6490500, Steel Strain Poles, Mast Arms and Monotube Assemblies – Installation.

Response to Comments from Industry Review

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Melissa Hollis
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Comment:
The foundation is currently included in the cost of the pole assembly. Is the intent of this change to include the additional testing in the cost of the asssembly also? If so, what is the expected financial impact of this change?

Response:

Any additional cost will added to the existing pay items. Cost will be minimal as cylinders are cheap to make and break.

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Gwen Norris
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Comment:

I have not heard of any shaft failures due to the 7-day wait for 'load'. I am concerned that we are adding an unnecessary added expense to the signal work that the tax payer will be paying for (at cost plus).

Response:

One of our signal contractors told me he had anchor bolts pull out after 7 days while placing a mast arm. Two scenarios: An extended period of cold temperatures or an overdose of retarding admixture at the concrete plant. Given the potential consequence of failure for these elements, I think it's cheap insurance.

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Michael Bergin, P.E.

Comment

I'm fine with this as far as how the language reads. The seven day strength will typically deliver about 85% of the targeted compressive strength, but if cold weather becomes a factor or if the

dosage rate of the water reducer is incorrect, then of course the seven days is not appropriate. I believe that the requirements for 70% of the compressive strength is definitely more applicable than just 7 days of curing.

I suggest that the Geotechs also concur, as this is more of a design issue and the loading of the drilled shaft as opposed to just concrete strength. The revised language is more indicative of what we really want in place prior to loading, but the Geotechs may see something here that I am overlooking.

Response:

I consider 70% adequate. See comment and response from Larry Jones below.

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Larry Jones

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I agree with Tim and Mike that there should be a strength check before mounting the pole rather than waiting x days. I have no objection to the proposed change. However, placing a fully loaded (w/ all heads & signs) mast-arm on a foundation with concrete strength at 70% of f_c' is a structural issue, particularly if there is a named storm nearby.

Response:

I consider 70% adequate. Rudy Powell has talked with Andre Pavlov of the Structures Design Office and Andre confirms that 70% is adequate and Tim Ruelke has confirmed with Rod Nelson of D2 Structures Design Office.

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Al Sevcech

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Comments:

1. Completely agree with the requirement of the 70% of the specified 28-day concrete strength before early loading of the poles. This clarifies many questions.

2. Does this cover only the pole installation or does the 70% include placing of the signal arms or loading of the strain poles?

Response:

1. I consider 70% adequate.
2. This includes placing of the signal arms or loading of the strain poles.

Rudy Powell

State Specifications Office

Comment: Add the following sentence to be consistent with 7000800 and 7150603. "Determine concrete strength from tests on a minimum of two test cylinders prepared and tested in accordance with ASTM C-31 and ASTM C-39."

Response: Agreed.

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