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Bobby Jindal, Governor
Sherri H. LeBas, P.E., Secretary

August 9, 2013

Mr. Charles W. Bolinger
Division Administrator
Federal Highway Administration
5304 Flanders Drive, Suite A
Baton Rouge, LA 70808

Subject: Traffic Signal Controller Certification

Dear Mr. Bolinger:

In accordance with the provisions of 23 CFR 635.411(a), the Louisiana Department of Transportation and Development has determined that on the basis of synchronization the continued use of Naztec traffic signal controllers and cabinets as a sole source proprietary product is necessary for synchronization.

Attached is a report which provides information and documentation which demonstrates that the use of Naztec controllers and cabinets as a propriety product is justified. In accordance with 23 CFR 635.411(a), the Department is authorized to certify this decision with the following statement:

I, Richard Savoie, DOTD Chief Engineer of the Louisiana Department of Transportation and Development, do hereby certify that in accordance with the requirements of 23 CFR 635.411 (a)(2), that Naztec traffic signal controllers and cabinets are propriety items which are essential for synchronization with existing highway facilities.

This certification is statewide and will sunset in three years, unless action is taken by the Department to extend it. This certification and the attached report will be posted on the Department's website.

Sincerely,

Richard L. Savoie, PE
DOTD Chief Engineer

Attachment



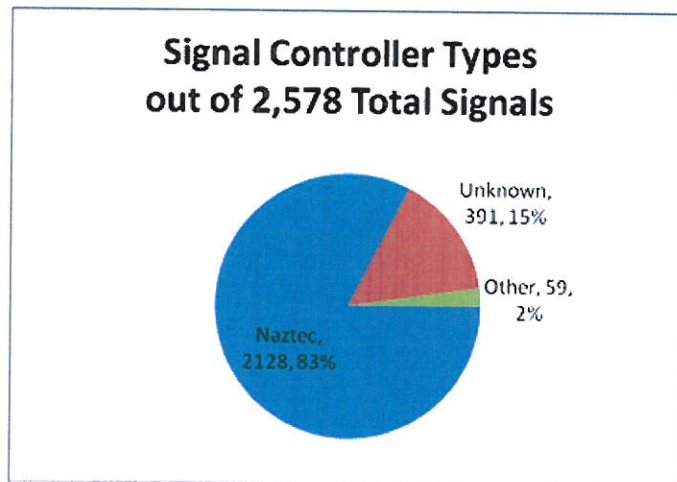
TRAFFIC SIGNAL CONTROLLER CERTIFICATION REPORT

In accordance with the requirements of 23 CFR 635.411(a), the Louisiana Department of Transportation and Development has determined that on the basis of synchronization the continued use of Naztec traffic signal controllers and cabinets as a sole source proprietary product is necessary for synchronization.

Existing Facilities

Presently the Department has over 2,128 Naztec controllers which make up the vast majority (83%) of the existing 2,578 traffic signals in the State. The estimate of the number of controllers is approximate because the Department's signal inventory is still being conducted and the count is not complete. The actual number and percentage of Naztec controllers is expected to be over 90%. Because of the large percentage of existing Naztec controllers, the continued use of only Naztec controllers can be justified for synchronization on the basis of life cycle, function, logistics, and cost.

Figure 1, Signal controller types.



Life Cycle

Of the existing 2,128 Naztec controllers, 47% are Naztec TS1 controllers and 53% are Naztec TS2 controllers. The Naztec TS1 controllers were purchased between 1995 and 2005, which corresponds to an average age of 13 years. The Naztec TS2 controllers were purchased between 2005 and 2013, which corresponds to an average age of 4 years. Given the expected service life of a traffic signal controller is over 25 years, all of the Naztec controllers are well within their expected life cycles. Replacing these controllers would not be practical.

Functional Synchronization

Based on functional synchronization, the Department needs to continue to use Naztec compatible hardware on all new and replacement signal installations. The Department currently has over 900 intersections in urban areas on closed loop systems that are controlled with the Naztec Streetwise software. As our communication network expands and is upgraded, additional intersections are being interconnected and coordinated with Streetwise. Streetwise is also used to store and transfer signal timings for isolated signal controllers that may need to be replaced due to crash damage or maintenance. The cost to purchase the nine district Streetwise licenses was \$450,000. Only Naztec controllers are compatible with the Naztec Streetwise software; therefore Naztec controllers are necessary for synchronization with existing facilities.

Logistical Synchronization

Synchronization based on logistics also supports the sole use of Naztec controllers. The Department currently contracts with six cities to maintain and operate state owned intersections along with their city owned signals. Due to scarce financial and labor resources on the state and city levels, the Department would prefer to train local and state signal field crews and engineers on only one signal controller operating system. For these same reasons, we would prefer for our districts and cities to stock only one type of controller for maintenance and repairs. The continued use of Naztec controllers and cabinets as a sole source product will ease the burden of maintenance for the Department and for those cities which maintain our signals under signal maintenance agreements.

Cost

In preparation of this report, two alternate controller manufacturers (Econolite and Peek) provided written price quotes for their TS2 controllers. Comparing these quotes with the price taken from the existing Naztec controller contract, there would be little or no cost savings if multiple manufacturers are allowed to supply controllers to the Department. In fact, it is believed that there will be an increase in cost to the Department due to training and stocking spares.

Shown in Table 1 below are the contract costs paid by the Department and the prices quoted by Econolite and Peek to the Department.

Table 1, Equipment Costs for Controllers and Controllers/Cabinet Combinations

Manufacturer	Controllers per each	Controller/Cabinet per each
Naztec*	\$1,890.00	\$7,570.00
Econolite**	\$2,100.00	\$10,600.00
Peek***	\$3,075.00	\$8,975.00

Notes:

*- Source DOTD Contract 4400001521, 11/1/11 – 10/31/12

** - Source: Econolite Control Products Budgetary Estimate, 4/30/12

*** - Source: Transportation Control Systems Quotation, 8/12/12

As shown in Table 1, the procurement price the Department pays for Naztec controllers and cabinets is lower than it would pay for controllers from other suppliers.

A similar comparison can be made for controllers installed under contract. A typical signal installation constructed by a contractor costs the Department \$200,000. The DOTD 2012 Weighted Average Unit Price for controllers was \$4,662 (2.3% of the total signal cost) and for the controller and cabinet \$23,963 (12% of the total signal cost). If a cost savings of 10% were to be achieved for the controller and cabinet, the overall potential savings for the intersection would be \$2,400 or a little more than 1% of the intersection cost. However, the comparison of the procurement contract prices and the vendor quotes in Table 1 strongly suggest that there would be no savings for signals installed under contract.

It is believed that the cost to the Department will increase in a compounded amount with the addition of each alternate. The cost associated with stocking spare controllers clearly increases as the number of alternates installed in the field increases. Our Hammond District reported that they keep 25-30 spare controllers, which equates to 10% of their intersections. On a statewide basis, 10% of the 2,578 intersections equates to 250 spare controllers for each type controller allowed. At present the investment in spare stock for just Naztec controllers is valued at \$472,500. For spares for Econolite, the investment in stock would increase by \$525,000 and for Peek the increase would be an additional \$768,750.

Similar cost increases are expected due to the additional training that Department field crews and engineering staff would have to undergo to learn each additional type of alternate controller. At present there are approximately 40 electricians that would need to be trained on basic controller operation. There are also approximately 40 electronic technicians that would have to undergo basic and advanced training on controller programming. Lastly there are approximately 20 engineers that would need training of controller operation. To accomplish this level of training would require an investment of \$138,000 in salaries for the class time for each type of controller used by the Department. The cost is actually higher since expenditures associated with travel to training and costs for training employees of each city with signal maintenance contracts are not included.

Based on the above, the estimated additional cost incurred as a result of continuing to specify Naztec controllers and cabinets as a proprietary product is expected to be very low and most likely zero. It is also possible to speculate that there would be a cost savings due to increased training and stocking costs that would be incurred by the Department if alternate controllers are allowed. These potential cost increases are detailed in Table 2.

Table 2, Costs for spare controllers and training costs in relation to alternates

Level of competition	Cost to Stock Spare Controllers	Cost for Training	Cumulative Total Costs
Existing Naztec as a sole source	Existing Investment \$472,500	Existing Investment \$138,000	Existing Investment \$610,500
Add Econolite as an alternate	Additional Cost \$525,000	Additional Cost \$138,000	Additional Cost \$663,000
Add Peek as an alternate	Additional Cost \$768,750	Additional Cost \$138,000	Additional Cost \$906,750
Add both Econolite and Peek as alternates	Additional Cost \$1,293,250	Additional Cost \$276,000	Additional Cost \$1,569,250

Based on the above, the addition of alternate controller manufacturers will increase costs to the Department due to increased investments in spare controllers and training of employees. This increase ranges from an additional \$906,750 for a single alternate to \$1,569,250 for two alternates.

Recommendation:

The combined lack of savings and the potential sizeable increase in cost if alternate controllers are allowed makes the use of a sole source product the best possible solution for the Department. When including the favorable factors of life cycle as well as functional and logistical synchronization, it is appropriate for the Chief Engineer to certify that the continued practice of specifying Naztec controllers and cabinets using a sole-source acquisition is in the best interest of the Department.

Peter A. Allain, PE, PTOE
 Traffic Engineering Division Administrator
 August 9, 2013

