



MASSACHUSETTS ORGANIZATION OF STATE ENGINEERS AND SCIENTISTS

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TESTMONY OF MARY J. RICHARDS PRESIDENT OF THE MASSACHUSETTS ORGANIZATION OF STATE ENGINEERS & SCIENTISTS BEFORE THE SENATE COMMITTEE ON POST AUDIT & OVERSIGHT RELATIVE TO THE CENTRAL ARTERY/THIRD HARBOR TUNNEL MARCH 31, 2003

Thank you Chairman Pacheco and members of the Committee, Chairman Montigny and Chairman Baddour for this opportunity to testify at these important hearings to receive evidence concerning cost overruns on the Central Artery/Third Harbor Tunnel Project, a cost recovery strategy and other evidence relative to the design and project management errors.

For the record Mr. Chairman, My name is Mary Richards President of the Massachusetts Organization of State Engineers and Scientists, MOSES. Next to me at the table is Paul K. Donohue, former MOSES President and currently a member of the MOSES Board of Directors. **MOSES represents some 4000 professional and technical employees who work in several agencies of the Commonwealth as well as retirees. Our active employees include some 1200 members who work at the Mass Highway Department (MHD) as Highway Engineers/Project Engineers, Bridge Inspectors, Construction Inspectors, Environmental Analysts, and Federal Highway Aid Coordinators and Architects.**

MOSES is also a founding member of the National Association of State Highway Transportation Unions. NASHTU represents the voice of approximately 100,000 professional unionized public employees from some 28 states. Our members are employed in departments of transportation working on federally funded highway construction projects in various job descriptions including construction oversight, design, survey, and materials inspections and other technically sensitive positions.

NASHTU members also have grave concerns about the integrity of transportation projects as they have witnessed the waste, and abuse of tax dollars on projects throughout the country. While we can point to the Big Dig as the poster child of highway projects with mammoth cost overruns, and management and design problems, our members have seen hundreds of federally funded projects where the lack of sufficient oversight has become the norm. NASHTU, as well as its member groups, advocates for professionalism and accountability in construction.

Our group commissioned a report on highway projects around the country. The results of that study show that the lack of oversight on highway construction projects has caused problems with

cost overruns, quality of work, safety and accountability. We have included a copy of our report "Highway Robbery" with our testimony.

The widespread and serious nature of our concerns is what brought our group together. We believe that the time has come to try to change the status quo and to work with federal decision-makers for greater accountability and scrutiny on federally funded transportation projects. In addition, NASHTU members like MOSES are also working within their individual states to pass legislation to address the shortcomings currently in the system of checks and balances on these taxpayer-funded projects.

Public employees are the eyes and ears of the taxpayer who work to ensure we get what we pay for. Their duties involve the verification that work performed by private contractors meets the required specifications both in materials used and in construction practices rendered. **The number of these professionals has been so reduced and the ranks of private contractors has increased so dramatically that the lack of oversight on public construction projects has spawned a greater potential for the waste, fraud and abuse of tax dollars.** In some circumstances, it may have created a real threat to public safety. However, I would be remiss not to mention that this problem is not limited to the Big Dig.

In fact, the Federal Highway Administration (FHWA) in a November 2001 report warned. "Current Overall construction and materials staffing levels are below the minimum needed. The projected staffing needed indicates that Mass Highway does not have sufficient staff to meet minimum construction and materials staffing needs. Insufficient staffing levels may jeopardize FHWA approval of future Federal-Aid projects."

The report also noted, "...inadequate Agency construction project staffing can lead to Contractor fraud."

In line with that, the Construction Industries of Massachusetts (CIM) wrote to the Romney Transition Team, "MHD staffing is at a critical stage both in the number of employees and their qualifications. In 1990 staffing was over 4000 employees. Today it is just over 1800 with just 400 in the construction division. ...The FHWA has raised issues regarding the number and qualifications of staff." They also note that this has prevented the advertising of federally aided projects.

As an example, only two public employees from the states' Central Materials Laboratory are overseeing the myriad of construction materials used on the entire Big Dig to make sure they meet the contract specification. This quality assurance program is required for federally funded projects. The numbers of material inspectors has gone from some 80 in the late 1980's to approximately 35 statewide today and the duties have been limited. Once these professionals traveled to steel forging and fabricating facilities out of state to ensure that we were getting the quality and quantity of materials that were specified. Today, private sector inspectors are performing much of this work. In some cases, the very contractor doing the project hires the inspectors. Often these private inspectors are beholden to contractors for future work. This could lead to dangerous lapses in safety.

As you are aware, MOSES has a long history of articulating our grave concern about the costs and insufficient oversight of the Big Dig. More than fifteen years ago MOSES recommended to the Dukakis' Administration that in order to maintain accountability on the Central Artery/Third Harbor Tunnel (Big Dig) a sufficient number of professional state employees should have been

hired to perform the engineering, survey and construction oversight, including materials inspections, to ensure that the project was built using the specified quality and quantity of materials that were required. Our recommendations were ignored. Sufficient numbers of state engineers were never hired for proper oversight.

MOSES warned that the overhead to support the hiring of so many workers from the private sector would become an unnecessary financial burden draining needed monies from road and bridge projects throughout the state. The prevailing philosophy at the time was that Bechtel/Parsons had the talent to do the oversight and no significant oversight was needed.

When, in lieu of the Commonwealth hiring state engineers and other professional public employees, the Big Dig consultants were allowed to hire their own engineers to work on the project, the Commonwealth had to pay employee overhead and profit charges far in excess of the overhead costs for state hired employees.

In July of 1991, Paul K. Donohue, President of our group wrote regarding the cost of private sector engineers, "These extraordinary expenses, which cost the state and federal government well over \$150,000 per year for each person assigned to the project are allowed without serious criticism." Evidence that the cost of survey, design, and construction oversight would cost up to 2/3's less if performed in-house by qualified public employees fell on deaf ears.

In one indirect cost noted in 1992 by the state Inspector General, some \$2.11 million was paid to B/PB by the Mass Highway Department to relocate the families of B/PB employees hired to work on the project.

Studies done over the years have shown that our warnings have unfortunately proven to be correct. In another letter to legislators in 1993, we stated, "...reports are that Bechtel/Parsons Brinkerhoff (B/PB) has a thousand full time employees working on the Big Dig at a cost of \$148 million. In contrast, the current legislative appropriation for all two thousand Mass Highway employees is \$77.5 million. Thus the Big Dig costs almost twice as much as MHD for one half the number of employees. "

A 1997 legislative authorized study performed by the McCormack Institute found that overhead rates for the staff of the Big Dig were indeed in the neighborhood of 110%. The report stated, "If a position is transferred to a state agency, the savings might be in the order of \$60,000 to \$80,000 per year."

When we pointed out that the estimated \$2.5 billion cost of the project was likely to be \$5 billion to \$7.5 billion, the powers to be scorned at us. When we said that Federal funds were limited and that they were being diverted from other state highway projects, they said we didn't know what we were talking about.

In addition, our organization was dismayed that the administration did not order a cost benefit analysis to determine if performing the work for engineering services with outside contractors would cost less than doing the work in-house, nor did they choose the consultant by competitive bid.

Our group further warned in a 1993 letter that, "Change work orders have long been recognized as a vehicle for contractors to pad or ensure profits with limited resistance. In one Inspector General's report it was stated that project administrators have approved all but three of some 400

changed proposals and hundreds more are pending." One report claims that \$1 billion in change work orders have been billed to the Big Dig and these costs continue to climb.

The problem, as we see it, is not just that comparative studies show it is more expensive to contract out engineering services, great losses in accountability also occur. Numerous contracted out engineering projects require multiple extra work orders. It becomes a legal and engineering nightmare to determine whether the claimed extra work should be part of the original contract and if not, to determine what additional price should be paid. These legal and engineering problems: slow the delivery of the project; undermine the expected quality; and dramatically increase the expected cost.

The problems have been repeatedly found by various studies done previously by the Inspector General's Office, and are specifically noted in "A Review of the Central Artery/Tunnel Project Cost Recovery Program, December 2000," which states "B/PB's role in the cost recovery process is akin to the fox guarding the hen house. The audit stated. "B/PB's role in preliminary design and final design management should preclude any role in a program –such as the cost recovery program—that purports to examine problems that may have been caused by B/BP's own work. But B/BP controls the data." The loss of independent oversight has taken its toll.

A greater problem occurred when the Commonwealth's limited state employee workforce was not able to keep track of the ever-increasing cost of the project. **This lack of accountability has added a heavy burden to all of us.**

The lack of sufficient oversight by professional public employees on the Big Dig is well documented with examples cited in several studies performed over the years. Some 15 reports by the state auditor identified some \$4.6 million in wasteful spending. Some 400 recommendations for cost containment, increased accountability and reduced vulnerability to waste and abuse have been suggested in the Inspector General's office reports. A special report commissioned by the House Post Audit and Oversight Bureau of 1994 noted, "**The level of in-depth oversight on the project is deficient from a number of important perspectives." Several changes in legislation and the introduction of new policies lead to these problems.**"

As noted by the Inspector General, the transfer of the Big Dig from the Mass Highway Department (MHD) eliminated some important oversight protections. Mass Highway is prohibited by law from allowing B/BP to supervise state employees assigned to oversee the Project. The Mass Turnpike Authority has no such constraints. **More alarming is the ease at which former Bechtel/Parson's employees join the ranks of the Mass Highway Department, a relationship not the best for oversight purposes.** State Authorities of the Commonwealth are exempt from state laws in some cases leaving little in the line of checks and balances over taxpayer dollars.

This change allowed for, according to the Inspector General, "...an integrated project organization ...resulting in an accountability nightmare. This type of arrangement renders the CA/T Project vulnerable to divided loyalties and conflicting interest."

This scheme is an invitation for fraud, waste and abuse. In a May 3, 2000 letter the IG wrote to Chairman Natsios, "The Commonwealth's near-total dependence on B/PB has eroded its negotiating leverage to the detriment of the public interest."

In news interview, Natsios stated, "EOTC (Executive Office of Transportation and Construction) was accountable to the kind of executive authority and oversight to which the Turnpike Authority is largely immune." (Boston Magazine, September 2000).

In testimony **last fall** before the legislative Committee On Transportation, Big Dig CEO, Rick Capka stated his intention to create the position of Quality Assurance/Quality Control Chief. **We would strongly recommend that this person be chosen from the many well-qualified materials workers already working for the state** and would also hope that those in charge finally realize that the number of state materials inspectors should be brought back to its former level for public safety reasons. (Capka is presently Deputy Administrator of the FHWA).

The adoption of a "partnering" scheme, a contract management style for the Big Dig in 1992 by the Massachusetts Highway Department further weakened the oversight authority of state construction engineers. This same standard was also adopted for many other projects throughout the highway system. This form of contracting, according to its proponents, improves and streamlines the internal working relationship. Some believe this relationship is too relaxed. Its goals are to promote cooperation among all parties for their mutual benefit. Priorities are to prevent delays by avoiding work stoppages. In spite of the many significant findings by independent studies on the Big Dig and the failures associated with this style of management, it appears to have been adopted on highway projects throughout the state.

Public employees are now expected to **be one happy family** with those they are assigned to oversee. Instead of the state workers previous role as regulator, they are now considered team members with the contractors. The message over the last ten years to the workers we represent who oversee highway projects is that it's "hands-off" if it interferes with the contractors. State workers who are resident engineers who complain about contractors not meeting specifications or using shoddy materials have been taken off the job when the contractor complains to management.

SOME SOLUTIONS

1. PERFORM A TRULY INDEPENDENT ANALYSIS OF COST OVERRUNS:

Our group is very interested in the work you are about to undertake and in other studies that are going on relative to this project. We assume your review will require the **hiring of engineers and construction experts as well as attorneys.**

MOSES strongly suggests that the hiring of outside engineers and contractors to study this project would not result in the best outcome. We are very concerned that these groups have a vested interest in a certain outcome. In addition, we believe that if they expect to be hired on future jobs by any of the numerous large contractors working on this project, they would be wise not to make waves.

MOSES is strongly recommending to you that you utilize our members, particularly retirees from state service who have a wealth of knowledge relative to best practices in construction and cost overrun issues. Some have previously worked on the Big Dig and we believe their insight on what went wrong would be valuable to you. Owner's representative should be professionally trained state employees unfettered by political favor or future work. It would be indeed difficult to find an engineering group that has no financial ties to Bechtel/Parsons or the various other contractors working on the Big Dig.

Former state engineers could act as your guides to the important aspects of the process and how past practices were changed to accommodate the Big Dig. If we are to learn any lessons from past mistakes we must listen to those who know best what worked before and what has changed that allowed out of control cost overruns to flourish.

2. TAKE IMMEDIATE CONTROL OF NEW CONTRACTS: SHOULD BE UNDER STATE AUDITOR

It is most disturbing that high-priced contracts still continue to be awarded on this project adding to the bottom line by millions of dollars. Every Wednesday like clockwork, the Mass Highway Department's Board of Commissioners, award contracts. Once an independent body removed from the politics and reprimand of state managers, the commission was changed by James Karasiotes, former Commissioner of Mass Highway. The new commissioners were now handpicked from the ranks of Mass Highway managers instead of being an independent board and they are now making decisions on change work orders and new contracts.

Unfortunately these practices continue. On November 20, 2002, a contract was awarded for \$12 million dollars for "1. Professional services with consultants to perform independent reviews of CA/T Project contract changes and 2. Legal service agreements with law firms.." and 3, " two one year agreements for employee training...."

As late as December 6, 2002 a contract was awarded for \$750,000 (contract #32219) to perform materials inspections. **From 1999 to 2000 alone, materials inspections mounted to \$2 million not counting this recent contract. This is work state employees could be performing.**

3. LEGISLATION:

Increasingly state and local transportation agencies are spending hundreds of millions of federal dollars on private contracts for architectural, engineering, construction inspection and related transportation services without determining if these contracts are cost effective, result in the construction of safe projects, or in any way serve the public interest.

Legislation should be passed **similar to the Pacheco Act or SAFE-T which requires cost benefit analysis for contracted services** to assure that if the work now being performed by public employees is to be contracted out to private firms, it must pass a cost benefits analysis to prove it would cost less not more tax dollars. This is only reasonable and should include all state agencies, authorities and commissions.

4. THE PROCESS FOR THE APPROVAL OF CHANGE WORK ORDERS SHOULD BE CORRECTED TO INCLUDE BADLY NEEDED SAFEGUARDS.

State engineers in the field should once again have more say in the approval process.

The process for reviewing change work orders and the granting of them has become one of the greatest causes of cost overruns on roadway projects. It has led to increases in the bottom line by several million dollars not only on the Big Dig but also, on highway construction projects across the state. An existing cost recovery policy, which once held contractors responsible for their own mistakes, is virtually ignored by transportation department administrators. Instead of holding private contractors accountable, Massachusetts is now notorious for paying contractors to fix their own mistakes.

5. PASS LEGISLATION THAT WOULD EXTEND THE PUBLIC DOCUMENTS LAW:

All documents associated with publicly financed projects must be available to the press and to the public for scrutiny.

These are our recommendations for change.

Mr. Chairman and members of the Committee, when all is said and done the out of control costs and mounting responsibilities for the states' taxpayers comes at the worst economic times we have witnessed. It is Massachusetts' taxpayers who are now and will continue to reap the foolhardy consequences of this flawed policy meant to eliminate the professional workforce, to weaken the unions and to garner favor with campaign contributors.

Barriers that were built too short, pavement that doesn't last, air vents that are improperly installed a communications network that is still not operational. Not unlike the Enron catastrophe where a commentator recently noted, "They spent hundreds of thousands of dollars trying to fight the very regulations that would have prevented their own failure. They thought that the secret to their success was an end to government regulations."

Soon the average taxpayer will experience our realization that a well-educated and well-trained public workforce is essential to controlling the waste and fraud of tax dollars perpetrated by dishonest contractors and state managers hell bent on keeping them happy regardless of the end result.

Long after the ribbon cuttings and media blitz are faded memories, as will be the green monster that once traversed the city, the costs will continue to be our responsibility. We trust that this Committee will not let those responsible slip away as well. It is a job we are certain you do not take lightly, and we are here, **as we always have been**, ready to assist you.