

# The Role of the BPR in Federal-Aid Highway Construction

*U. S. Public Roads, Bureau of*

By F. C. Turner ✓  
Chief Engineer  
Bureau of Public Roads

You have asked me to talk with you on the Bureau of Public Roads' role in the present federal-aid highway program. In having asked the question, there is the implication of a lack of understanding of our role, or perhaps even some disagreement with what you may construe to be the role we are now playing in the program. The best place to begin is in the law itself—to see what it requires.

It is significant that the basic underlying principles which control this huge current public works program are almost identical in stated intent with those expressed in the first authorizing congressional acts of 1916 and 1921. Those two pieces of legislation were formulated after considerable debate and hearings from careful studies by special committees of the Congress and the affected highway interest groups. They were no shallow, quickie productions. It is true that these original acts have been amended or supplemented almost every year in some form or another by nearly 50 subsequent congressional acts. But in so doing, neither the philosophy nor in fact the words themselves, of the statements underlying the relationship and general procedures, have been altered, even after careful and exhaustive analysis and critical review by congressional committees, the bureau, and the state highway departments.

In fact, in the directive of 1954 to codify the federal-aid highway law, just the opposite was required. The Congress directed us to change nothing in existing law except as needed to put it in better format so as to be easier to use. We were specifically forbidden to make substantive changes; and so the Title 23 USC which we refer to today as being the federal-aid highway law actually contains the same words, phrases, and intent that governed the program in its very beginning 43 years ago in 1916. It is apparent, therefore, that there is a solid body of experience on which to base conclusions, with respect to what is the bureau role in the federal-aid highway program.

This role is to approve, disapprove, or require modifications or revisions

in the individual state proposals as made by them for use of the federally apportioned aid monies and to do so at each step in the process in such manner and degree as to be able to certify to the Congress through the various executive agencies that the proposals have in actual fact been accomplished in accordance with the proposal as approved, before these federal-aid funds are finally paid out of the treasury to the state. This role, you will note, involves the bureau and the state highway department and does not even mention you as contractors. This is not intended in any way to disparage the important and vital role which the contractor plays, but simply to clearly emphasize that the bureau relationship is with the state—and this is as defined by statute.

But it is correct that when and if a state chooses to avail itself of these funds—if it make this choice—then

there are certain responsibilities that must be met. I can see nothing wrong with having responsibility requirements attached to the use of the money; in fact, I think it is proper and necessary that this be so. In any cooperative undertaking, necessarily there are certain agreed upon rules for use of partnership assets, whether it be a large contracting or other business organization, policy ownership in a mutual life insurance company, membership in a social club, or even use of the family car by the wife and children.

Such rules as the bureau makes regarding use by the states of these apportioned funds, then, can hardly be complained about unless these rules are made by abusing the public trust placed in the federal highway administrator. I don't believe many—if any—of these rules can honestly be so classified. But in any event what either you or I might personally think or feel about them makes little difference. The rules all are either spelled out in the law as statutory requirements or are derived from the law by regulations which the statute authorizes to be issued to govern use of the funds.

So the state having chosen to use the funds—and thus having accepted the responsibility that goes with them—the state then submits a program in which is listed the projects on which it desires to apply the funds. The law sets up the requirement that the projects must be confined to a previously chosen system of routes serving certain purposes defined in the law, in order to serve the greatest good and to avoid dissipating the funds on unconnected bits and pieces of road. The projects in the program, by law, must also be conducive to safety, be durable in material and workmanship, be economical in later maintenance, and meet the existing and probable future traffic needs and conditions. Again, these are the words from statute itself—of 1921, that is.

If these are arbitrary and unreasonable requirements, in the exercise of which the bureau has usurped the rights of the states, or has abused its authority, it would seem that the Congress would long ago have taken summary action to correct the situation. In seeing that the rules laid down by



*THIS clear-cut explanation of the role the BPR plays in federal-aid highway construction was given by Mr. Turner at the mid-year board meeting of the Associated General Contractors in Portland on Sept. 22. As he points out, there is nothing new in this relationship between the BPR and the state highway departments but his explanation will clear up many points on which contractors were in doubt.*

the Congress itself in the statute are being complied with, the Bureau is thus following the role required of it by Congress.

Carrying our illustrative highway project further into the alleged web of bureaucratic red tape, after the program is approved the state proceeds with the survey, design, right-of-way acquisition, and preparation of plans, specifications, and estimates of cost—commonly called PS&E. After submitting each of these for the individual project to the bureau and receiving approval thereof, the state is authorized to advertise for the receipt of bids to be submitted by you contractors for construction of the project. The law specifies that the bureau's letter of approval of the PS&E, when issued to the state, creates a firm contractual commitment binding the federal government to pay its legal pro-rata share of the approved cost of the project when that project has been constructed in accordance with the PS&E as submitted by the state, and approved by the bureau.

So, in addition to establishing basic principles, the law also has quite a bit to say both directly and indirectly about the kind of projects that are to be constructed, the kind of paper-work required and how it shall be handled, how much advertising time is required, how bidders can be selected, how the plans shall be prepared, and what the specifications can and cannot say about products and materials. The law specifies that the work shall be done by contract unless in some special case there are compelling reasons for doing otherwise; and such instances, by law, must be reported each year to the Congress. While these project procedures involve the state and bureau and are of no particular concern to you, I cite them for you in order to demonstrate that much of the detailed procedure and red tape which the bureau requires to be followed is done so in order to comply with the law and not just to give us something to do or to be exercising our bureaucratic prerogatives.

Now, you may have concluded that at this point, in the course of a federal-aid project, you as contractors have finally come to grips directly with the Bureau of Public Roads. But not so. Your contract is with the state and in no way, shape, or manner do you have a contract with the bureau. What you have is a two-party contract between you and the state highway department. True, the state's selection of you as the contractor has been referred to the bureau and has received our concurrence before you were officially awarded the contract; and the contract itself, the plans and specifications, and every feature connected with the project has also re-

ceived our prior approval. But there is a separate and distinct contract between the bureau and the state covering the project for which you have contracted with the state.

That contract between the state and us, called a project agreement, incorporates by reference the contract which the state has made with you. The bureau-state project agreement calls for the state to construct—or cause to be constructed—the project which was described in the plans, specifications, and estimate to which I previously referred. We now have three parties involved, but by the way of two separate contracts—the state at this point being in the middle, since it is a party to each of the two contracts.

And the state is truly in the middle—in about the way the words imply. It is perhaps this situation which raises the question you are asking me to discuss, because it is the state's performance in this middle position which affects us both.

After you, the contractor, begin work, a bureau man will appear periodically on your project to make an inspection. Generally he will find everything going satisfactorily. But he may find that some operations are not in accord with the PS&E approval on which our project agreement with the state is based. So he calls this to the attention of the state with a request for corrective action—this of course eventually reaching on to the contractor. But this bureau representative is there for the purpose of reviewing the state's performance in causing the project to be constructed in accordance with the approved PS&E—this he must do before he can make a determination that the work and materials conform reasonably to the approved PS&E and thus permit the bureau to certify that the materials are in conformity with the approved PS&E and make payment to the state under the terms of the project agreement.

Of course, you, the contractor, are affected indirectly by a bureau action of the type just described. It may seem pretty direct or at least inevitable, to you. But actually you look to and depend on the state and the state's project engineer for approval of materials test reports as you dig the material and place it on the roads. It is the state that has given you to understand that the material is meeting the specifications.

Disregarding other aspects of such a situation as described, I will use it to illustrate and emphasize the point that the state is free to go right ahead with the work and is obligated by terms of their contract with you to pay you for the material if in their supervision of the contract they con-

sider it satisfactorily meets the contract terms. Of course, that decision is not binding on the bureau and the state's contract with you contains no clauses making it contingent on what the bureau may later approve and pay for. We do not necessarily have to accept and reimburse the state for every item of payment which they may make to you—ours is an entirely separate legal documentary contract between the state and bureau.

I'm fully aware that you don't care about the fine point of distinction I have made between the two contract documents; that you may say it does not make any difference to you whether the bureau representative is only inspecting the state's performance, rather than yours; and that the net effect on you and your operation, is just the same as though we rather than the state were directly inspecting and supervising your contract. In practice, this is true, for the simple reason as I have just stated, that your own contract with the state is incorporated verbatim and in toto in the contract which the state in turn has then made with us. It has become the means whereby the state will carry out their part of the agreement "to construct or cause to be constructed" the project on which they have filed an application with us for use of the apportioned federal-aid monies.

Since the requirements governing the workmanship and materials are the same, it follows then that the only things which the bureau inspecting engineer requires the state to do are the same ones which the state in its own supervision of the project should already have required you to do. The terms of the contract must obviously be met in both cases and I'm confident that there is no disposition on your part to do otherwise. The rub comes when there is a difference of opinion or judgment as to what does actually constitute a meeting of the contract's requirements. And in this field we will forever find some differences between individuals when each is conscientiously bringing to the problem his individual and varied range of training, experience, and objective judgment based thereon.

This judgment can, of course, be abused by our bureau engineer, but I'm not aware of any case where it has actually occurred. We're no more willing to condone abuse of this responsibility than you are to experience it. Honest differences of opinion and judgment are usually constructive for both parties and in our system there has to be a referee to reconcile the difference. Sometimes we have to act in that capacity.

To bring some remedy to this problem is why so much work has been

(Please turn to page 99)

and other bulk materials are given in a new catalog from Sauerman. Specifications and operating data on DragScraper machines ranging in size from 1/2 to 5-yd. are covered in the first part of the booklet, and part two covers sizes from 1 to 15-yd. Part three shows track cable machines and tower excavators up to 15-yd. Catalog A, 28-pp.—Sauerman Bros., Inc., Dept. F-1, 620 South 28th Ave., Bellwood, Ill. 60104.

**Prosser Pump Line:** Prosser Industries has released a brochure describing its complete line of heavy duty, submersible pumps. The literature explains the features of the pumps, outlines specifications, and shows photographs of the pumps which range in size from 3/4-hp. up to 25-hp. 4-pp.—Prosser Industries, Inc., 900 East Ball Road, Anaheim, Calif.

**Flex Slurry-Matic Sealing Machine:** Features of the recently-introduced Flex Slurry-Matic, continuous fully automatic sealing machine, are detailed in a bulletin from the manufacturer. Designed for easy mounting on standard trucks, the machine combines and coordinates all slurry processing and application steps within a single, automatic unit. Bulletin 64-40.—Rex Chainbelt, Inc., Milwaukee, Wisconsin 53201.

## The Role of the BPR

(Continued from page 75)

done in the past few years by the AASHO, AGC and others on improved specifications—largely through some standardization of specification requirements so that there can be built up a consistent body of uniform interpretation and application from state to state and job to job.

Likewise, a great deal of relief can be obtained by better trained and qualified project inspector personnel. Many of the individual instances which you have experienced are traceable to errors of decision and interpretation made by untrained inspectors, which errors have to be subsequently corrected by the state or bureau supervisory engineers. And some of the complaints arise also from inexperienced personnel lacking in confidence in their own decisions and thus being reluctant or unable to make a decision. Better trained personnel will bring sizeable reduction in this problem. This is why we are working hard with appropriate AASHO committees to institute regular formalized training programs for project personnel in each highway department. While there are a number of such training programs already in operation in individual state highway departments,

we need to enlist all states in this important and worthwhile effort. I believe you can help yourself by continuing your active support of both these remedial measures.

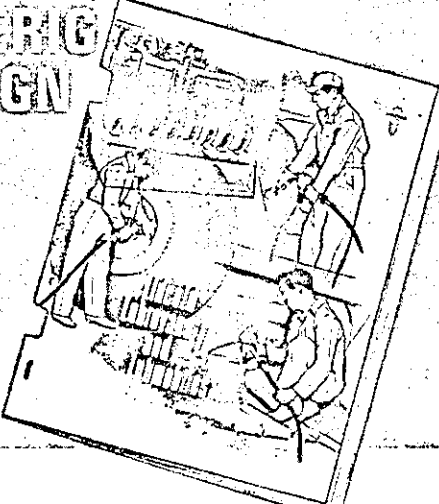
One of the widespread "hearsay" complaints about the dual inspection-approval process is that it occasions useless, long delays. Let's take a dispassionate look at such a situation. Suppose there is a final record test that has been made on a section of base course which you are ready to prime and put to top on, but the test report has not yet been approved by the bureau. There is no requirement on our part that once the work has been found satisfactory to the state, it must await our concurrence before the state allows the contractor to proceed with the topping.

If the test was made properly by the state—and the test procedures are standard and developed by AASHO rather than the bureau—and the state has confidence that their own test operations were properly carried out, then I can't see why they should delay the contractor. If they do delay, then it can seem to mean only that they do not have full confidence in themselves, sufficient to justify the position of trust and responsibility required of them under the federal-aid statute. In

(Please turn to page 102)

**NEW FROM LINCOLN**

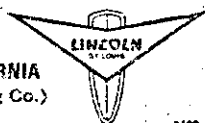
**MANUAL ON PORTABLE LUBERIG DESIGN**



56-Page  
Do-It-Yourself Design Catalog

Here's a new idea in jobsite lubrication of trucks, cats, dozers, cranes and other equipment: a Lincoln Lubrovan or Lubmobile, designed by you to your requirements, with the help of the Lincoln District Manager. With this catalog No. 34, he'll help you select the luberig design suited exactly to your needs . . . made from quality Lincoln pumps, air compressors, hose, reels, fittings and other service equipment. Write today.

LINCOLN ENGINEERING COMPANY OF CALIFORNIA  
(Division of The McNeil Machine & Engineering Co.)  
1018 S. E. 8th Ave., Portland 14, Oregon



start'em fast every day with

**ZERO Engine Heaters**  
*Start*

This winter put your equipment to work full time even in sub-zero temperature, and save money doing it. No more engine warm-up, towing expense, loss of equipment time and man-hours. You start a warm engine.

Write for information on *low cost* Zero Start engine heaters—electric or propane—and complete winterizing kits for cars, trucks, tractors or standbys.

**PHILLIPS MANUFACTURING COMPANY**

8200 Grand Ave. So. • TU 8-4105 • Minneapolis, Minn. 55420

effect, they are abdicating their rightful position and handing their independence over to the bureau.

Change orders are slightly different. In effect a change order or extra work order goes outside of the approved project documents and must be treated in pretty much the same general way as the initial project. Any work that the bureau participates in, must be approved in advance. This is not a whim of a power-hungry bureaucracy—it is just simply the law, and has been since 1916, without change. Therefore it is necessary for the state to get bureau approval on change orders or extra work orders, in advance if we are to participate finan-

cially at all—regardless of the merits of the order or the obvious need therefor. We recognize that such orders involve going projects—and that decisions are needed fast—so we have long had in operation a rapid approval process. Often this involves sight-unseen approval by telephone, based upon the state's verbal presentation, with the required "red-tape" papers called for by statute coming later on in due course.

The act of 1921 has weathered the test of time and its philosophy and principles have been proven. They are good today not simply because they are old—rather they have been allowed to become old but basically

unchanged simply because they have been found to be a good basis for operating our highway program.

As a practical matter and in keeping with the legislative philosophy, we are dependent in a very large measure on the capability and integrity of the individual State highway departments. By and large—with notably small percentages of failure in any of the important and significant matters—the arrangement has worked well. By emphasizing that the present method has worked well I do not mean in any way to say we are against change — just the opposite, in fact, where proof has been advanced to demonstrate with reasonableness that another way would be better. Few programs and agencies have been as free of scandal charges having substance—and few programs have had the year-after-year overwhelming bipartisan support of the Congress.

Restating it now, the bureau's role is large and admittedly one of influence. But the right to initiate, the responsibility to actually construct and maintain, and the final ownership of the roads rest with the state. Ours is a role of approval or concurrence as each step is taken by the state, including the right and responsibility to disagree and disapprove when in our judgment that is necessary to meet the principles and objectives stated in the enabling legislation.

The results that are clearly visible to all prove the value of the scheme because we have unquestionably produced in the United States the safest, finest, most efficient highway network in the world, serving national, local, and personal needs — defense, industry, business, and pleasure.

The bureau's role in the program is as stated repeatedly in the enabling legislation—namely, to approve (or disapprove) each action proposed by the sovereign state's highway department when that action proposes the use of funds made available through the federal government—or to require revision or modification of these proposals to make them acceptable to a federal highway administrator who carries the responsibility of representing all of the people in all of the states. With the exclusive privilege which the state has to initiate every project proposal and to own the project on its completion goes a responsibility to see that it is built in accordance with the proposal as agreed upon; and with the responsibility which the law imposes on the bureau to review and approve or disapprove such proposals, necessarily goes the right to independently inquire into these proposals and to be satisfied therewith before giving approval to them.

## BRIDGE AND STRUCTURAL MATERIALS

<p><b>FOUNDATION MATERIALS</b></p> <ul style="list-style-type: none"> <li>Monotube Steel Piling</li> <li>Pile Points</li> <li>Pile Capping</li> </ul> <p><b>CONCRETE ADMIXTURES</b></p> <ul style="list-style-type: none"> <li>Plastiment—Concrete Densifier</li> <li>Protex-PDA</li> <li>Sika Compounds</li> </ul> <p><b>CURING MATERIALS</b></p> <ul style="list-style-type: none"> <li>Hunt Process Membrane Curing</li> <li>MAKA-Fulton Cotton Curing Mats</li> <li>Burlap and Burlap Drags</li> <li>Max Katz Insulation Blankets</li> <li>Soil-Saver Jute Matting</li> </ul> <p><b>PATCHING AND GROUTING MATERIALS</b></p> <ul style="list-style-type: none"> <li>Daraweld—Concrete Bonding Agent</li> <li>Sika Epoxy-Thiokol Compounds</li> <li>Sika Plug—Quick Sets</li> <li>ISOVOL—Non-shrinking Grout</li> <li>Allied Compounds</li> <li>Intraplast C</li> </ul> <p><b>EXPANSION JOINT MATERIALS</b></p> <ul style="list-style-type: none"> <li>Asphalt—Flexcell—Fibre</li> <li>Kork Pak—Cork</li> <li>Self Expanding Cork</li> <li>Sponge Rubber</li> <li>All Expertly Fabricated to Size for Job Requirements</li> <li>Asphalt and Mineral Surfaced Bridge Plank</li> </ul>	<p><b>FORMING AND FORM COATINGS</b></p> <ul style="list-style-type: none"> <li>SUPERIOR Concrete Accessories</li> <li>Fiber Tube Forms</li> <li>Acrow Shores, Spans and V-Forms</li> <li>Technicote Plastic Form Coating</li> <li>Kemwood Formsaver</li> <li>Servicised Form Oil Concentrate</li> <li>Plastiglass</li> <li>Silco Seal</li> </ul> <p><b>WATERSTOPS AND SEALING COMPOUNDS</b></p> <ul style="list-style-type: none"> <li>G.E. Silicone Rubber</li> <li>Plastic and Rubber Waterstop</li> <li>Neoprene Bridge Pads</li> <li>Chem Seal Thiokol Compounds</li> <li>Sika Epoxy-Thiokol Sealers</li> <li>Hot or Cold Poured Compounds</li> <li>Paraplastic—Allied</li> <li>Sika Seal</li> <li>Igos Joint Sealer</li> </ul> <p><b>SAFETY MATERIALS</b></p> <ul style="list-style-type: none"> <li>Galvanized Steel—Aluminum</li> <li>Guard Rail</li> <li>Reflector Units</li> <li>Signs—Guide Posts</li> <li>Plastic Traffic Markers</li> <li>Trafficcones</li> </ul> <p><b>WATERPROOFING MATERIALS</b></p> <ul style="list-style-type: none"> <li>Asphalt Primers</li> <li>Special Asphalts—Sika Seal</li> <li>Asphalt Coated Fabric</li> <li>Daracone—Silicones</li> </ul>
--	--

Telephone, Write or Wire for Full Details

# CHAS. R. WATTS CO.

1000 South Avenue, New York, N.Y. • 10019 • Telephone: MU 2-1100 • Cable: CHASWATTS