	87.22	87.21	87.20
1.14	95.74	88.00	87.62	87.52	87.49	87.46	87.45	87.43
1.15	97.13	88.33	87.90	87.78	87.73	87.70	87.68	87.66
1.16	100.00	88.66	88.17	88.03	87.96	87.93	87.90	87.88
1.17	100.00	89.00	88.44	88.27	88.20	88.15	88.12	88.10
1.18	100.00	89.33	88.70	88.52	88.43	88.38	88.35	88.32
1.19	100.00	89.67	88.97	88.76	88.67	88.60	88.57	88.54
1.20	100.00	90.00	89.24	89.01	88.90	88.83	88.79	88.76
1.21	100.00	90.33	89.50	89.25	89.12	89.05	89.00	88.97
1.22	100.00	90.67	89.76	89.48	89.35	89.26	89.21	89.17
1.23	100.00	91.00	90.02	89.72	89.57	89.48	89.43	89.38
1.24	100.00	91.34	90.28	89.95	89.80	89.69	89.64	89.58
1.25	100.00	91.67	90.54	90.19	90.02	89.91	89.85	89.79
1.26	100.00	92.00	90.79	90.41	90.23	90.12	90.05	89.99
1.27	100.00	92.33	91.04	90.64	90.44	90.32	90.25	90.19
1.28	100.00	92.67	91.29	90.86	90.65	90.53	90.44	90.38
1.29	100.00	93.00	91.54	91.09	90.86	90.73	90.64	90.58
1.30	100.00	93.33	91.79	91.31	91.07	90.94	90.84	90.78
1.31	100.00	93.66	92.03	91.52	91.27	91.13	91.03	90.96
1.32	100.00	94.00	92.27	91.73	91.47	91.32	91.22	91.15
1.33	100.00	94.33	92.50	91.95	91.68	91.52	91.40	91.33
1.34	100.00	94.67	92.74	92.16	91.88	91.71	91.59	91.52
1.35	100.00	95.00	92.98	92.37	92.08	91.90	91.78	91.70
1.36	100.00	95.33	93.21	92.57	92.27	92.08	91.96	91.87
1.37	100.00	95.67	93.44	92.77	92.46	92.26	92.14	92.04
1.38	100.00	96.00	93.66	92.97	92.64	92.45	92.31	92.22
1.39	100.00	96.34	93.89	93.17	92.83	92.63	92.49	92.39
1.40	100.00	96.67	94.12	93.37	93.02	92.81	92.67	92.56
1.41	100.00	97.00	94.33	93.56	93.20	92.98	92.83	92.72
1.42	100.00	97.33	94.55	93.75	93.37	93.15	93.00	92.88
1.43	100.00	97.67	94.76	93.94	93.55	93.31	93.16	93.05
1.44	100.00	98.00	94.98	94.13	93.72	93.48	93.33	93.21
1.45	100.00	98.33	95.19	94.32	93.90	93.65	93.49	93.37
1.46	100.00	98.66	95.39	94.49	94.06	93.81	93.64	93.52
1.47	100.00	99.00	95.59	94.67	94.23	93.97	93.80	93.67
1.48	100.00	99.33	95.80	94.84	94.39	94.12	93.95	93.83
1.49	100.00	99.67	96.00	95.02	94.56	94.28	94.11	93.98
1.50	100.00	100.00	96.20	95.19	94.72	94.44	94.26	94.13
1.51	100.00	100.00	96.39	95.35	94.87	94.59	94.40	94.27
1.52	100.00	100.00	96.57	95.51	95.02	94.73	94.54	94.41
1.53	100.00	100.00	96.76	95.68	95.18	94.88	94.69	94.54
1.54	100.00	100.00	96.94	95.84	95.33	95.02	94.83	94.68
1.55	100.00	100.00	97.13	96.00	95.48	95.17	94.97	94.82
1.56	100.00	100.00	97.30	96.15	95.62	95.30	95.10	94.95
1.57	100.00	100.00	97.47	96.30	95.76	95.44	95.23	95.08
1.58	100.00	100.00	97.63	96.45	95.89	95.57	95.36	95.20
1.59	100.00	100.00	97.80	96.60	96.03	95.71	95.49	95.33
1.60	100.00	100.00	97.97	96.75	96.17	95.84	95.62	95.46
1.61	100.00	100.00	98.12	96.88	96.30	95.96	95.74	95.58

1.62	100.00	100.00	98.27	97.02	96.43	96.08	95.86	95.70
1.63	100.00	100.00	98.42	97.15	96.55	96.21	95.98	95.81
1.64	100.00	100.00	98.57	97.29	96.68	96.33	96.10	95.93
1.65	100.00	100.00	98.72	97.42	96.81	96.45	96.22	96.05
1.66	100.00	100.00	98.84	97.54	96.92	96.56	96.33	96.16
1.67	100.00	100.00	98.97	97.66	97.04	96.67	96.44	96.27
1.68	100.00	100.00	99.09	97.78	97.15	96.79	96.54	96.37
1.69	100.00	100.00	99.22	97.90	97.27	96.90	96.65	96.48
1.70	100.00	100.00	99.34	98.02	97.38	97.01	96.76	96.59
1.71	100.00	100.00	99.43	98.13	97.48	97.11	96.86	96.69
1.72	100.00	100.00	99.53	98.23	97.58	97.21	96.96	96.78
1.73	100.00	100.00	99.62	98.34	97.69	97.31	97.05	96.88
1.74	100.00	100.00	99.72	98.44	97.79	97.41	97.15	96.97
1.75	100.00	100.00	99.81	98.55	97.89	97.51	97.25	97.07
1.76	100.00	100.00	99.86	98.64	97.98	97.60	97.34	97.16
1.77	100.00	100.00	99.91	98.73	98.07	97.69	97.43	97.25
1.78	100.00	100.00	99.95	98.81	98.17	97.78	97.52	97.33
1.79	100.00	100.00	100.00	98.90	98.26	97.87	97.61	97.42
1.80	100.00	100.00	100.00	98.99	98.35	97.96	97.70	97.51
1.81	100.00	100.00	100.00	99.06	98.43	98.04	97.78	97.59
1.82	100.00	100.00	100.00	99.14	98.51	98.12	97.86	97.67
1.83	100.00	100.00	100.00	99.21	98.58	98.19	97.93	97.75
1.84	100.00	100.00	100.00	99.29	98.66	98.27	98.01	97.83
1.85	100.00	100.00	100.00	99.36	98.74	98.35	98.09	97.91
1.86	100.00	100.00	100.00	99.42	98.81	98.42	98.16	97.98
1.87	100.00	100.00	100.00	99.48	98.87	98.49	98.23	98.05
1.88	100.00	100.00	100.00	99.53	98.94	98.55	98.30	98.11
1.89	100.00	100.00	100.00	99.59	99.00	98.62	98.37	98.18
1.90	100.00	100.00	100.00	99.65	99.07	98.69	98.44	98.25
1.91	100.00	100.00	100.00	99.69	99.13	98.75	98.50	98.31
1.92	100.00	100.00	100.00	99.73	99.18	98.81	98.56	98.37
1.93	100.00	100.00	100.00	99.77	99.24	98.87	98.62	98.44
1.94	100.00	100.00	100.00	99.81	99.29	98.93	98.68	98.50
1.95	100.00	100.00	100.00	99.85	99.35	98.99	98.74	98.56
1.96	100.00	100.00	100.00	99.87	99.39	99.04	98.79	98.61
1.97	100.00	100.00	100.00	99.90	99.44	99.09	98.84	98.67
1.98	100.00	100.00	100.00	99.92	99.48	99.14	98.90	98.72
1.99	100.00	100.00	100.00	99.95	99.53	99.19	98.95	98.78
2.00	100.00	100.00	100.00	99.97	99.57	99.24	99.00	98.83
2.01	100.00	100.00	100.00	99.98	99.60	99.28	99.05	98.88
2.02	100.00	100.00	100.00	99.98	99.64	99.32	99.09	98.92
2.03	100.00	100.00	100.00	99.99	99.67	99.37	99.14	98.97
2.04	100.00	100.00	100.00	99.99	99.71	99.41	99.18	99.01
2.05	100.00	100.00	100.00	100.00	99.74	99.45	99.23	99.06
2.06	100.00	100.00	100.00	100.00	99.76	99.48	99.27	99.10
2.07	100.00	100.00	100.00	100.00	99.79	99.51	99.30	99.14
2.08	100.00	100.00	100.00	100.00	99.81	99.55	99.34	99.18
2.09	100.00	100.00	100.00	100.00	99.84	99.58	99.37	99.22
2.10	100.00	100.00	100.00	100.00	99.86	99.61	99.41	99.26

2.60	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.99
2.61	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.99
2.62	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.99
2.63	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
2.64	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
2.65	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

106.15 Proprietary Items. In the event a proprietary item included in a contract becomes unavailable during the term of the contract, the contractor shall promptly provide documentation to the engineer substantiating that the proprietary item is unavailable. Price or credit terms demanded of the contractor by the supplier will not constitute sufficient reason to substitute for the specified proprietary item. As part of the documentation, the contractor shall propose an alternative source or item that meets the performance requirements of the original proprietary item included in the contract. Any adjustment in the contract unit price shall be made in accordance with Sec 109.4. If an acceptable alternative item cannot be located, the proprietary item and any associated work may be underrun from the contract.

Draft 12/1/11

Insert as 107.4.4

107.4.4 Safety Plan.

107.4.4.1 Description. The contractor shall submit to the engineer a project Safety Plan (SP) for all work performed by the contractor and all subcontractors. The purpose of the SP is to encourage and enable all work to be performed in the safest possible manner and that all parties involved are aware of their individual responsibility for safety on the jobsite

107.4.4.1.1 The SP shall be completed by the contractor and provided to the engineer prior to the beginning of any construction activity or phase on the project.

107.4.4.1.2 The contractor shall designate a person to serve as Project Safety Manager (PSM). The PSM shall be responsible for implementing and overseeing the SP. The PSM is not required to be present on the project at all times, but must be available to address safety issues and needs.

107.4.4.1.3 The PSM shall make revisions to the SP as necessary. Any new project activities or phases shall be included in the SP prior to work beginning on that activity or phase.

107.4.4.1.4 An example Safety Plan is available at: www.modot.org/safetyplan

107.4.4.2 Emergency Preparedness. The SP shall outline and detail for all workers, the specific procedures and actions necessary to respond to a jobsite emergency and the measures taken to communicate these requirements to all workers.

107.4.4.2.1 The SP shall include a list of local emergency contacts including phone numbers. A copy of the emergency contact list shall be accessible to workers.

107.4.4.2.2 In the case where there is no cellular or land line phone service at the jobsite, the SP shall identify how to reach the nearest available phone service.

107.4.4.3 Project Safety Analysis. The SP should contain a basic Project Safety Analysis (PSA) that outlines the actions necessary to complete each activity or phase of the project. The SP shall include a general description of the primary activities or steps required to safely complete the project.

107.4.4.3.1 Each activity should also include a general description of the work involved along with the known risks associated with the activity. In addition the PSA should outline the controls for those risks, including any Personal Protection Equipment (PPE) requirements for that activity or phase, and whether or not the activity or phase requires a specific safety meeting prior to beginning the activity or phase.

107.4.4.3.2 Submittal of the PSA for all activities or phases is not required with the initial submittal of the SP; however, the PSA for each activity or phase shall be completed prior to the beginning of that activity or phase.

107.4.4.4 Safety Meetings. The SP shall include the types of safety meetings that will be required of and conducted by the contractor.

107.4.4.5 Safety Training. The SP shall identify the required safety training provided to the contractor's personnel. The contractor shall require that the appropriate safety training for the contractor's personnel is completed prior to the beginning of work on each activity or phase.

107.4.4.5.1 The SP shall identify the recommended safety training needs and PPE for MoDOT employees who will be exposed to the work activities. MoDOT will provide safety training and PPE to MoDOT employees based on MoDOT safety policies.



SECTION 108 PROSECUTION AND PROGRESS

108.1 Subletting of Contract.

108.1.1 The contractor shall not sublet, sell, transfer, assign or otherwise dispose of the contract or contracts or any portion thereof, or of any right, title, or interest therein, without written consent of the engineer. Requests for permission to sublet, assign or otherwise dispose of any portion of the contract shall be in writing and accompanied by evidence that the organization that will perform the work is particularly experienced and equipped for such work. In case such consent is given, the contractor will be permitted to sublet a portion thereof, but the contractor's organization shall perform work amounting to no less than 40 percent of the total contract cost. Certification or classification of a contractor by type of work performed or consent to a subcontract shall not constitute the Commission's endorsement of the qualifications of the subcontractor or that the particular subcontractor's work will constitute compliance with any other provisions of the contract.

108.1.2 The value of the work sublet will be the amount designated in the contractual agreement between the contractor and the subcontractor. The subcontractor shall perform the work described in the subcontract agreement. No subcontracts, or transfer of contract, will in any case release the contractor's liability under the contract and bonds. Consent to a subcontract will not create a direct contractual relationship between the subcontractor and the Commission.

108.1.3 The contractor shall furnish to the Commission a complete copy of the signed subcontract, and all revisions upon request.

108.1.4 A contractor, at the discretion of the engineer, may make a substitution for a subcontract that was disclosed with the bid in accordance with 102.7 or may add a subcontract that would have required disclosure in accordance with 102.7. The contractor shall submit the name of the new subcontractor, the category of work, the dollar value of each subcontract and the reason for the substitution or addition in writing to the engineer for consideration.

108.2 Notice to Proceed. The notice to proceed will stipulate the date the contractor is expected to begin work. The Commission will issue the notice to proceed by stipulating the date on the notice of award sent to all successful bidders, or on a separate form for this purpose. Prior to the stipulated date, the contractor shall execute and file the prescribed number of copies of the contract and bond and shall furnish to the Commission satisfactory evidence of having complied with insurance requirements.

108.3 Prosecution of Work. The contractor will be expected to start work on the date stipulated by the notice to proceed. If all contract requirements have been met in accordance with [Sec 108.2](#) the contractor may start work before the date stipulated by the notice to proceed, provided the engineer is notified in writing at least three days prior to the date on which the contractor expects to begin.

108.3.1 The contractor shall continuously and diligently prosecute the work in such order and manner as will ensure the completion of the work within the specified time, and the contractor shall be fully responsible for the prosecution and coordination of all work being performed under the contract.

108.3.2 The work in progress shall receive the personal attention either of the contractor or of a competent and reliable representative of the contractor who shall have full and final authority to act for the contractor. If authority is delegated to a representative of the contractor, the contractor shall notify the engineer in writing, stating the name of the person authorized to act as the contractor's representative, and stating the name or names of persons authorized to sign the various documents such as weekly reports, change orders, force account statements, labor payrolls and any other documents that may be required during the progress of the work. If progress at any time is not adequate to meet the contractor's schedule and the contract completion time, the contractor shall take all steps necessary to complete the work in the time and manner specified in the contract.

108.3.3 Prior to beginning any work on contracts involving a joint venture, the joint venturers shall appoint and maintain a single representative having full and final authority to act for the joint venture. The engineer shall be notified in writing of the name of this representative and of any replacements.

108.3.4 Weekly Meeting. When work is active, the contractor shall hold a weekly project meeting with the engineer to review the planned activities for the following week and to resolve any

outstanding issues. Attendees shall include the engineer, the contractor superintendent or project manager and any foreman leading major activities. This meeting may be waived when, in the opinion of the engineer, a meeting is not necessary.

108.3.5 Pre-Activity Meeting. A pre-activity meeting is required in advance of the start of each new activity, except when waived by the engineer. The purpose of this meeting is to review construction details of the new activity. At a minimum, the discussion topics shall include: safety precautions, QC testing, traffic impacts, and any required Hold Points. Attendees shall include the engineer, the contractor superintendent and the foreman who will be leading the new activity. Pre-activity meetings may be held in conjunction with the weekly project meeting.

108.4 Progress Schedules. The contractor shall submit a progress schedule to the engineer for review prior to or at the pre-construction conference. The progress schedule shall be used to establish construction operations and to monitor the progress of the work, although the engineer's determination of the then major operation or controlling item of work will always prevail. The progress schedule shall be in the form specified in [Sec 108.4.1](#), unless the contract contains different requirements. The progress schedule shall be based on the number of working days, calendar days or other increments as set forth in the contract that the contractor expects to require in completing the project, recognizing the capabilities of labor, equipment, arrangements for material, mobilization, shop drawing preparation and approvals, and other relevant items. If an electronic computer software program is used to generate the schedule, the contractor shall also provide copies of the native files of the initial and any revised schedules using MoDOT's Sharepoint® site.

108.4.1 Form and Contents of Progress Schedule. The progress schedule shall contain an activities schedule bar chart and may, at the contractor's option, include a written narrative that breaks down into detail the time in working days, calendar days or completion date involved in performing all construction activities for the duration of the project, and which is in a suitable scale as to indicate the percentage of work scheduled for completion at any time. The schedule shall indicate all interdependencies between activities. The progress schedule shall also clearly outline the intended maintenance of traffic, work phasing provided by the contract and such other information, as required by the contract.

108.4.2 Preparation of Initial Schedule. The contractor shall complete development of a progress schedule and present a copy to the engineer prior to or at the pre-construction conference.

108.4.2.1 The construction time, as indicated by the progress schedule, for the entire project or any milestone, shall not exceed the specified contract time. If any milestone date or contract completion date is exceeded in the schedule, time estimates on the progress schedule shall be revised. The controlling activity shall be clearly shown for each day of the schedule. A controlling activity will be defined as that part of a progress-controlling item or items that must be performed before the next progress-controlling item of work can be started. Following a review of the progress schedule by the engineer, the engineer and contractor will meet for a joint review, correction and adjustment of the schedule, if necessary.

108.4.2.2 If necessary this process will be repeated. However, the schedule shall be finalized by the contractor within seven days after request for correction and adjustment to the schedule.

108.4.3 Cost and Intent of Progress Schedules. The review by the engineer of any progress schedule will not constitute a determination that the schedule is reasonable, that following the schedule will result in timely completion, or that deviation will result in a delayed completion. The progress schedule, and any updates provided, is not a part of the contract. If the schedule reflects a completion date different than that specified in the contract, that does not void the completion date or working days specified in the contract. If any schedule reflects a completion time earlier than that specified in the contract, the contractor specifically understands that no claim for additional contract time or compensation will lie against the Commission if the work is not completed by the earlier time shown on the schedule. It will be the contractor's responsibility to determine the most feasible order of work consistent with the requirements of the contract.

108.4.3.1 No direct payment will be made for furnishing progress schedules or revisions.

108.4.3.2 If the contractor fails to comply with the requirement to supply an initial or any revised progress schedule, the engineer may withhold progress payments until a schedule has been submitted and reviewed.

108.4.4 Revised Progress Schedules. The contractor shall provide a revised progress schedule,

which will then become the current progress schedule:

- (a) When departure from the existing progress schedule makes it apparent to the engineer or the contractor that the project will not be completed in the time provided in the contract.
- (b) When the engineer or the contractor determines that the progress schedule requires revisions for any reason.

108.4.5 Two-Week Schedule. For each week that construction is active on the project, the contractor shall submit to the engineer a two-week schedule that outlines the planned project activities for the following two-week period. At a minimum, the two-week schedule shall detail all planned work activities, traffic control events, and requested inspection hold points.

108.5 Labor, Methods and Equipment. The contractor shall at all times employ sufficient labor, methods and equipment for prosecuting the work to full completion in the time and manner required by the contract.

108.5.1 All workers shall have sufficient skill and experience to properly perform work assigned. The engineer may demand the dismissal of any person employed by the contractor in, about or upon the work, who engages in misconduct, is incompetent or negligent in the due and proper performance of assigned duties, or who neglects or refuses to comply with any proper directions given. Such a person shall not again be employed thereon without the written consent of the engineer. Should the contractor continue to employ or re-employ any such person, the engineer may suspend the work until the contractor complies with such orders.

108.5.2 All equipment used on the work shall be of sufficient size and in such mechanical condition to meet requirements of the work and to produce satisfactory work. The condition or use of equipment on any portion of the project shall not cause damage to the roadway, adjacent property or other highways, or injury to any person.

108.5.3 The intent of the contract is to provide performance-type specifications to the extent consistent with producing finished work meeting the intent of the contract documents. Therefore, the methods and equipment to be used by the contractor in accomplishing the work will not be prescribed in the contract, and the contractor is free to use any method or equipment that will accomplish the contract work in conformity with the requirements of the contract. The failure of the engineer to object to contractor's equipment or methods will never constitute agreement that the equipment or methods used are appropriate.

108.5.4 If the contract specifies that the construction be performed by the use of certain methods and equipment, such methods and equipment shall be used unless otherwise authorized by the engineer. If the contractor desires to use a method or type of equipment other than those specified in the contract, authority shall be requested from the engineer. The request shall be in writing, including a full description of the proposed methods and equipment to be used and an explanation of the reasons for making the change. If approval is given, the contractor shall be fully responsible for producing work in conformity with the contract. If the engineer determines that the work produced does not meet contract requirements after use of the substitute method or equipment, the contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining construction with the methods and equipment specified in the contract. The contractor shall remove deficient work and replace the work as specified in the contract, or take such other corrective action as directed by the engineer. Except as provided in [Sec 104](#), no change will be made in the basis of payment for the construction items involved or in contract time as a result of approving any method or equipment change.

108.6 Temporary Suspension of Work. The engineer has authority to suspend any or all of the work in accordance with [Sec 105](#) for such time as necessary. If it becomes necessary to stop work for an indefinite period, the contractor shall store all material in a manner that will protect the material from theft or damage, shall not unnecessarily obstruct traffic, shall take every precaution to prevent damage to or deterioration of work performed, shall provide suitable drainage of the roadway by opening ditches, shoulder drains, etc. and shall erect temporary structures where necessary. The contractor may suspend work for reasonable cause upon written approval from the engineer. During such a period in which work is suspended, liquidated damages will not accrue unless such suspension is due to the contractor's failure to comply with the contract. If work has been suspended, the contractor shall notify the engineer in writing at least 48 hours before resuming operations.

108.7 Contract Time for Completion of the Work. The time for the completion of the work is specified by calendar days, calendar date or working days in the contract. Time is an essential element of the contract, and it is therefore important that the work be pursued vigorously to

completion.

108.7.1 Completion by Calendar Days or Calendar Date. Any computation of time by calendar days or calendar date will be based on the seasonal importance of days on the basis of weighted time tables on file in the Office of the Secretary of the Commission and available on the MoDOT website. If a change in the work is directed by the engineer, the contractor will be allowed an extension of contract time based on the weighted time tables and the ratio of the cost of such additional work to the contract price, unless it can be established that the additional work required more time than is indicated. In such cases, the actual time required, as determined by the engineer, may be allowed.

108.7.1.1 If the notice to proceed is not issued and effective within 35 days after the award or the later date specified in the contract due to any failure of the Commission, the contractor will be given an extension of contract time equal to the number of calendar days after the 35th day or the later date specified in the contract, until the notice to proceed is effective. Such a delay in the effective date of the notice to proceed will be an excusable, noncompensable delay.

108.7.1.2 The contractor will not be entitled to any extension of contract time because of unsuitable weather conditions or the effects of weather conditions unless authorized in writing by the engineer as an excusable, noncompensable delay under [Sec 108.14.1](#).

108.7.2 Completion by Working Days. If the time for the completion of the work is based on working days, this time will be specified in the contract. A working day will be defined as any day when, in the judgment of the engineer, soil and weather conditions would permit the major operation of the project for six hours or more, unless other unavoidable conditions prevent the contractor's operations. If conditions require the contractor to stop work in less than six hours, the day will not be counted as a working day.

108.7.2.1 December 15 to March 15, both dates inclusive and Saturdays, Sundays, and holidays established by law will not be counted as working days.

108.7.2.2 The count of working days will start on the date the contractor starts construction operations, or the effective date of the notice to proceed, whichever is earlier. The engineer will determine when a working day is to be charged. The engineer may make allowance for working days lost due to causes justifying their elimination from the count of working days. No allowance will be made for delay or suspension of the prosecution of the work due to fault of the contractor. On each contractor pay estimate the engineer will give the contractor written notice of the number of working days charged since the preceding pay estimate. Any objection by the contractor to the number of working days so charged shall be made in writing within five days, setting forth the contractor's objections and specifying the reasons therefore, or those objections shall be forever waived and will not constitute the basis for an excusable or compensable delay.

108.7.2.2.1 Where projects specify signal or lighting equipment as the major work items, working days will not begin until 104 calendar days after the date of the Notice to Proceed or until such time as the signal or lighting equipment is available to the contractor, or until the contractor begins work, whichever date is the earliest, to allow time for the fabrication and delivery of signal posts and lighting poles.

108.7.2.3 In case the final value of all work performed exceeds the original contract amount, an extension in the working days will be granted the contractor. The extension will be made by increasing the contract time by the ratio of the total final cost of all work performed under the contract to the total amount of the original contract. Incentive/disincentive, bonus or deduction adjustments will not be used in this computation. For a combination of projects awarded as a single contract, the extension will be made in a similar manner. If it can be established that the extra work required more time than indicated, the actual number of working days required, as determined by the engineer, may be allowed.

108.8 Liquidated Damages for Failure or Delay in Completing Work on Time.

108.8.1 If the contractor or, in case of default, the surety fails to complete the work within the time specified in the contract, or within such extra time as may be allowed in the preceding sections, a deduction of an amount specified in the contract will be made for each day that the contract remains incomplete after the time allowed for completion. The amount specified in the contract is agreed upon, not as a penalty, but as liquidated damages for loss to the Commission and the public. This amount will be deducted from any money due the contractor. The contractor and surety will be liable

for all liquidated damages. Permitting the contractor to continue the work after the expiration of the specified time or any extension of time will not constitute a waiver by the Commission of any contractual rights.

108.8.1.1 The liquidated damages shown in the contract will be listed separately as contract administrative costs and project road user costs. A combination of projects awarded as a single contract will be considered as one unit for the determination and assessment of the administrative liquidated damages. The road user costs will be specified independently for each project in the contract and will be assessed independently for each project not completed within the time specified in the contract.

108.8.1.2 The Commission may waive the road user cost as may accrue if the work is deemed to be significantly complete. A project will be considered significantly complete when all necessary signing, pavement markings in accordance with [Sec 620](#), guardrail, signals, all permanent traffic control devices and other safety appurtenances have been installed and are operational. At a minimum, traffic must have complete use of the roadways and shoulders, with no delays due to construction activity. The suspension of the road user cost by the engineer will not constitute a waiver by the Commission of any contractual rights, and its application will be contingent upon the discretion of the engineer in completing the remaining items of work.

108.8.1.3 Regardless of the method used to specify contract time for completion of the work, liquidated damages will not be charged as follows:

- (a) From December 15 through March 15, both dates inclusive.
- (b) For Saturdays, Sundays, and holidays established by law.
- (c) During any period of sod maintenance, as specified in [Sec 803](#), if such maintenance is the only work remaining and the contractor can perform the maintenance without inconveniencing the traveling public.
- (d) During the final 15 consecutive day test period for a signal system, as specified in [Sec 902](#), provided all other work has been completed.

108.8.2 The Commission will not be required to file a claim or counterclaim under [Sec 105.16.5](#) or any other provision, to assess or retain liquidated damages.

108.8.3 The contractor and surety shall be liable for liquidated damages chargeable under the contract when the work is completed after default of the contract, unless the delay is caused by the Commission. A delay in the work or the final completion of the project caused by the Commission shall not void the provisions of the contract as to liquidated damages and will be considered an excusable, noncompensable delay.

108.9 Signal and Lighting Malfunctions. If the engineer invokes the option under Secs 901, 902 or 903 to have MoDOT personnel or a third party correct a lighting, signal or sign lighting malfunction, the contractor will be charged for the service. If MoDOT personnel make the correction, the charge will be computed as five times the cost for all replacement parts, equipment rental, salaries and fringe benefits. If a third party makes the correction, the contractor will be charged 1.2 times the charges billed the Commission by the third party. However, in no case will the charge be less than \$100.

108.10 Default of Contract. After notice and an opportunity to remedy, the engineer may declare the contractor in default, if the contractor:

- (a) Fails to begin the work under the contract within the time specified to begin work.
- (b) Fails to perform the work with sufficient resources to assure the timely completion of the work.
- (c) Fails to perform the work in accordance with the contract requirements, or neglects or refuses to remove and replace rejected material or unacceptable work.
- (d) Discontinues the prosecution of the work.
- (e) Fails to resume work that has been discontinued within a reasonable time after notice to do so.
- (f) Becomes insolvent, is declared bankrupt or commits any act of bankruptcy or insolvency, allows any final judgment to remain unsatisfied or makes an assignment for the benefit of creditors.
- (g) Fails to comply with contract requirements regarding prevailing wage payments, DBE or EEO

requirements.

(h) Is a party to fraud.

108.10.1 The engineer will give notice in writing to the contractor and surety of the condition described in [Sec 108.10](#), and advise the contractor and surety of the actions required for remedy. If the contractor does not proceed to remedy the condition within ten days of receipt of this notice, the engineer may declare the contractor in default. The declaration of default will be made in writing to the contractor and the surety.

108.10.2 If within ten days after receipt of the declaration of default, the surety does not proceed to assume the contract for completion under the direction of the engineer, the Commission has full power and authority, without impairing the obligation of the contract or the bond:

- (a) To take over the completion of the work.
- (b) To appropriate or use any or all project material and equipment that is suitable and acceptable.
- (c) To enter into agreements with others.
- (d) To use such other methods as in its judgment may be required for the completion of the contract in an acceptable manner.

108.10.3 Liability for Costs. The contractor and surety shall be liable for all costs and expenses incurred in completing the work, and for all liquidated damages in conformity with the contract. The contractor and surety are obligated to comply with all change orders and directives of the engineer to the same extent, and for the same compensation, if any, as the contractor would have been in the absence of default. In case the sum of such liquidated damages and the expense so incurred is less than the sum that would have been payable under the contract if the work had been completed by the contractor, the contractor or surety will be entitled to receive the difference. If the sum of such expense and such liquidated damages exceeds the sum that would have been payable under the contract, the contractor and surety will be liable and shall pay the amount of such excess. This provision will apply regardless of whether the surety or the Commission completes the contract work. The contractor and surety will solely be liable for the costs and expenses of a completing contractor, laborers and suppliers with which either has contracted.

108.10.4 If it is determined after termination of the contractor's right to proceed that the contractor was not in default, the rights and obligations of the parties will be the same as if the termination had been issued for the convenience of the Commission under [Sec 108.11](#). Sums to which a contractor may be entitled as a result of the contract termination will be limited to amounts determined under [Sec 108.11](#).

108.10.5 Sureties' Continued Acceptability. A surety failing to proceed within ten days after the written declaration of default by the engineer under [Sec 108.10](#) may be required to show cause to the Commission why the surety should continue to be accepted for future bonds.

108.11 Termination of Contract for Convenience of the Commission. The Commission may terminate the entire contract, or any portion thereof, if the engineer determines that a termination is in the Commission's best interest. The engineer will deliver to the contractor and surety a notice of termination specifying the extent of termination and the effective date. A termination of the contract for convenience may be directed at any time after the Commission has made a determination to award a contract. The bidding documents may provide for a termination of the contract for convenience under this section upon the occurrence or nonoccurrence of a specified event after bid opening.

108.11.1 Submittals and Procedures. After receipt of a notice of termination, the contractor shall immediately proceed with the following obligations:

- (a) Stop work as specified in the notice.
- (b) Place no further subcontracts or orders for material, supplies, services or facilities, except as necessary to complete the portion of the contract that has not been terminated.
- (c) Terminate all subcontracts to the extent they relate to the work terminated.
- (d) Settle with subcontractors and suppliers all outstanding liabilities arising from the termination.
- (e) Transfer title and deliver to the Commission, work in progress, completed work, supplies and other

material produced or acquired for the work terminated, and completed or partially completed plans, drawings, information and other property that, if the contract had been completed, would be required to be furnished to the Commission.

(f) Complete performance of the work not terminated.

(g) Take any action that the engineer directs to protect and preserve contract-related property that is in the possession of the contractor in which the Commission has or may acquire an interest.

108.11.2 Settlement Provisions. When the Commission orders termination of all or a part of the contract effective on a certain date, completed items of work as of that date will be paid for at the contract unit price. Payment for partially completed work will be made either at agreed prices or under the provisions below. When items are eliminated in their entirety by such termination, the contractor will be paid for actual work done and actual costs incurred before notification, including mobilization of equipment or material.

108.11.2.1 Additional Costs. Within 60 days of the effective termination date, the contractor shall submit any request for additional damages or costs not covered in [Sec 108.11](#) or elsewhere in the contract. Such a request may include only such cost items as: mobilization, overhead expenses proven to be attributable to the project or the part terminated and not paid for under work not terminated, subcontractor costs not otherwise paid for, actual idle equipment and idle labor cost only for any time the work is stopped in advance of the termination date, guaranteed payments for private land usage as part of the original contract, and any other actual cost for which the contractor feels reimbursement should be made.

108.11.2.1.1 Anticipated profits, including anticipated earnings on usage of owned equipment, and impact, delay or other direct or indirect costs resulting from this termination that are not expressly authorized, will not be compensable as part of any settlement.

108.11.2.1.2 The contractor and the engineer may agree upon the whole or any part of the amount to be paid because of the termination. The amount may include a reasonable allowance for profit on work done. The agreed amount may not exceed the total contract price as reduced by the amount of payments previously made and the contract price of work not terminated. The contract will be amended and the contractor paid the agreed amount.

108.11.2.2 Additional Cost Review. If the contractor and the engineer fail to agree on the whole amount to be paid the contractor because of the termination of work, the Commission will pay the amounts determined as follows, but without duplication of any amounts agreed upon in [Sec 108.11.2.1](#):

(a) For contract work performed before the effective date of termination, the total, without duplication of any items of:

- (1) The actual cost of work performed.
- (2) The cost of settling and paying termination settlements under terminated subcontracts that are properly chargeable to the terminated portion of the contract if not included in [Sec 108.11.2.1](#).
- (3) A sum for profit on the actual cost of work performed as determined by the engineer to be fair and reasonable. The engineer will allow no profit under this section if the contractor's costs incurred on work performed exceed the contract prices paid.

(b) The reasonable costs to settle the work terminated, including:

- (1) Internal accounting and clerical expenses reasonably necessary for the preparation of termination settlement proposals and support data, including expenses for termination and settlement of subcontracts.
- (2) Storage, transportation and other costs incurred, reasonably necessary for the preservation, protection or disposition of the termination inventory.

(c) For normal spoilage and to the extent that the engineer expressly accepts the risk of loss. The engineer will exclude the fair value of property that is destroyed, lost, stolen or damaged so as to become undeliverable to the Commission or to the buyer.

108.11.2.2.1 In arriving at the amount due the contractor under this clause, there will be deducted:

- (a) All advanced payments for mobilization, services or facilities, or other payments to the contractor under the terminated portion of the contract.
- (b) Any claim that the Commission has against the contractor under the contract.
- (c) The agreed price for or the proceeds from the sale of material, supplies or other items acquired and sold by the contractor, and not recovered by or credited to the Commission.
- (d) Any costs saved as a result of the termination.

108.11.2.2.2 If the termination is partial, the contractor may file a proposal with the engineer for an equitable adjustment of the price or prices of the continued portion of the contract. The engineer will make any equitable adjustment agreed upon. Any proposal for an equitable adjustment under this clause shall be requested within 60 days from the effective date of termination unless extended in writing by the engineer.

108.11.2.2.3 The contractor shall maintain and make available all project cost records to the engineer for audit to the extent necessary to determine the validity and amount for each item requested. This will include, but is not limited to, all items described in [Sec 105.16](#). These records and documents shall be made available to the engineer at the contractor's office at all reasonable times, without any direct charge. If approved by the engineer, photographs, microphotographs or other authentic reproductions may be maintained instead of original records and documents.

108.11.3 Effect of Termination. Termination of the contract or portion thereof will not relieve the contractor of contractual responsibilities for the work completed, nor will termination relieve the surety of the surety's obligation for and concerning that part of the contract not terminated or any just claim arising out of the work performed.

108.12 Notice to Contractor and Surety. Notice to the contractor, in case of default or termination of the contract, shall be deemed to be served when delivered to the person in charge of any office used by the contractor, the contractor's representative at or near the work or by certified mail addressed to the contractor's last known place of business. Notice to the surety shall be deemed served when mailed to the surety's address as shown in the contract by certified mail.

108.13 Termination of Contract for Misconduct. For the purposes of the following provision, "state" will include the State of Missouri and any other state, commonwealth or territory of the United States. The Commission may declare the contract to be terminated at any time after the contract is awarded and prior to final acceptance of the project, for any one or more of the acts set forth below, if the act occurred after the bid opening or within two years immediately preceding the date of the bid opening, unless the act is a basis for an adverse action under 49 CFR, Part 29 in which case the time limit will not apply, on any Commission or other federal, state or local government or privately awarded contract:

- (a) Receiving or giving any currency or item of value in order to influence the competitive bidding process or the award of a competitively bid contract; bid-rigging, collusion or any similar act or communication with any person or firm in restraint of competitive bidding on a contract; or to obtain or grant an advantage in obtaining the award of such a contract.
- (b) Fraud, dishonesty or a material misrepresentation or omission of fact in any request for proposal or bid submitted to a private firm or governmental agency, or in any contract documents submitted to such a firm or agency.
- (c) Making or receiving kickbacks or payments of currency or any item of value in order to obtain or retain any contract or payment thereunder, or in return for an agreement to make or for the making of any false statements or material misrepresentations or omissions of fact to any federal, state or local governmental agency or private firm relevant to contract compliance.
- (d) Suspension, debarment or other disqualification of the contractor, or determination that the contractor is not a responsible bidder for public contracting purposes, by any federal, state or local governmental agency, regardless of whether the sanction is still in effect at the time of the bid or contract award by the Commission.
- (e) Conviction or adjudication of guilt in any criminal proceeding in a federal or state court, regardless of whether sentence was suspended or executed, for any act an element of which is fraud, dishonesty or moral turpitude, which conduct is relevant to a determination of the responsibility of the contractor.

(f) Commission of any act or failure to act, such that the contractor is subject to the determination that the contractor is not a responsible bidder under the contract or under applicable Missouri or federal law.

108.13.1 The acts, omissions and liabilities of persons or firms affiliated with the contractor or of persons that are principals of the contractor, are those of the contractor, unless the circumstances clearly negate that conclusion. Persons or firms are "affiliates" of each other if, directly or indirectly, either one controls or has the power to control the other or a third person controls or has the power to control both. Examples of control include, but are not limited to: interlocking management or ownership, identity of interests among family members, shared facilities and equipment, common use of employees on projects or a new business entity organized following the determination of ineligibility or non-responsibility of a person or firm which has the same or similar management, ownership or principal employees as the ineligible person. A "principal" will be defined as an officer, director, owner, partner or other natural person within a firm with primary management, supervisory or contracting responsibilities.

108.13.2 The Commission will not declare the contract terminated pursuant to this section if the contractor made a full and complete disclosure of the acts and circumstances described in [Sec 108.13](#) to the Commission in the bid or in writings submitted with the bid and the Commission did not determine the contractor to be non-responsible prior to making the award of the contract. The Commission will not be precluded from terminating the contract under this section if the information provided by the contractor did not constitute a full and complete disclosure of all facts and circumstances pertinent to the issue of the responsibility and integrity of the contractor.

108.13.3 The procedures for notice of the proposed termination of the contract and the contractor's right to be heard regarding that proposed action will be those in accordance with a proposed disqualification or suspension under the provisions of 7 CSR 10-18. After notice and an opportunity to be heard, upon a finding of the existence of a basis to terminate a contract under this section, the Commission may terminate the contract immediately or at the occurrence of some specific date or event in the future, prior to project completion, upon delivery of a written notice to the contractor by actual service or by certified mail, return receipt requested, sent to the address of record of the contractor. Effective with the contract termination date, the contractor shall discontinue further work on the project and shall instruct subcontractors and suppliers to do the same, other than to remove promptly the contractor's personnel, equipment and supplies from the project site. The contractor will be paid for all completed work to that date at the contract price. At the option of the engineer, the Commission may assume the possession and cost of any specially fabricated material or supplies for the project that have been ordered prior to notice of termination, but have not been installed on the date of termination. The contractor and surety will be liable to the Commission for all costs and expenses incurred by the Commission in completing the project, including, but not limited to, the Commission's costs to redraft and rebid the project, which costs and expenses exceed the total of the contractor's bid price plus additional expenses allowed by the engineer during the contractor's work on the project, less the amount paid to the contractor by the Commission. The Commission will not be liable for damages for breach of contract or in any other action or respect for declaring a default if one exists under this section and for terminating the contract prior to completion by the contractor.

108.13.4 The satisfactory performance of a contract, prior to the notice to the contractor of the intent to terminate the contract for misconduct, will not be a basis to determine whether the contract may be terminated for misconduct under this section.

108.13.5 The contractor shall file any claim the contractor has against the Commission within 60 days after the effective date of termination, pursuant to the procedures of [Sec 105](#). The Commission will file any claim the Commission has against the contractor or surety within 60 days of the date of final acceptance of the project, whether or not it is renumbered or redesigned, and whether completed by the surety, by a successor contractor retained by the Commission, or by the Commission itself. Any Commission claim will be filed pursuant to the procedures of [Sec 105](#).

108.14 Determination of Compensation and Contract Time Extension for Excusable, Noncompensable and Compensable Delays. An extension of the contract time may be granted under the following conditions provided documentation has been given to the engineer in accordance with [Secs 108.14.3](#) through [108.14.5](#). Strict adherence to the provisions of this section will be a condition precedent to the contractor's entitlement to an extension of contract time or compensation because of project delays.

108.14.1 Excusable or Noncompensable Delay. Contract time allowed for the performance of the work may be extended for delays caused by acts of God, acts of the public enemy, fires, floods, earthquakes, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather or other delays not caused by the contractor's fault or negligence.

108.14.2 Compensable Delay. Contract time allowed for performance of the work may be extended for delays caused by the Commission. The contractor may be granted an extension of time and additional compensation only as provided by [Sec 109](#).

108.14.3 Notification of Delay. Within seven days of the occurrence of a delay to the prosecution of any phase of the work, the contractor shall notify the engineer in writing of such a delay and indicate that a request for delay consideration will be filed. Delay costs incurred prior to notifying the engineer that operations have been delayed will be noncompensable.

108.14.4 Procedures Following a Delay. The contractor shall keep daily records of all non-salaried labor, material costs and equipment expenses for all operations affected by the delay.

108.14.4.1 The contractor shall maintain a daily record of each operation affected by the delay and the station location of the operations affected. Daily records of the operations and stations will also be maintained by the engineer. Each Monday, the contractor shall compare the previous week's daily records with the records kept by the engineer. The contractor shall also prepare and submit written reports to the engineer each Monday containing the following information:

- (a) Number of days behind schedule due to the delay.
- (b) A summary of all operations that have been delayed or will be delayed.
- (c) In the case of a claimed compensable delay, the contractor shall explain how the Commission's act or omission delayed each operation and estimate the amount of time required to complete the project.
- (d) An itemized list of all extra costs incurred, including:
 - (1) How the extra costs relate to the delay and how the costs are being calculated and measured.
 - (2) The identification of all non-salaried project employees for whom costs are being compiled.
 - (3) A summary of time charges for equipment, identified by manufacturer's year and model and the contractor's number, for which costs are being compiled.

108.14.4.2 The contractor shall provide written notice to the engineer within seven days of the results of the comparison of the detailed reports performed each Monday and shall define any disagreements between specific records.

108.14.4.3 Failure to meet to review the engineer's records or to report disagreements between the records will be considered conclusive evidence that the engineer's records are accurate.

108.14.5 Procedures Following Completion of Work Allegedly Delayed. Within the earlier of 15 days of completion of any phase of work allegedly delayed, or of project completion, the contractor shall submit a report to the engineer containing the following information:

- (a) A description of the operations that were delayed and the documentation and explanation of the reason for the delay, including all reports prepared by or for the contractor.
- (b) An as-built chart or other graphic depiction of how the operations were delayed based on the contractor's most recent progress schedule prior to the delay event.
- (c) An item by item measurement and explanation of extra costs requested for reimbursement due to the delay.

108.14.5.1 All costs shown in the report submitted to the engineer must be directly caused by the delay event and shall reflect the actual costs incurred as shown on the contractor's project cost records kept in the ordinary course of business.

108.14.5.2 The engineer will review the contractor's submission and any reports prepared for the engineer. A written decision will be provided to the contractor within 60 days of the receipt of the complete contractor's submission. This time may be extended if the engineer requires additional information. The contractor shall state affirmatively in writing when the contractor has made a complete submission of information regarding a delay event.

108.14.5.3 In the case of compensable delays, if the engineer determines that the Commission is responsible for delays to the contractor's operations, the engineer's written decision will reflect the

nature and extent of any resulting equitable adjustment to the contract in accordance with [Sec 109](#).

108.15 Suspension of Work Directed by the Engineer.

108.15.1 If the performance of all or any portion of the work is suspended or delayed by the engineer for an unreasonable period of time not originally anticipated, customary or inherent to the construction industry, and the contractor believes that additional compensation or contract time is due as a result of such suspension or delay, the contractor shall submit to the engineer in writing a request for adjustment within seven days of receipt of the notice to resume work. The request shall set forth the reasons and support for such an adjustment. The procedures of [Secs 108.14.4](#) and [108.14.5](#) will apply to requests for additional compensation or time claimed by the contractor as a result of a suspension of work directed by the engineer under this section.

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108.15.2 Upon receipt, the engineer will evaluate the contractor's request. If the engineer agrees that the cost or time required for the performance of the contract has increased as a result of such a suspension and the suspension was caused by conditions beyond the control of and not the fault of the contractor, suppliers or subcontractors, and not caused by weather, the engineer will make an adjustment, excluding profit, and modify the contract in writing accordingly. The engineer will notify the contractor of the engineer's determination whether or not an adjustment of the contract is warranted.

108.15.3 No contract adjustment will be made unless the contractor has submitted the request for adjustment within the time prescribed.

108.15.4 No contract adjustment will be allowed under this clause to the extent that performance would have been suspended or delayed by any other cause, or an adjustment is provided for or excluded under any other term or condition of the contract.

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ADD AS 109.16

I reviewed the spec and corrected references to Sec 310 for scales in 402, 403, and 404 I am submitting. There is one more reference in 1015.6 that will need to be updated as part of this move.

109.16. Vehicle Scales. Vehicle scales shall be approved by the engineer and shall be in accordance with the requirements specified herein.

109.16.1 Basis of Acceptance. Scale acceptance will be based on one of the following:

- (a) A valid certification or seal of approval by the Missouri Department of Agriculture, Division of Weights and Measures.
- (b) A valid certification or seal of approval by a State of Missouri duly appointed Sealer of Weights and Measures in cities or counties of 75,000 population or more.
- (c) Certification of calibration from a commercial scale service company showing that the scale meets the requirements of these specifications. The contractor shall furnish the certification of calibration to the engineer.
- (d) Calibration from zero weight through the maximum load to be applied by the application of standard weights in the presence of the engineer by the contractor's personnel. In lieu of starting the calibration at zero weight, standard weights may be applied to an unloaded truck, the weight of which has been determined on a certified scale and the calibration continued through the maximum load to be applied.

Regardless of the form of acceptance, the calibration shall be within the accuracy requirements specified in [Sec 109.16](#), and the scales shall meet all requirements of these specifications.

109.16.2 Scale Calibration. Scales shall have been calibrated within the 12-month period immediately prior to any material being delivered or any time the engineer has cause to question the accuracy of the scale. Scales shall be accurate to within 0.4 percent of the net load applied, regardless of the location of the load on the platform. The value of the smallest unit of graduation on a scale shall be no greater than 20 pounds. Sensitivity requirements of scales not equipped with balance indicators shall be twice the value of the minimum graduated interval on the weigh beam or 0.2 percent of the nominal capacity of the scale, whichever is less. For scales equipped with balance indicators, the sensitivity requirement shall be the value of the minimum graduated interval on the weigh beam.

109.16.3 Verification. Verification of a vehicle scale may be required by the engineer at any time. Weighing a hauling unit on another recently calibrated and certified scale is an acceptable method of verification.

109.16.4 Long Vehicles. If equipment to be weighed is of such length that all axles cannot be weighed simultaneously, a level area of concrete or bituminous pavement shall be provided permitting those axles not on the scale platform to be on the pavement during the weighing operation. The approach shall be at least as wide as the platform and of sufficient length to ensure the level positioning of vehicles during weight determinations. The weighing shall be performed with all brakes released. If equipment to be weighed is equipped with an air bag suspension unit on any axle, the equipment, including semi-trailers or pup trailers, shall be determined on vehicle scales of sufficient size to weigh all axles of the combination simultaneously.

109.16.5 Certification. All costs incurred in obtaining certification of calibration or verification shall be at the contractor's expense.