



**Testimony of John O. Woods, Jr., P.E  
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**Before the House Committee on Small Business,  
Subcommittee on Economic Growth,  
Capital Access and Tax  
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## **Summary**

Professional engineering firms and our architect colleagues bear the responsibility (legally and ethically) for safety, performance, sustainability and cost effectiveness (construction and long term) of our nation's infrastructure (e.g. building, roads, levees, dams, bridges, pipelines, etc.). Together they comprise the A/E services industry. Due to requirements for individual and firm licensing by state, the multiple technical disciplines involved, state regulations mandating firm ownership by licensed professionals and ethical codes that require performance of only work they are competent to do, most A/E firms tend to be small and specialized in nature.

The SBA has published a proposed new size standard that is over 400% larger than the existing standard for A/E services (from \$4.5 to \$19 million). In an industry mostly composed of small, high quality, specialized firms that compete for government contracts on the basis of qualifications unique to the project in question, the impact of such a drastic change must be carefully analyzed.

The industry has previously testified to the need for focused federal contracting statutes and measurement requirements. Among these are including all work performed by A/E services firms responsible for project performance (part of the "team" selected and signing the design products), regardless of contract tier, when measuring small business participation by federal agencies, as well as establishing subcontract goals as a percentage of funded prime contract value. Any consideration of a significantly increased small business size standard must include consideration of the uniqueness of our industry and the small business program it operates within. Further considerations include:

1. The industry is not homogeneous; it's composed of full service and specialty firms across many technical disciplines with firms sized from sole practitioners to those in excess of 55,000 employees.
2. Current data excludes the bulk of support work performed by small firms.
3. The impact of the proposed change on the established qualifications based selection (QBS) procedures.
4. The impact on competition and the use of disadvantaged business enterprises.

## **Introduction**

Chairman Walsh, Ranking Member Schrader, and Members of the Subcommittee,

I appreciate the opportunity to testify before you today about *Changes to Small Business Size Standards* and specifically about the unique considerations of A/E services. In addition, I will address factors that must be considered when significantly changing the small business size standard, the composition of the engineering industry, why small specialized firms like my own compose the majority of our industry, how we view federal government policies, and provide individual issues that need to be addressed to enhance small business understanding and participation in work, while protecting jobs and the tax payer.

My name is John Woods, and I am the founder and principal of Woods Peacock Engineering Consultants, Inc., a consulting structural engineering firm located in Alexandria, Virginia. Woods Peacock is a Small Service-Disabled Veteran Owned Firm with 17 employees. All of my staff are committed to providing our clients structurally sound designs for various sized projects, at home and around the world. I have also served on several councils, foundations, and boards dealing with veterans, children, business, community, and disadvantaged persons' issues, as well as being a Presidential appointee to the U.S. Access Board, a leading Federal agency on accessibility for persons with disabilities and accessible design.

My firm is an active member of the American Council of Engineering Companies (ACEC), the voice of America's engineering industry. ACEC's almost 6,000 member firms employ more than 500,000 engineers, architects, land surveyors, and other professionals, responsible for more than \$500 billion of private and public works annually. Over 70% of these firms are small businesses, with less than 30 employees. Our industry has significant impact on the long term performance and costs of our nation's infrastructure and facilities. I currently serve on ACEC's Federal Agencies Committee and the Small Firm Coalition, which develop Council positions on legislation and promote infrastructure issues before Congress, executive agencies, and states.

In over 40 years of experience I have designed -- or been in responsible charge of the design -- several hundred significant building structures and provided structural consultation on several thousand other projects, both domestic and international. I have served on the national committee of the Coalition of American Structural Engineers which wrote the National Guidelines of Practice and was on the industry committees that wrote the Critical Structures Manuals and the Complex Structures Manuals for many local governments. I have acted both as expert and advisor for legal counsel, particularly in the areas of standard of care and state of the trade, and more recently for design-build contracts. Notable present federal projects include the renovations of the West Wing of the National Museum of Natural History, U.S. Embassies in Rome, Monrovia, Liberia, Kigali, Rwanda, Johannesburg, S. Africa, and Karachi, Pakistan, and the new Department of Homeland Security Headquarters and New Operations Center.

We are at a critical juncture in our nation's history -- the risk to people and infrastructure is growing at an alarming rate as a result of more than 100 years of neglect to the nation's infrastructure. At the same time we are in the throes of an economic crisis that is impacting long term infrastructure spending and our small professional architecture and engineering (A/E) services firms directly. To this we are adding a new size standard increased by more than 400%, whose impacts need to be fully understood prior to finalization. The combination of my small firm ownership, long history of involvement with my industry and small firms' issues,

performance under federal contracts, and personal interest in serving my community and nation provides me the background to address the following issues.

### **Considerations in Changing the Architect/Engineering Size Standard**

Currently small firms represent over 70% of ACEC membership, with another 20% being firms that would become small under the proposed standard. The remainder are large firms under the current or proposed standard. The organization has done extensive outreach to its membership to gauge the reaction to the proposed size standard, and a number of opinion trends have been identified:

1. Most respondents recognize the need for an increase in the size standard. Opinions vary as to the size of that standard.
2. Many presently mid-size firms view the proposed \$19 million standard positively, while others in the mid-sized category are open to smaller increases (to \$10 or \$14 million). A few have even advocated a much larger increase, to \$25.5, \$30, or even \$35.5 million.
3. In general the large firms (under the new standard) express concern that the increase is so large that all federal work could be set-aside for the new larger “small” firms, damaging their market and ability to compete. General concerns exist over the issue of federal agencies using market research and the Rule of Two at the \$19 million size level to effectively bypass QBS and thereby damage the industry and jeopardize the public.
4. Many small firms (as measured under the current size standard) feel that they do not have the resources (financial, manpower, or time) to adequately compete with firms over 4 times their size, at the larger end of the proposed standard, and would be forced out of federal work. Many recognize the need for an increase in the size standard, but hope it would be in the more reasonable area of \$7 or even \$10 million. Also questioned is leaving DBE status tied to a larger size standard, since firms of that size are clearly not disadvantaged.

Based on this initial survey and my own knowledge of the engineering industry and federal contracting, certain considerations arise that need to be dealt with. Within ACEC, efforts are underway to resolve the issues raised and arrive at positions that will lead to meaningful comments on the proposed size standards. The following are some of the considerations being addressed:

1. The actual federal use of engineering firms of varying sizes is unknown, due to current data gathering. Only data on small firm prime contracts is gathered and reported beyond the individual contract level and that data is not adjusted to show what work is done by large firms supporting the small business prime. While individual small firm support to large prime contractors is reported at the contract level, the information is not aggregated further. No data is collected on the various size of firms performing federal work within the small and large categories. If the proposed rule is put into place, over 90% of engineering firms would be small businesses. Data needs to be collected to better aggregate firms of various sizes doing responsible (legally and ethically) work regardless of contracting tier (something ACEC has asked for previously as part of small business program reform). This would provide a better understanding of where the work is going and eliminate all work under a prime contract from being credited

only to either large or small firms. Agency goals and credits need to reflect the actual work performed by small firms. The information is already provided for all large firm contracts and should be for all contracts and then aggregated for the agency. The new digital reporting system needs to accumulate this data. Adding the relative size of each firm performing work (relative to the SBA standard size levels) should be doable.

2. The above gathered data should be used for a yearly evaluation of the size standard, to verify the intended growth in the use of small firms.
3. Small businesses are an integral part of teams submitting on federal work, which are selected (under QBS) for their capabilities. The selected team indicates the responsibilities of each team member in their proposal. The current small business program establishes subcontract goals for small businesses based on the percent of work subcontracted. A change (pursued by ACEC as part of program reform) to establishing small business subcontracting goals based on a percentage of funded prime contract value would keep to the proposed roles and easily resolve usage if all roles are not used, due to client assignments or project need. The change would eliminate the absorption of functions by the prime contractor, i.e., eliminating any work subcontracted, as is often the case. This should be applied to all contracts regardless if the prime is a large or small firm.
4. A category of micro-firm or emerging firm may be needed to provide opportunities, with purposely developed scopes of work, for firms at or below the current small business size. This would allow firms time to adjust to the new size standard and government an opportunity to assess the impacts on the industry.
5. A limit on the use of set-aside contracts by number, size of contract, or relative size of firms (micro or small), or a alternative that awards “bonus” qualifications points for small firms on otherwise open competitions, should be considered.
6. At the proposed size level, finding qualified small business competitors of all categories would be assured. With almost the entire industry becoming small under any significant change in the size standard, related rules and definitions need to be identified and adjusted accordingly.

### **Uniqueness of the Architect/Engineering Industry**

A/E firms provide services in varied technical disciplines (e.g. architecture; mechanical, electrical, civil, structural, chemical, and other engineering; surveying; etc.). States require professional licenses for the individuals performing this work. In most states, the majority ownership of firms providing such services must be held by individuals licensed in their states in their respective disciplines, for the firm to be licensed to work in that state. The ethical codes for licensed professionals to retain their licenses require them to perform work only that they are capable of performing, based on education and experience.

Because of the state individual and firm licensing requirements, firms need to vary their structure for the state in which they are working. This, along with the ethical requirements for retaining their licenses, is why a majority of A/E firms are small and specialized. Since the work is performed by individuals, the quality of the services offered is independent of size. That is why a firm like Woods Peacock is sought out for its structural engineering and anti-terrorism/force protection services. The principals of such firms are directly involved with work performance. While advances in computer software and communications technologies allows engineering

firms to do much more with less personnel, it does not replace the individual knowledge, experience, and capabilities of the professionals performing the work. I will not, and procedurally and ethically cannot, take professional responsibility for work outside the technical discipline for which I am licensed and competent to perform.

As indicated above, there are many technical disciplines that are required to complete infrastructure and facilities projects. These disciplines must work together under common leadership to achieve optimum and integrated results. Project design management is often a discipline itself. The better the disciplines work together, the better the results. This teaming, whether internal to a large multi-disciplined firm or from separate highly qualified specialty discipline firms is a key to success. Quality teaming may be produced through formalized processes, experience of working together, or both.

Due to varying functions and performance requirements, physical conditions (soils, weather, etc.), locations and jurisdictions (access, utilities, building codes, permitting requirements, etc.) and similar considerations, each project is unique, requiring special capabilities and experience. Teaming arrangements need to accommodate the unique factors of each project. A team formed to optimize services performance for one project may not be the right team for a similar project in a different location or a different project at the same location. Sometimes teams can be optimized with minor changes of the individuals involved and sometimes whole new teams are better. Each project needs to have the project specific qualifications requirements identified and the A/E services teams established by evaluating and choosing the team members with the most capabilities to satisfy those qualifications.

The long term business success of individuals and firms providing A/E services is achieved only when clients and potential teaming partners recognize and accept their qualifications to perform quality services in specific disciplines and areas. Reputations for quality work, working well as a team member, and innovative solutions to technical problems that arise on projects are key to receiving repeat or future work.

Throughout the industry and codified by the Brooks Act (Public Law 92-582) for federal work, A/E services offerors are selected for work based on being the most qualified for the particular project or series of tasks. The cost of those services is small in comparison to construction, other project, and life-cycle costs, and yet the quality of the service has a profound impact on total project cost and performance. As a consequence, working with the most qualified services provider at a fair and reasonable cost is paramount.

As needs for services are identified and qualifications requirements are made known, potential offerors look at their own capabilities and decide what they need to do to not just perform the work, but to assure the owner/client that they are the most qualified to successfully complete the effort. Team formation internally and externally becomes critical to achieving this goal. This is why highly specialized small firms are routinely included on teams to improve the team's chances of winning and performing individual projects.

As this brief explanation of the industry shows, firm size and capabilities are as much controlled by the interest of professionals in their firm business model as by the opportunities available to them. Many firms remain specialized and small for decades, by intent. My firm, Woods

Peacock Engineering Consultants, is a prime example of a firm highly regarded and sought out for our structural engineering expertise and not wanting to dilute our direct involvement in such work by becoming a full service firm whose owners by necessity must focus on project management and integration across disciplines.

Specialty firms like Woods Peacock take responsibility legally and ethically when they sign drawings and specification documents for a project. Also, selection boards consider all team members when ranking firms under a qualifications (Brooks Act) selection. The team selected must perform the work under contract. Unfortunately, these responsible roles are not included in small business goals achievement by federal agencies and revenue data is not available to SBA for assessing government small business utilization when analyzing size standards. The small business size standard setting methodology needs to reflect the natural way work is accomplished in an industry. For engineering services, team formation and responsible rolls goes far beyond tracking prime contract awards. The difference between full service firms and specialty firms needs attention.

### **The Issues in Setting a Single Size Standard for Engineering Services**

To understand the impact of a new size standard on our industry and the small businesses therein, many issues require analysis. Inflation and emphasis of the federal government on having small firms perform larger, full service prime contracts have raised costs and pass through revenues for firms. This necessitated a need for increasing the current size standard that was originally established in 1984 at \$2.5 million and has only grown to \$4.5 million over the past 27 years.

There have been two attempts to increase the size standard (beyond inflation adjustments). They were a proposed increase to \$7.5 million in 1998, and a change to 50 employees (FTEs) and a ceiling of \$7 million in 2004.

The 1998 proposed rate was meant to catch up on inflation (no adjustments were allowed through 1996, due to the Competitiveness Demonstration Program), larger federal contracts, growing entry costs for technology, and the growth in pass through costs from subcontracts. The size standard was finalized in 1999 to \$4 million, primarily recognizing that the smaller firms do not have the resources to compete with the firms at the higher portion of the proposed standard and would be harmed. Also, in some regional markets, the entire industry would be small; therefore the definition would be meaningless.

The 2004 proposal was dropped because of the undue burden a dual size standard (people and revenue) would place on small businesses in the industry. Also, the employee limit was considered arbitrary, particularly in enforcement, and would have had a negative impact on hiring.

The latest proposed size standard for A/E services is \$19 million, which represents a very substantial increase (over 400%) from the current size standard. The initial reaction is to question the reality of such an increase and to question its validity, particularly when compared to the more reasonable increases for other professional services. Upon closer consideration, the firms in our industry become divided in opinions. The uniqueness of the structure and impact of

the A/E industry requires more consideration than the processing of Census data to arrive at average numbers for a size standard.

### **Problems Winning and Doing Federal Work**

The current size standard for A/E services is \$4.5 million based on gross revenues averaged over three (3) years. Pass through costs, including subcontract work and project equipment rentals inflate revenues without indicating real firm growth. This becomes a problem when poorly planned small business set-aside contracts are won by firms that must add technical disciplines and management capabilities, or subcontract to large firms to perform the project. The growth therefore is false or forced.

Individual state licensing requirements and large variances in state costs of living also impact gross revenues. The same size firm operating in a state with a high cost of living may show inflated revenues that graduate it from a small business only because of the higher costs of labor and services. Since size standards are consistent across the country and state restrictions do not exist for federal contracts, firms in high cost areas are being penalized.

Federal contract planning and sizes do not match the specialized nature of the work, small size standard, need for teaming to perform, and state licensing factors. Care is needed to assure that the contracts developed can be performed by small businesses in the location required, by the experienced personnel offered, and managed properly. The basic lack of contracting personnel, compounded by their general experience gap in procuring A/E services and the industry itself, has created contracts that require large, full service, national firms to win and perform the work. Even when small firms team or joint venture for such work, the larger firms are considered more qualified because of their simpler organizational structure, experience, and perceived financial capability.

Subcontracting percentage goals for federal large prime contractors is based on amount subcontracted. This allows the prime contractor to adjust the amount subcontracted to achieve the goals. A small firm cannot plan on a certain level of work, if any, over an extended period of time. While all A/E services are subject to client requirements and physical conditions encountered, percentage goals based on the funded amount of the prime contract would provide a clearer picture of the future for small business subcontractors. In addition, the latter goal setting eliminates an unintended penalty on mid-size firms and small businesses that graduate. With the goal based on contract dollar amount, other subcontracting is not a factor and teams can be established based on capabilities needed and existing relationships rather than on controlling ratios of subcontracted work. This even allows mid-size and large firms to team with each other in subcontractor roles without penalty on goals attainment.

Of course, the continuously changing federal rules and extensive oversight requirements present a burden of their own. A professional firm involves its principals in the performance of technical discipline work. To keep up with ever increasing statutory requirements and corresponding implementing regulations requires small A/E services firm owners to forgo their technical work or hire additional staff to learn, understand, and comply with the federal specific requirements.

## **Best Use of Industry Achieved Through Understanding of Roles**

The federal workforce needs the managerial and administrative capabilities and numbers of personnel to establish program and policy, procure, coordinate, run, and accept the A/E services work. This work is ongoing and consistent and must be performed in a consistent and stable manner.

The private sector provides the project unique capabilities, varied experience, surge ability, and innovation to efficiently and effectively perform on limited duration project work. Using federal in-house technical staffs to perform project A/E services is similar to awarding all such work sole source to a single firm. They could not have all of the capabilities in-house to innovatively and efficiently perform quality work for each unique project. Private sector firms can team or add and delete staff as needed to meet fluctuating technical and schedule demands and are selected for being the most qualified for the specific project. In addition, project work performed by federal technical staffs is done at actual cost (staff payments), while private sector performance is done at negotiated contractual cost. Risks to the government are contained through use of the private sector for A/E services.

## **Conclusions and Recommendations**

The A/E services industry is unique in how firms are established, perform work, selected to benefit their clients, and work with each other. Most firms in the industry are small, specialized, and have a business plan to remain that way to assure performance and reputation. They also perform technical work on unique projects, of limited duration, and requiring specific capabilities and innovation. These factors result in the need for special considerations when trying to assure appropriate small business participation in federal procurements.

Our industry recommends the following measures to be considered in evaluating small business size standards and programmatic changes that will make the use of small businesses more effective:

- **The industry should be provided an extension for submitting comments on the current proposed size standards.** In order to better understand the impacts of the proposed change, ACEC will need time to survey its member firms, review SBA's analysis completed over a 16 month period, develop alternative approaches, and consider the effects on future competition, QBS use, DBE involvement, design-build procurements, current small firm finances and opportunities, and teaming for work.
- **Small and large business participation should be based on work actually performed by small and large firms,** not on who holds the prime contract. Contracts awarded require performance plans that identify the team members performing the tasks involved. This is already done when preparing proposals under QBS criteria. Small Business Subcontracting should be counted as Small Business Participation to Meet Agency Goals. To not account responsible support work as part of the agency goals, either adding to or deducting from small business utilization, would appear to be inconsistent.

- **Establish that large prime contractors account for small business subcontracting goals by the prime contract funded value, rather than a percentage of work subcontracted.**  
This:
  - Discourages the prime contractor from reducing subcontract work and doing more in-house, thereby increasing the reported percent of work subcontracted to small businesses of various categories.
  - Provides small business subcontractors with a reasonable expectation of being utilized.
  - Provides a level of effort for the small businesses to perform subcontract work awarded, and a target level, plus verification, of the actual amount to be completed. Hence, the small business can plan accordingly.
  - Encourages the use of both small and mid-size firms based on capability and contribution to contract performance, which is in alignment with the Brooks Act.
  
- **Small business set-aside contracts should be consistent with the skills and maximum size of small business competitors**
  - Large contracts are currently being awarded to small businesses that within a year will cause them to exceed the small business standards (when averaged over the last three (3) years), hence, disqualifying them from re-competing the work.
  - Contract size should be limited to a reasonable factor of the size standard.
  - Requirements for the majority of work to be performed by the small business prime when compared to actual staff size must be a consideration.
  
- **Change contract bundling practices to ensure reasonable small business prime contract opportunities exist**
  - Adjust current contract bundling practices to ensure that prime contract opportunities are aligned better with small business capabilities; hence, encouraging more small businesses to compete for federal projects.
  - Presently complex contracts are being awarded to small firms in amounts large enough to negatively impact the sustainability and life of the firm.
  
- **Develop a career path for Contracting Officers specializing in AE contracting and hire or develop personnel in sufficient numbers**
  - Assure an appropriate size staff and continued competence and retention.
  - Create a cadre that understands and appreciates the benefits of QBS.
  - Fashion contracts of a size and scope that attract qualified small businesses.

I thank the Subcommittee for the privilege and opportunity to address A/E industry issues with the proposed size standards and the small business program and am pleased to answer any questions.