ALBERT H. WILLIS
6150 RIVER SOUND CIRCLE
SOUTHPORT, NORTH CAROLINA 28461

October 29, 2010

MEMORANDUM FOR THE INSPECTOR GENERAL
OF THE DEPARTMENT OF DEFENSE

Violation of section 904 of the Water Resources Development Act of 1986
by the Wilmington (NC) District of the US Army Corps of Engineers

This memorandum is in support of the complaint dated the date hereof by the undersigned regarding:

(a) violation of section 904 of the Water Resources Development Act of 1986 by the Wilmington District (North Carolina) of the US Army Corps of Engineers, and

(b) failure of the Engineer Inspector General to correct this violation, even after repeated complaints by the undersigned.

This violation, if allowed to remain in a pending report, would result in the waste of $10 million or more of public funds in conducting a study that would be prohibited by law, and a fraud on Congress and the State of North Carolina.

Part I. Violation of Section 904 of the Water Resources Development Act of 1986

The Reconnaissance Study

A water resources project conducted by the US Army Corps of Engineers would be preceded by a feasibility study, conducted under section 905(a) of the Water Resources Development Act of 1986 (33 USC §2282(a)). Such feasibility studies typically cost many millions of dollars, take many years, and consume substantial resources of supporting state and Federal agencies. Approximately one-half of the cost would be borne by a "non-Federal sponsor," typically a state agency.

Before such a feasibility study is undertaken, the Secretary of the Army is required to conduct a preliminary analysis to determine whether or not planning to develop the subject project should proceed to the preparation of that feasibility report. That requirement is in section 905(b) of the Water Resources Development Act of 1986, codified at 33 USC §2282(b):

(b) Reconnaissance studies.

> Before initiating any feasibility study under subsection (a) of this section after November 17, 1986, the Secretary shall first perform, at Federal expense, a reconnaissance study of the water resources problem in order to identify potential solutions to such problem in sufficient detail to enable the Secretary to determine whether or not planning to develop a project should proceed to the preparation of a feasibility report. Such reconnaissance study shall include a preliminary analysis of the Federal interest, costs, benefits, and environmental impacts of such project, and an estimate of the costs of preparing the feasibility report. The duration of a reconnaissance study shall normally be no more than twelve months, but in all cases is to be limited to eighteen months.

The Wilmington District of the US Army Corps of Engineers is conducting such a reconnaissance study for a project involving navigation improvements (dredging) in the Cape Fear River in southeastern North Carolina to accommodate a proposed container terminal near the City of Southport. In connection therewith, the Wilmington District has prepared a document entitled "Section 905(b) Analysis, Wilmington Harbor Navigation Improvement Project, North Carolina International Terminal," dated February 2010 and marked "draft." That document has been provided to the North Carolina Department of Environment and Natural Resources in connection with a request for a "letter of intent" regarding State participation in the cost of a feasibility study. The document includes an estimate that such feasibility study would cost approximately $10 million; the State share would be $4.7 million.

The document reaches this conclusion:

> 6. FEDERAL INTEREST
> Because transportation savings for waterborne commerce is a high-priority project purpose for the Corps of Engineers and because transportation savings in the form of National Economic Development Benefits (NED) appear to exceed the cost of project implementation, there is a strong Federal interest in conducting the feasibility study of navigation improvements at Wilmington Harbor. Based on the preliminary analysis, there appears to be potential project alternatives that would be consistent with Army policies, costs, benefits, and environmental impacts.

The conclusion is supported by an analysis of costs and benefits for the proposed project. The benefits are based on transportation cost savings derived from the use of larger vessels than can call at the container terminal at the nearby Port of Wilmington. However, the savings are substantially overstated by including container movements transferred from ports in other regions, representing approximately five times the movements that would be expected from normal growth of container traffic.

Inclusion of such transferred benefits is prohibited by section 904 of the Water Resources Development Act of 1986 (33 USC §2281). Had benefits been calculated without inclusion of such prohibited benefits, the benefits would be less than the costs, the conclusion of "Federal interest" could not be supported, the determination that the project should proceed to the feasibility phase would fail, and the waste of $10 million in state and Federal funds would be prevented.

Section 904 of the Water Resources Development Act of 1986

This is the language of section 904 of the Water Resources Development Act of 1986, as codified at 33 USC §2281:

> **§ 2281. Matters to be addressed in planning**
>
> (a) In general
> Enhancing national economic development (including benefits to particular regions of the Nation *not involving the transfer of economic activity to such regions from other regions*), the quality of the total environment (including preservation and enhancement of the environment), the well-being of the people of the United States, the prevention of loss of life, and the preservation of cultural and historical values shall be addressed in the formulation and evaluation of water resources projects to be carried out by the Secretary, and the associated benefits and costs, both quantifiable and unquantifiable, and information regarding potential loss of human life that may be associated with flooding and coastal storm events, shall be displayed in the benefits and costs of such projects (*emphasis supplied*).

The limitation of benefits to be counted to "benefits to particular regions of the Nation not involving the transfer of economic activity to such regions from other regions" is hardly necessary to express in the Code. The Corps of Engineers must have a national perspective, and moving benefits from one region of the Nation to another to justify a project would not enhance National economic development, and indeed would detract from that development by adding burdensome and unnecessary costs. But that is what the Wilmington District proposes to do–to commit a fraud on the State of North Carolina in representing a project to be economically valid when it is not, and to burden the Federal government and the State of North Carolina with the $10 million or more cost of a feasibility study for a project that cannot be economically justified.

The Wilmington District Benefit-Cost Analysis.

The project subject of the Wilmington District reconnaissance study and section 905(b) analysis is a proposed container terminal, larger than any on the East Coast of the United States except the combined terminals at Port Elizabeth and Port Newark, New Jersey. It would be called the North Carolina International Terminal. The site for this terminal is a "greenfield" site on the Cape Fear River near the small City of Southport, about four miles from the mouth of the river. The port would be designed for the new generation of large container ships, called "post-Panamax," expected to pass through the Panama Canal after improvements in 2014.

Approximately 22 miles up the Cape Fear River from the site of the proposed terminal is the Port of Wilmington, with a container terminal serving North Carolina markets. The channel to the Port of Wilmington is maintained at a depth of 42 feet; this depth was achieved in 2004 in a project still underway, and is sufficient for the largest vessels now able to transit the Panama Canal, called "Panamax."

The proposed terminal would require a deeper channel, 48 to 50 feet. Inasmuch as the terminal site is on an inlet with a depth of one to four feet, and deep water lies 17 miles beyond the mouth of the river, the necessary channel improvements are very expensive. The dredging of the channel and related turning basin and other improvements has been estimated by the Wilmington District to cost $1,050,000,000 for a depth of 48 feet, $1,208,000,000 for a depth of 50 feet. Using a project life of 50 years and an interest rate of 4.375% for amortization of project costs over that period, the Wilmington District estimates average annual costs, with operating and maintenance expenses, of $55,100,000 for the depth of 48 feet and $64,400,000 for the depth of 50 feet.

The benefits for the proposed project have been identified as transportation cost savings from the use of larger vessels offering lower costs per container. As for the container traffic, the Wilmington District's section 905(b) analysis has this statement: "The container traffic projection is based on the North Carolina International Terminal initially capturing a market share of 3 per cent of the East Coast containerized trade volumes, and growing to 6.75 percent market share by 2030." (Section 905(b) Analysis, page 13) Based on this forecast of market share, the Wilmington District forecasts average annual benefits of $234,000,000, a comfortable surplus of benefits over costs.

The container traffic represented by such market share is far higher than currently moving through the Port of Wilmington, just upriver from the proposed terminal. According to data reported by the American Association of Ports Authorities, the container terminal at the Port of Wilmington, which shares the same market and same infrastructure as the proposed North Carolina International Terminal, has enjoyed an average share of the East Coat container market of approximately 1% for the past twenty years. For the last five years, with the benefit of the deeper channel opened in 2004, the market share has risen to 1.3%. Thus to achieve a

market share of 6.75%, at least 81% of that share must necessarily be transferred from other regions. Any benefit attributed to that container traffic used by the Wilmington District of the Corps of Engineers in its calculations would constitute a prohibited transfer from other regions. Reducing the forecast benefits to exclude the transferred benefits would reduce average annual benefits to approximately $45,000,000, less than the estimated costs.

This is a *prima facie* case for using benefits "involving transfer of economic activity to such regions from other regions" which is proscribed by section 904 of the Water Resources Development Act of 1986.

Headquarters staff of the Corps of Engineers advises that, if transfer of container movements from other ports is due to a reduction in the cost of delivering goods to market, then the transfer would constitute a net reduction in the cost of moving goods and an increase in national resources available for other purposes. To that extent, there would be a valid basis for including such benefits in the calculation. But that is not the case.

The Wilmington District obtained its container movement forecast from the *Pro Forma Business Plan*, prepared by CH2M Hill, Inc., and delivered to the North Carolina State Ports Authority in March 2008. The transfer of container movements from ports in other regions is based on six features of proposed terminal, set forth in section 2.2 thereof (pages 4, 13):

1. Deep water, to equal channel depths existing or planned for other ports.

2. Railroad access to hinterland markets, as now exists at other ports.

3. Good highway access, as now exists at other ports.

4. High productivity facilities to equal those at other ports..

5. State of the art facility, to provide efficiency equal to other ports.

6. Competitive pricing of service.

The consistent theme of all six points is parity with other ports, in most cases to equal situations now prevailing at those ports. No actual advantages are alleged. Indeed, it is something of a mystery as to how CH2M Hill, Inc., expects the market share to be increased by a factor of five only by achieving the same parity in the future that exists today. The Port of Wilmington is accessible by a channel able to accommodate "Panamax" vessels, the largest vessels now calling at East Coast ports. Thus the current container traffic at the Port of Wilmington defines the natural market share of a port on the lower Cape Fear River.

In February 2010, in connection with an issue of revenue bonds, the North Carolina State Ports Authority obtained a report from Moffatt & Nichol on the market prospects of the

container terminal at Wilmington. This report was supplied to the Wilmington District of the Corps of Engineers, but not cited as a source in the section 905(b) analysis.

Moffatt & Nichol undertook a thorough inquiry as to just what is the market for the Port of Wilmington, using a "least cost market area" analysis to identify the areas served by the Port of Wilmington at the least cost. The firm established, for the 179 Business Economic Areas (BEAs) in the United States, the supply chain costs for all possible ports of entry and exit for 16 regional trade lanes. Each supply chain cost included all components–ocean freight, port fees, trucking costs, and costs of intermodal rail, if the movement involved rail. Moffatt & Nichol determined that the Port of Wilmington was in the least-cost supply chain only for five areas within North Carolina. The State Ports Authority confirmed to Moffatt & Nichol that 100% of existing container traffic through the Port of Wilmington originated in or was destined for North Carolina.

Moffatt & Nichol further observed that capacity increases at other ports in the region would decrease Wilmington's share of total container throughput in the Southeast.

For the proposed new container terminal downriver, the market and the market share would be the same as that for the Port of Wilmington. But even the market share of Wilmington may not be achieved. Distances to all markets from the proposed terminal would be about 20 miles longer over land than from the existing terminal at Wilmington.

Thus both CH2M Hill, Inc., and Moffatt & Nichol concluded that, given parity in facilities, a new container terminal on the Cape Fear River would offer no cost advantages to shippers over ports in neighboring states except in the limited area of North Carolina served by the existing facility.

If indeed any container traffic is captured from other ports, there would be no reduction in delivered costs of goods from such transfers of container movements from other ports, and thus no net gain for National economic development. There is not any valid reason for including benefits transferred from other regions in the benefit/cost calculations.

Conclusions

1. Section 904 of the Water Resources Development Act of 1986 prohibits the inclusion of "benefits to particular regions of the Nation … involving the transfer of economic activity to such regions from other regions" in evaluating water resources projects.

2. The Wilmington District of the Corps of Engineers, in preparing an analysis of benefits pursuant to section 905(b) of the Water Resources Development Act of 1986 for the proposed North Carolina International Terminal, included benefits derived from container movements transferred from ports in other regions.

3. In its draft section 905(b) analysis, the Wilmington District does not allege or suggest that such transfer is attributable to or would result in any savings in transportation costs that would enhance National economic development *by reason of such transfer*. Circumstances presented in materials used by or available to the Wilmington District indicate that there would not be any such savings. There is no justification for including benefits transferred from other regions contrary to section 904 of the Water Resources Development Act of 1986.

4. Inclusion of such prohibited transferred benefits in the Wilmington District's analysis would distort the result sufficiently to change the conclusion. Such a deliberately erroneous conclusion, used to induce Congress to fund a full feasibility study and to induce the State of North Carolina to participate in the cost of that study, would be fraudulent.

Accordingly, the Wilmington District should be instructed to revise its section 905(b) analysis for the North Carolina International Terminal to include only such benefits as are attributable to transportation cost savings within the region served by the proposed terminal, as the law requires.

Part II. Failure of the Engineer Inspector General to Investigate and Correct the Violation

On April 19, 2010, the undersigned sent by e-mail to Robert N. Jones, Chief, Assistance and Investigations Division of the office of the Corps of Engineers Engineer Inspector General, a message calling his attention to the use of transferred economic benefits in violation of section 904 of the Water Resources Development Act of 1986 in a reconnaissance study report by the Wilmington Division, as described above. The particulars of the violation and the consequences of the improper conclusions were described therein.

On July 21, 2010, Mr Jones responded by e-mail, excusing the violation on the basis that it used "readily available data."

On July 24, 2010, the undersigned sent Mr. Jones an e-mail rejecting that response, pointing out that it was "patently absurd to use data prohibited by law simply because it is available." On July 26, the undersigned provided a supplement to the message to Mr. Jones, with supporting materials to document the violation.

By letter dated August 17, 2010, Mr. Jones advised the undersigned that he had consulted an unnamed "subject-matter expert" who outlined circumstances in which economic benefits would be created by a transfer and thus could be counted in an analysis. There was no indication of any investigation of the case at hand for applicability of such circumstances.

By letter of September 7, 2010, and accompanying memorandum, the undersigned provided Mr. Jones with an analysis of the facts and circumstances as related to the foregoing

advice, showing that economic benefits would not be created by the transfer of benefits included in the Wilmington District report and that, accordingly, the conclusions of that report embodied a violation of law and were invalid. The letter requested that the Engineer Inspector General instruct the Wilmington District to revise its report to include only economic benefits permitted by law.

By letter of October 5, 2010, Mr Jones replied that his subject matter expert suggested that "the Reconnaissance Report does not conduct economic analysis for project justification, but rather identifies areas of potential benefits. The Corps makes no judgment of validity or applicability of those benefits beyond a determination to further investigate them. The actual estimation of economic benefits occurs during feasibility report stage, … ."

This statement represents a complete abdication of responsibility and disregard of law. The specific language section 905(b) of the Water Resources Development Act of 1986 calls for "a preliminary analysis of the Federal interest, costs, benefits, … ." The Engineer Inspector General can no longer deny the violation of section 904 of the act, but simply refuses to acknowledge it and take remedial action.

The clear intent of the responses of the Engineer Inspector General, and indeed the report prepared by the Wilmington District, is to push the project from the reconnaissance phase to the feasibility phase regardless of the merits and regardless of legal restrictions. The result would be waste of Federal and State funds to the extent of $10 million or more, and fraud on the taxpayers of the State of North Carolina and the United States of America.

Albert H. Willis

Sources

American Association of Ports Authorities, *North America: Container Port Traffic in TEUs* (2010)

CH2M Hill, Inc., *Pro Forma Business Plan*, North Carolina State Ports Authority (2008).

CH2M Hill, Inc., *Planning Assumptions*, North Carolina State Ports Authority (2008).

James Crew, Kevin Horn & Richard Schultz, *National Economic Development Procedures Manual, Deep Draft Navigation,* IWR Report 91-R-13 (1991) at page 7.

Kevin Knight, *The Implications of Panama Canal Expansion to U.S. Ports and Coastal Navigation Economic Analysis,* Institute for Water Resources (2008)

Moffatt & Nichol, *Ports of Wilmington & Morehead City Feasibility Study*, North Carolina State Ports Authority (2010).

United States Army Corps of Engineers, Wilmington District, *Section 905(b) Analysis, Wilmington Harbor Navigation Improvement Project, North Carolina International Terminal* (Draft, February 2010).

Exhibits

E-mail dated April 19, from Albert H. Willis, Col. USAF retired, to Robert N. Jones, Chief, Assistance and Investigations Division of the office of the Corps of Engineers Engineer Inspector General,

E-mail dated July 21, 2010, from Robert N. Jones to Albert H. Willis.

E-mail dated July 24, 2010, from Albert H. Willis to Robert N. Jones.

E-mail dated July 26, 2010, from Albert H. Willis to Robert N. Jones, having attached thereto the following documents:

> United States Army Corps of Engineers, Wilmington District, *Section 905(b) Analysis, Wilmington Harbor Navigation Improvement Project, North Carolina International Terminal* (Draft, February 2010).
>
> Risingwater Associates, *A Review of the Section 905(b) Analysis, Wilmington Harbor Navigation Improvement Project, North Carolina International Terminal, Draft Dated February 2010, Prepared by the US Army Corps of Engineers, Wilmington District* (Draft, April 22, 2010).
>
> CH2M Hill, Inc., *Pro Forma Business Plan*, North Carolina State Ports Authority (2008).

Letter dated August 17, 2010, from Robert N. Jones to Albert H. Willis.

Letter dated September 7, 2010, from Albert H. Willis to Robert N. Jones, having enclosed therewith a memorandum of even date for the Engineer Inspector General.

Letter dated October 5, 2010, from Robert N. Jones to Albert H. Willis.