CECW-PC **9 March 2004**

Delaware River Main Channel Deepening Project
District Responses and Headquarters Assessment of Final Supplemental Report and Issues Raised by the External Review Panel

BACKGROUND

The following documents the final comments received by the External Review Panel, district responses to those comments, and HQ review team assessment of the responses and revisions made for the final report supplement (Feb 04).

The External Independent Review Panel Assessment of the Container Benefit Analysis was completed on 15 January 2004 based on draft documents provided on 24 Dec 03. A copy of the final review panel report is attached. Prior reports and findings of the Review Panel, mainly dealing with reanalysis of crude oil and lightering benefits, are maintained in CECW-PC office files. In their 15 January 2004 report, the Review Panel concluded the following:

- *The external independent review panel finds the majority of benefits analysis to be sound, well supported and a reasonable basis for a decision by the Corps. In the panel's opinion, the estimates of benefits from lightering, tanker operations and bulk vessel operations appear now to be based on the best available information, developed using appropriate methods and adequately documented.*
- *It is the panel's conclusion, however, that the current analysis has not eliminated significant uncertainties associated with the estimation of container benefits. In particular, the panel is uncomfortable with the fact that the estimates rely on prospective benefits to container services provided by only two consortia of vessel sharing agreements, which make the benefits sensitive to the individual policies and future actions of only a few benefiting participants. Because the without-project scenario represents a significant departure from existing services, the panel considers the estimate of benefits accruing to the ANZ-ECUSA trade as the greatest source of residual uncertainty in the container analysis.*

In the final Philadelphia District report (February 2004, Supplement to Comprehensive Economic Reanalysis Report, December 2002), and in the district responses to the Final External Review Panel report, a primary focus was placed on addressing the remaining review panel concerns regarding container benefits. The report also documents all project benefits, which, according to the Review Panel were previously determined to be sound, and incorporates additional analyses and project costs for Clean Air Act compliance.

The February 2004 Supplement to the December 2002 report was not furnished to the External Review Panel as the contract for review services expired. Rather the HQUSACE Policy Review team reviewed the final report, responses to comments, and made an assessment of the resolution of remaining issues.

SUMMARY of REVIEW FINDINGS

Principal changes between the February 2004 Supplement and the December 2002 Reanalysis report pertain to crude oil lightering benefits and container cargo benefits. Crude oil lightering benefits decreased by about $3 million due primarily to use of more complete lightering operations data and revised lightering resource cost estimates. Container cargo benefits have increased about $2.6 million due in large part to changes in shipping practices and volumes than were expected in the December 2002 report. No changes have been made in the bulk commodities and petroleum product benefits, other than the change in the discount rate from FY 2003 to FY 2004.

Since the December 2002 report, some container ships have changed port rotation patterns and some expect further changes in future years in the without project condition. In addition, the benefiting ship lines are drafting deeper in the Delaware River sooner than previously expected. For example, the shipping consortium that carries containerized cargo from the East Coast of South America to the East Coast of the United States (ECSA to ECUSA, or ECSA Tango service for short) has changed it's port rotation to call on New York/ New Jersey (NY/NJ) prior to calling on the Delaware River ports because of increased volumes of traffic and depth restrictions. The shipping consortium that carries containerized cargo from east-bound Australia/New Zealand to the East Coast of the United States (EBANZ service for short) is currently drafting deeper on the Delaware River than previously expected, anticipates future changes in ports of call, and large increases in refrigerated containerized cargo to the Philadelphia area.

The economic justification (excess of benefits over cost) is dependent upon port service decisions of several shipping lines that have entered into containership slot sharing agreements for the ships that would benefit from channel deepening. The container benefits are based on the estimation of a limited number of carrier representatives for the future volume of containers ultimately trucked to Philadelphia area consignees that would be landed in the port of New York/New Jersey. The benefits are also based upon the sizes of existing ships and existing and future port rotations.

The External Review Panel articulated uncertainties about container traffic benefits, and the Philadelphia District has cross checked data with other sources and revised the containership reanalysis in order to more clearly describe the data sources, assumptions, analyses and conclusions. The final report reflects the dynamic character of the overseas shipping line port service patterns that reflect the significant increases in container volumes and corresponding increases in containership sizes. The benefits do not incorporate the substantial future growth potential for the containership volume beyond the project base year of 2009 and the accelerated rate that ever larger containerships are serving major markets and ports like Philadelphia area.

The Headquarters reviewers recognize that not all uncertainties identified by the Review Panel have been removed from the analysis of container shipments, however additional supporting information has been included. A significant portion of the container benefits is based on the projections of a very few individuals in the shipping industry with respect to near term growth in traffic from ANZ, and the manner in which these additional shipments would be transported to the Philadelphia area. The most significant without project condition projection involves using different ocean carriers to transport excess Philadelphia-bound cargo that cannot fit on the existing EBANZ vessels (given current channel depth constraints). The current analysis assumes that these vessels will transship cargo in Panama and carry it to NY/NJ, where it will then be trucked to the Philadelphia region.

The final report supplement of the Philadelphia District reflects the dynamic character of the overseas shipping line port service patterns and also reflects the rapid increases in container volumes and corresponding increases in containership sizes. The February 2004 final report supplement provides information to support deepening of the Delaware River for improvement of transportation infrastructure to the U.S. port system. Even though some uncertainties remain, the final report supplement findings are reasonable and defensible.

CONSOLIDATED REVIEW RECORD

As stated above, Final External Review Panel comments were furnished on 15 January 2004. The Philadelphia District responses were furnished to Headquarters on February 18, 2004. The Headquarters assessment of the Philadelphia responses and supplemental report is furnished below. The Philadelphia District responses have been cross-referenced to the Feb 04 final Supplement to Comprehensive Economic Reanalysis Report-December 2002. All text below in *italics* and not prefaced by DISTRICT RESPONSE or HQUSACE ASSESSMENT represent the comments and statements of the External Review Panel. The HQUSACE Assessments below are the determinations of the HQUSACE Policy Review Team, and should not be attributed to the External Review Panel.

1. Overview

This set of comments addresses the state of the container benefits analysis as reflected in the four most recent documents/files provided to the external independent review panel by the study team:

- *Container Benefits (Container benefits 24 Dec 03.doc)*
- *Attachment 5 (Attachment 5 24 Dec 03.doc)*
- *Attachment 6 (Attachment 6 24 Dec 03.doc)*
- *The container benefits workbook (Del River Containers 24 Dec 03.xls)*

These documents reflect the most recent ocean carrier and customer contacts made by the study team, as well as the study team's efforts to verify key analytic facts and estimates. It is apparent from the available documentation that despite the study team's efforts much of the required *information was not forthcoming. As a result, some questions previously raised by the external independent review panel have not been answered and documentation remains sparse in important areas.*

The review panel found that the analysis of container benefits is thus weakened by residual uncertainties in a few key areas:

- *The magnitude of the NYNJ/Philadelphia port and trucking cost differential.*
- *The source, accuracy and application of the container volume estimates for the without-project trucking scenarios.*
- *The sustainability of the container trucking scenarios.*
- *The validity of the projected ANZ trucking scenario and the associated benefits.*

There are also two areas in which the final text version of the container benefits analysis could be improved:

- *Clarification of the current and projected container vessel operations.*
- *Completion of documentation and reconciliation with the report text.*

The following sections discuss the most pressing issues that have been identified by the review panel.

DISTRICT RESPONSE: Comments noted. Responses to individual items follow below.

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2. Uncertainties Remain Regarding the Overall Port Cost Differential for Container Benefits

Despite allegations made in Attachment 6 (p. 2) that the carriers received and confirmed the analysis of port fees, the 12/22 e-mails presented as confirmation in Attachment 5 indicate that both carrier representatives "cited a lower cost difference between the two ports" and that DMA was asking them to reconsider. The cost differences cited by the carrier representatives are not given, and no actual confirmation has been documented. However, existing documents clearly indicate that the carriers provided lower cost differential numbers that are neither cited nor reconciled.

DISTRICT RESPONSE: The carriers did confirm the port fee estimate used in the analysis in e-mails received subsequent to the submittal of the package to the review team. Both carriers had based their Port of NYNJ port fee estimate on the average port fee they pay and not on the port fees that would be only for Philadelphia-bound cargo. Philadelphia-bound cargo is more expensive than the average fees they pay, because Philadelphia-bound cargo includes the "with-in 260 miles" ILA Assessment.

At the reviewer's request, as per the 12Jan04 teleconference, Attachment 6 was sent to the carriers for their confirmation so that there would be no confusion as to the confirmation of port fees and trucking costs. Confirmation from Hamburg-Sud was received on 27 January 2004 and from PONL on 17Feb04 (see documentation in EMail and Correspondence Record for Del R Supplemental Report.doc).

HEADQUARTERS ASSESSMENT: The carriers have confirmed the port fees. The concern **is resolved.**

The DMA [David Miller and Associates, consultants to Philadelphia District] memo on customer interviews contains no confirmation of the cost differential. There are indications that customers have yet to be charged any cost difference (DMA memo of 12/8/03 regarding contact with a representative of Hamburg-Sud), and the interview notes do not indicate that customers were asked about the cost difference. Customers have not been asked if the cost increase was reasonable or if they would be willing to bear the cost, which is material in estimating whether the carriers could incur these costs indefinitely without changing the rotation. In essence, this represents an untested hypothesis, which adds uncertainty about the reasonableness of the analysis.

DISTRICT RESPONSE: The trucking of goods from the Port of NYNJ to Philadelphia-area refrigerated warehouses is not an untested hypothesis; it is the existing condition for ECSA to ECUSA traffic. Section 7 Container Benefits - Existing Conditions: Philadelphia Area Refrigerated Infrastructure contains the results of interviews with local refrigerated warehouse operators who confirmed statements by the carriers indicating that refrigerated goods are currently being landed in the Port of NYNJ and trucked to their warehouses.

HEADQUARTERS ASSESSMENT: The carriers have confirmed the level of trucking costs and port fees. The carriers are incurring these costs on the service from ECSA to ECUSA in order to avoid tidal delays for the 41-foot design draft Columbus line ship transiting the Delaware River Channel. Who actually incurs the additional trucking charges, the shippers, the warehouse customers, is immaterial to the NED analysis. The concern **is resolved.**

The correct trucking cost from NYNJ to Philadelphia appears to be $300 rather than $350.

- *The Container Benefits document (p. 2) states that the [trucked] cargo is typically South American produce, because box weights are more often within the over-the-road weight limit.*

- *The 12/18 DMA memo on shipper interviews notes that the cargo trucked is typically lighter commodities to avoid overweight costs.*

The $350 trucking fee estimate is based on $250 for a dry box, a $50 surcharge for a reefer and another $50 for triaxle chassis and overweight permit. Without the overweight requirement, the trucking cost would be $300. This agrees with the "about $300" cited in the 12/17/03 DMA memo on the PONL contacts.

The correction would reduce the NYNJ/Philadelphia cost differential from $308 to $258, and reduce the overall container benefits from $6,443,963 to $5,409,163 (per the DMA spreadsheets).

DISTRICT RESPONSE: The container benefits memo states that the trucked goods are more often produce, but that does not mean that the boxes never require an overweight permit. The PONL memo states that $300 appears to be a one-way fee, indicating that trucking costs may be understated. Nonetheless, as per the 12Jan04 conference call, benefits have been recalculated using a very conservative $300 trucking cost for produce boxes being trucked from NY to Philadelphia on the ECSA-ECUSA route. Section 7 Container Benefits-Existing Conditions: Landside Transportation Costs has been modified to reflect this change and benefits have been recalculated. Benefits for this trade route are now equal to $939,120, a reduction of $181,880 from the previous benefit assessment of $1,121,000. Benefits of $5,185,000 for the other trade route, the ANZ service, have adjusted slightly downward following the EITR, to reflect larger vessels which have been added to the alternative service route, since the time of the prior analysis. Total container benefits in the final report are equal to $6,124,000.

HEADQUARTERS ASSESSMENT: The landside transportation costs have been corrected to reflect the removal of the overweight permit costs for the ECSA-ECUSA route and benefits for this traffic has been adjusted accordingly. The concern **is resolved.**

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3. Uncertainties Remain Regarding the Source, Accuracy and Applicability of the Container Volume Estimates

Project benefits are very sensitive to the container volume estimates. Unfortunately, there is no clear audit trail for the container volume estimates used in the landside cost analysis (70 containers per week for the ECSA service, 328 containers per week for the ANZ service).

3.1 ECSA Service

The estimate of 70 containers per week for the ECSA service is derived from an estimate obtained from a representative of Hamburg-Sud of 560 TEU "currently" offloaded at NYNJ, with 20 percent (112 TEU) trucked to Philadelphia customers. The 112 TEU were converted to 70 containers, apparently on the basis of an undocumented contact with a representative of Hamburg-Sud. The TEU figures (560 and 112) were presented to the contact at Hamburg-Sud for confirmation. In an e-mail dated 9/30/03, however, the contact did not explicitly confirm the figures, but stated: "The main problem with the description you enclosed is that it states as solid facts what were actually just general statements and assumptions" and "All volume figures are estimates for today's environment only. Do not know how they will change over the course of the next several years." This demonstrates the difficulty of using an interview process to generate accurate and reliable expectations of the future and verifies the sensitivity of container benefits to such scenarios.

It is thus unclear how the representative of Hamburg-Sud developed the figure of 560 TEU per call in NYNJ, the estimate of 20 percent being trucked to NYNJ, or the conversion of 112 TEU to 70 containers. It is unclear whether the figures should be taken as a current (9/03) average, a peak season average or a year-round average (which is how it is used in the analysis). When *asked to provide actual data on the volumes of containers landed in Philadelphia versus trucked from NYNJ, the representative of Hamburg-Sud apparently declined on the grounds that it would be "too large an undertaking" per 12/8 DMA memo). The review panel cannot recommend how to improve upon or reduce this type of residual uncertainty associated with data collected via personal interview.*

The panel strongly recommends additional sensitivity analysis, with one scenario perhaps being as drastic as a 50 percent reduction of the estimate. Another approach would use box weights and immersion factors to compute how many boxes would have to leave the ship in NYNJ in order to reduce the draft to an acceptable value for the Delaware River.

DISTRICT RESPONSE: Sensitivity analyses have been completed under a 20% reduction scenario for all benefiting container traffic in lieu of the 50% reduction in existing ECSA trucked traffic as suggested by the Review Panel, as well as under differing trucking cost scenarios. The results are included in the final report (see the Sensitivity Analysis section of the container benefits analysis). Maritime Exchange data for the entire calendar year-2003 (see the revised Attachment 5) indicates that the average Philadelphia arrival draft for vessels in this service was 35.1 feet. Using TPI data found in EGM 02-06 Deep Draft Vessel Operating Costs and assuming 16 tons per TEU, an additional four feet of sailing draft would accommodate approximately 540 additional TEUs. Although these figures are only estimates, they are judged to confirm Hamburg-Sud's observations.

HEADQUARTERS ASSESSMENT: Sensitivity Analyses are discussed in section 11 of the revised report. With a 20% reduction in total container volume (ECSA and ANZ traffic) the average annual net benefits decrease from $3,223,000 to $1,957,000 and the BCR decreases from 1.15 to 1.09. Complete loss of the currently trucked ECSA containers would not drop the BCR below 1.0. Per EGM 02-06 Deep Draft Vessel Operating Costs for a 55,000 DWT 4,000 (TEU) foreign flag containership each foot of draft results in the loading of 140 containers with 16 metric tons per TEU. Therefore, the proposed dredging of the Delaware River Channel an additional five-feet from 40-feet to 45-feet would result in the potential loading of about 700 containers. The containership line estimate of 560 and 112 containers is viewed as a reasonable current approximation with potential to grow based on past increases in container traffic volumes. The concern **is resolved.**

Comment [DJM1]: FYI, we are now reporting these numbers as 1.2 and 1.1

3.2 ANZ Service

The estimate of 328 containers trucked per week for the ANZ service is explained on page 8 of the Container Benefits document. This explanation is written in the present tense, giving the misleading impression that the service is now operating as described. In fact, the estimates are apparently based on a scenario for a revised service to begin in an unspecified future year. As the text notes "…P & O Nedlloyd estimates, on average, for each vessel call approximately 450 TEU…that would otherwise go directly to Philadelphia are expected to be transported to the Port of NYNJ on a separate service that operates from Manzanillo, Panama." The text goes on to note that 50 of the 450 TEU are expected to be bound for Canada and the remaining 400 TEU would be trucked to Philadelphia. There is no direct source or confirmation of these figures in the documentation. The closest reference is the 12/17/03 DMA memo on the PONL meeting, *which notes "As much as 400 TEU need to make decision about alternative transport to Philadelphia," yet the estimate predates the 12/17 memo.*

HEADQUARTERS ASSESSMENT: The district did not directly respond to the point made by the Review Panel on this issue. However, HQ notes that the tense and text in the report have been corrected to clarify current traffic that is being trucked from NY/NJ to Philadelphia (ECSA trade), current traffic that is shipped by water directly on EBANZ service, and what additional traffic is expected to be trucked in the future without project condition (additional ANZ trade).

Different figures appear elsewhere and confuse the issue.

- *Average volume per call is given as 700.6 boxes on page 1 of the 12/17 DMA memo and as 685 boxes on page 3 of the same memo.*

DISTRICT RESPONSE: The 700.6 is the average calculated from the year-to-date (01Jan03 – 10Dec03) data provided by PONL. The 685 is the number PONL used in the discussion. These closely match and provide confirmatory evidence for one another. Since the 700.6 was actual landed volume data, this was used in the analysis. The report presentation has been revised to clarify the volume per call (see Section 7 Container Benefits-Existing Conditions: ANZ to ECUSA Service).

HEADQUARTERS ASSESSMENT: The revised text and response **resolves the concern.**

- *The 8/26/03 DMA memo on PONL states (p. 2-3) "Under with-project conditions, the container ships on this service could arrive at Philadelphia with an additional 200 boxes per week for Philadelphia and another 250 boxes per week bound for Europe. Eventually, the 250 boxes bound for Europe would be replaced with boxes from the Pacific destined for Philadelphia…"*

- *The external panel believes that the source of the analysis figures should be documented and the various volume figures reconciled.*

DISTRICT RESPONSE: As per the 12Jan04 teleconference, the final report has been revised to fully identify data sources and to identify assumptions, estimates, and actual figures (see Section 7 Container Benefits-Existing Conditions: ANZ to ECUSA Service).

HEADQUARTERS ASSESSMENT: The above referenced Section 7 contains the revised with and without project conditions and container volume documentation and identifies the source of the information. The concern **is resolved.**

3.3 Conversion Factors

It is far preferable to obtain volume estimates in containers rather than TEU. Thus, the conversions between tons, TEU and containers remain a source of uncertainty, and a potential source of unreliability and error.

- *The conversion of 112 TEU to 70 containers for the ECSA trade is credited to the contact from Hamburg-Sud, but does not appear in any documentation provided to date. The implied conversion rate is 0.625 boxes per TEU, equivalent to a 60 percent/40 percent mix of 40-foot and 20-foot containers. As noted elsewhere, the representative from Hamburg-Sud declined to provide actual data.*

The conversion of 400 TEU to 328 containers for the ANZ trade was based on a ratio of 0.82. This ratio was based on tonnage and TEU data for Packer Ave. and was reportedly confirmed by PONL (although documentation is missing). A ratio of 0.82 TEU/container implies a 22 percent/78 percent mix of 40-foot and 20-foot containers. The PONL data given in the 12/17 DMA memo, however, yield a mix of 33 percent/67 percent 40-foot and 20-foot, and a ratio of 0.6 TEU/container. Using that ratio, 400 TEU would be 240 containers. Reducing the estimate of 328 weekly containers to 240 would reduce the estimated container benefits from $6,443,963 to $5,034,555. (This is independent of reducing the port cost differential from $308 to $258. The combined impact would cut the benefits to $4,228,555.)

DISTRICT RESPONSE: The TEU ratio for the discharged full boxes, including non-reefer boxes, is 0.75 based on the data provided on 17Dec03 by PONL (see Attachment 5 for documentation). As per the 12Jan04 teleconference, the appropriate TEU ratio is 0.82, cited above, which is the ratio for reefer boxes. No revision to the benefits is required

HEADQUARTERS ASSESSMENT: The district used the conversion rate applicable to reefer (refrigerated) boxes on each separate trade route**.** The concern **is resolved.**

- *The memos indicate that the cargo being trucked is predominantly produce. The appropriate TEU/box conversion ratios should reflect the mix of 40-foot and 20-foot containers used to transport produce in the ECSA and ANZ trades, regardless of the overall ratio at Packer Ave. or elsewhere. The customers who receive the cargo would be a likely source of this information.*

DISTRICT RESPONSE: In the without project condition, the trucked cargo will predominately be Australian meat (see Attachment 5, USDA Data Memo.doc on subject, from January 7, 2004 and Section 7 Container Benefits-Without project Condition: ANZ to ECUSA Service).

HEADQUARTERS ASSESSMENT: In the current without condition the only boxes being unloaded in NY/NJ are from ECSA. As the container volume for meat imports continues to increase from current levels to future levels after proposed deepening in 2009, the ECSA would account for 18% and the ANZ meat imports would account for 82%. The concern **is resolved.**

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4. The Incidence and Sustainability of the Extra Costs for Trucking Cargo Down From NYNJ Remain Uncertain

The case for sustainability of the trucking scenario depends in part on the alleged, but undocumented, willingness of the customers to pay the cost. There is no indication that any customers have paid the extra cost of ECSA trucking to date, or that they would be willing to bear the far greater cost of the future ANZ trucking scenario. The 12/8 DMA memo on the Hamburg-Sud contact notes that, "the cost was probably not passed on to the customer." The DMA memo on customer interviews does not indicate that the question was asked. The discussions of potential negotiated charges (Container Benefits p. 6, 12/8 PONL memo page 2) appear speculative.

Although, as noted elsewhere, the volume estimates remain problematical, the container volumes presented (70 containers for the ECSA service, 328 containers for the ANZ service) entail a 468 percent increase in the amount (and cost) of cargo diversion to NYNJ. In the absence of thorough documentation for any current trucking operation, it does not appear safe to "bootstrap" a sustainability argument for a future five-fold increase as is done on page 10 of the Container Benefits document.

The reasonableness of the trade trucking scenarios for the without-project condition rests on the willingness of either the carriers or their customers to incur costs of approximately $6 million annually for the indefinite future.

- *There is no indication that customers are paying the higher costs on a box-by-box basis, and the benefits analysis argues that the carriers would negotiate a higher rate covering all the affected cargo in the trades. If the customers would be willing to negotiate a sufficiently higher rate for all the cargo at stake, the carriers would then be able to provide substitute service via NYNJ and cover the cost from the added revenue. The Attachment 5 notes from the customer interviews, however, are silent on this issue. Moreover, individual carriers within the VSAs would need to negotiate such an increase with individual contract customers, unless it can be shown that the customers are in fact paying tariff rates published by the relevant conferences in the ECSA and ANZ trades.*

- *If the customers are not willing to pay the higher price, then the carriers will be forced to choose between incurring additional costs of roughly $1 million annually in the ECSA trade and $5 million annually in the ANZ trade with current port rotations and transshipment practices, or changing the rotations and transshipment practices to minimize the excess cost. While the report offers general arguments regarding carrier reluctance to make changes, the magnitude of the extra cost and the record of the carriers in making such changes in the recent past create some doubt as to their actual response to the without-project condition.*

DISTRICT RESPONSE: A detailed analysis has been conducted concerning the magnitude of additional costs under a set of potential without-project conditions (see discussion in Section 7 Container Benefits-Without-Project Conditions: ANZ – ECUSA Service). The alternative without-project condition analysis was reviewed and agreed upon by PONL (see Attachment 5 for documentation). This analysis has determined that the additional costs under the selected without-project condition are less than 12% of total transportation costs and that this expected without-project condition is the least cost long-term alternative for delivery of the goods in question to the Philadelphia area warehouses.

HEADQUARTERS ASSESSMENT: The additional costs of trucking from NY/NJ is less than 12% of the full origin to destination costs. Also the trucking costs only apply to a partial shipload. The economic justification (excess of benefits over cost) is dependent upon port service decisions of several shipping lines that have entered into containership slot sharing agreements for the ships that would benefit from channel deepening. Of the alternatives considered, the existing and assumed future port rotations, ship sizes, and shipping modes (water and land combinations in some instances) represent the least cost alternative to the carriers who determine the port rotation and service frequency schedule. The concern **is resolved.**

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5. Underlying Support for the ANZ Container Benefits Remains Weak

As currently written, the report ignores a critical issue. On page 10 of the Container Benefits document, the text refers to "extensive discussions" held with PONL representatives regarding alternatives to the NYNJ trucking scenario. The information provided there is largely beside the point, as there is no explanation of why the separate service from Manzanillo could not add a Philadelphia call, especially when the cost of the trucking scenario is over $5 million per year (as noted above). The only justification given for the trucking scenario is as follows:

> *"The underlying rationale that explains the sustainability of this benefit estimation is the same rationale that explains sustainability of benefits for the ECSA to ECUSA service."*

This statement, however, must be considered in the light of notable differences between the two situations.

- *One part of the rationale for sustainability of the ECSA-ECUSA trucking scenario is that it is only a small part of the customer's cargo volume. The estimated ANZ trucking volume and cost, however, would be almost five times greater.*

DISTRICT RESPONSE: For the ANZ-ECUSA service under without-project conditions, 328 containers per week are expected to be landed at the Port of NYNJ and trucked to Philadelphia area warehouses (see Section 7 Container Benefits-Without Project Conditions: ANZ to ECUSA Service). Under with-project conditions (see Section 7 Container Benefits-With Project Conditions: ANZ to ECUSA Service), 902 containers per week would be landed at Philadelphia, indicating that approximately one-third of the Philadelphia-bound cargo would be trucked under the without-project condition.

HEADQUARTERS ASSESSMENT: The previous editions did not clarify the containership with and without project analysis. It was unclear as to how the 328 ANZ containers would be transported to New York. The revised description of the transportation links for this cargo clarifies the without project container movements from NY/NJ as operationally feasible. The concern **is resolved.**

- *The ECSA trucking reportedly occurs at present (although, as noted elsewhere, this is not documented). The ANZ trucking does not, and it has yet to be shown as either operationally or commercially feasible.*

DISTRICT RESPONSE: The without-project condition cost analysis cited above (see discussion in Section 7 Container Benefits-With-Project Conditions: ANZ – ECUSA Service) verified that trucking goods from New York are both commercially and operationally feasible. In addition, an analysis of commodity values (see discussion in Section 7 Container Benefits-With-Project Conditions: ANZ – ECUSA Service and USDA Data Memo.doc in Attachment 5) determined that the additional costs of trucking boxes from New York to Philadelphia are small relative to the value of the goods being transported.

HEADQUARTERS ASSESSMENT: The revised description of the transportation links for this cargo clarifies the without project container movements from NY/NJ as operationally feasible. The concern **is resolved.**

Moreover, the contention that alternative service by unrestricted vessels is impractical is seemingly contradicted by the next sentence:

> *"Similarly, it is anticipated that future growth in Philadelphia-bound cargo tonnage…would be handled by smaller vessels unconstrained by (?) without project channel depths."*

DISTRICT RESPONSE: The assumption that future growth in Philadelphia-bound cargo would be handled on smaller unconstrained vessels was used in the draft report analysis as a conservative assumption to preclude future growth in cargo volumes from the benefits estimate. In the final report, the statement cited above by the reviewers has been removed from the text and the text has been modified to clarify that future growth in commodity volume is expected, however, identification of the vessels that would be used to deliver that volume would be speculative. As a result, the analysis conservatively does not include growth in trade from the pool of potentially benefiting cargo (see discussions in Section 7 Container Benefits-Future Without project Conditions and Container Benefits- Future With Project Conditions).

Containership benefits do not include additional benefits that would be expected from future growth in commodity volumes, and therefore are considered conservative benefit estimates. Imports from Australia have grown by 64% between 1998 and 2002 and continued growth is expected, especially given new trade agreements. The containerships in the ANZ-ECUSA and ECSA-ECUSA services are currently working at or near capacity, therefore additional commodity volumes would require additional resources. The carriers have claimed in recent interviews that vessels larger than the ships currently in these services are expected to be used to accommodate expected growth in commodity volumes, however, given the newness of the existing services and the level of uncertainty associated with identification of future vessels, the analysis is based only on the existing fleet and does not include growth in commodity volumes during the study period.

HEADQUARTERS ASSESSMENT: In the final report, the statement cited above by the reviewers has been removed from the text and the text has been modified to clarify that future growth in commodity volume is expected. Note that the containership benefits do not include additional benefits that would be expected from future growth in commodity volumes beyond the project base year. The concern **is resolved.**

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In the 12/17/03 DMA memo on the PONL interview, it appears that the PONL representatives apparently confused ANZ (the trade) with ANZL (the carrier) in response to question 6.

> *"Provide an explanation for why the excess boxes that cannot be carried on the ANZ service are being transported from Manzanillo to New York, and not Philadelphia. What would be the cost differential for the service if it called at Philadelphia instead of New York?"*

The carrier representatives thus did not answer this most critical question, and have not explained why they would shift Philadelphia-bound cargo to a service that bypassed Philadelphia in favor of a costly trucking operation without considering a Philadelphia call.

DISTRICT RESPONSE: This issue is fully addressed in the without-project cost analysis (see discussion in Section 7 Container Benefits-With-Project Conditions: ANZ – ECUSA Service) and was confirmed by PONL's review of the alternative without-project conditions analysis (see Attachment 5 for documentation)

HEADQUARTERS ASSESSMENT: The current without project total transport cost analysis on Table 9 in Section 7 shows the currently adopted without project scenario as having the least weekly and annual costs. The concern **is resolved.**

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The validity of the $5,322,843 in estimated benefits for the ANZ service thus continues to rest on fragile arguments.

DISTRICT RESPONSE: The revised report includes additional information including a without-project cost analysis and the cargo value analysis, which supports the expected without-project condition (see Sections 7 Container Benefits-Without Project Conditions: ANZ to ECUSA Service and Container Benefits-With Project Conditions: ANZ to ECUSA Service). The benefit for the ANZ trade route has been finalized at $5,185,000.

HEADQUARTERS ASSESSMENT: The district has run several reasonableness tests on the ANZ to ECUSA benefits. The district has established a strong potential for this benefit that is consistent with the increases in the volumes of container traffic and the new ship building trends for containerships that serve major market like the Philadelphia area. The concern **is resolved.**

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6. Descriptions of Current and Expected Container Services Need Clarification and Support

Due perhaps to successive revisions of the report materials, the discussion of past, current and future container vessel services is difficult to follow or comprehend. The report would benefit from a clear exposition of the relevant services, vessel strings, and port rotations. Tabular or graphic presentations would be helpful.

DISTRICT RESPONSE: The revised report includes a tabular presentation (see Tables 6 and 7) that describes the relevant services, vessel strings, and port rotations. In addition, the without-project condition cost analysis (see discussion in Section 7 Container Benefits-With-Project Conditions: ANZ – ECUSA Service) identifies and assesses alternative without-project condition scenarios for the ANZ-ECUSA service, which are then evaluated and determined to be more costly.

HEADQUARTERS ASSESSMENT: The revised report has been expanded to reflect the needed information on containership services, vessel sizes, and port rotations. The concern **is resolved.**

6.1 ESCA Service

There are apparently two relevant ECSA-ECUSA services: the primary service calling Philadelphia with 3,739 TEU vessels ("Sling 1"), and an overlapping service using 2,442 TEU vessels ("Sling 2").

The 41-foot draft Sling 1 vessels arrive NYNJ at sailing drafts of up to 40 feet, but are limited to 37 feet at Philadelphia (although the 42-foot draft ANZ service vessels arrive Philadelphia at sailing drafts of up to 40 feet). Although the text refers to arrivals through October 2003, Tables 5-3 and 5-4 continue to show arrival data only through July.

Due to the draft limit in the Delaware River, the Sling 1 vessels reportedly offload an average of 70 Philadelphia-bound containers at NYNJ. These containers are then reportedly trucked to Philadelphia at an estimated annual cost of $1,121,120.

The reasons why the additional Philadelphia-bound containers are not carried on Sling 2 vessels are based on the existing Sling 2 port rotation, and on the costs and difficulty of transshipment. Given the changes to vessel rotations already exhibited in the trade, however, these do not seem like strong arguments. The report materials also argue that establishment of new services with unrestricted vessels is unlikely, but this point appears irrelevant when the Sling 2 service already exists. Moreover, the inability of Sling 2 to accommodate additional Philadelphia cargo contradicts the study assumption that cargo growth would be carried on unrestricted vessels for the foreseeable future.

DISTRICT RESPONSE: The text has been modified to include an expanded discussion concerning existing conditions (see Section 7 Container Benefits-Existing Conditions: ECSA – ECUSA Service). According to the carriers, the port rotation schedules were designed to generate as many direct calls as possible. These port rotation schedules for the two services were developed as a compromise among the 10 carriers that share slots on these services. The port rotation schedules are based upon the needs of the carriers, vessel capacity and size, and port capacities. The carriers stated that modifying the port rotation schedule would be very difficult and is not considered a feasible alternative, especially in response to a single factor such as the small volume of boxes that needs to be trucked from NY to Philadelphia.

The port rotation schedule change "already exhibited in the trade" was a switch in rotation between Philadelphia and New York. Of all the potential port rotation schedule changes on these services, this change is the smallest possible change, because of the short distance between the two ports and the landside transportation option between New York and Philadelphia. Other ports on these services are much farther apart and cannot be substituted for one another with the same ease as Philadelphia and New York.

In addition, the only port the vessels on these services have in common is Santos, BZ, (see Table 6) which is not a viable transshipment port. The smaller vessels do not call at southern Brazil or Argentina at all. The two services call at different terminals at Santos. The carrier estimates transshipment costs to be between $300 and $400 per box, but more troubling (for the carrier) is the uncertainty and timing problems that transshipment at Santos would introduce. As a result, the carrier does not consider transshipment at Santos a viable alternative to trucking boxes from New York to Philadelphia. Finally, the smaller vessels on the Sling 2 (Samba) service have far fewer reefer slots (180-320), as compared to the Sling 1 (Tango) service (800).

HEADQUARTERS ASSESSMENT: The small volume of boxes (70) on the ECSA service that needs to be trucked weekly from NY to Philadelphia makes modifying the port rotation schedule not feasible. The concern **is resolved.**

6.2 ANZ Service

The ANZ trade likewise involves two services: the primary "RTW" service, calling Philadelphia with 42-foot draft vessels of 4,112 TEU and a secondary service calling NYNJ with 3000 TEU vessels from Manzanillo, Panama. The 4,112 TEU vessels are currently arriving Philadelphia at depths of up to 40 feet.

Due to the draft restrictions in the Delaware River, at some unspecified future date it is expected that about 369 weekly containers otherwise bound for Philadelphia would be transported to NYNJ instead or a separate service that operates from Manzanillo. About 328 of those boxes would be trucked down to Philadelphia customers.

DISTRICT RESPONSE: Noted, no response required.

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7. ***Some Report Contentions are not Supported by the Documentation - The Final Report Documentation Could be Improved by Filling in Apparent Gaps***

- *Page 3 of the Container Benefits states that "The carriers concur with the finding of the landside cost analysis with a single exception." That concurrence is not reflected or documented in Attachment 5.*

DISTRICT RESPONSE: Attachment 6 was sent to the carriers for their confirmation and their responses have been added to the report documentation (see Section 7 Container Benefits-Landside Transportation Cost Analysis). Confirmation from Hamburg-Sud was received on 27 January 2004 and from PONL on 17Feb04 (see EMail and Correspondence Record for Del R Supplemental Report.doc).

HEADQUARTERS ASSESSMENT: The most recent confirmation received by the shipping lines **resolves the concern.**

- *Attachment 6 states, on page 2, that the port fees analysis "was presented to and confirmed by representatives of Hamburg-Sud and P & O Nedlloyd (documentation is included in Attachment 5)." Attachment 5 actually indicates that the carrier representatives cited lower port fee differentials and does not indicate confirmation.*

DISTRICT RESPONSE: See response directly above.

HEADQUARTERS ASSESSMENT: The most recent confirmation received by the shipping lines **resolves the concern.**

- *Page 5 of Container Benefits states*

"None of the carriers or warehouse operators interviewed for this analysis expects significant refrigerated warehouse development in the Port of NYNJ in the future, or believed that the additional trucking costs being incurred provided a sufficient financial incentive to shift back to the New York region."

There is no indication in Attachment 5 that trucking costs were discussed with the warehouse operators.

DISTRICT RESPONSE: Warehouse operators were asked about trucking costs but were not able to provide quantifiable information on this specific topic. Discussions with the warehouse operators focused on operational issues and the overall feasibility of trucking refrigerated goods from New York to Philadelphia.

HEADQUARTERS ASSESSMENT: Discussions with the warehouse operators provided input on operational issues and the rationale for trucking refrigerated goods from New York to Philadelphia. The concern **is resolved.**

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- *Page 7 of Container Benefits discusses July-October, 2003 sailing draft data, but the data presented in Attachment 5 only go through July.*

DISTRICT RESPONSE: The initial data for the time period July-October 2003, provided by the Maritime Exchange, did not provide consistent sailing draft data, therefore it could not be used to confirm or deny patterns identified in the previous data set. The revised benefits analysis contains newly obtained Maritime Exchange data for the entire calendar year 2003, that include the full set of arrival draft data (see Attachment 5, which presents the full set of arrival draft data). This data verifies that deeper sailing drafts than originally anticipated in the December 2002 report continue to be common practice.

HEADQUARTERS ASSESSMENT: The revised benefits analysis contains newly obtained Maritime Exchange data for the entire calendar year 2003. The concern **is resolved.**

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- *The 8/26/03 DMA memo on PONL states that the carriers expect to reroute some Midwest-bound cargo from Philadelphia to the west coast. This step would increase the vessel space available for Philadelphia-bound cargo and reduce the need to truck containers down from NYNJ. The existing analysis does not take this issue into account.*

DISTRICT RESPONSE: The analysis does take this increase in available vessel-space into account. The document has been revised to clarify this issue (see Section 7 Container Benefits-With-Project Conditions ANZ-ECUSA Service).

HEADQUARTERS ASSESSMENT: The analysis described in Section 7 does take this increase in available vessel-space into account. The concern **is resolved.**

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- *The 9/8/03 email from the representative of Hamburg-Sud to DMA states that he had "reviewed the notes and edited/commented where required." These edits/comments do not appear in the report documentation.*

DISTRICT RESPONSE: The full text of Hamburg-Sud's response has been added to the report backup documentation (EMail and Correspondence Record for Del R Supplemental Report.doc) and is summarized in Attachment 5).

HEADQUARTERS ASSESSMENT: The full text of Hanburg-Sud's response has been added to the report documentation provided subsequently to the district, division and headquarters by the district consultant (DMA) (see EMail and Correspondence Record for Del R Supplemental Report.doc and summary in Attachment 5).). The concern **is resolved.**

- *The 12/17/03 DMA memo on the PONL interview states that PONL provided YTD "summations" of the container volume data. Only Parker Ave. totals are presented. What data were provided?*

DISTRICT RESPONSE: The summary table of year-to-date container activity at Packer Ave for the ANZ-ECUSA service was provided by PONL and has been added to the report documentation (see Attachment 5).

HEADQUARTERS ASSESSMENT: The documentation in Attachment 5 includes year-to-date container activity. The concern **is resolved.**

- *The memo states that, "PONL is currently reviewing the port fee analysis." Has that analysis been completed? What did they conclude?*

DISTRICT RESPONSE: PONL has reviewed and concurred with the port fee analysis. Concurrence was received 17Feb04. In addition to this concurrence, confirmation from Hamburg-Sud was received on 27 January 2004 (see documentation in EMail and Correspondence Record for Del R Supplemental Report.doc and summary in Attachment 5).

HEADQUARTERS ASSESSMENT: The confirmation has been received. The concern **is resolved.**

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8. Summary Conclusions

The revised benefits analysis reflects extensive improvements made by the study team through a cooperative and productive iterative process with the review panel. The majority of the benefits analysis now appears to be sound, well supported and a reasonable basis for a decision by the Corps. The estimates of the benefits from lightering, tanker operations and bulk vessel operations appear to be based on the best available information, developed using appropriate methods and adequately documented.

Despite the considerable efforts of the study team, however, significant uncertainties remain in the container benefits. The benefiting container services include just two consortia or vessel sharing agreements, one in the ECSA-ECUSA trade and one in the ANZ-ECUSA trade, with overlapping carrier membership. The reliance of the container benefits estimate on such a small number of participants necessarily introduces a degree of uncertainty regarding their individual policies and future actions. This uncertainty is illustrated by the changes in vessel rotations and port calls made in the last year, between the initial and revised benefits analyses.

The estimate of benefits accruing to the ANZ-ECUSA trade is the greatest source of residual uncertainty. The without-project scenario for the ANZ-ECUSA trade is based on opinions and estimates obtained in discussions with carrier representatives. This without-project scenario represents a significant departure from existing services, and entails roughly $5 million in annual costs to the carriers and/or customers involved. The analysis to date does not demonstrate that the trucking scenario is a least-cost, long-term solution to the challenges of without-project cargo flows. The realism and amount of the project benefits from avoiding the without-project scenario costs are therefore still uncertain.

DISTRICT RESPONSE: As discussed in the above responses, the revised report has fully addressed the outstanding issues identified by PMCL in this memorandum.

HEADQUARTERS ASSESSMENT: The review panel articulated uncertainties about container traffic benefits, and the Philadelphia District has revised the containership reanalysis in order to more clearly describe the data sources, assumptions, analyses and conclusions. The final report reflects the dynamic character of the overseas shipping line port service patterns that reflect the significant increases in container volumes and corresponding increases in containership sizes. The benefits are based upon the least cost alternative given current and anticipated future port rotation practices. The benefits do not incorporate the substantial future growth potential for the containership volume beyond the project base year and the accelerated rate that ever larger containerships are serving major markets and ports like Philadelphia area. The concern **is resolved.**

Signed Signed
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Headquarters Review Team
Office of Water Project Review
Directorate of Civil Works