# 3460706 PORTLAND CEMENT CONCRETE – TRANSIT TIME.
# COMMENTS FROM INTERNAL/INDUSTRY REVIEW

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Jeff Pouliotte
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Comments: (6-7-11)
I question the wisdom of requiring a time limit from the plant to the complete placement of a concrete pour. You'll never know at the time you start pouring concrete whether the time limit will be met, and I am not sure how enforceable having a time limit for the complete placement of a concrete pour is from a contract point of view.

Response:

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John Clark
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Comments: (6-7-11)
This may not be worded the best, but it should read placing the concrete from the truck, not the complete pour. Those look like ACI times.

Response:

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Pat McCann
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Comments: (6-23-11)
District 4 Construction has the following comments: In addition to the proposed changes, suggest adding "at the concrete plant" after the word "water" for further clarification. As is, the "inital introduction of water" might be interpreted as water added at the site since there is an "initial" slump test taken before starting placement.

Response:

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Anonymous

Comments: (6-30-11)
It is not clear if substituting "completely placing the concrete" for "depositing the concrete in place" will not allow interpretations of what constitutes "completely placing". The issue involves the transit time as well as the placement time, if placement is defined as to the final position of the concrete. The "transit time" limit established in ASTM C-94 is discharge, not placement, 300 revolutions or 90 minutes. The difference could be the minor leveling and spreading of concrete, after what may usually be considered placement, could be interpreted as a continuation of

"placement". If that was the case, well after the concrete was discharged within the forms, concrete which was deposited close to the final position, could be considered out of specification. It appears the intent of this specification change is to clarify the time limit to prevent concrete sitting in a crane bucket, or in pump lines for well past the 90 minute time limit, not to address minor leveling and spreading of the concrete previously placed within the forms. An alternate wording could be "depositing the concrete as nearly as possible in it's final position", which is consistent with section 400-7.5.

Response:

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Jeff O'Leary
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Comments: (6-29-11)
Below are my comments regarding the proposed transit time changes to 3460706 Portland Cement Concrete.

At the very least, some of the areas throughout the state currently allow concrete to continue to be placed after the time limit, so long as the slump is within the specified range. This new language will prohibit this practice.

The industry addressed this issue decades ago, with language such as is in ASTM C 94 (which ACI 318 references): "These limitations are permitted to be waived by the purchaser if the concrete is of such slump or slump flow after the 1-½ hr time or 300 revolution limit has been reached that it can be placed, without the addition of water, to the batch". The addition of water and maintaining the w/c ratio is very well controlled on the project and the practice of continuing placement after the time limit can only be done without the addition of water.

The FDOT should recognize that there is no technical connection between a strict time limit and the quality of the concrete. The FDOT routinely places concrete for well over 4 hrs, with no more than a change in the chemical retarder dosage. So long as the concrete has maintained the minimum slump, just as is done during the slump loss test, the only limit should be when the slump falls below the target range – as with drilled shaft concrete.

Is there data or some justification for this change? To reject the final portion of a load, simply due to an arbitrary time limit, might be considered environmentally irresponsible. Returning this concrete, results in waste that has to be dealt with. It also requires additional raw materials, fuel, wear on the roads, etc. to produce additional concrete to replace that which is returned. The alternative method to insure no batch is partially returned is to produce smaller batches. However, this again increases the energy used to produce and deliver the concrete for any given placement (ie more trucks to deliver the same yardage).

Unless there is solid evidence that this practice is detrimental, then concrete should continue to be placed within the same guidelines as is in ASTM C 94.

Response:

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