



REQUEST FOR APPROVAL OF PATENTED/PROPRIETARY ITEMS ON FEDERALLY FUNDED PROJECTS

Regulatory References: 23 CFR 635.411

Policy Guidance <http://www.fhwa.dot.gov/construction/cqit/propriet.cfm>

Federal funds shall not participate, directly or indirectly, in payment for any patented and proprietary material, specification, or process set forth in the plans and specifications for a project unless:

1. The patented or proprietary item is purchased or obtained through competitive bidding with 2 or more **equally** suitable unpatented items; or
2. The State certifies either the patented or proprietary item is essential for synchronization or no suitable alternative exists; or
3. The patented/proprietary item is used for research or for a distinctive type of construction on relatively short sections of road for experimental purposes.
4. The State may require a specific material or product when there are other acceptable materials and products, when such specific choice is approved by the Division Administrator as being in the public interest.

Section A: STATE CERTIFIES

- | | |
|--------------------------|----------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | Synchronization with existing facilities (23 CFR 635.411 (a)(2)) (Provide reasoning in Section G) |
| <input type="checkbox"/> | No suitable Alternative/Sole Source (23 CFR 635.411 (a)(2)) (Provide reasoning in Section G) |

Section B: STATE REQUESTS APPROVAL FOR

- | | |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | Experimental or Research Purposes (23 CFR 635.411 (a)(3)); (NOTE: If item is for research and experimental purposes then NJDOT, New Technologies & Products Unit (NTP), must submit a workplan and follow procedures outlined within FHWA’s policy and guidance for “Construction Projects Incorporating Experimental Features”.) (http://www.fhwa.dot.gov/programadmin/contracts/expermnt.cfm) |
| <input type="checkbox"/> | Public Interest Finding (23 CFR 635.411(c)) |

Section C: STATEWIDE OR SPECIFIC PROJECT DETERMINATION

Is the request to be used for 2 or more federally funded projects (Statewide/multiple projects)?	<input type="checkbox"/> Yes (If yes, then do not complete Section D. Proceed to Section E through Section H).	<input type="checkbox"/> No (If no, then proceed to Section D through Section H).
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Section D: SPECIFIC PROJECT INFORMATION

Proj. Delivery (Process):	<input type="checkbox"/> Std. Scope Process	<input type="checkbox"/> Limited Scope Process	<input type="checkbox"/> Other Proj. Delivery Types: _____
Federal Project Number:	Project Description:		
UPC#:			
Route:			
Section:			
County:			

Section E: PRODUCT DESCRIPTION

(NOTE: Provide detailed information concerning the intended use of the product. Attach relevant product information as warranted.)

Section F: REASONS FOR REQUESTED APPROVAL

(NOTE: Justification should document engineering and economic considerations, product availability and compatibility, logistical concerns, and other unique considerations. The purpose is to document a finding of public interest. Attach supporting documentation as deemed appropriate by FHWA or State.)

Section G: REASONS FOR CERTIFICATION

Include a statement by the appropriate official attesting that the proprietary product is essential for synchronization with existing facilities; or that no equally suitable alternative exists (23 CFR 635.411(a)(2)). For further information on Certification language, see Q&A number D2 at the following link http://www.fhwa.dot.gov/programadmin/contracts/011106qa.cfm#_Hlk307506810

For example:

"I (name of certifying official), (position title), of the (Name of contracting agency), do hereby certify that in accordance with the requirements of 23 CFR 635.411(a)(2), that this patented or proprietry item is essential for synchronization with existing highway facilities,

or

"I (name of certifying official), (position title), of the (Name of contracting agency), do hereby certify that in accordance with the requirements of 23 CFR 635(a)(2), that no equally suitable alternative exists for this pateneted or proprietary item.

Section H: Signature Blocks

FOR SECTION A: DIRECTOR, NJDOT CAPITAL PROGRAM SUPPORT	NAME & TITLE	DATE
FOR SECTION C: NJDOT PROGRAM MANAGER REQUESTOR SIGNATURE	NAME & TITLE	DATE

Section I: TO BE COMPLETED BY FEDERAL HIGHWAY ADMINISTRATION (FHWA) ONLY (section B or C requests only)

REMARKS (FHWA)		
SUNSET PROVISION REQUIRED:	YES EXPIRATION DATE _____	NO
APPROVED BY FHWA'S REPRESENTATIVE	RESPRESENTATIVE NAME & TITLE	DATE

Questions and Answers Regarding Title 23 CFR 635.411

<http://www.fhwa.dot.gov/programadmin/contracts/011106qa.cfm>

Revised April 11, 2013

Preamble

23 CFR 635.411

Under 23 USC 112(a), "In all cases where the construction is to be performed by the State transportation department or under its supervision, a request for submission of bids shall be made by advertisement unless some other method is approved by the Secretary. **The Secretary shall require such plans and specifications and such methods of bidding as shall be effective in securing competition.** The FHWA has interpreted this clause to require competition not only for the award of the contract, but to also require competition for the various materials and processes involved in the work.

The specification of a particular product may restrict competition as the pool of available products is reduced to the product selected. In some cases, however, the need for a particular product outweighs the need to procure products competitively. 23 CFR 635.411 provides the regulatory authority for FHWA's participation in the cost of a patented or proprietary product.

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- K1. [What does Section 1525 of MAP-21 provide?](#)
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Definitions

A1. What definitions are used in this guidance?

In relation to this guidance, the following terms are defined as follows:

Patented or Proprietary Product: A product, specification, or process identified in the plans or specifications as a "brand" or trade name (e.g. 3M, Corten). However, it may also be a product so narrowly specified that only a single provider can meet the specification. A proprietary product must meet one of the conditions listed under 23 CFR 635.411(a) or (c) for Federal funds to participate in its use on a Federal-aid highway construction project. See Question and Answer #B1. For purposes of this guidance, any reference to "proprietary product shall mean "patented or proprietary product.

Certification: As used in 23 CFR 635.411(a)(2), the written and signed statement of an appropriate contracting agency official certifying that a particular patented or proprietary product is either:

- a. Necessary for synchronization with existing facilities; or
- b. A unique product for which there is no equally suitable alternative.

Synchronization: As used in 23 CFR 635.411(a)(2), providing a product that matches specific current or desired characteristics of a project. Synchronization may be based on:

- Function (the proprietary product is necessary for the satisfactory operation of the existing facility),
- Aesthetics (the proprietary product is necessary to match the visual appearance of existing facilities),
- Logistics (the proprietary product is interchangeable with products in an agency's maintenance inventory),

or any combination thereof.

In addition, it may be advisable to evaluate the following factors as they relate to synchronization:

- Lifecycle (the relative age of existing systems that will be expanded and the remaining projected life of the proposed proprietary element in relation to the remaining life of the existing elements),
- Size/extent of products and systems to be synchronized to/with, and the relative cost of the proprietary elements compared with replacing the elements requiring synchronization

Experimental Product: As used in 23 CFR 635.411(a)(3), a patented or proprietary product used for research or for a distinctive type of construction on relatively short sections of road on an experimental basis.

Public Interest Finding (PIF): As used in 23 CFR 635.411(c), an approval by the FHWA Division Administrator, based on a request from a contracting agency, that it is in the public interest to allow the contracting agency to require the use of a specific material or product even though other equally acceptable materials or products are available.

State Department of Transportation (State DOT) – The relevant department of any State charged by its laws with the responsibility for highway construction; also State Transportation Agency (STA), the "State".

Contracting Agency - Any entity administering a contract using Federal aid highway funds. Includes State DOTs, Local Public Agencies (LPAs), and other agencies that may be administering such contracts.

Local Public Agencies (LPAs): Any State DOT subrecipient of Federal-aid highway funds.

General

B1. Under what circumstances may the FHWA participate in the costs of a proprietary product on a Federal-aid highway construction project?

The FHWA may participate in the costs of a proprietary product under the following circumstances:

- a. Competitive bidding, provided under 23 CFR 635.411(a)(1)
 1. The proprietary product is obtained through competitive bidding with other suitable proprietary and non-proprietary products from multiple manufacturers. Where both proprietary and non-proprietary products are available, the contracting agency must compose specifications that allow the contractor to choose amongst as many acceptable products and technologies as possible. If the specification lists specific products, it must list all or at least a reasonable number of products, and must include the words "or equal" to ensure the broadest range of choice.

Note: The term "reasonable as it applies to a list of specific products, varies from State to State. The determination of the "reasonable number in a particular State is the responsibility of the FHWA Division Office in that State. Specification references to the State's approved product list are satisfactory as long as the approved products list is a reasonable listing of equally suitable products for a given use and the specification includes the words "or equal.
 2. A competitively bid performance-based warranty specification is permitted, if it does not limit product selection to a single source. The warranty specification must clearly describe all potential products that are acceptable for use at the time of project advertisement.
- b. A certification by the contracting agency, as provided in 23 CFR 635.411(a)(2), that the specified proprietary product is either:
 1. Necessary for synchronization with existing facilities; or
 2. A unique product for which there is no equally suitable alternative.
- c. A proprietary item is to be used for research or for a distinctive type of construction on relatively short sections of road on an experimental basis as provided in 23 CFR 635.411(a)(3).
- d. If there are other equally acceptable materials or products available, the contracting agency may require a specific material or product when the Division Administrator approves of its use as being in the public interest as provided in 23 CFR 635.411(c).

B2. If a specification lists a number of acceptable products and includes the "or equal" phrase, would it be prudent for a bidder to base its bid on those listed products?

Yes. The bid proposal should be based only on the acceptable products listed. The contracting agency would be responsible for evaluating the bids and determining whether a particular product is equal to that specified. Some agencies require bidders to include the name of the selected product in their bid proposal. If the bid proposal is based on an unlisted product which the contracting agency subsequently determines to be "not equal", the proposal could be declared nonresponsive.

B3. 23 CFR 635.411(a)(1) requires that patented and proprietary products be purchased or obtained through competitive bidding with equally suitable unpatented devices. For some

products, there are no comparable generic or unpatented devices. Is it acceptable to bid patented devices against other patented devices when no generic product exists?

Yes. At present, single proprietary products can be specified under 23 CFR 635.411(a)(2) if the contracting agency can certify that no suitable unpatented product exists. However, if two or more proprietary products exist, they can and should be bid competitively.

For ITS projects, the use of a Systems Engineering process as defined in 23 CFR 940.11 would be one way to define and to demonstrate that the proposed product uniquely fulfills clearly stated requirements. See Question and Answer #H22 below.

B4. For a performance-based warranty specification, if the warranty period exceeds that of the manufacturer-provided warranty, may the contractor select multiple listed acceptable products to fulfill the warranty requirements?

Yes. If, for example, a contracting agency requires the contractor to warrant the pavement markings for 7 years after project acceptance, and the listed acceptable products have manufacturer warranties of less than 7 years, the contractor may opt to use any combination of listed acceptable products to fulfill the requirements of the performance-based warranty.

B5. Is a specification reference to a State Transportation Agency's (STA's) approved product list subject to the FHWA's proprietary product requirements?

Yes. Since many STAs reference their "Qualified" or "Approved" products list in either standard specifications or project special provisions, FHWA Division staff should become familiar with the STA's product approval process to ensure that proprietary products are not being inappropriately or inadvertently required for Federal-aid projects.

Applicability

C1. Does FHWA's policy also apply to proprietary processes?

Yes, the FHWA's policy also applies to patented or proprietary processes required in the plans or specifications on a Federal-aid highway construction project. An example of a proprietary process would be that used for liquefying rubber for use in rubberized asphalt.

Note: As used in 23 CFR 635.411, the term "process refers to a manufacturing fabrication or construction process specified by the contracting agency in the contract documents. It would not normally include accreditation, certification or auditing procedures required by agencies to inspect, test, document or audit a Federal-aid highway construction project. Contracting agencies may set accreditation, certification or auditing procedures as necessary to assure an acceptable quality level.

C2. Does 23 CFR 635.411 apply to all Federal-aid highway construction projects?

Yes. As the provisions in 23 CFR 635.411 implement the competitive bidding principles in 23 USC 112, these requirements apply to all highway construction projects funded under Title 23. STAs and other contracting agencies may use state-approved procedures for "non-highway" construction projects located off the highway right-of-way (such as Transportation Enhancement projects off the highway right-of-way).

Note: For a period of time after the Intermodal Surface Transportation Efficiency Act of 1991 was implemented, the FHWA's policy limited the regulation's applicability to National Highway System projects. However, further evaluation of 23 USC 112 and 23 CFR 635.411 has led to the determination that the regulation should apply to all Federal-aid highway construction projects. Therefore, since February 1, 2006, this policy has applied to all Federal-aid highway construction projects not under contract prior to that date. Any non-NHS project under contract prior to February 1, 2006 that incorporates a patented or proprietary product approved through the STA's procedures would not require any additional approvals.

C3. May STAs assume FHWA's responsibilities regarding Patented and Proprietary products?

On June 22, 2001, FHWA issued the [Policy on the Stewardship and Oversight of the Federal Highway Programs \(Stewardship Policy\)](#). The Stewardship Policy reaffirmed that, regardless of the project responsibilities assigned to the States (or other Federal Agencies), FHWA is ultimately responsible for the Federal highway programs. The Stewardship Policy applies to all FHWA programs.

Under [23 USC 106\(c\)](#), the STAs shall assume the FHWA's responsibilities for design, plans, specifications, estimates, contract awards, and inspections of project for all non-NHS projects, and the STA's may assume these responsibilities for non-Interstate NHS projects. The authorities for individual STAs to assume these responsibilities, including those regarding patented and proprietary products, are formalized in the individual FHWA /STA Stewardship and Oversight Agreements.

C4. With respect to Proprietary Products, may the STA reassign FHWA authority and responsibilities to local public agencies (LPAs)?

No. The statutory authority to assume the Secretary's responsibilities under [23 USC 106\(c\)](#) is limited to States.

C5. In cases where the LPA is a direct recipient of Federal-aid funds (such as with TIGER grants), may it assume FHWA responsibility and authority regarding Proprietary products?

No. The statutory authority to assume the Secretary's responsibilities under [23 USC 106\(c\)](#) is limited to States.

C6. Can LPAs issue Certifications?

Yes. As the subrecipient and contracting agency, an LPA is responsible for complying with all applicable Federal requirements, including the requirement to certify a product or material is required for synchronization with existing facilities or that there are no equally suitable alternatives. The State DOT would be responsible for overseeing the LPAs compliance by ensuring that the LPA is making a certification and that the certification conforms to Federal requirements.

C7. Can LPAs concur in PIFs or approve Experimental Product Work Plans?

No. These are FHWA responsibilities that may only be assigned to State DOTs. See Questions and Answers C4 and C5 above.

C8. Do the requirements of 23 CFR 635.411 apply to products or processes that FHWA is promoting through special funding/evaluation programs (e.g. Highways for Life, Innovative Bridge Research and Deployment Program, Innovative Pavement Research and Deployment Program. etc)?

No. Products which have been approved under special funding/evaluation programs do not need additional certifications or approvals under 23 CFR 635.411 for the use of patented or proprietary products. The FHWA's approval of funding for these evaluation projects is essentially a finding that it is in the public interest to proceed with the evaluation of these unique products. However, additional use of these products on other Title 23-funded projects that are not funded under these special funding/evaluation programs must comply with 23 CFR 635.411.

Certifications

D1. Could you describe hypothetical situations where the use of a proprietary product could be based on synchronization?

Yes. Synchronization is defined under Question and Answer #A1. It may be best demonstrated by the following examples:

- A Federal-aid construction project in City A includes the replacement or addition of traffic signals and controllers in the downtown area. The City's existing signal control system is compatible with only a single brand and model of controller. If the city already has significant percentage of its intersections operating with a brand and model of signal

controller that is dictated by compatibility with an existing system, and both the system and these controllers are within their life cycle, then it may be appropriate to purchase that brand and model of controller using a sole-source acquisition on the basis of functional synchronization. This could be justified by use of a statement from the City justifying its decision to specify a particular brand and model (functional synchronization with control system). However, if the city has a small number of the proposed devices and wishes to procure hundreds this may not be appropriate. Since traffic signal controllers and software are ITS products, the requirements of 23 CFR 940.11 would apply and this analysis could provide documentation supporting the certification for functional synchronization.

- As part of its Downtown Beautification Plan, the City has specified a specially designed and patented Signal Pole Y for all intersections in the downtown area. On a Federal-aid contract in the downtown area, the city would like to use Signal Pole Y. To ensure FHWA participation, the City should provide sufficient documentation to support both functional and aesthetic synchronization. These documents could include a statement from the State Historic Preservation Officer requiring that new light poles be similar in appearance to Signal Pole Y, or a planning document stating that Signal Pole Y has been required on previous projects in the vicinity and that Signal Pole Y is necessary for compatibility with those previously-constructed projects.
- A Federal-aid construction project includes the replacement of existing substandard guardrail end terminals with those conforming to Manual for Assessing Safety Hardware (MASH) requirements. Upon project completion, the County will be responsible for the maintenance of the project. End Terminal T, which is MASH-compliant, has been constructed on other County-maintained routes in the vicinity. Due to scarce financial and labor resources, it desires to stock only one type of MASH-compliant end treatment. To ensure FHWA participation, the County should address these logistical issues in its supporting documentation.

D2. What information should be included in a Certification?

The Certification must include a statement by the appropriate official attesting that the proprietary product is essential for synchronization with existing facilities; or that no equally suitable alternative exists (23 CFR 635.411(a)(2)), such as:

"I (name of certifying official), (position title), of the (Name of contracting agency), do hereby certify that in accordance with the requirements of 23 CFR 635.411(a)(2), that this patented or proprietary item is essential for synchronization with existing highway facilities,

or

"I (name of certifying official), (position title), of the (Name of contracting agency), do hereby certify that in accordance with the requirements of 23 CFR 635.411(a)(2), that that no equally suitable alternative exists for this patented or proprietary item.

The extent of the Certification (project-specific, multiple projects, region/districtwide, statewide, or programmatic) should be specified. When the extent of a Certification extends beyond a single project, a sunset date should also be specified. See Question and Answer #G2.

Although not required to be included in the Certification, as a matter of good contracting practice, the contracting agency's file should contain the information and supporting documentation upon which the Certification was based. Such documentation may include, as appropriate:

- A description of how the proprietary product requirement will benefit the public.
 - The unique needs that are being addressed that result in no equally suitable alternative.
 - Identified safety locations or critical decision points that would justify a higher standard.

- An evaluation of the pool of potential products, and a description of why these products cannot meet the contracting agency's needs.
- An estimate of additional costs, if any, incurred as a result of this proprietary product requirement.

In order to ensure that the industry and general public understand the basis for a Certification, FHWA recommends that STAs post their Certifications, as well as those of their LPAs, to a public website, and make supporting documentation available upon request. See Question and Answer #12.

D3. If the contracting agency certifies that a proprietary product is essential for synchronization with existing facilities, or that no equally suitable alternative exists, can the FHWA Division Office require the contracting agency to provide supporting documentation?

Yes. Under 23 CFR 1.5, the FHWA may require the contracting agency to provide "information as the Administrator shall deem desirable" to administer the Federal-aid highway program. While the Division Administrator may require this information, it is not the intent of this guidance to require this for all certifications; although it may be appropriate in conducting program reviews or where potential problems have been identified.

Experimental Products

E1. What should be included in a contracting agency's request to use a proprietary product for research or experimental purposes?

If a contracting agency requests to use a proprietary product for research or for a distinctive type of construction on a relatively short section of road for experimental purposes, it must, submit an experimental product work plan for review and approval. The work plan should provide for the evaluation of the proprietary product, and where appropriate, a comparison with current technology. For additional information, go to the following link:<http://www.fhwa.dot.gov/programadmin/contracts/expermnt.cfm>.

This office recommends that the contracting agency submit the product evaluation results information to the American Association of State Highway and Transportation Officials (AASHTO) Product Evaluation Listing (APEL) database so that other agencies may benefit from their experience. The APEL is available on the AASHTO Internet site at:<http://apel.transportation.org/>

Public Interest Finding (PIF)

F1. What should be included in a public interest finding (PIF)?

A PIF has two components:

- a. The PIF request, developed by the contracting agency, which consists of a request for FHWA approval that using a particular product (even though other suitable products are available) is in the public interest, along with sufficient material to support the request.
- b. FHWA concurrence with the PIF request.

Note: In cases where the authority to approve PIFs has been assumed by the STA, the STA essentially approves its own request.

While there is no specific format for a PIF, the level of documentation will depend upon the specific nature of product and projects involved. In general, the PIF request should document the reasonableness of the contracting agency's minimum needs and the best method to meet these needs consistent with the requirement for the broadest practical competition. The supporting material may include engineering and economic considerations, product availability and compatibility, logistical concerns, and other unique considerations.

Specifically, depending on the facts and circumstances present, a Division Administrator may need to evaluate one or more of the following factors from a PIF request:

- A description of how the proprietary product requirement will benefit the public;
- An evaluation of the pool of other equally acceptable products;
- An estimate of additional costs incurred as a result of this proprietary product requirement;
- Description of need, including limitations and conditions (types of roadways, traffic volumes, and other critical factors);
- Engineering / economic analysis supporting the requested action;
- Duration of approval; and
- Extent of Approval: Is the approval project-specific, for multiple projects, district/regionwide, statewide, or programmatic.

Other Certification and PIF Issues

G1. What are the differences between a Certification and a PIF?

A Certification and a PIF are different in that:

- A Certification is used if a product is essential for synchronization or if the contracting agency specifies a unique product for which no equally suitable alternative exists.
- A PIF is used if a contracting agency elects to require a specific product when other acceptable products are available.

G2. Should a Certification or a PIF include a "sunset" provision?

Yes. A sunset provision provides a specific date after which the Certification or PIF is no longer in effect, unless action is taken to extend it. For Certifications and PIFs that are not specific to a project, it is important to periodically review both Certifications and PIFs to assess changes in market conditions and re-examine the need to specify a proprietary product. It is recommended that the action have a limited duration (two to five years, as appropriate) to encourage re-evaluation of the continued need for a specific product in light of changes in the STA's performance objectives, product availability, technological improvements, product lifecycle, and market conditions.

G3. If a contracting agency does not certify the need for a proprietary product or receive a PIF, can that item be designated for limited or no federal participation?

In situations where a Certification would be appropriate if the STA does not certify the product in accordance with 23 CFR 635.411(a)(2), Federal-aid funds shall not participate in the cost of the item in question.

In situations where a PIF is appropriate, if a PIF request is not approved by the Division Administrator (or by the STA acting in place of the FHWA), the item may be designated as a non-participating item or an item with limited Federal-aid participation. This is based on the second sentence of 23 CFR 635.411(c) which states: "When the Division Administrator's approval is not obtained, the item will be nonparticipating unless bidding procedures are used that establish the unit price of each acceptable alternative. In this case Federal-aid participation will be based on the lowest price so established."

Traffic Operations and ITS issues

H1. How do the requirements of 23 CFR 655.606 differ from the guidance contained in this Q&A regarding 23 CFR 635.411?

The clauses are very similar, but Section 655.606 provides a specific basis for approving signing, pavement marking and signal materials. 23 CFR 655.606 states the following:

PART 655-TRAFFIC OPERATIONS

Subpart F-Traffic Control Devices on Federal-Aid and Other Streets and Highways

§ 655.606 Higher cost materials.

"The use of signing, pavement marking, and signal materials (or equipment) having distinctive performance characteristics, but costing more than other materials (or equipment) commonly used may be approved by the FHWA Division Administrator when the specific use proposed is considered to be in the public interest.

The above clause is similar to 23 CFR 635.411(c) which, with an approved PIF, allows for the use of a specific product even though other acceptable products are available. These two provisions (635.411(c) and 655.606) are intended to be applied consistently with each other whenever the State wishes to specify a patented or proprietary product when equally suitable alternatives exist. If a contracting agency wishes to submit a request for a public interest finding for signing, pavement marking or signal materials, it should document the public interest by explaining why it is necessary to specify certain performance characteristics and provide a comparison of the performance characteristics and costs of competing products (see Question & Answer #F1). When synchronization is essential or no equally suitable alternative exists, the STA may issue a Certification under 23 CFR 635.411(a)(2). The provisions of 23 CFR 635.411 are applicable to all highway projects involving the use of Federal-aid funds, including highway projects involving the use of signing, pavement marking, and signal materials.

H2. How do the requirements of [23 CFR 940.11](#) (.pdf) differ from the guidance in 23 CFR 635.411?

Under Subsection 940.11 - Project Implementation, all ITS projects and other projects containing ITS or traffic system features, funded with highway trust funds shall be based on a systems engineering (SE) analysis (For additional information and resources on SE, see http://ops.fhwa.dot.gov/int_its_deployment/sys_eng.htm). This SE analysis includes, at a minimum:

- Identification of portions of the regional ITS architecture being implemented (or if a regional ITS architecture does not exist, the applicable portions of the National ITS Architecture);
- Identification of participating agencies roles and responsibilities;
- Requirements definitions;
- Analysis of alternative system configurations and technology options to meet requirements;
- Procurement options;
- Identification of applicable ITS standards and testing procedures; and
- Procedures and resources necessary for operations and management of the system.

Simply put, a SE analysis is an engineering analysis which results in a consistent consideration of an agency's needs. The analysis may be used to support the decision to select a particular patented or proprietary product, whether by certification (synchronization or no equally suitable alternative) or by PIF.

The extent and content of an SE analysis should be scaled to fit the question/situation at hand. It could be as simple as a single page or as extensive as an entire volume depending upon the relative size, complexity and risks of the proposed project or technology. See the *Systems Engineering Handbook* at <http://ops.fhwa.dot.gov/publications/seitsguide/index.htm> and the *Systems Engineering Guidebook for ITS* at <http://www.fhwa.dot.gov/cadiv/segb/> for additional guidance.

Product Lists

11. Does the FHWA publish a list of patented and proprietary products specified for use on Federal-aid projects?

Yes. The FHWA maintains a list of Patented and Proprietary Products Specified for Use on Federal-aid Projects at the following link:

<http://www.fhwa.dot.gov/construction/contracts/pnpapprovals/index.cfm>. It consists of those products specified for use on full Federal oversight projects under the following bases:

- a. To be used for research or for a distinctive type of construction on relatively short sections of road on an experimental basis as provided in 23 CFR 635.411(a)(3), and
- b. If there are a number of acceptable materials or products, the contracting agency may require a specific material or product when the Division Administrator approves of its use as being in the public interest as provided in 23 CFR 635.411(c).

12. Where can I find a list of certifications made by STAs and their LPAs

STAs and their LPAs are encouraged to post their certifications to the AASHTO APEL website at <http://apel.transportation.org/>

FHWA also recommends that supporting documentation be made available upon request.

13. Where can I find a list of PIFs and Experimental Products approved by STAs assuming FHWA authority?

For transparency and openness, when a STA approves PIFs and Experimental Products while assuming FHWA authority, it should post them to a website accessible to the general public.

Material Selection

J1. What issues should be considered in the material selection process?

If there are a limited number of products available that may meet the proposed specifications, the contracting agency should undertake an engineering and economic analysis. The analysis should address the following questions:

- Are there other products on the market that meet the specifications?
- Are these products of satisfactory quality? and,
- Are the anticipated costs for the products approximately the same?

The extent of the analysis should be appropriate for the value and complexity of the products involved, using life cycle cost analysis where appropriate and practicable, to develop cost comparisons based on comparable designs to meet product requirements using the anticipated service life for each product.

J2. May contracting agencies set "above average" performance standards for a product?

Yes. A contracting agency may specify a higher or "above average" standard of performance on certain construction projects. However, if this "above average" standard reduces the pool of suitable products to a single proprietary product, the contracting agency must, according to 23 CFR 635.411(a)(2), certify that this is a unique product for which there is no equally suitable alternative. The contracting agency should document the basis supporting its certification, including its minimum needs and supporting its contention that such a performance standard is necessary and reasonable to achieve these needs.

J3. Does the use of a specification issued by a national organization (i.e. AASHTO, ASTM) equate to the use of a "non-proprietary specification"?

No. Even though a national organization (e.g. AASHTO, ASTM) has issued a specification for a particular product, this alone does not ensure that the specification is generic in nature. Such specification may be considered proprietary if only one manufacturer can meet the specification requirements. To determine whether a given specification complies with FHWA policy, it is

necessary to assess the availability of acceptable materials and the degree of competition within the industry.

Section 1525 of MAP-21 - State Autonomy for Culvert Pipe Selection

K1. What does Section 1525 of MAP-21 provide?

Section 1525 of the "Moving Ahead for Progress in the 21st Century Act" (MAP-21) provides that, "Not later than 180 days after the date of enactment of this Act, the Secretary shall modify section 635.411 of title 23, Code of Federal Regulations (as in effect on the date of enactment of this Act), to ensure that States shall have the autonomy to determine culvert and storm sewer material types to be included in the construction of a project on a Federal-aid highway."

K2. What is the significance of the word "autonomy" in Section 1525 of MAP-21?

The use of the word "autonomy" in this section gives the State departments of transportation (State DOTs) and other direct recipients the sole authority and discretion to make a decision regarding culvert and storm sewer material types without any input or approval from the FHWA.

K3. How does Section 1525 apply to projects administered by local public agencies (LPAs)?

Local public agencies (LPAs), with the approval of their State DOT, will have the authority to determine culvert and storm sewer material types to be included in their Federal-aid highway construction projects.

K4. Must the State's selected type of culvert and storm sewer material comply with other applicable Federal requirements?

Yes. The culvert and storm sewer material type that is selected by the State DOT, or other direct recipient, must comply with all applicable Federal requirements, including Buy America, culvert design standards in 23 CFR Part 625, and the restriction against the use of patented and proprietary products in 23 CFR 635.411.

K5. Will the FHWA update relevant agency policies and regulations to implement Section 1525?

Yes. On January 28, 2013, the Final Rule implementing the requirements of Section 1525 was published in the Federal Register; The Final Rule added Paragraph (f) to 23 CFR 635.411 as follows:

(f) State transportation departments (State DOTs) shall have the autonomy to determine culvert and storm sewer material types to be included in the construction of a project on a Federal-aid highway.

The Final Rule is effective February 27, 2013, and is located at the following link:

<http://www.gpo.gov/fdsys/pkg/FR-2013-01-28/pdf/2013-01583.pdf>

FHWA will modify the FHWA Contract Administration Core Curriculum Manual, the [FHWA Construction Program Guide Culvert Selection web page](#), and other agency policies and guidance as appropriate. Additionally, Division Offices should revise any standard operating procedures relating to the selection of culvert and storm sewer material type to conform to the requirements of Section 1525.