

**Caltrans Responses to RPC Scoping Documents on Asphalt Rubber Binder Comments – July 19, 2013**

Log	Author	Comments	Caltrans Response	Changes
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**1. Asphalt Rubber Binder Quality Control**

1	Belshe	On Page 2 there is the statement “Recent emphasis on asphalt rubber binder viscosity by the PPTG Surface Seals Task Group has brought Caltrans’ attention to reviewing asphalt rubber binder quality characteristics where it has discovered that contractor quality control requirements are lacking.” I believe Caltrans lacks sufficient data to characterize the contractor QC as “lacking”.	The statement refers to the lacking of quality control requirements in the specifications.	No
2		Under the Section of Timeline, I question whether all issues can be adequately addressed and resolved in time for the target of October 2013 posting.	Timeline will be modified to 11/30/13 for spec development and 1/1/14 for CPD.	Yes
3	Van Kirk	This is an expedited issue, but the timeline goes beyond 90 days. Recommend changing to an annual.	See Log 2; but will remain as an expedited item.	No
4		In the last paragraph of the Background Section Caltrans states “it has discovered that contractor quality control requirements are lacking”. What specific issues were found and where is the specific data to verify this claim.	See Log 1. Specific issues will be worked on in the STG.	No

**2. PG-AR**

1	Belshe	There is a sentence on Page 2 that states “It should be noted that the size of the crumb rubber used in the above tests may not be the same as that specified in the Standard Specifications or that has been used on Caltrans projects;”. I have repeated been told by the folks that have been providing the samples that the crumb rubber is indeed in compliance with the Caltrans Standard Specifications.	However, for the PG-AR development, as understood, industry has been testing ARB containing particle size up to 1.4 mm, which is smaller than 2.0 mm specified in the spec.	No
2		Also on Page 2 there is a sentence that states “PG-AR specification would allow Caltrans to specify asphalt rubber binder based on climatic and traffic conditions.” I know we have discussed this previously but PG grading of asphalt rubber binder will only allow the characterization of an existing material using new methodologies. This existing material has been used in many successful situations and due to its unique characteristics of performance I believe it will be a misuse of this project to seek a modified design approach based solely on the results of the study.	Paragraph will be modified.	Yes
3		The deadlines expressed for Phase 1 have either already passed or are not attainable at this time. They need to be revised.	Timeline will be modified.	Yes
4	Van Kirk	Page 1. In regards to the sentence added in the first paragraph - “These characteristics are non-performance based. Often the material properties and uniformity of the field produced asphalt rubber binder can be difficult to determine due partially to measurement accuracy and/or testing variability.” Where is the data to support this sentence?	They can be difficult to determine. For example, viscosity can vary significantly due to the accuracy of the viscometer.	No
5		Second paragraph - In regards to the sentence added in the second paragraph (from the first paragraph) – “Coupled with the successful development of a PG-AR test procedure and specification would be the implementation of a Certificate of Compliance (COC) program for asphalt rubber binders. “ Does this mean that the development of the COC is part of this	Yes.	No

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		6effort?		
6		Page 2. 3 <sup>rd</sup> and 4th paragraph – Change “1.4mm (14mesh)” to “2.0mm (10 mesh).”	Will be discussed in STG. See Log 1.	No
7		Page 2. Eliminate last sentence of 4 <sup>th</sup> paragraph – “. It should be noted that the size of the crumb rubber used in the above tests may not be the same as that specified in the Standard Specifications or that has been used on Caltrans projects; nevertheless, the above effort demonstrates that with appropriate modification of the testing equipment and/or testing procedures it is feasible to develop a PG specification for asphalt rubber binder containing larger crumb rubber particles.”	Why? Is this a true statement?	No
8		Page 2. Last paragraph – Eliminate the reference to “traffic levels”. Asphalt rubber has already been used and proven effective in all traffic levels. There will only be one grade for asphalt rubber and it can be used in all traffic zones. The appropriate base asphalt will be used per the spec for the appropriate climatic zone.	Can be discussed in STG. See Log 2.	Yes
9		Page 3. – Add “PGAR test results as report only to all RHMA and AR chip seal projects in 2013 and 2014” before Workshop, to the Phase 1 in the table. Also add in text for Phase 1 on page 3/4.	Spec issue, to be discussed in STG.	No
10		Page 5. – Under Objective/Task for Preliminary Specification in the Table, why is there 0.40 PY’s listed for the preliminary spec has already been developed. Only minor adjustments will be necessary.	Multiple Caltrans units will be involved in the spec development as indicated in the scoping.	No