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**Evaluation of the Central Contraceptive
Procurement Project (936-3018)
Matrix International Logistics, Inc.**

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Glossary

A.I.D.	U.S. Agency for International Development
AIDS	acquired immunodeficiency syndrome
AMIZA	a cargo handling agent in Zaire
ANE	Bureau for Asia and the Near East (A.I.D.)
APR	Bureau for Asia and Private Enterprise (A.I.D.)
CA	A.I.D. Cooperating Agency
CDA	connaissancement direct aller, a term for through bill of lading (used between Matadi and Kinshasa for through service)
CDC	Centers for Disease Control
Copper-T	a type of intrauterine device
CMS	commodity management specialist
CPSD	Commodities and Program Support Division, S&T/POP
CPT	contraceptive procurement table
CTO	cognizant technical officer
DHL	an international air courier company
DOD	U.S. Department of Defense
EC	European Community
ENE	Bureau for Europe and the Near East (A.I.D.)
FAR	Federal Acquisition Regulations
FHI	Family Health International
FPIA	Family Planning International Assistance
FPLM	Family Planning Logistics Management (project)
FSN	Foreign service national
GPA	Global Programme on AIDS (WHO)
GSA	General Services Administration
IPPF	International Planned Parenthood Federation
IUD	intrauterine device
JSI	John Snow, Inc.
LAC	Bureau for Latin America and the Caribbean (A.I.D.)
MARAD	Maritime Administration, U.S. Department of Transportation
NAP	national AIDS programs
NEWVERN	the CPSD automated order processing and financial tracking system
NGO	non-governmental organization
PIO/C	project implementation order/commodity
PROFAMILIA	family planning organization in Colombia
PSC	personal services contract
PSI	Population Services International
REDSO	Regional Economic Development Services Office
S&T/POP	Bureau for Science and Technology/Office of Population (A.I.D.)
SCAC	SCAC Transport, Inc., a freight forwarding company
SOCOPAO	a freight forwarding and cargo handling agent with offices in Zaire, subsidiary company of SCAC
SOMARC	Social Marketing for Change (project)
U.S.	United States
UMATI	Uzazi Na Malezi Bora Tanzania, (Tanzania's family planning organization)
UNFPA	United Nations Population Fund

UNICEF
UNIPAC
USAID
UTA
WHO

United Nations Children's Fund
UNICEF's commodity services operation
U.S. Agency for International Development (missions)
Union de Transports Aeriens, a French airline
World Health Organization

Executive Summary

Project Background

The U.S. Agency for International Development (A.I.D.) Office of Population has provided contraceptive commodities to family planning and AIDS prevention programs for over two decades. These commodities originate at seven manufacturing plants located in the U.S. and Puerto Rico, and are shipped to approximately 125 public and private institutions in 72 countries. Before its contract with Matrix, A.I.D. used three separate agreements to obtain these services: an interagency agreement with the General Services Administration (GSA), a cooperative agreement with Family Planning International Assistance (FPIA), and a contract under the Family Planning Logistics Management (FPLM) I project with John Snow, Inc. (JSI).

An Inspector General audit during 1989 found fault with the proliferation and duplication of freight forwarding services, and that S&T/POP/CPSD¹ had lost control of a service that was critical to missions and family planning programs. The audit cited excessive and aging contraceptive supplies in the warehouses, and shipping procedures that resulted in lost and delayed shipments. The audit concluded that increased demands threatened A.I.D.'s already questionable ability to deliver contraceptive commodities efficiently to most of the world.

Prior to release of the audit, A.I.D. had competitively solicited a contract with a single transportation company to provide worldwide freight forwarding and warehousing services. A.I.D. awarded a contract to Matrix International Logistics, Inc., under the Central Contraceptive Procurement Project (936-3018) for two years with an option to renew annually for up to three additional years. The A.I.D. objective supported by this contract is the effective management of contraceptive commodities, the assurance of their availability when and where needed, the prevention of their misuse or loss, and the avoidance of waste and inefficiency in their supply. The contract was awarded on September 21, 1989, and the first shipment of commodities went out on January 16, 1990.

Since the beginning of the contract, annual freight costs have averaged about \$3.9 million per year. Savings by A.I.D. in direct costs and other transportation-related costs have been about \$1.1 million annually.

Overview of the Evaluation

The major focus of the evaluation was to assess the appropriateness, quality, timeliness, and cost-effectiveness of the services rendered under the Matrix contract. The evaluation reviewed Matrix's capacity to manage A.I.D.'s contraceptive warehousing and freight forwarding, its ability to provide information processing and communications support services, the capability of Matrix personnel dedicated to the contract, and Matrix's contribution to improving A.I.D.'s contraceptive commodities support program.

The evaluation was also to determine whether A.I.D. and program interests have been best served through a contract with a single freight forwarding agent. Assessment of benefits from a contract

¹A.I.D. Bureau for Science and Technology, Office of Population, Commodities and Program Support Division.

with a single freight forwarder required review of the services provided, satisfaction of users and customers, and costs involved.

The evaluation team concluded that it has been to A.I.D.'s advantage to consolidate contraceptive shipping and warehousing responsibilities into a single contract, in terms of management, quality of services to field programs, and overall transportation costs. The cost savings that have been achieved have helped maintain ocean and air unit costs at 1987 levels. The evaluation team assessed the design of the current contract, and concluded that a similar contract design should be utilized again for A.I.D. contraceptive transportation services in the future.

Assessment of Matrix Performance

Overall, Matrix has been extremely effective as a freight forwarder for A.I.D., and has positioned itself for continuing improvement in the manner in which it has performed its mission since the start of the project. Matrix has received strong support in questionnaire responses and in interviews with mission personnel and A.I.D. Cooperating Agencies (CA).

A.I.D. has achieved a high level of service using Matrix services. Transit and transfer times for both air and surface transportation show that Matrix has, for the most part, moved A.I.D. shipments expeditiously between the pickup point at supplier or warehouse locations and the destination port of entry.

Preparation of correct shipping documents has been important in clearing shipments through customs. Missions, donor agencies, CAs, and Matrix staff all emphasized the attention and effort necessary to adapt shipping documents to the requirements of each shipment. These requirements differ from country to country and from recipient to recipient within a country. In some cases, review and approval of documentation by recipient country officials at consulates in the U.S. is required before the shipment leaves the U.S. This process can cause delays of up to a month.

The predominant single comment in telephone interviews with mission personnel and CAs centered on the responsiveness of Matrix staff. Many informants began and ended the interview by emphasizing this point. Informants described past problems in order to emphasize quick action on the part of Matrix. CAs, especially Population Services International (PSI) and The Futures Group (SOMARC), were particularly expressive on this issue, providing anecdotes on how Matrix staff had saved USAID tens of thousands of dollars in demurrage charges or acted in time to prevent threatened incarceration of staff. A JSI/FPLM informant in Bangladesh, the largest recipient country, gave the highest possible ratings to Matrix performance and responsiveness. CAs used adjectives such as "phenomenal" and "amazing" to describe Matrix performance in response to unpredicted contraceptive requirements and cancellation of shipments already under way.

Project Management

Management of this project is important to A.I.D.'s management of its overall contraceptive procurement program. The project's impact extends beyond the distribution and delivery of products to providing a foundation for a complex worldwide logistics management system. This system involves six suppliers, four contraceptive methods, two federal agencies, a number of private cooperating agencies and technical assistance contractors, and USAID missions and representatives around the world. Thus, the transportation contractor's flexibility, adaptability, and responsiveness are important to the proper functioning of the overall logistics system.

This relatively small contract calls for a small, close-knit contractor team that is dedicated to ensuring that A.I.D.'s requirements are met at a high level of service and at costs that reflect effective and efficient operations. The Matrix team has managed the contract capably, has emphasized communications with the field and with suppliers, has responded to field needs, and, as a result of low staff turnover, has gained significant experience in handling the specialized shipping needs of A.I.D. contraceptive commodities. Matrix's strengths have included active monitoring of shipment progress and responsiveness in adapting to changing requirements, including frequent changes in product pick-up times at suppliers, carrier schedules and space available for booking, and recipient needs.

Although overall responsiveness has characterized Matrix's management, the evaluation team found opportunities for improved integration and coordination of procurement and distribution activities.

Major Concerns

- **The evaluation team sees the need for better communication and interaction between the missions and Matrix/NEWVERN² as a major concern.** Missions have not been well enough informed about the progress and anticipated arrival time of their shipments, and information does not always reach the right person in the mission. NEWVERN-generated information that CPSD routinely sends to missions with projected availability of products is based on an assumption products will be ready for shipment on contractually required shipment dates. Experience indicates, however, that average shipment dates are usually 8 to 11 days after the scheduled shipment dates.

In addition to the need for accurate arrival-date information, there are three other main areas of need in program communications: 1) Users need better briefing on how the transportation system works and what they can expect from it in support of their needs. 2) A responsible individual needs to be identified as a mission or recipient contact for transportation messages, questions, and actions needed to keep shipments moving to the recipient. 3) Better ways are needed to ensure that lessons learned are incorporated into the constant improvement of transportation system performance.

- **Given the constant change in production directives, the lack of existing contractual incentives for manufacturers to make product items ready for shipment on time, and a failure to coordinate changing availability times in advance, the pickup process under this contract has been erratic.** The task of the transportation contractor is made more difficult and expensive by the unwillingness of contraceptive suppliers to commit to definite times for product availability for shipment. Today, nearly all shipments are planned for the end of the month. Under the existing process, suppliers do not provide firm estimates of product availability for shipment even as short a time as 10 days in advance. Both end-of-the-month pickup and lack of firm availability estimates are unnecessary, add to transportation costs, and prevent the freight contractor from planning consolidations, routings, and transit times in advance.

- **Facilitation of customs clearance needs to be identified as a key future concern.** Rapid customs clearance of A.I.D. commodities needs to be routine, without the overly bureaucratic measures that are required today. Facilitation of this process would go beyond the existing requirement for proper customs documentation for individual shipments to include the overall

²NEWVERN is the automated order processing and freight tracking system designed to support the Office of Population's Commodity and Program Support Division (CPSD). NEWVERN is maintained and operated for CPSD by JSI under the FPLM contract.

simplification and streamlining of the customs clearance process for donated contraceptive commodities, as is currently the case with A.I.D.'s Food for Peace Program. This will, of course, require high-level mission involvement at the country level, as well as A.I.D./Washington involvement at the intergovernmental level.

Problems in customs clearance are often further exacerbated by the need to transfer shipments from U.S.- to foreign-flag carriers during transshipment. This transference is often accompanied by documentation changes which are sometimes used by customs at the port of entry as yet another reason to delay shipment clearance. Agents based at each transshipment port would facilitate this process and would also enable the A.I.D.-contracted freight forwarder, and NEWVERN, to provide recipients more reliable information than that currently relayed to Matrix by U.S. carriers.

- **A.I.D.'s ability to manage and modify the transportation contract has been limited by its unfamiliarity with contractor costs, and the absence of a cost basis for structuring fees and evaluating contractor fee levels.** A better understanding of contractor costs would enable A.I.D. to develop its own guidelines for structuring fees and evaluating fee levels.
- **A.I.D. management of the project has also been encumbered by an excessive need to review paperwork and vouchers.** This can be addressed through procedural simplification and automation of the audit and verification process.

Major Recommendations

Current Contract

1. **Data for each country on achieved transit times should be reviewed to set standards for planned air/surface transit times for each mission, and a monitoring system should be set up by Matrix to review and report on performance.** These standards and performance reports should be in a format and medium that is useful to missions. This should be done in an environment that expects continuing improvement. A.I.D. contraceptive transportation should set the standard for the best available service.
2. **A.I.D. should encourage more direct interaction between key Matrix personnel and A.I.D. mission and recipient personnel, and should work with Matrix to develop a user guide to contraceptive transportation support services that would serve as a reference handbook.** This would help ensure better active communication between the missions and Matrix/NEWVERN, and would encourage the development of approaches that make it as easy as possible for the missions to accept, absorb, confirm, and act on available information about shipment status.
3. **A.I.D. should insist that suppliers provide firm dates and times that product items will be ready for shipment.** Production directive change orders should be controlled, and supplier performance in meeting commitment dates should be monitored. Planned shipment dates should be staggered through the month. Final estimates of product availability times should be transmitted to Matrix 10 days before shipment. Failure of suppliers to meet shipment dates should be cause for A.I.D. and supplier joint management attention or contractual discipline.
4. **The issue of facilitation of customs clearance needs to be identified as a key issue in making rapid clearance and simplified documentation routine, without the need for the often excruciating**

measures that are required today. A.I.D. should undertake a broad effort to work on customs facilitation.

Future Contract Design

1. **To the extent possible, the future system should be made "transparent" to the missions, designed for minimum effort on their part. Information should be delivered in a form that is as easy as possible for its customers (missions and host-country recipients) to accept.**
2. **A.I.D. policy should support shifting routine management and review tasks to the freight contractor and CAs; A.I.D. management should concentrate on policy and audit issues. Unnecessary paperwork and reports, as well as unnecessary copies of reports, should be eliminated. Process mapping and systems (including NEWVERN) will continue to require development to accomplish this.**
3. **The approach taken in the current contract — services consolidated in one locus of responsibility — should continue to be the basic approach to assure the best service and the best price for the service.**
4. **A future contract should be awarded for a five-year period, rather than annually. The need to develop specialized expertise and knowledge of A.I.D. shipping, customs clearance, and documentation requires development of an institutional memory in the contractor. Experience under the current contract suggests that six to eight months are required for contractor staff to gain familiarity with A.I.D.'s special requirements, particularly the customs clearance requirements of the large number of developing countries involved in this project. Changing contractors frequently denies A.I.D. the benefits of contractor experience. Allowable cost-escalation clauses should be developed based on semi-annual review, so that a mechanism can be developed for extending the contract beyond its initial term.**
5. **The mode of contracting that should be considered to be most advantageous from a technical and cost point of view is a hybrid one, with a requirement for fixed prices on major transportation origin-destination pairs, and with cost-reimbursable and fee-based compensation for defined contract services. The system of fixed rates for 20 leading destinations has worked well and to A.I.D.'s advantage. The benefits of this system should be continued in any future contract, if carriers are willing to continue to negotiate fixed two-year rates with prospective bidders on the A.I.D. contraceptive transportation contract. In addition, prospective contractors should be encouraged to develop a simplified rate structure through adoption of zone rates from areas of the United States to destination regions.**
6. **To the extent possible, service and shipment-tracking coverage should be door-to-door. Plans should be developed in conjunction with missions and CAs to move in this direction. Door-to-door, or through service, has the advantages of greater monitoring and control of shipments, more opportunities for consolidation, and better tracking of costs and transit times. Use of a single customs clearance agent for multi-recipient consolidations should be tested, but only with mission guidance. Door-to-port service should be considered less preferable, but will in many cases be the best level achievable.**
7. **The A.I.D. freight forwarder should subcontract for agent services in each transshipment port to monitor transshipment. These agents would be responsible for faxing the freight forwarder**

confirmation on the final-leg vessel, revised arrival date, local clearing agent, and container and seal numbers.

8. **A.I.D. should continue to advocate for a better understanding of contractor costs and develop its own guidelines for structuring fees and evaluating fee levels.** Critical to the success of the next contract will be a well-constructed solicitation statement of technical requirements and evaluation criteria.

1. Introduction

1.1 Project Background and Scope

Matrix International Logistics, Inc., has a contract with the Office of Population, under the Central Contraceptive Procurement Project (936-3018). The contract was awarded for two years with an option to renew annually for up to three additional years. The contract was awarded on September 21, 1989, and the first shipment of commodities went out on January 16, 1990.

The U.S. Agency for International Development (A.I.D.) Office of Population has provided contraceptive commodities to family planning and AIDS (acquired immunodeficiency syndrome) prevention programs for over two decades. These commodities originate at seven manufacturing plants located in the U.S. and Puerto Rico, and are shipped to approximately 125 public and private institutions in 72 countries. Prior to its contract with Matrix, A.I.D. used three separate agreements to obtain these services: an interagency agreement with the General Services Administration (GSA), a cooperative agreement with Family Planning International Assistance (FPIA), and a contract under the Family Planning Logistics Management (FPLM) I project with John Snow, Inc. (JSI).

An Inspector General audit during 1989 found fault with the proliferation and duplication of freight forwarding services, and that S&T/POP/CPSD¹ had lost control of a service that was critical to missions and programs. The audit reported excessive and aging contraceptive supplies in warehouses, and shipping procedures that resulted in lost and delayed shipments. The audit concluded that increased demands threatened A.I.D.'s already questionable ability to deliver contraceptive commodities efficiently to most of the world. Prior to the audit's release, A.I.D. had competitively awarded a contract to a single transportation company to provide worldwide freight forwarding and warehousing services. Matrix transferred existing warehouse stocks to its warehouse in Alexandria, Virginia, in December 1989, and began acting as S&T/POP/CPSD's single freight forwarder in January 1990.

Since the beginning of the contract, annual freight costs have averaged about \$3.9 million per year. Savings to A.I.D. in direct costs and other transportation-related costs have been about \$1.1 million annually.

1.2 Purpose of Contract

The A.I.D. objective supported by this contract is the effective management of contraceptive commodities, the assurance of their availability when and where needed, the prevention of their misuse or loss, and the avoidance of waste and inefficiency in their supply.

The Matrix contract supports the logistics management service provided by S&T/POP. Logistics management, as noted in the Inspector General's 1989 audit, includes requirement estimating, financial resource allocation, procurement, production scheduling, distribution, storage, inventory control, quality assurance, usage, disposal, loss reporting, system monitoring, and verification.

¹A.I.D. Bureau for Science and Technology, Office of Population, Commodities and Program Support Division.

To support S&T/POP/CPSD in coordinating different activities in the logistics system, a central management information system was developed in 1988 — the NEWVERN system. NEWVERN was originally developed to track the procurement, shipment, storage, and financing of A.I.D.-supplied contraceptives. NEWVERN is implemented and maintained for CPSD by John Snow, Inc. (JSI) under the Family Planning Logistics Management (FPLM) project. The system has been essential to effective CPSD management of the contraceptive procurement program, and to the effective management of the current freight forwarding contract. Since the beginning of 1990, NEWVERN's freight tracking capability has been further developed to support the Matrix contract.

Matrix's contract responsibility extends beyond the successful and efficient moving of freight, with services provided in a number of areas:

Shipping: trucking contraceptive commodities from manufacturers to port of embarkation or the warehouse, ocean or air transport to port of destination, and, in some countries, inland transportation

Warehousing: leasing and managing at least 50,000 cubic feet of storage, insuring warehoused contraceptive commodities against loss or damage

Consolidation: seeking opportunities to consolidate shipments of multiple products to a single consignee via trucking, ocean or air transport

Communications: sending original shipping documents via courier to consignees and other designated recipients, with additional copies to designated recipients, for each shipment

Reporting: maintaining in NEWVERN current shipping information for all shipments through confirmed receipt of product at destination

Trouble-shooting: correcting shipping problems, pursuing claims for lost or damaged shipments, and obtaining release of stalled shipments in port

Disposal: disposal of expired or deteriorated products stored in the warehouse

1.3 Evaluation Approach/Issues

The major focus of the evaluation was to assess the appropriateness, quality, timeliness, and cost-effectiveness of the services rendered under the Matrix contract. The evaluation reviewed Matrix's capacity to manage A.I.D.'s contraceptive warehousing and freight forwarding, Matrix's ability to provide information processing and communications support services, the capability of Matrix's personnel dedicated to this contract, and Matrix's contribution to improving A.I.D.'s contraceptive commodities support program.

The evaluation team was asked to document whether it has been to A.I.D.'s advantage to consolidate contraceptive shipping and warehousing responsibilities into a single contract, in terms of management, quality of services to field programs, and overall transportation costs. The evaluation team was also asked to assess the design of the current contract, and to recommend whether this contract design should be utilized again for similar services or whether there was a more efficient contract design that might be employed.

Other major issues in this assessment include the following:

Responsiveness: capacity to respond to A.I.D., missions, and A.I.D. Cooperating Agencies (CA) in shipping contraceptive orders in a predictable and reliable manner

Consolidation: advantages of consolidating shipments from a central warehouse location

Shipment Tracking: effective tracking and tracing of shipments to improve control, reduce loss, and better predict arrival dates

Information Support: maintenance of a shipping database that would enable both better service and expand S&T/POP's control over freight forwarding

Documentation: ability to comply with varying host-country documentation requirements

1.4 Evaluation Team

The evaluation team consisted of three persons: 1) Raymond Young (team leader), an independent consultant specializing in international transportation planning and management. He is a former deputy assistant secretary for policy and international affairs, U.S. Department of Transportation, and has been an executive of Emery Worldwide. 2) John Logan, who, after a career as a United States Navy officer, served in USAID missions and in Washington for over 19 years. His specialty was port operations and cargo accountability. 3) Clifford Olson, who has provided extensive consulting services to A.I.D. contractors, UNFPA, IPPF, WHO/GPA², and the Population Council in management information services and logistics. These services have been provided in eight countries in Africa, four countries in Asia, and two countries in Latin America.

1.5 Evaluation Methodology

The evaluation included personal interviews, site visits to Matrix and two suppliers, and review of responses to a questionnaire cabled to USAID missions. The evaluation also relied on telephone interviews, document review, and review of source data and report databases maintained by JSI/FPLM and Matrix. The team met with staff from S&T/POP, Matrix, JSI/FPLM, and the A.I.D. Office of Procurement (including Transport).

Prior to the evaluation, S&T/POP cabled USAID missions requesting their comments concerning services provided under the Matrix contract and the design of the current contract. The cable included both multiple choice and open-ended questions. (A copy of the cable and a summary of responses are included in Appendix B.) Thirty-two missions responded to the questionnaire. Responding missions account for over 80 percent of the value of USAID contraceptives shipped since the beginning of 1990.

Telephone interviews were conducted with staff from five missions, two Regional Economic Development Services Offices (REDSO), two JSI/FPLM field offices, five donor agencies, and four

²Global Programme on AIDS.

CAs. The missions interviewed by telephone account for two-thirds of the value of contraceptives shipped since the beginning of 1990. Notable negative responses to the questionnaire were also followed up with telephone interviews.

2. Matrix Performance under the Contract

2.1 Warehousing

2.1.1 Warehouse Controls

The evaluation team visited the Matrix main warehouse in Alexandria, Virginia. The team also visited the temporary warehouse rented in Alexandria to accommodate contraceptive stores moved from the FPIA warehouse in New Windsor, Maryland. Warehouse conditions were found to be adequate to assure quality and avoid damage to contraceptive commodities.

The inspection of the two warehouses showed that Matrix's warehouse operation is efficient and operated in accordance with standard warehousing procedures. The warehouses were clean, in good repair, and vermin-free. Proper inventory controls were evident. At the time of inspection, one warehouse was approximately 60 percent full of A.I.D. material; the other was stocked with only A.I.D. commodities. Security was adequate, a sprinkler system was in place, and a temperature recorder furnished by Family Health International (FHI) constantly monitored the warehouse temperature. Readings from this recorder are forwarded monthly to FHI (see 2.1.5).

An evaluation team member was present for the arrival of a truckload of commodities from Dothan, Alabama. The team member also was present during loading of a Lykes Lines container destined for Egypt. He found both operations to be well run and professional.

2.1.2 Pallets and Storage

The contraceptives were all palletized, marked clearly with lot numbers, and stored on shelving in a manner that represented good warehouse practices. Matrix shrink wraps all pallets while in storage to assure pallet integrity.

2.1.3 Inventory Control

All cases of contraceptives are counted upon arrival at the warehouse and are assigned a lot number. A manual filing system in the warehouse plus a computerized system in the Matrix administrative office track the transfer of cases from the warehouse lots into NEWVERN-numbered shipments. For each shipment ordered to be shipped from the warehouse by the NEWVERN system, as cases are readied for shipment, a second person is required to check the number of cases pulled as well as the remaining stock level. As a final check, the warehouse manager verifies that the shipment is correct.

2.1.4 Marking and Packing

Matrix marks the outside of palletized shipments with information from the NEWVERN warehouse memo designating the recipient. Each carton retains the original markings affixed by the manufacturer and designated by the NEWVERN production memo.

2.1.5 Quality Assurance and Compliance

FHI has condom quality assurance responsibilities with A.I.D. under a cooperative agreement with S&T/POP. FHI uses Matrix stock to take samples for testing. FHI reports full cooperation from Matrix in moving cartons to acquire samples. FHI has also packed temperature and humidity sensors in special shipments of condoms to three cities in Mexico. Matrix, according to FHI, has cooperated fully in supporting this activity.

FHI has maintained temperature and humidity recording devices in the Matrix Alexandria warehouse since August 1990. In May 1991, continuous monitoring of warehouse temperature and humidity was initiated. June 1991 temperatures ranged from a low of 68 degrees Fahrenheit to a high of 96 degrees. This range is within acceptable limits for storage of contraceptives.

2.1.6 Disposal of Expired Product

Team discussions with Matrix indicated that Matrix personnel are familiar with the requirements for disposal of expired contraceptive materials, and that there had been one occasion in the past few months when Matrix, accompanied by the A.I.D. cognizant technical officer (CTO), had supervised such a disposition. However, the effectiveness of procedures in place to manage inventory through the NEWVERN system has meant that expired contraceptives have been rare. The team's inspection of the warehouse indicated that there was no problem with the expiration dates of warehouse stock, with the exception of one lot of intrauterine devices (IUD) which predated the Matrix contract.

2.2 Consolidation

During the first 17 months of the Matrix contract, 25 percent of all shipments by value were consolidated shipments, i.e., two or more individual shipments packed in the same container load(s). This includes 22 percent of air shipments and 28 percent of surface shipments. Table 1 lists consolidation percentages for the 20 largest recipient countries. Note that, since a single order divided between different funding sources will receive different NEWVERN shipment identification numbers, and since this table calculates consolidation by identifying multiple NEWVERN numbers in a single consignment, the table overstates the normal definition of consolidation. A table listing consolidation for each recipient country is included in Appendix C.

The consolidation that has been achieved has helped maintain ocean and air costs at the equivalent of 1987 levels. As a result, transportation cost projections used in CPT (contraceptive procurement table) guidelines may need to be revised.

Another kind of consolidation — the consolidation of multiple-recipient shipments (i.e., shipments to more than one consignee within a given country packed in a single container) — has given rise to some problems. For example, early in the contract, Matrix consolidated some shipments to multiple recipients in a single country, mixing shipments to public and private sector consignees in a single container, resulting in customs clearance problems. As a result, the two largest recipient countries (Bangladesh and Pakistan) have opposed this kind of consolidation. When faced with their objections, Matrix immediately complied with their preferences. Although it no longer consolidates shipments to multiple recipients, Matrix continues to point out, from a freight forwarding perspective, the potential advantages of multiple-consignee consolidation.

Table 1

Top 20 Destination Countries
Consolidation Analysis by Shipment Mode and Recipient Country
January 1990 - May 1991
Shipment Count, Commodity Cost and Weight

Recipient Country	-----Not Consolidated-----				-----Consolidated-----					
	Shipment Count	Commodity Cost	Percent Commodity Cost	Weight	Percent Weight	Shipment Count	Commodity Cost	Percent Commodity Cost	Weight	Percent Weight
Bangladesh	27	10,621,474	61	1,422,620	67	34	6,897,692	39	704,109	33
Brazil	5	980,619	100	157,311	100	0	.	.	.	.
Chile	6	732,485	87	81,339	85	2	113,829	13	15,025	15
Colombia	9	947,938	100	118,670	100	0	.	.	.	.
Egypt	27	5,326,661	94	585,659	98	2	344,872	6	17,696	2
Ghana	13	1,038,919	91	142,057	92	2	111,391	9	13,925	8
Guatemala	30	790,088	87	94,293	92	5	123,503	13	8,814	8
Jamaica	17	467,062	78	55,526	73	4	132,954	22	21,533	27
Kenya	6	715,261	83	100,472	93	2	149,938	17	8,175	7
Malawi	18	565,200	84	86,367	86	7	109,859	16	14,485	14
Mexico	33	5,418,410	93	677,700	93	4	415,536	7	55,105	7
Morocco	14	820,494	84	103,647	86	5	159,554	16	17,805	14
Nepal	17	756,674	100	92,385	100	0	.	.	.	.
Pakistan	23	7,667,403	63	1,159,290	61	20	4,560,285	37	745,490	39
Peru	10	480,183	40	43,665	34	23	743,660	60	87,850	66
Philippines	4	269,281	52	30,677	48	2	253,119	48	34,011	52
Tanzania	20	1,737,012	98	278,647	99	4	46,816	2	5,277	1
Turkey	11	904,624	82	116,173	82	12	199,298	18	26,137	18
Zaire	21	1,464,911	92	174,866	90	5	138,865	8	19,457	10
Zimbabwe	9	1,210,698	95	162,895	97	3	68,791	5	6,442	3
Total	320	42,915,397	74	5,684,259	75	136	14,569,962	26	1,801,336	25

Source: Evaluation Team Analysis of NEWVERN Data

Note: Consolidated shipments are those with multiple shipment identification numbers (NEWVERN ID's) moving under the same bill of lading

2.3 Timeliness of Shipments from Origin to Destination

2.3.1 Mission Perception of Timeliness of Shipments

Seventy-five percent of the missions responding to the questionnaire report product arriving in port on time.

Is the product received in port on time?

It arrives as Matrix has projected	24
-Matrix estimates are not reliable	6
-No response	2

None of the evaluation team's telephone interviews, which included an interview with one of the missions reporting unreliable estimates on the questionnaire, commented on unreliable time estimates. One mission commented that the monthly reporting cables on procurement in progress were extremely helpful. The lack of mission comments on time estimates perhaps reflects more on the low level of mission expectations and the few projections that are passed to missions.

Matrix provides projections to missions no more than a week to 10 days in advance. For air shipments, Matrix sends a telex or fax as soon as the connecting flight to the destination airport is known. If the flight changes, another notification is sent to the key person identified by Matrix. For ocean shipments, notification is sent a week to 10 days in advance, often with the courier shipment containing the documentation.

Although the mission perception is that these projections are accurate, it is necessary to review a range of factors in evaluating whether shipments move in a timely manner from supplier (or warehouse) to the recipient. The remainder of Section 2.3 discusses the elements of timely shipment movement, leading to Section 2.6, which covers the evaluations team's findings on overall time between the scheduled shipment date (from the supplier or warehouse) to actual receipt by the consignee.

2.3.2 Availability at Vendor

With respect to supplier estimates or commitments on product availability, it has not been possible for Matrix to schedule pickups in advance. Where advance scheduling was tried, too often suppliers did not keep to their schedules. As a consequence, Matrix has developed the capability, working with trucking companies, to respond quickly once it has received supplier notification that the product is ready for pickup.

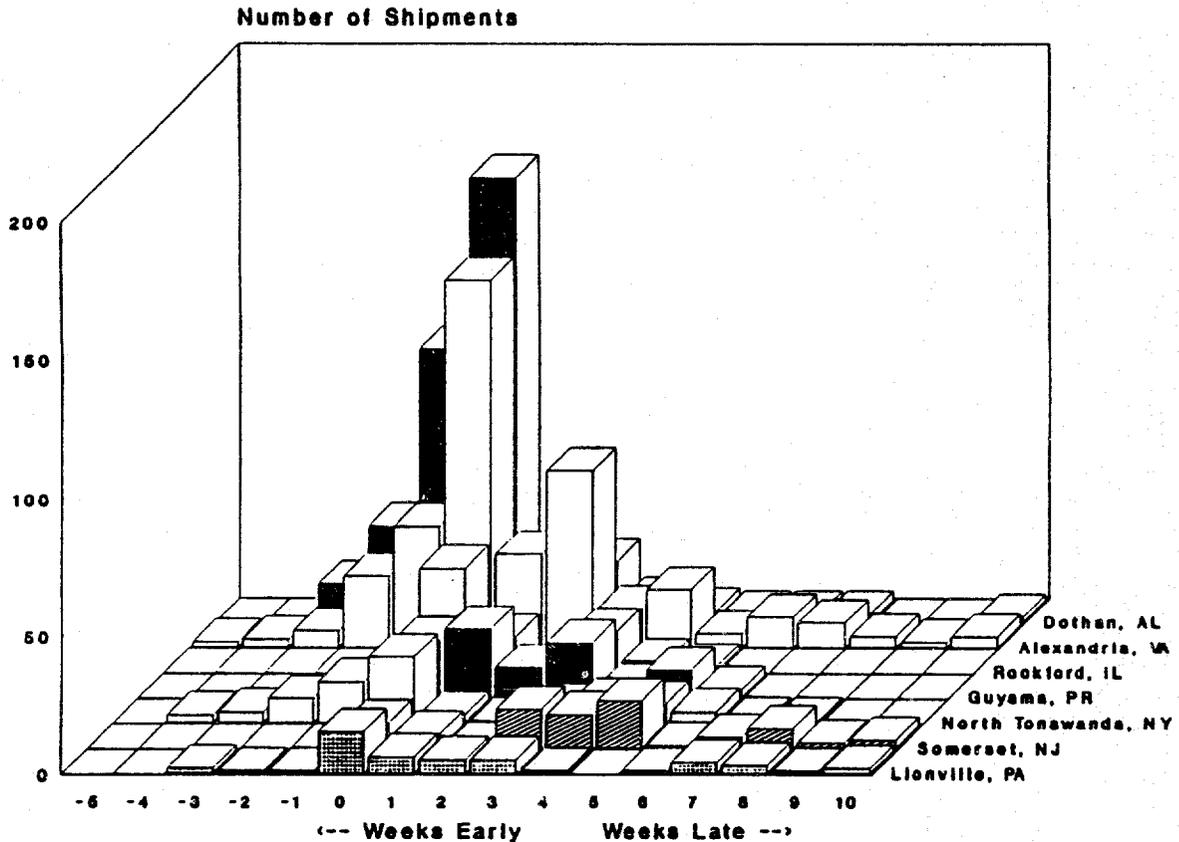
Matrix has arranged pickup within a matter of hours or within one or two days. The evaluation team found Matrix to be extremely responsive in this respect. However, the inability to depend on suppliers to meet production and shipment commitments has had a negative effect on the total performance of the transportation process — in terms of both cost and transit times.

Figure 1 shows, by supplier location, the delay in weeks between shipment date (the estimated date of production in NEWVERN, corresponding to the date reported to missions in the monthly notification cable for products not yet shipped) and the date of pickup (as reported by Matrix to NEWVERN and as notified to missions as the actual shipment date for products that have been

shipped). The evaluation team's research suggests the variation between suppliers is a result of factors other than any significant difference in Matrix's promptness in arranging for first leg shipment. (A negative number of weeks reflects early availability of product items and pickup by Matrix on a date prior to the NEWVERN estimate for initial ship date.)

Figure 1

Delay Between Estimated Shipment Date and Actual Shipment Date By Supplier Location



Source: NEWVERN Data

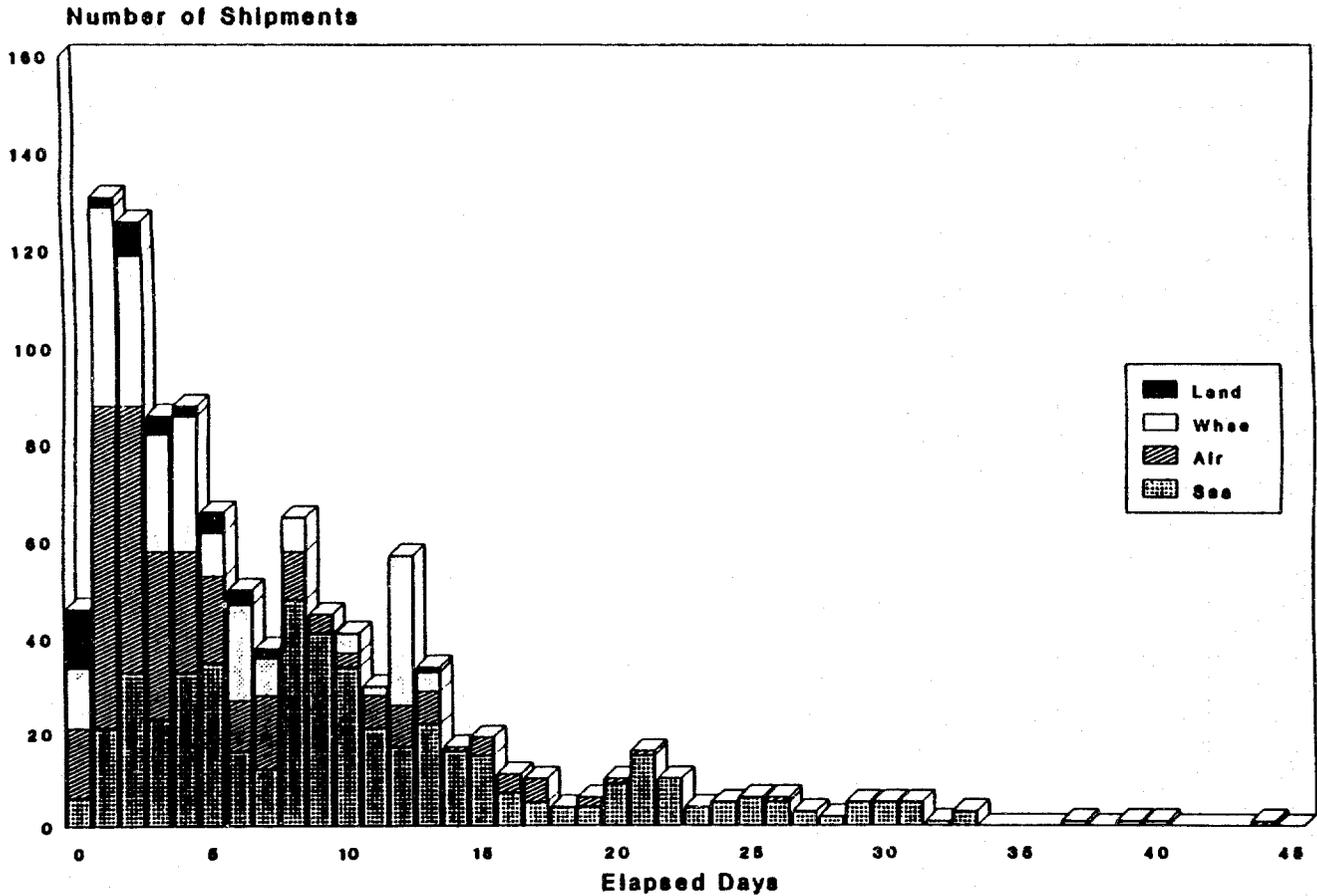
2.3.3 Vendor to U.S. Port of Loading

The movement of shipments from the supplier or warehouse to the U.S. port of loading has occurred without undue delays. The following figure illustrates the number of days between the date on which the contraceptives were shipped (or picked up by Matrix) from the manufacturer and the date on which the contraceptives left the U.S. port of loading for a foreign port. The overall average number of days for shipment movement to the port of loading was one day for air shipments and three days for surface. Once at the port of loading, the average number of days before departure from port was three days for air, and six days for ocean transfer.

Late shipment from production has been the result of delays in the production process, unavailability of raw materials, packaging problems, and A.I.D. change orders. Unfortunately, these delays have not been reported to NEWVERN and, as a consequence, poor information has been supplied by NEWVERN.

Also, in some instances, particularly for ocean shipments to Latin America, a combination of circuitous transportation routings and the need to wait for vessel departures may cause three weeks or more delay between supplier door and port departure.

Figure 2
Supplier Door to U.S. Port Departure
By Shipment Mode



Source: NEWVERN Data

2.3.4 U.S. Port of Loading to Foreign Port of Entry

Transit time (both air and surface) between U.S. ports and ports in the top 20 recipient countries is shown in the following table. Table 2 lists minimum, maximum, and average interport transit times for individual ports. A complete listing of interport transit times is included in Appendix D.

Table 2

**Analysis of Days between U.S. Port of Loading and Port of Entry (Interport)
by Shipment Mode and Port of Entry
Top 20 Recipient Countries — January 1990 through May 1991**

<u>Port of Entry</u>	<u>Ship Mode</u>	<u>Shipment Count</u>	<u>Minimum Interport</u>	<u>Maximum Interport</u>	<u>Average Interport</u>
Accra, Ghana	AIR	5	4	13	6
Alexandria, Egypt	SEA	29	13	59	24
Arlington, VA	SEA	1	0	0	0
Barranquilla, Colombia	SEA	6	8	18	11
Bogota, Colombia	AIR	2	0	0	0
Brownsville, TX	LAND	15	0	2	0
Calcutta, India	SEA	16	33	88	66
Callao, Peru	AIR	1	0	0	0
	SEA	31	8	24	17
Casablanca, Morocco	AIR	3	1	3	2
	SEA	16	18	64	34
Chittagong, BG	SEA	57	36	84	58
Dar Es Salaam, Tanz.	AIR	2	5	9	7
	SEA	22	39	63	52
Dhaka, Bangladesh	AIR	4	8	12	9
Durban, South Africa	SEA	4	22	66	37
El Paso, TX	LAND	3	0	0	0
Guatemala City	AIR	3	0	0	0
	SEA	32	4	27	10
Harare, Zimbabwe	AIR	8	4	13	7
Istanbul, Turkey	AIR	10	3	9	5
	SEA	11	17	61	29
Izmir, Turkey	SEA	2	21	22	21
Karachi, Pakistan	AIR	1	10	10	10
	SEA	42	32	50	41
Kathmundu, Nepal	AIR	2	8	8	8
Kingston, Jamaica	AIR	4	0	0	0
	SEA	17	1	16	6
Kinshasa, Zaire	AIR	13	3	23	6
Laredo, TX	LAND	1	0	0	0
Lilongwe, Malawi	AIR	25	1	18	8
Lima, Peru	SEA	1	1	1	1
Manila, Philippines	AIR	2	0	5	2
	SEA	4	26	28	27
Matadi, Zaire	SEA	13	39	77	57
Mexico City, D.F.	LAND	13	2	7	4
Mombasa, Kenya	SEA	8	48	69	56
New Orleans, LA	LAND	5	2	3	2
Rio De Janeiro, BR	AIR	1	1	1	1
	SEA	4	13	25	17
Tema, Ghana	SEA	10	34	50	40
Valparaiso, Chile	SEA	8	19	39	22

Source: Evaluation Team Analysis of NEWVERN Data

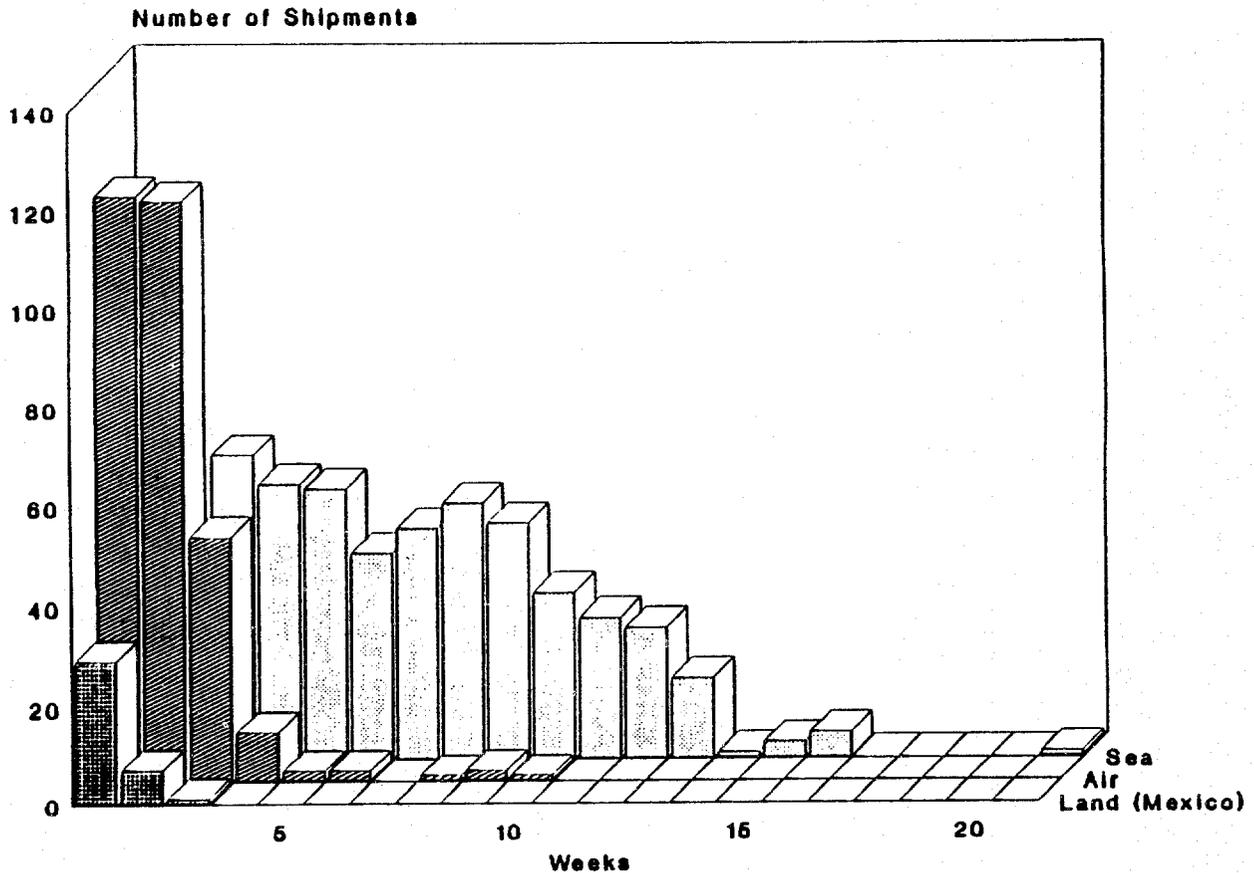
2.3.5

Total Transit Time by Country

Transit times by mode of shipment are shown in Figure 3.

Figure 3

Matrix Transit Time Performance
By Mode of Shipment



Source: NEWVERN Data

Note: Matrix is only responsible for transit time, not the total trip time.

Transit time is defined as the number of days between the date the shipment leaves either the manufacturer or the Matrix warehouse, and the date of arrival reported by the carrier on the final leg of transit arranged by Matrix. However, in Kenya, Zimbabwe, and Zaire, for example, through service³ transit time is to the capital city. In Nepal, transit time is calculated to Calcutta.

³"Through service" is service through the port of entry and beyond to the inland city destination. Through service and "door-to-door" service are the same. Generally, customs clearance is performed at a port of entry, and the shipment moves on the inland leg from port of entry to destination as a domestic shipment before being delivered to the recipient's "door" - often a warehouse.

It is clear from Figure 3 that Matrix has met the transit time requirements of the contract. Overall, air transit time has averaged 9 days, land transit (to Mexico) has averaged 5 days, and sea transit time has averaged 44 days. Note that these times are based on information in the NEWVERN system, and measure Matrix's performance between time of pickup and delivery to the point at which Matrix's responsibility ends.

Using this measure of transit time gives the following results for shipments that Matrix has moved outside the U.S.:

	Transit Time Performance			
	Met Standard	Did Not Meet Standard	Total Shipments	Percent Meeting Standard
Air	287	15	302	97
Land	36	1	37	97
Sea	484	10	494	98
Total	807	26	833	97

Table 3 on the next page shows minimum, maximum, and average transit times, as well as total trip times (to be discussed in Section 2.3.6) for the top 20 recipient countries. A listing of these times for all countries is included as Appendix E.

2.3.6 Time between Scheduled Shipment and Actual Receipt

The Matrix transit time defined in the preceding section is misleading as a measure of transportation performance from the customer or recipient viewpoint. What matters to the recipient is how long it takes from the time a product was scheduled to be shipped (particularly if the recipient is notified in advance of the scheduled shipment date, and relies on that date for availability planning) and the time the product actually arrives at the recipient's door, already customs cleared and ready for distribution.

The time between scheduled shipment and actual receipt (total trip time) adds two elements to the Matrix transit time (door-to-port) discussed in Section 2.3.5: 1) the number of days delay between the scheduled ship date and the actual Matrix pickup date, and 2) the number of days between shipment arrival at the port of entry and the time the shipment is confirmed by the mission as received (i.e., the days necessary for customs clearance and delivery to recipient's door).

Figure 4 on page 15 shows total trip time by mode of shipment for all shipments that have been reported as received since the beginning of 1990. This chart confirms that there are delays in moving shipments from supplier to recipient. The problems are in customs clearance and in a failure to meet initial shipment date estimates.

Table 3

**Analysis of Transit Time and Total Trip Time
Top 20 Recipient Countries, by Shipment Mode and Port of Entry
Shipments Reported as Received — January 1990 through May 1991**

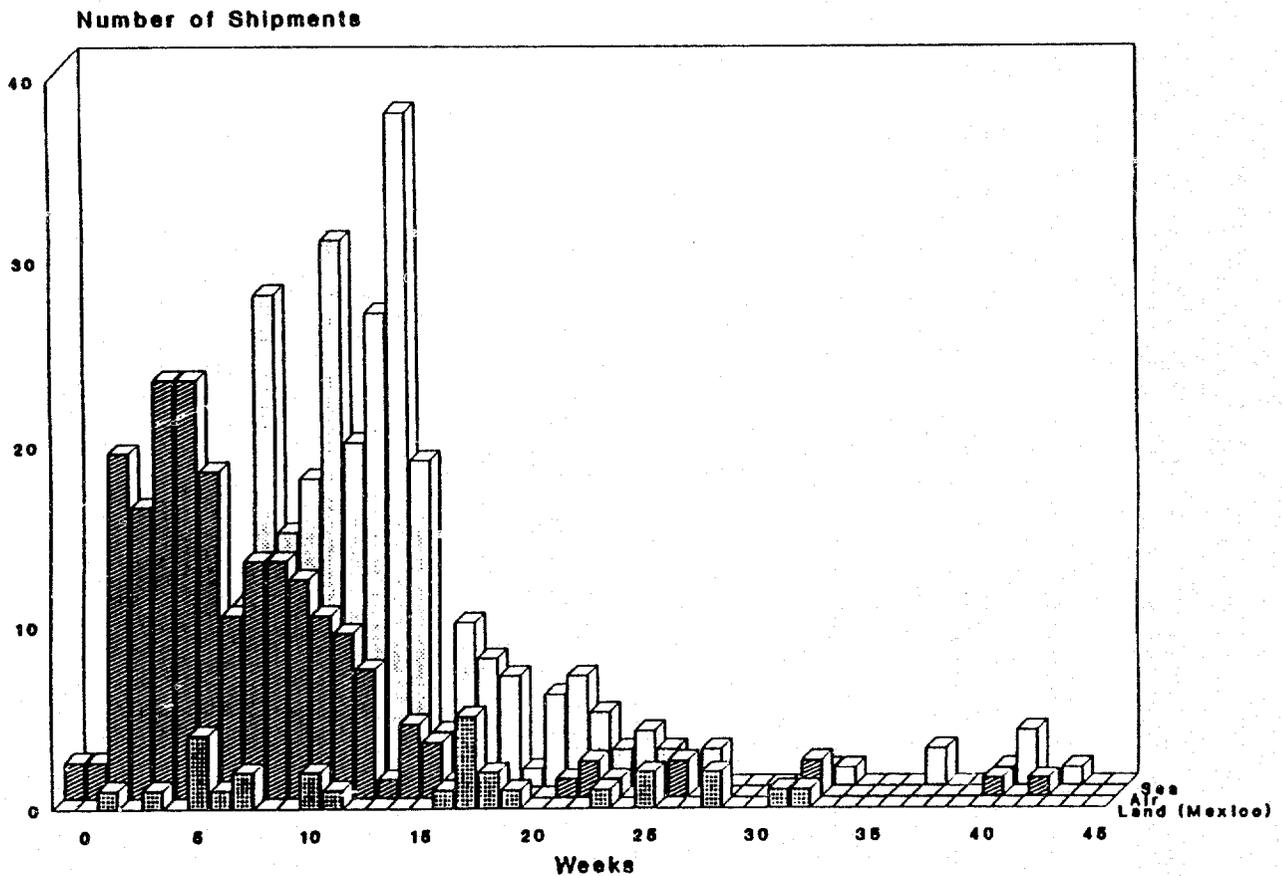
<u>Country</u>	<u>Port of Entry</u>	<u>Ship Mode</u>	<u>Shpmt Count</u>	<u>Transit Minimum</u>	<u>Transit Maximum</u>	<u>Transit Average</u>	<u>Ttl Trip Minimum</u>	<u>Ttl Trip Maximum</u>	<u>Ttl Trip Average</u>
Bangladesh	Chittagong, BG	SEA	29	41	88	64	46	175	86
	Dhaka, Bangladesh	AIR	3	9	14	10	21	38	32
Brazil	Rio De Janeiro, BR	AIR	1	17	17	17	49	49	49
		SEA	1	32	32	32	33	33	33
Chile	Valparaiso, Chile	SEA	6	25	40	31	44	77	59
Colombia	Barranquilla, Colombia	SEA	3	18	32	23	(5)	84	34
	Bogota, Colombia	AIR	1	4	4	4	58	58	58
Egypt	Alexandria, Egypt	SEA	24	19	67	37	3	101	41
Ghana	Accra, Ghana	AIR	3	7	14	11	54	81	71
	Tema, Ghana	SEA	1	78	78	78	124	124	124
Guatemala	Guatemala City	AIR	2	5	7	6	12	79	45
		SEA	25	13	46	26	15	162	84
Jamaica	Kingston, Jamaica	AIR	3	1	3	2	(18)	73	39
		SEA	12	6	27	12	14	90	46
Kenya	Mombasa, Kenya	SEA	6	53	142	89	44	148	111
Malawi	Lilongwe, Malawi	AIR	10	6	16	9	(15)	152	30
Mexico	Brownsville, TX	LAND	9	2	7	5	33	159	95
	Ei Paso, TX	LAND	3	3	5	3	19	31	27
	Laredo, TX	LAND	1	13	13	13	212	212	212
	Mexico City, D.F.	LAND	10	2	7	4	5	190	118
	New Orleans, LA	LAND	5	4	16	8	29	218	101
Morocco	Casablanca, Morocco	AIR	1	4	4	4	5	5	5
		SEA	2	43	46	44	34	167	100
Nepal	Calcutta, India	SEA	12	50	107	78	93	221	137
	Kathmandu, Nepal	AIR	1	10	10	10	53	53	53
Pakistan	Karachi, Pakistan	AIR	1	12	12	12	37	37	37
		SEA	34	37	76	49	43	154	70

Source: Evaluation Team Analysis of NEWVERN Data

Notes: Transit time based on elapsed days from supplier door (Matrix Pickup) to Matrix delivery at destination.
Total Trip time based on days from scheduled production date to reported actual receipt date.
Matrix is only responsible for transit time, not the total trip time.

Figure 4

Total Trip Time Performance By Mode of Shipment



Source: NEWVERN Data

Note: Matrix is only responsible for transit time, not the total trip time.

Table 4 on the next page shows days between scheduled shipment and time of receipt confirmed by the mission for the top 20 recipient countries. Included in the table are total trip time, as well as separate delay at supplier, transit, and clearance components of total trip time.

These times could be improved significantly, but to realize across-the-board improvement would require a coordinated logistics-based approach to resolving delays that are today built into the system, and would require a cooperative central, regional, and field problem-solving process. A difficulty in beginning such a process is the way in which transit time performance is measured, and trends are monitored and reported in the current contract. For example, the evaluation team saw little awareness or emphasis with respect to serious problems with customs clearance delays in some countries that are evident from the data shown in the Table 4 and in Appendix F, which shows total trip time and its components for all loading port-entry port pairs.

Table 4

**Analysis of Days Spent en route from Supplier to Recipient
Top 20 Recipient Countries — Shipments Reported as Received Only
January 1990 through May 1991**

Country	Port of Entry	Ship Mode	Shpmt Count	-----Total Trip Time-----			-----Delay at Supplier-----			-----Days in Transit-----			-----Days in Clearance-----		
				Minimum	Maximum	Average	Minimum	Maximum	Average	Minimum	Maximum	Average	Minimum	Maximum	Average
Bangladesh	Chittagong, BG	SEA	29	46	175	86	(16)	86	5	41	88	64	0	47	16
	Dhaka, Bangladesh	AIR	3	21	38	32	(2)	16	10	9	14	10	9	13	11
Brazil	Rio De Janeiro, BR	AIR	1	49	49	49	15	15	15	17	17	17	17	17	17
		SEA	1	33	33	33	1	1	1	32	32	32	0	0	0
Chile	Valparaiso, Chile	SEA	6	44	77	59	(15)	42	12	25	40	31	9	25	15
Colombia	Barranquilla, Col.	SEA	3	(5)	84	34	(24)	38	(1)	18	32	23	0	28	12
	Bogota, Colombia	AIR	1	58	58	58	(10)	(10)	(10)	4	4	4	64	64	64
Egypt	Alexandria, Egypt	SEA	24	3	101	41	(21)	43	2	19	67	37	0	17	1
Ghana	Accra, Ghana	AIR	3	54	81	71	10	32	21	7	14	11	30	42	38
	Tema, Ghana	SEA	1	124	124	124	(2)	(2)	(2)	78	78	78	48	48	48
Guatemala	Guatemala City	AIR	2	12	79	45	(5)	7	1	5	7	6	0	77	38
		SEA	25	15	162	84	(28)	50	10	13	46	26	6	131	47
Jamaica	Kingston, Jamaica	AIR	3	(18)	73	39	(37)	23	(2)	1	3	2	17	55	39
		SEA	12	14	90	46	(23)	40	2	6	27	12	7	55	31

Source: Evaluation Team Analysis of NEWVERN Data

Notes: Negative days (in parentheses) represent early supplier availability and Matrix pickup before the estimated ship date.
In some cases, negative dates result from incorrect entries in NEWVERN (e.g. shipments reported as received prior to reported port arrival).
Matrix is only responsible for transit time, not the total trip time.

2.4 Documentation

2.4.1 Difficulties Inherent in the Documentation Process

Missions, donor agencies, cooperating agencies, and Matrix staff all emphasized the attention and effort necessary to adapt shipping documents to the requirements of each shipment. These requirements differ from country to country, from recipient to recipient within a country, and, for the same recipient, sometimes from shipment to shipment. Review and approval of documentation by recipient country officials at consulates in the U.S. may be required before the shipment leaves the U.S. This process (often referred to as "legalization and consularization of shipping documents") serves no useful purpose, but can cause delays of up to a month.

Matrix's original shipping documents are sent via courier to consignees and other designated recipients. Timely distribution of shipping documents is essential in eliminating demurrage charges (charges for use of customs or bonded warehouse space, usually after a short grace period) and in reducing delays in shipment clearance.

When shipments arrive in port, they are generally cleared by independent licensed customs brokers. In Chittagong, for example, arriving public sector and social marketing contraceptives are cleared by independent agents contracted by either the government or the social marketing agency. In another cited example, one CA related how contradictory information from government officers had frustrated attempts to clear a Matrix shipment. In Ecuador, Matrix had to produce four sets of documents for one shipment before customs decided what it needed.

Even with correct documentation, delays will occur. It may take one month to obtain a waiver of duty for an A.I.D. shipment in certain countries. One informant noted that it was important to receive shipping documentation ahead of time, and to get tighter notification of expected arrival of the ship in port, so that the mission could pressure the Ministry of Health or other recipient agency to use its influence to get the shipment released from customs.

Informants also told of past situations in which shipments were detained in bonded warehouses, held up for one reason or another, and the government paid demurrage charges, sometimes as much as the value of the shipment. In some cases, processing of shipment paperwork was felt to be slowed deliberately so that the warehouse could collect demurrage. Ministries were subject to minimum port charges, handling charges, and demurrage. If the ministries are in on payment, then their shipments may be held up. In such situations, those aware of the problem do not have the authority to resolve it, and do not raise it with the ministry, and it takes mission intercession at a high level of government to allow the shipment to move.

Other donor agencies were cited as being effective in getting clearance for their shipments. UNICEF was mentioned as the most effective of all agencies, but it was noted that a UNICEF country team would have up to a half-dozen specialists in logistics, and that UNICEF assumed responsibility for delivering commodities all the way to the user. UNICEF's strength is that it hires people locally who can get things done, and who have the contacts necessary to expedite shipments through the system, particularly through the most difficult period between arrival of the ship in port and the time that the commodities get into the system.

Given the realities of shipment clearance in port, the team concluded that Matrix performance in supporting the clearance process has been commendable. However, because less than two-thirds of

the total value of shipments are reported as cleared (due to lack of mission confirmation), it was not possible to develop overall statistics on the actual length of delays in clearing shipments.

2.4.2 Split Shipments

Shipment size — whether a single order or a consolidated shipment — often exceeds container capacity. A requirement to containerize shipments whenever possible, therefore, sometimes results in split shipments: a portion of a shipment moving in a full container while the remainder of that shipment waits for build-up of a second full container. Better planning to match orders with an integral number of full containers would obviate this situation. This would also require that, whenever feasible, CDC and JSI staff, who often initiate the ordering cables, be trained and equipped with the information necessary to order exact container loads.

2.4.3 Transshipment and Unstuffing/Restuffing

Transshipment problems are further aggravated when U.S. carriers require that their containers be returned to them during transshipment. U.S.-flag carrier containers must be unloaded ("unstuffed") at an intermediate port and the contents reloaded ("restuffed") into new containers belonging to the onward-leg carrier. Although the containerized shipment travels on a through bill of lading, the shipment will have new container numbers, new seal numbers, and the name of the arriving vessel. Even though new names and numbers are not required to be reflected on a through bill of lading, these changes are sometimes used by customs at the port of entry as another reason to delay shipment clearance. The complications involved in transshipment, the need to transfer shipments from U.S.- to foreign-flag carriers, and what is sometimes perceived by recipients as unpredictable documentation requirements, made this an often-discussed issue during the evaluation.

One informant suggested that the freight forwarder subcontract for agent services in Rotterdam to monitor transshipment through European ports. The Rotterdam agent would be responsible for faxing the freight forwarder confirmation on the final-leg vessel, revised arrival date, local clearing agent, and container and seal numbers. This would enable the A.I.D.-contracted freight forwarder, and NEWVERN, to provide recipients more reliable information than that currently relayed to Matrix by U.S. carriers.

2.4.4 Questionnaire Responses on Documentation

There were two questions on the questionnaire related to documentation, one in Section A which assessed Matrix's performance, and the second in Section B which assessed contract design: 18 and 21 countries, respectively, reported no problems with documentation; 6 and 8 countries, respectively, reported infrequent problems or requirements "for the most part." Only 5 and 1 countries, respectively, reported persistent problems or requirements not being met.

Is the correct documentation provided on time to the right person(s)?

-Documentation is distributed per mission request	18
-Documentation problems are infrequent	6
-There are persistent problems in document distribution	5
-No response	3

Are the documentation, communications and reporting requirements of programs being met?

-Yes	21
-For the most part, but improvements are needed	8
-No	1
-No response	2

2.4.5 Telephone Interviews on Documentation

Telephone interviews to countries reporting infrequent problems with documentation suggest these problems occurred early in the Matrix contract. These and other informants provided several anecdotes about documentation problems. The informants generally offered these anecdotes as illustrations of Matrix's responsiveness, and especially of Matrix's willingness to send revised documentation that met the particular requirements of customs authorities of the particular country, for the particular recipient, at that particular time.

2.5 Reporting and Shipment Database Maintenance

2.5.1 Direct Data Transfer

Matrix reports the following shipping information to NEWVERN, using direct data transfer (via a dial-up modem link):

- Lot/Order Number
- Product Code
- GSA Purchase Order Number
- Bill of Lading Number
- Booking Number
- Freight Cost Per Contract
- Mode of Shipping
- Shipping Document Number
- Name of Shipper
- Origin Point
- Destination Vessel or Flight Number
- Leg Departure Point
- Leg Destination Point
- Pier (Sea Only)
- Estimated (Booked) or Actual Time of Departure
- Estimated (Booked) or Actual Time of Arrival
- Leg Sequence
- Confirmed Arrival (yes/no)
- Acknowledge
- Shipment Complete (yes/no)
- Container Number
- Seal Number
- Container Weight
- Container Volume
- Cases in Container
- DHL Air Waybill Number
- DHL Date

This process involves sending Matrix data to the NEWVERN system several times each week. Updated information on a shipment is sent from Matrix to the NEWVERN system as information changes; the new information replaces prior information. This information allows CPSD, through terminals, to access current shipping information in NEWVERN.

The NEWVERN system is also used for JSI/FPLM monthly reports to missions on anticipated shipment dates. However, NEWVERN uses the most recent estimate of the date the shipment was initially scheduled to ship as the basis for reporting the prospective shipping date.

The information supplied by Matrix to NEWVERN does not include the type and number of each type of shipping container, the breakout of freight and warehousing charges by contract category, or Matrix's best estimate of the date of arrival at destination. Thus, Matrix freight charges cannot be independently verified through the NEWVERN system, forcing reliance on manual audit by the CPSD CTO. As a consequence, the NEWVERN system, because it only contains "booked" dates (and then only after a shipment is actually booked), does not have a useful date to report to missions on shipment progress and projected arrival.

The evaluation team was supplied with a data file containing shipping data maintained by Matrix, and compared it to historical NEWVERN shipment, container, leg, and bill of lading data. In essential respects, the data were identical. However, there was a general lack of data discipline, with often inconsistent spelling of port and carrier names, and some dates of leg arrival shown after the corresponding date of departure. As a result, the team had to spend a greater-than-anticipated amount of time to clean data before useful reports could be generated.

2.5.2 Notification of Shipment Completion

The Matrix database considers the shipment complete when a carrier notifies Matrix of delivery. NEWVERN considers the order as having been successfully filled when receipt is acknowledged by the mission via a two-way memo. Missions are often delinquent in submission of this memo. Since the beginning of 1990, only 62 percent of the total value of products shipped to recipients outside the U.S. have been recorded as received in NEWVERN.

At times, the arrival of the shipment for NEWVERN purposes is finally documented only when JSI or CDC staff visit the mission and obtain the actual arrival date from mission records. Simplified reporting procedures, better communications, better alerting of impending arrivals — all these would help recipients and mission personnel keep up with incoming shipments and would help address this problem. Moving to door-to-door responsibility for freight contractor shipment tracking would also provide more accountability for ensuring that shipments are always recorded as received.

One mission responding to the cable questionnaire, Mali, suggested that "it would be good for the shipping contractor (Matrix) to also have the follow-up receiving report responsibility as well."

2.6 Comparisons of Pre-Matrix and Matrix Costs

Existing reports from the NEWVERN system and from the Matrix database provide two approaches to monitoring and controlling freight costs: 1) trends in freight cost per pound and cost per cubic foot, and 2) trends in freight cost as a percent of commodity value. Although no single measure is

conclusive, the evaluation team believes that trends in freight unit costs (cost per pound and per cubic foot) are better indicators of transportation cost trends.

Costs under the Matrix contract have clearly been lower than pre-Matrix transportation costs. NEWVERN was able to produce reports on the cost per cubic foot and cost per pound during the two years prior to the Matrix contract and during the first 17 months of the Matrix contract. Comparison of transportation costs in 1988-89 and 1990-91 show that average cost per pound has dropped from 60 cents to 58 cents, and average cost per cubic foot from \$6.76 to \$6.48.

Note that 1988-89 costs and 1990-91 costs are not entirely like measures. The Matrix contract provides more coverage, and includes the cost of shipment from manufacturer to port of origin. Under the old contract, the manufacturer was responsible for the U.S. leg from its distribution center to the U.S. port of origin. The Matrix contract also involves more shipment from suppliers to Matrix's Alexandria warehouse in order to benefit from consolidating shipments into full container loads.

Measurement differences aside, it is clear that the current A.I.D. contraceptive transportation system has achieved both broader coverage and lower unit costs. The main factor in this cost reduction has been the single point of accountability in Matrix, and the negotiation by Matrix of fixed carrier rates prior to submission of Matrix's original bid. The environment which allowed Matrix and the carriers to negotiate fixed rates in 1989 for 20 destinations has been instrumental in significantly lowering A.I.D.'s transportation costs.

The savings in direct transportation costs have been running at an annual rate of \$130,000, representing savings of approximately \$0.02 per pound for 6.6 million pounds annually at current levels of shipment:

	Total Cost (\$ million)	Weight (# million)	Cost per Pound
1988-89	\$2.5	4.2	\$0.60
1990-91	\$3.8	6.6	\$0.58

To this savings, the evaluation added an allowance for inflation of \$400,000 (representing a total of 10 percent over a two-year period), an estimated savings of \$200,000 per year in reduced warehousing and demurrage charges, and an estimated savings of between one-half and one percent of shipment value in reduced loss, damage, and wastage or \$350,000 based on an annual commodity value of \$45 million.

Estimated Annual Savings

Direct Transportation	\$ 130,000
Inflation Avoidance	400,000
Demurrage Reduction	200,000
Loss/Damage/Wastage Reduction	350,000
Total	\$1,080,000

2.7 Comparison between Matrix Costs and Other Transportation Costs

The transportation costs paid by A.I.D. under the Matrix contract are consistent with industry costs for similar services. With the added traffic management and oversight function that Matrix provides, contract charges compare favorably with industry charges in general for similar high-quality freight and distribution services.

By way of comparison, Table 5 shows selected costs of sea and air transportation paid by the State Department's U.S. Dispatch Agency for movement of freight to destinations served by Matrix. With the exception of 20 and 40 foot container costs from Dothan to Karachi, the costs are comparable.

Table 5

Matrix vs. Dispatch Agency

A. OCEAN (Per Container) Dothan, AL to Various Destinations				
	201 Container		401 Container	
	Matrix	Dispatch Agcy	Matrix	Dispatch Agcy
Chittagong	\$4725	\$4442	\$7475	\$7410
Calcutta	4725	4439	7475	6855
Karachi	6490	4082	9240	693
B. AIR (Per lb) Alexandria, VA to Various Destinations				
	At 200 lbs		At 2000 lbs	
	Matrix	Dispatch Agcy	Matrix	Dispatch Agcy
Dhaka	\$4.61	\$1.75	\$1.84	\$1.73
Cairo	4.21	1.82	1.44	1.77
Dar Es Salaam	4.36	2.13	1.84	2.13
Lima	4.20	1.22	1.36	1.12

Note: Dispatch agency has no documentation or communication charges built into its rate. Matrix provides these services, but the Dispatch Agency does not.

Note: Dispatch Agency air rates were given from BWI. \$0.12/lb has been added to its rates in above table to equate with Matrix.

2.8 Comparison between Matrix Service and the Best Available Service in the Market

There are no set industry standards for shipping between U.S. locations and countries in which recipients of U.S. family planning assistance are located. Flag preference requirements make it difficult to select the best available carriers and routings in the market.

The evaluation team reviewed actual routings used by Matrix since the beginning of the contract. A database was developed to look at transit times and transfer times for each leg of every shipment. This database allowed the evaluation team to review Matrix's service levels, and to make some judgments about whether the level of service provided is the best possible. (See Appendix G for a description of the database.)

An overall high level of service has been achieved by A.I.D. using Matrix services. Transit and transfer times for both air and surface transportation show that A.I.D. shipments have moved expeditiously between origin and destination. The main reason that shipments have moved rapidly is the attention given by Matrix to the tracking and expediting function. In this area, the Matrix cargo handling manager was singled out for praise by mission, CA, and supplier informants.

The team also reviewed some problem shipments due to a variety of reasons. In some cases there were valid reasons for delays, such as the need to wait for once-weekly wide-body aircraft service between Paris and Africa to accommodate palletized shipments. In other cases, ocean service to the Caribbean was infrequent and run with an unreliable schedule, so Matrix held shipments until just before vessel sailings. In certain cases, delays were related to the Gulf War; in others, delays were due to service failures by the carriers involved. The review of these shipments showed that Matrix often went to unusual lengths to keep shipments moving, as happened during the Gulf War, when both air and ocean commercial transportation capacity was sharply pulled down by the industry.

2.9 Comparison with Service Obtained by Other Donors

The evaluation team interviewed five other donors regarding the shipment of contraceptives and similar commodities to developing countries. UNFPA, IPPF/London, and IPPF's Western Hemisphere office in New York, provided information on the shipment of contraceptives. The World Health Organization's (WHO) Global Programme on AIDS (GPA) ships AIDS prevention condoms from manufacturer to destinations in developing countries. UNICEF's UNIPAC office in Copenhagen, although not a shipper of contraceptives or AIDS-prevention condoms, has extensive experience in shipping health-related commodities to developing countries.

Consolidation. WHO/GPA brings all condoms from manufacturers in the Far East to a central warehouse in Marseilles. This is done to promote quality assurance testing, rather than consolidation. UNIPAC consolidates about a third of its shipments at a warehouse in Copenhagen.

Use of Single Freight Forwarder. UNFPA, IPPF/London, and WHO/GPA do not purchase contraceptives in a single country. Their procurement and freight forwarding origin points are more geographically diverse. Nevertheless, UNFPA has contracted for a single freight forwarder. WHO/GPA has a single freight forwarder from points of origin, all in the Far East, to a central warehouse in Marseilles.

Transshipment. IPPF/London emphasized the difficulties in using U.S. carriers to ship contraceptives to developing countries, suggesting that U.S. carriers too often consider their task completed when they have delivered contraceptives to European transshipment points and have arranged for onward shipping. These carriers at times are unwilling to release containers for the follow-on leg and therefore force unstuffing and restuffing into containers belonging to other carriers. Missions also referred to these problems in responses to the questionnaire and during telephone interviews.

Documentation and Through Bills of Lading. UNFPA, IPPF/London, and WHO/GPA acknowledged problems with adapting documentation to the requirements of each country. The examples they mentioned were often associated with through bills of lading to inland destinations.

Comparative Shipping Cost. Other donors reported transport costs as per cent of value. Matrix ocean shipping costs to the 20 major recipient countries have averaged 5.8 percent. IPPF/London estimates it pays in excess of 10 percent. UNFPA estimates 5-10 percent. WHO/GPA reports \$57 per carton of condoms or about 31 percent of value (including trucking and warehousing).

Since WHO/GPA costs per condom are about half of the costs paid by A.I.D., the percent of value for WHO/GPA would be closer to 15 percent if adjustments were made to standardize per volume. For IPPF/London, the range of contraceptives shipped would diminish the effect of differences in condom procurement costs, and diminish the reported "in excess of 10 percent."

Reimbursement for Freight Forwarders. When using freight forwarders, IPPF reimburses documented shipping costs only. Freight forwarders are considered to be sales and handling agents for the carriers and are expected to be paid by carriers through sales commissions, with no additional fees or handling charges from IPPF. UNFPA reimburses actual shipping costs and expects the freight forwarder to profit from commissions paid by shipping companies. UNFPA had contracted with SCAC, in part, because of its expertise in West Africa. UNIPAC reimburses its freight forwarder for direct shipping costs and reports shipping lines pay the freight forwarder commissions of approximately 2.5 percent for sea freight and 5 percent for air freight. UNIPAC also pays the forwarder a small handling fee of approximately 150 Swedish Kroner (approximately \$24.00 U.S. dollars).

Comparative Performance. It was not possible during the evaluation to quantify the performance of shippers and freight forwarders used by other donors. Nevertheless, one evaluation team member who has provided contraceptive logistics services to IPPF, UNFPA, and WHO/GPA in sub-Saharan Africa, notes from his own experience that, since the start of the Matrix contract, A.I.D. contraceptives have been more likely to arrive on time and in the quantities ordered.

IPPF/London has recently contracted with Matrix for the freight forwarding of surgical gloves procured by IPPF from Aladan. IPPF reports this decision was based both on cost considerations in open bidding, and an assessment of the quality of services provided by Matrix to A.I.D.

One donor informant suggested that increased communication between donor and contracting staff responsible for contraceptive shipments would be beneficial. A Consultative Meeting on Contraceptives held during May 1991 brought donor representatives together in a discussion of forecasted needs, but did not provide a structure for communication between technical officers with responsibilities for shipping.

2.10 Compliance with FAR,⁴ MARAD,⁵ and A.I.D. Regulations and Requirements

2.10.1 Compliance with Cargo Preference Regulations

Matrix reports that it has obtained shipping waivers from OP/TRANS, approved by the director of the Office of Procurement, when required to do so. The only formal waiver that has been required is for service to Surinam, where there is no U.S.-flag service.

On shipments to Bangladesh, although Waterman provides 100 percent U.S.-flag ocean service, an agreement between OP/TRANS, MARAD, and Waterman was reached, allowing Matrix to use the containerized services of Sea-Land and APL to reduce shipment damage and costs. Sea-Land and APL are U.S.-flag carriers with less than 100 percent U.S.-flag carriage on the route (i.e., carriers that make transfers to foreign-flag carriers en route). This agreement was based on cost and the need for containerized service, which had not been provided by Waterman. The cargo lost by Waterman was to be replaced by other A.I.D. cargo.

In Zaire, an existing waiver does not apply to cargo able to be containerized.

One informant in a telephone interview reported use, early in the contract, of a non-U.S. carrier on a route to Egypt served by U.S. carriers. Matrix reportedly corrected this as soon as it came to its attention.

2.10.2 Provision of Rated Ocean Bills of Lading to OP/TRANS and MARAD

Matrix has generally complied with the requirement to provide rated ocean bills of lading to OP/TRANS and MARAD. The MARAD respondent was extremely positive in this area. Comments from OP/TRANS were that Matrix on occasion had to be reminded to forward rated ocean bills of lading to OP/TRANS.

2.10.3 Competition for Charges

The contract requires evidence of competition for charges on shipments to non-quoted destinations, insurance, LDC inland transportation, etc. Team discussions with Matrix revealed a strong feeling by Matrix that soliciting competitive bids for shipments to non-quoted destinations would result in higher costs to A.I.D., since carriers were more flexible in negotiating spot rates than they would be through written bids. Matrix commented that airlines would quote TACT (The Air Cargo Tariff) rates in a written bid, and that Matrix could negotiate lower rates directly with a carrier. Matrix also commented that flag preference regulations and the lack of competitive air and ocean service meant that it was often not feasible to solicit competitive bids.

The evaluation team agrees with Matrix that direct negotiations with air carriers on spot rates will nearly always provide rates below TACT levels, and that, unless there are regular high-volume shipments, air carriers will not extend formal written bids at low levels.

⁴Federal Acquisition Regulations

⁵Maritime Administration

With the adoption of Amendment 2 to the basic contract in May 1990, a system of zone air freight rates was adopted. An existing quoted rate was applied to each destination country. This effectively extended the schedule of quoted rates to cover the world, and eliminated a requirement to solicit competitive bids.

2.11 Matrix's Handling of Shipping Problems

In discussions with Matrix, the A.I.D. CTO, JSI/FPLM personnel, and in telephone interviews with selected CAs and missions, it became clear that Matrix has been responsive in reporting problems and in taking corrective action.

The predominant single comment in telephone follow-up interviews involved responsiveness of Matrix staff. Many informants began and ended the interview by emphasizing this point. Informants described past problems in order to emphasize the quick action on the part of Matrix staff. CAs, especially PSI and SOMARC, were particularly expressive on this issue, providing anecdotes on how Matrix staff had saved USAID tens of thousands of dollars in demurrage charges or acted quickly to allay fears over incarceration of staff. CAs used adjectives such as "phenomenal" and "amazing" to describe Matrix performance in response to unpredicted contraceptive requirements and rerouting or retrieval of cancelled shipments already under way.

The CAs emphasized the value of such responsiveness in a context in which import documentation requirements varied in ways that often appeared to be the result of arbitrary and unpredictable customs requirements.

Trouble-shooting by Matrix during the contract to date has been needed in five major areas: documentation, transshipment, carrier error, cancellations and unpredicted requirements, and claims and reimbursements. Matrix, as a rule, has resolved problems in a timely and satisfactory way.

2.11.1 Documentation

Most documentation problems occurred during the first months of the Matrix contract. Only Zaire reported current problems related to documentation during the inland (port to capital) portion of through shipments and with the results of transshipment in Rotterdam. These comments referred to assuring the receipt of documentation by appropriate parties. Documentation problems regarding numbering for containers and seals were linked to transshipment issues. In all but one case documentation issues were resolved through communication with Matrix staff. The single incident involved a shipment to Bangladesh in which public sector and social marketing contraceptives were combined in a single consolidation. According to informants, the differences in required documentation "created havoc" in clearing customs.

2.11.2 Transshipment

Problems have arisen during transshipment through European ports. In addition to changes in the numbering of containers and seals, informants noted delays and resulting problems in predicting following-leg vessels, arrival dates, and integrity of cargo. The informant from IPPF/London reports this to be a problem peculiar to U.S. carriers which are often unwilling to assume responsibility beyond Europe and often insist on retaining their containers, thereby forcing the "unstuffing and restuffing" of containers at European ports.

2.11.3 Carrier Error

Major carrier errors have occurred twice in over 1,000 shipments. 1) Two shipments, with differing quantities and product, left the warehouse at about the same time for Botswana and Mali, respectively. The airline involved, UTA, switched shipments in Paris. Matrix spent considerable time and effort tracking down the problem, and arranged for the airline to return the shipments to Paris and for them to be shipped at the airline's expense to the proper destinations. 2) An air shipment scheduled for La Paz had been canceled after it had arrived at the Miami airport. Matrix contacted the air carrier to intercept the shipment. Shortly thereafter, airline staff in both La Paz and in the U.S. claimed to be in possession of the shipment. The CA involved reports that Matrix "doggedly" pursued the airline into explaining, apologizing, and correcting the error.

2.11.4 Cancellations and Unpredicted Requirements

Despite improvements in contraceptive forecasting, cancellations and unpredicted requirements still occur. These account for a significant amount of trouble-shooting on the part of Matrix staff. Telephone informants referred to Matrix having intercepted a truck shipment between Dothan and Alexandria, Virginia, and rerouting the shipment to a port in time to load the shipment for Burkina Faso.

To meet an unpredicted condom requirement in Cote d'Ivoire, Matrix identified a shipment of condoms destined for Tanzania that was no longer required. Matrix was able to arrange for the relabeling of the condoms while in route and shipped the condoms to Abidjan instead.

2.11.5 Problems with Contraceptive Manufacturers

In some cases, problems with contraceptive manufacturers have required trouble-shooting. Matrix, by becoming adaptive and responsive in managing its carriers, has worked with the contraceptive suppliers to facilitate the shipping process. For example, Finishing Enterprises, in North Tonawanda, New York (near Buffalo), ships on pallets, but prefers not to supply the pallets. Matrix has, therefore, in some instances made arrangements for the trucking company to supply Finishing with pallets, which are exchanged for empty pallets on the truck's arrival at the Matrix warehouse. Matrix must locate truckers who are willing to borrow pallets and then return them to the Buffalo area.

In one case, with Ortho Pharmaceuticals, there have been several instances of missed shipping dates, shipments lost in the supplier's distribution system, and consistent last-minute notification of product availability. Matrix has not had the full cooperation of the supplier in resolving these problems through trouble-shooting, and GSA has evidently not shown an interest in actively managing the contractor performance in this area. A.I.D.'s agreement with GSA terminates at the end of 1991, when A.I.D. will take over this logistics responsibility.

In addition to routine trouble-shooting, a general inability or unwillingness of suppliers to commit to firm product delivery dates, even 10 days in advance, has created a major and ongoing problem for A.I.D.'s contraceptive transportation and distribution system. The difficulties presented to Matrix in arranging for pickup of shipments from manufacturers, and the consequent inability to plan and book the transportation legs in advance have created delays and increased costs to A.I.D. Although Matrix and its carriers have been able to adapt and respond quickly to situations in which the supplier announces product availability only after it is ready for pickup, there is no reason for A.I.D. to accept this poor performance from its suppliers.

The assumption of contracting responsibility by A.I.D. from GSA in FY 1991 will provide an opportunity to correct some of these production scheduling problems. A.I.D. procurement, however will have to take an active approach in monitoring and working with suppliers to improve discipline in this area. As S&T/POP's response to the Inspector General's 1989 audit found, GSA has been unwilling to use A.I.D.'s logistics system for automated production of purchase orders — a technical improvement that would shorten lead times and eliminate transcription errors. Without procurement, production scheduling, and transportation coordination in the future, A.I.D.'s U.S. to recipient distribution system will not achieve its full potential for rapid service and low costs.

2.11.6 Claims and Reimbursements

Matrix has filed only two claims against shippers. A shipment to Nepal arrived with all three pallets, but 10 of the 115 cases missing. A claim has been filed with the ocean carrier. An entire air shipment to Mauritius was lost by Lufthansa. A claim has been submitted.

2.12 Loss and Damage in Transit

All but two of the missions responding to the cable questionnaire reported that quantities always or usually match the quantities shipped. One of the two exceptions, Ghana, reported loss of interior boxes, rather than full cartons, and referred to this as "pilferage in transit." The other country, El Salvador, reported the loss of miscellaneous pieces due to "excessive length of time between arrival at the warehouse until withdrawal date from the customs warehouse."

Do the quantities of product received match the quantities of product shipped?

-Always	17
-Usually	12
-Infrequently	2
-No response	1

If B or C in question 2, are the losses:

-Full shipping cartons	2
-Interior boxes	5
-Miscellaneous pieces	6

No respondent reported receipt of poor or unusable products. The four missions responding to the questionnaire with condition as "fair" offered no supplementary comment.

What is the condition of the product when received?

-Excellent	26
-Fair	4
-Poor	0
-Unusable	0
-No response	2

Telephone interview comments on loss were restricted to references to pilferage of interior boxes. Telephone informants seem to find the level of loss acceptable.

3. Project Management

3. Project Management

Management of this project is important to A.I.D.'s management of its overall contraceptive procurement program. The project's impact extends beyond the distribution and delivery of products to providing a foundation for a complex worldwide logistics management system that spans over 125 public and private institutions in 72 countries, involving six suppliers, four contraceptive methods, two federal agencies, a number of private cooperating agencies and technical assistance contractors, and USAID missions and representatives around the world. The transportation contractor's flexibility, adaptability and responsiveness are important to the proper functioning of the overall logistics system.

3.1 Matrix Internal Management

Overall, Matrix has been extremely effective as a freight forwarder for A.I.D., and has positioned itself for continuing improvement in the manner in which it has performed its mission since the start of the project. Matrix has also received strong support in questionnaire responses and in interviews with mission personnel and CAs.

3.1.1 Matrix Management Structure and Practices

Matrix management systems are generally adequate and function efficiently. Matrix has a small, close-knit team of four people assigned to the project, and they are allocated to priority tasks. The Matrix team, as it has gained experience, has developed a good match between duties and staff skills. One replacement team member was brought on during May 1991 to fill a vacancy.

Requests for information from A.I.D./Washington, missions, CAs, and family planning programs have been answered responsively and in a timely fashion.

3.1.2 Relationships with Suppliers and Trucking Subcontractors

Matrix generally has good working relations with its suppliers, and tries to work with them as partners in the project. Some difficulties (such as lack of month-end coordination on shipment availability for pickup) early in the contract have been worked out.

Interviews were conducted with each supplier. Two site visits were made (to Ortho Pharmaceuticals and Wyeth-Ayerst Pharmaceuticals), and four telephone interviews were conducted. Supplier comments rated Matrix as "very good" and "extremely responsive." Suppliers commented that Matrix responded to requests for "hot pickups" overnight, or that when notified on a Monday that a consignment would be ready for pickup on Friday, Matrix responded in a timely fashion. One supplier commented that Matrix seemed to have an excellent relationship with its carriers.

In working with its trucking subcontractors, Matrix has been able to respond quickly to short-notice supplier product availability. In one case, working with Wyeth-Ayerst Pharmaceuticals, Matrix has had to work to ensure better carrier discipline in meeting the carrier's committed pickup times.

Matrix has worked to ensure that its warehouse location, procedures, and staff are able to support rapid truck loading, unloading, and turnaround.

Evaluation team interview questions on the relationship between production scheduling and transportation pickup elicited the reaction that this was a problem that was receiving attention at each supplier. Suppliers recounted their problems with foil packaging and raw materials that were on back order. One supplier telephone informant questioned why A.I.D. specified product shipment dates at the end of the month, when transportation capacity was tightest. She suggested that perhaps A.I.D. should consider staggering shipment dates throughout the month. Another telephone interview suggested that, rather than wait until the end of a month for multiple containers to be filled, A.I.D. might allow each container to be shipped as it became ready.

3.1.3 Management of Freight Forwarding and Consolidation

Methods of Shipment. Matrix has been proactive in monitoring methods of shipment. In several cases reviewed, Matrix took the initiative in making recommendations to the A.I.D. CTO and CAs as to more effective ways to support mission requirements. One such case involved a last-minute cancellation of a committed shipment, when the recipient delayed making a decision on cancelling the shipment.

Shipment Tracking and Tracing. Matrix has been highly effective in tracking and tracing shipments. Its capability in this area was well demonstrated during the Gulf War when both air and ocean carriers cut capacity and changed schedules, and yet Matrix was able to keep shipments moving by rerouting and maintaining constant awareness of shipment location.

Carriers Used. Often there does not appear to be much available choice as to carriers used, particularly for air and ocean shipments. Matrix has selected carriers who work with Matrix to improve service quality and reduce the incidence of loss or damage to shipments.

Voucher Preparation. At present, the voucher preparation and presentation process requires a great deal of preparation effort by Matrix and a great deal of review effort on the part of the A.I.D. CTO. Although a longer-term question may be whether vouchers are required at all, automation of the process would reduce the current level of effort. Under a more automated scenario, NEWVERN would include a database of fixed rates and rules to allow charges to be calculated and automated comparisons with Matrix vouchers made.

NEWVERN Updates. Matrix has developed its own shipment tracking and support system. The system is adequate to the task of managing the shipment support process today. JSI/FPLM and Matrix have developed procedures to interface the Matrix system with NEWVERN. Generally, NEWVERN updates are done by Matrix two to three times per week. Matrix enters data through this electronic interface within one to three days of Matrix's receipt of information from its warehouse or carriers.

System Integration. The Matrix system is not integrated with the NEWVERN system, but there does not appear to be a need for such integration. However, there is a need for a common understanding and a more formal statement of requirements for developing both the NEWVERN system and the freight forwarder shipment support system in the future. With a short term remaining on the Matrix contract, coordinated system development is unlikely to occur. The evaluation team noted that an A.I.D. policy goal is to strengthen the overall monitoring and coordination of population program activities, and that management information systems and automation, along with improved monitoring and development of program staff technical and managerial skills, have been identified by A.I.D. as ways to accomplish this goal.

Forwarder System Development. A sophisticated freight forwarder shipment tracking and information system was not foreseen as a requirement in the existing contract. However, such a system will be vital to the next contract. The importance of tracking, prediction, and communication of shipment arrival time, development of operational and management reports, the need to communicate closely with NEWVERN, as well as the automation required to support effective management and administration — all these factors mean that commitment of forwarder resources in this area are necessary.

Financial Controls. The team found Matrix's financial controls to be adequate. In reviewing financial controls, the team considered warehouse procedures and controls, as well as corporate controls. The team obtained an opinion letter from Matrix's independent auditor, which it relied on in part in its review.

3.1.4 Affiliation with the Harper Group

In its proposal, Matrix referred to an affiliation with the Harper Group, a West Coast-based worldwide transportation company. It was not clear to the team as to how Matrix planned to use the affiliation in this contract. To date, Matrix has made very little use of its affiliation with the group. The routings, ports of entry, countries, and recipients required to be served by A.I.D. are different from the principal routes, destinations and recipients served by major transportation companies, including Harper.

3.1.5 Depth of Personnel Dedicated to the Contract

Matrix staff appear competent and dedicated, and have gained considerable experience since the beginning of this contract. There has been little turnover among the staff. The Matrix personnel interviewed by the evaluation team gave evidence of a strong commitment to high customer satisfaction. This commitment was reflected in comments from nearly all respondents to the questionnaire.

There is some concern about the amount of paperwork and copies generated to support vouchers and shipment reports for Matrix, A.I.D., and CA files. Matrix reports that one full-time equivalent person is committed to making copies. This problem needs to be addressed directly through a review of system-generated reports that could substitute for paper, reduction of unnecessary copies, alternative and less paper-intensive ways of complying with A.I.D. regulations and reporting requirements, and possibly, through imaging systems.

Matrix devotes much of its effort to communications support services, and is very responsive and effective. Matrix uses telephone, facsimile, cable, and courier services to keep CAs, missions, and recipients informed. The process is driven by the importance Matrix attaches to monitoring and tracking A.I.D. shipments each step toward the destination port.

3.1.6 Adequacy of Matrix Activities in Addressing Needs for Shipping Services

The Washington area location for Matrix program support activities has been helpful to A.I.D., enabling Matrix to work closely with A.I.D. Matrix activities have concentrated on addressing A.I.D. and mission needs.

Matrix expressed a desire to work to promote more effective practices in areas that touch its own area of responsibility. Matrix has demonstrated its willingness and ability to work with mission and CA personnel to assist them in becoming more effective.

One CA, PSI, with activities in the two largest recipient countries, describes Matrix as being uncommonly well informed, innovative, and responsive. Visits by a Matrix executive to PSI sites were made to allow Matrix to become more familiar with PSI project activities, contraceptive requirements, and special recipient warehousing and logistics needs. One of these visits produced changes in documentation processes, and the result was elimination of demurrage charges that had run into tens of thousands of dollars annually.

The A.I.D. population support transportation system will not reach its full potential if recipients do not know enough about the logistics system to meet their needs. Currently, there is not enough emphasis on a central location contact to obtain information on shipment status and to get shipment management information to the field quickly and in an easy-to-assimilate form. There is a need to work more closely with recipients to get that information into their hands. Further, there is a need for more interaction between Matrix and JSI/FPLM, and between Matrix personnel and responsible A.I.D. field personnel in order to transfer knowledge about field conditions and requirements back to Matrix.

3.1.7 Matrix's Contribution to the Improvement of A.I.D.'s Contraceptive Commodity Support Program

Matrix appears to have conscientiously supported the goals and objectives of A.I.D.'s contraceptive commodity support program, and its approach generally reflects a strong desire to get the job done in the most effective manner.

Matrix has proposed ways for S&T/POP to improve A.I.D.'s service to missions, on the basis of lessons learned under the contract and standard industry practices. Recommendations have been made and changes introduced that have completely redesigned and significantly lowered the cost of A.I.D.'s contraceptive commodity distribution. These have included recommendations on routing, consolidation, carrier selection, documentation, packing, containerization, air expediting selected shipments by air, and selecting more secure truck transportation for the inland legs between port of entry and destination.

In the case of shipments to Bangladesh and Pakistan, Matrix has made major contributions to reorganizing transportation procedures to improve service, reduce costs, and virtually eliminate damage in transit.

3.2 Matrix and A.I.D. Interaction

3.2.1 Matrix and A.I.D. Efforts to Improve Management

There has not been sufficient priority given to the development of NEWVERN to make the transportation and distribution system more effective and efficient. The NEWVERN system's origins are in order entry and financial tracking. NEWVERN has been developed as a shipment tracking system. NEWVERN's basic capability is good, but the system will require continual development to

be fully effective in shipment management and management support. Without this development, CPSD and freight contractor ability to improve transportation management and mission support will be hurt. Different information has to be collected, entered, and maintained in the system. New reports and ways of presenting status and management information will have to be supported. Unnecessary paperwork will have to be eliminated. Freight contractor system development will need to be coordinated with NEWVERN development. There is inadequate activity in these areas at present.

Actions that could be considered fall into the areas of improved systems, management reporting, and program communications capabilities, principally in the area of setting transit time standards and reporting performance against those standards. The capability of the existing NEWVERN system needs to be reviewed, and a requirements plan developed for an enhanced NEWVERN as a basis for other management, reporting, and communications improvements, both with CPSD and the contractor.

3.2.2 A.I.D. Project Guidance

A.I.D., through the project CTO, has provided adequate, timely, and consistent guidance and information to assist Matrix in implementing the contract. This guidance and information has been provided both proactively and upon request.

Financial Disbursement. Matrix stated that it has been paid in a timely fashion. Matrix noted, however, that the financial management division has occasionally been unable or unwilling to advise Matrix on specific voucher numbers paid by wire transfer to Matrix's bank account.

Matrix noted the amount of time and effort needed to prepare vouchers and supporting documentation for submission to A.I.D., and questioned whether it was necessary to prepare four copies of information accompanying the voucher.

Requests for Waivers. Matrix commented that requests for transportation waivers have been approved without undue delays.

Contract Amendments. Matrix stated that amendments to the contract have been difficult to negotiate and thus slow in reaching closure. Matrix feels that this is due to a lack of knowledge about contraceptive commodity transportation in the contracting office, and that all requests for amendments had to be thoroughly investigated. This often turned out to be an extremely time-consuming task for both parties. Two examples cited were amendment of the contract to provide for 48-foot highway trailers in place of the 40-foot trailers originally specified, and the economic price adjustment for ocean freight in Amendment 5. Matrix reported that regular routings, less expensive and riskier, were used during the Gulf Crisis, as opposed to alternate routings that could have increased the safety of the cargo, but which also would have produced a non-reimbursable cost increase for Matrix.

USAID Missions. Matrix found mission staff to have been helpful and supportive. Matrix has expressed the need to identify a single individual within each mission to be responsible for acting as coordinator for incoming contraceptive shipments to that country. A single responsible individual would greatly enhance the communication flow between Matrix and missions worldwide.

4. Major Conclusions and Lessons Learned

4. Major Conclusions and Lessons Learned

4.1 Advantages of Consolidation of Shipping and Warehousing Responsibilities into a Single Contract

4.1.1 Enhancement of A.I.D. Program and Contract Management

The Matrix contract has been effective in ensuring that management attention has been concentrated on the distribution process. The advantages, in the words of one CA, represent an order of magnitude improvement in the process, compared to the pre-1990 situation. It is also clear that more needs to be done for the system to reach its full potential in improving service and reducing costs. The changes needed are in the area of system design (including computer-based systems), management policy, performance measurement and goal setting, and improved management of product procurement and scheduling.

4.1.2 Adequacy of Contract Design to Ensure Quality and Effectiveness of Services

Nearly all responding missions believe the Matrix contract design has adequately served mission, host country, and program needs. Answers to specific contract design questions regarding consolidation, documentation, transportation, and through service, confirm that missions endorse the adequacy of the current design.

This endorsement of the current contractual design indicates that missions believe the current design is better than the system that preceded it. Since most mission respondents are probably unaware of Matrix's provision of through service and through shipment tracking in selected countries, it is possible that some countries that might be well served by through service missed the opportunity to request consideration of this under any redesign of the contract.

The current contract does not encourage continuing improvement in quality of service. The contract does not require measurement and tracking of performance and performance trends against standards, nor does it set performance goals to be achieved in the future. This must be considered to be a deficiency in the existing system.

4.1.3 Improvement in Service through Consolidation

The Matrix contract calls for the consolidation of shipments of multiple products, supported by a central Matrix warehouse. Single-point responsibility increases control, decreases cost, improves efficiency, enables safer transit with less pilferage, and simplifies customs clearance.

Clear benefits have been obtained through consolidating responsibility in a single contractor organization, especially through Matrix taking delivery of the product at the supplier's door rather than at port or warehouse. These benefits include better control, better quality of service, improved ability to correct problems and service failures, and lower overall costs. Based on estimated current spending versus 1988-89 spending, savings of about \$1.1 million annually are being achieved as the result of this project. These savings from more effective recipient support, less loss and damage, and lower transportation destination costs (including demurrage and warehousing costs) have clearly been

achieved, although most of these costs are not tracked in NEWVERN, and cannot be easily measured today.

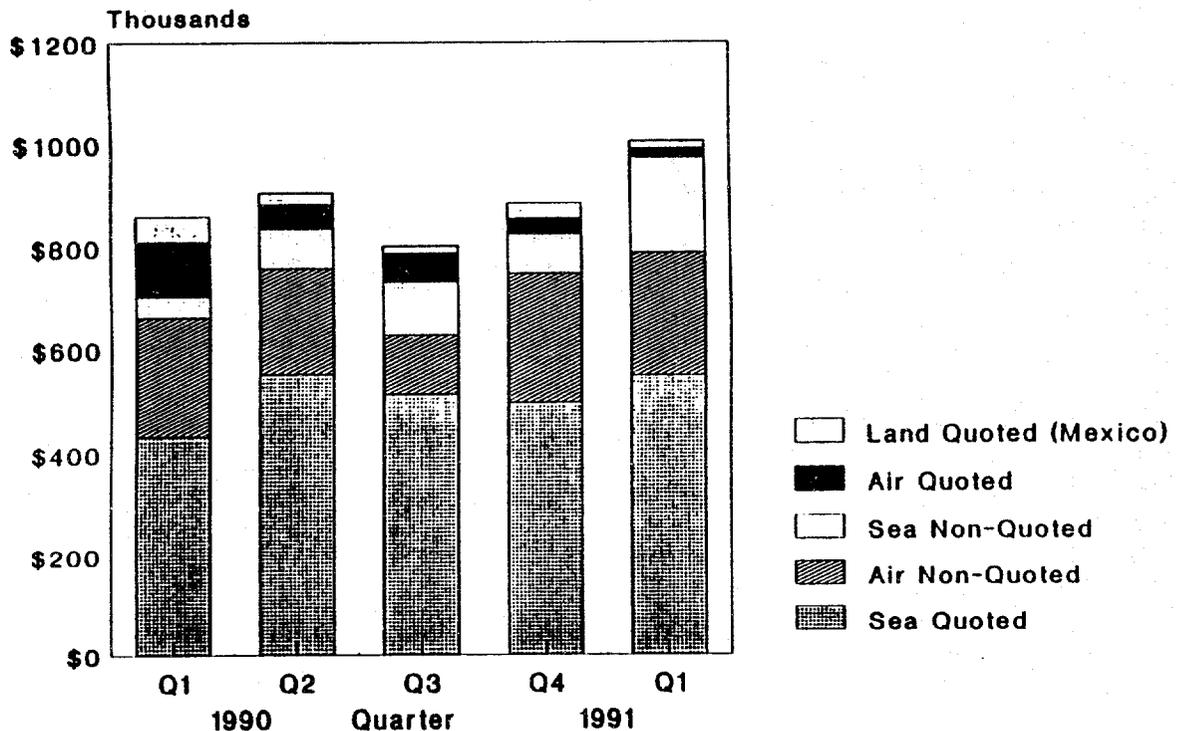
4.2 Cost-Effectiveness of the Current Contract

Transportation costs under this contract have been reasonable, and compare favorably with industry costs in general for similar services. Missions, CAs, and Matrix have cited evidence that this contract has held down both direct and indirect transportation costs, and the evaluation team found that the approach taken by Matrix in negotiating with carriers has been effective in holding costs. It will, however, be difficult to maintain current cost levels without a better understanding within A.I.D. of transportation costs and pricing for these kinds of commodities.

The contract amendment specifying quoted air rates to additional destinations has not produced a significant change in air freight costs. The evaluation team's analysis showed a slight reduction in costs at higher weights (above 1,500 pounds) after May 1990, and slightly higher costs at lower weights. The team was not able to quantify this further because of an inability to do before and after comparisons of air freight costs for widely varying shipment weights. The team concluded that overall air freight costs to non-quoted destinations have not changed.

Transportation costs by mode of shipment have been tracked quarterly, using NEWVERN data. Figure 5 shows total quarterly costs by mode of shipment and Figure 6 shows the trend in transportation cost per pound for quoted and non-quoted destinations. Quoted destinations represent the 20 leading destinations which have fixed prices quoted in the Matrix contract. Review of these figures indicates that the system of quoted rates has, overall, been effective in holding costs down.

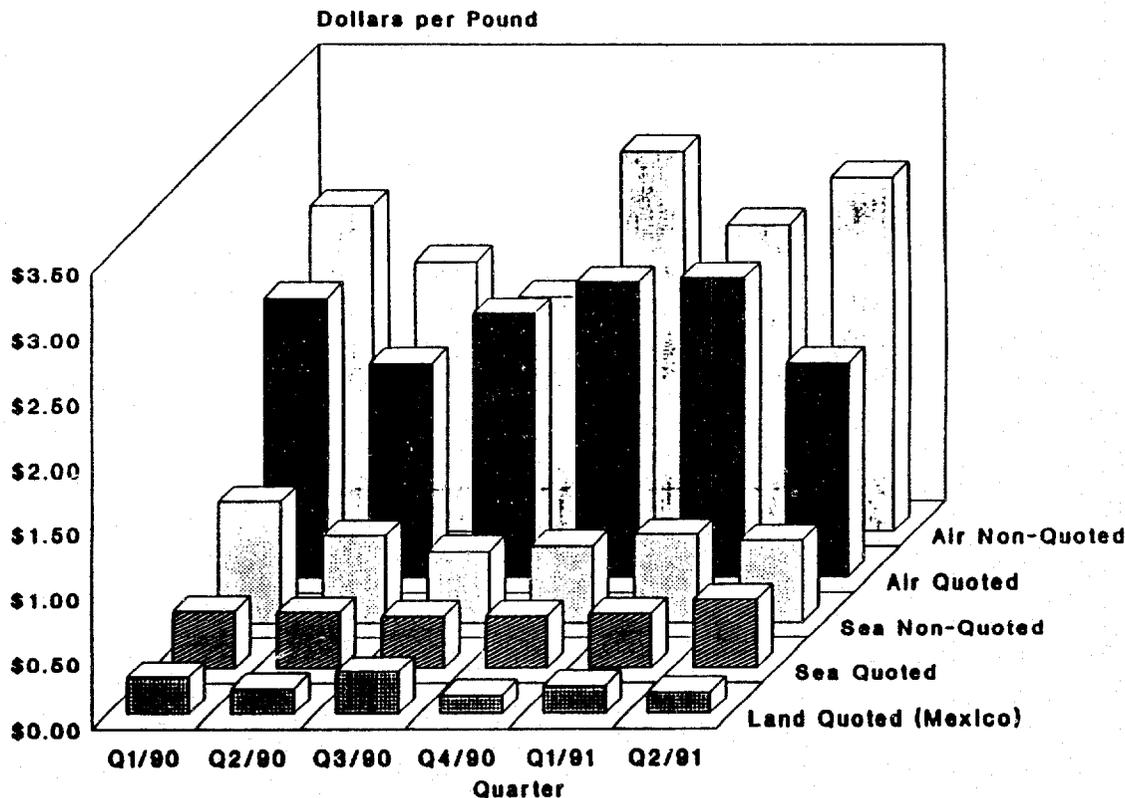
Figure 5
Matrix Contract Transportation Costs
By Shipment Mode
(Quoted and Non-Quoted Destinations)



Source: NEWVERN Data

Figure 6

**Trend in Transportation Cost per Pound
By Mode and Quoted Category
(Quoted and Non-Quoted Destinations)**



Source: NEWVERN Data

Since many elements of the total cost of transportation and distribution of A.I.D. contraceptive commodities are not captured or measured in NEWVERN (e.g., warehousing at destination port, demurrage charges, customs clearance), it is not possible to fully measure or document savings from improved policies and practices. Developing the span of the NEWVERN system to capture and track door-to-door information would assist evaluation of transportation and distribution cost-effectiveness in the future.

4.3 Consolidation of Multi-Recipient Shipments

At present, consolidation of shipments is not being used to full advantage in that consolidation of multiple-recipient shipments is not being utilized. This limits the economic benefits of consolidation. New procedures would have to be introduced to deal with this issue. The transportation contractor would have to be made responsible for door-to-door service, and would need to appoint a clearing agent in the port of entry to handle customs clearance before delivery of individual shipments to individual recipients. Action in this area will depend on arrangements being made (coordinated with missions) in each port of entry as part of a move toward door-to-door service, and would only occur when and where mission and recipients agree in advance to try multiple-recipient shipments.

4.4 Communication between A.I.D./Washington, Missions and Matrix/NEWVERN

A major issue throughout the contract has been the lack of adequate communication between the missions and Matrix/NEWVERN. Missions have not been well enough informed about the progress and anticipated arrival of their shipments, and information does not always reach the right person in the mission. There is a need for the development of approaches that would make it as easy as possible for the missions to accept, absorb, confirm, and act on information about shipment status. To the extent possible, any developed system would be "transparent" to the missions, and would be designed for minimum effort on their part.

The Matrix contract has clearly made a significant contribution to A.I.D.'s management of the contraceptive commodity distribution process. The combination of Matrix and NEWVERN/JSI has allowed performance to be measured and accurate information to be developed about some elements of the shipping process. However, the information that is available has not been applied to manage the system better, missing information is not being collected, and there has been insufficient attention to formal program communications.

Beyond providing accurate information, there are three main areas in program communications. First, users need better briefing on how the transportation system works and what they can expect from it in support of their needs. Second, a responsible individual needs to be identified as a mission or recipient contact for transportation messages, questions and actions needed to keep shipments moving to the recipient. Third, better ways are needed to ensure that lessons learned and problems are incorporated into constant improvement of transportation system performance.

Better communication from Matrix and NEWVERN has been evolving. Matrix submits required freight forwarding information electronically to NEWVERN. Although this information has served to improve S&T/POP control through available CPSD terminal access, it has not been as effective as it could be in supporting reports to missions and recipients. For example, the reports that predict arrival information for anticipated shipments to each country do not contain the best and most recent available information about shipment status. These reports need to be reviewed and better understood by A.I.D., and improvements developed as part of the NEWVERN development process.

The number of different country programs and missions supported makes it difficult and time-consuming for the freight forwarding contractor to get to know and understand the individual idiosyncrasies of each situation. There is a need to formalize and institutionalize this knowledge, possibly even considering the development of a computerized knowledge base system.

4.5 Management

Unnecessary time and money are being spent in generating paperwork for multiple files and unnecessary copies. Inadequate attention is focused on questioning the need for time-consuming procedures and multiple non-action copies. This has detracted from the ability of both A.I.D. and Matrix staff to support mission and recipient needs, and has diverted management attention from analyzing the existing process and improving systems and procedures.

Contraceptive commodity procurement contracting responsibility will soon shift from GSA to A.I.D. GSA's role has been acknowledged by A.I.D. to add procedural steps to procurement that lengthen

procurement lead times, and GSA has been unwilling to use A.I.D.'s logistics system for automated production of purchase orders. Bringing the procurement responsibility into A.I.D. provides an opportunity to address the problem that exists between manufacturer production scheduling and transportation pickup. Late notification of product availability for pickup is one of the more serious performance problems (along with customs clearance and receipt) that needs to be addressed in managing the A.I.D. contraceptive transportation system for more rapid and more consistent total transit times.

A.I.D.'s ability to manage and modify the contract has been limited by its lack of understanding of contractor costs, and also its lack of guidelines for structuring fees and evaluating contractor fee levels. Without better understanding of these management issues, a future solicitation may be deficient in its statement of requirements and evaluation criteria. A.I.D. needs to continue to push for a better understanding of contractor costs and develop its own guidelines for structuring fees and evaluating fee levels. A well-constructed solicitation statement of technical requirements and evaluation criteria will be critical to the success of the next contract.

4.6 Customs Clearance

Difficulties involved in customs clearance documentation pose perhaps the most difficult problem faced by Matrix in managing this program. Excruciating measures are often required today to support the movement of A.I.D. shipments. Documentation improvement can help to alleviate this situation, but there needs to be a direct attack on unnecessary red-tape and paperwork from above. This will, of course, require high-level mission involvement at the country level, as well as A.I.D./Washington involvement at the intergovernmental level.

4.7 Duration of Contract

Experience under the current contract suggests that six to eight months are required for contractor staff to gain familiarity with the customs clearance and other special A.I.D. requirements of the large number of developing countries involved in any A.I.D. contraceptive transportation contract. Changing contractors frequently denies A.I.D. the benefits that accrue when the contractor has learned to predict these requirements on a recipient by recipient basis. A.I.D. would be better served by a longer contract duration, perhaps of five years.

4.8 Fixed Rates vs. Cost Reimbursement

The system of fixed rates for 20 leading destinations has worked well and to A.I.D.'s advantage. The major advantages accruing from this system are

- its simplicity and predictability, and
- that these costs are less than costs entailed by A.I.D. for the same service prior to the Matrix contract, and equal or less than contraceptive shipping costs paid by other donors.

The major disadvantages of this system are

- Matrix reports that the quoted costs in the existing contract resulted from unusually low negotiated rates with carriers in 1989 in the course of bidding the first contract. Matrix notes that this may not be repeatable for a follow-on contract.
- Contracting officers in the Office of Procurement noted that quoted or fixed fees for shipping are an unusual procedure for shipping contracts and make it difficult to provide for future contract extension. Preliminary interviews suggest they may favor restructuring a future contract so as to move toward cost reimbursement for shipping costs. The concern is to avoid excessive "padding" built in to protect the contractor on its fixed rates.

The team's understanding of the situation today, however, is that the basis for the fixed rates in the Matrix contract were negotiations between Matrix and the carriers in 1989 which fixed the charges Matrix pays for transportation. Matrix then marked up its rate and quoted this rate in the solicitation. Matrix does not appear to have borne any risk of rate changes during the two-year period of the contract.

Under the current system, the additional costs required to assure quality performance (e.g., repeated sending of documentation, upgrading of electronic data management) diminish Matrix's return. Although with the current contractor this has not led to diminished service, direct reimbursement for selected services might better guarantee A.I.D.'s interests as the follow-on contract is solicited.

5. Recommendations

5.1 Recommendations for Current Contract

Missions, CAs, and A.I.D./Washington have been satisfied with the results of the contract requirements, and Matrix's implementation of those requirements. Short-term improvements that are needed should be considered to be fine-tuning improvements. Actions to improve management under the contract fall into the areas of improved systems and management reporting capabilities, principally in the area of setting transit time standards, communicating better with missions on shipment arrival in port, and reporting performance standards.

1. **Data for each country on the achieved transit times should be reviewed to set standards for planned air/surface transit times for each mission, and a monitoring system set up by Matrix to review and report on performance.** These standards and performance reports should be in a format and medium that is useful to missions. This should be done in an environment that expects continuing improvement. A.I.D. contraceptive transportation should set the standard for the best available service.

Some approaches that should be developed include more useful reports, standard on-demand reports, better prediction and improved tracking of shipment progress, a central clearing desk, and sharing of information about who has field responsibility for each individual shipment.

Specific performance standards and management reports should be developed for each major area of service:

- U.S. Surface (supplier to A.I.D. warehouse)
- Warehousing
- Documentation
- Consolidation
- Transshipment
- Shipment Tracking and Tracing
- International ocean transport
- International air transport
- Port of entry clearance (including customs)
- LDC inland shipping--port to door

2. **A.I.D. should encourage more direct interaction between key Matrix personnel and A.I.D. mission and recipient personnel, and should work with Matrix to develop a user guide to contraceptive transportation support services that would serve as a reference handbook.** This would help ensure better active communication between the missions and Matrix/NEWVERN, and would encourage the development of approaches that make it as easy as possible for the missions to accept, confirm, and act on accurate information at port or destination. Brief user guides would define terms, summarize the process, and include telephone/fax/telex numbers that could be used to inquire directly regarding specific shipments.

3. **Matrix's shipment database and management reporting systems should be continually improved.** A sophisticated shipment information system was not foreseen as a requirement of the

existing contract. Such a system should be considered to be vital as part of the next contract, and should be driven by the same requirements that drive the NEWVERN system.

Matrix has developed its own shipment tracking and reporting system, which also develops information which is transmitted between Matrix's system and NEWVERN. Development of the Matrix system and links between the system and NEWVERN should be encouraged. JSI/FPLM and Matrix have worked out procedures to interface the Matrix system with NEWVERN. These interface procedures should continue to be developed, and the Matrix-NEWVERN data transfer process automated.

4. **A.I.D. should insist that suppliers provide firm dates and times that product items will be ready for shipment.** Production directive change orders should be controlled, and supplier performance in meeting commitment dates should be monitored. Planned shipment dates should be staggered through the month. Final estimates of product availability times should be transmitted to Matrix 10 days before shipment. Failure of suppliers to meet shipment dates should be cause for A.I.D. and supplier joint management attention or contractual discipline.

5. **The voucher preparation and presentation process should be automated to reduce the effort required on the part of the A.I.D. CTO to review individual vouchers.** This should be addressed through procedural simplification, automation of the audit and verification process, and development of NEWVERN to collect the necessary information from the freight contractor.

6. **The issue of facilitation of customs clearance needs to be identified as a key issue in making rapid clearance and simplified documentation routine, without the need for the often excruciating measures that are required today.** A.I.D. should undertake a broad effort to work on customs facilitation.

7. **A country memorandum should be developed jointly by recipient and mission delineating responsibilities in those countries reporting confusion or poor performance of customs clearance responsibilities.** This should be done at the time of a country visit by JSI/CDC staff.

8. **The NEWVERN system should be changed to better match orders to an integral number of containers, as well as to better handle split shipments.** CDC and JSI staff who often initiate the ordering cables should be trained and equipped with the information required to order exact container loads, whenever feasible. Recipients should be informed and their consent obtained before containers are "topped-off" with partial shipments, with the remainder to wait until the next container load is scheduled to move.

9. **A process mapping exercise should be initiated and maintained to define activities, decisions, dependencies, information and communications needs, and relationships in the transportation and warehousing functions necessary for effective support of A.I.D. contraceptive procurement and distribution.** This process will require A.I.D. and Matrix participation and should be performed before issuance of a new solicitation for a future freight contract. The results of the process mapping should be incorporated into technical requirements and evaluation criteria for the new solicitation. The process map, once completed, should be maintained current through ongoing review and updating.

10. **CPT transportation cost projections should reflect information about recent actual costs and known future changes.** Consideration should be given to incorporating in the CPT guidelines more

realistic, experienced-based transit and clearance times, as well as guidance on quantity of product items that will fit in standard containers.

5.2 Recommendations for the Future Contract Design

In developing the future A.I.D. contraceptive freight forwarding system, as a component of the overall logistics system, priority attention should be directed at reviewing activities and services provided under the future contract from both a program management and a customer and recipient point of view. Activities which support service to customers and effective program development should be strengthened; almost all others should be eliminated.

1. **To the extent possible, the future system should be made "transparent" to the missions, designed for minimum effort on their part.** Information should be delivered in a form that is easy as possible for its customers (missions and host-country recipients) to interpret and accept.
2. **A.I.D. policy should support shifting routine management and review tasks to the freight contractor and CAs.** A.I.D. management should concentrate on policy, plans, and audit issues. Unnecessary paperwork and reports, as well as unnecessary copies of reports, should be eliminated. Process mapping and systems (including NEWVERN) will continue to require development to accomplish this.
3. **The freight forwarding and contraceptive commodity logistics program should be developed continuously to provide better information support, performance reporting, and management reporting and aim for greater consistency of service and customer satisfaction.** Standards, expectations, and procedures need to be developed and communicated to field missions. Strengthening management information systems and automation should continue to be identified as a major activity that will help strengthen overall monitoring and coordination of population program activities, as well as making a significant contribution to the knowledge and coordination of activities among central, regional, and field staff.
4. **Better communication between the freight contractor and mission, CDC, and JSI personnel should continue to be encouraged through formal and informal mechanisms in a new contract design.** The number of different country programs and missions supported makes it difficult and time-consuming for the freight forwarding contractor to get to know and understand the individual idiosyncrasies of each situation. The development of procedures and knowledge bases, continuing process mapping, and flow-charting of processes, field surveys, sharing of lessons learned, and more experience with the current program can all play a part in developing effectiveness in this area.
5. **CPSD, USAID missions, recipients, suppliers, contractors, and CAs must be linked to the information system.** Automation, and emphasis on the communication of information where and when recipients need it, and in a form they can most conveniently use, needs to be a fundamental driving force in the development of this program — for CPSD, for the contractor, and for CAs, (including JSI/FPLM). With the NEWVERN system, a basic building block is already in position. Steady and consistent effort will be needed to provide this program with the support it needs in this area. An information and communication system that ties the participants together, building where it can on existing capability, must be a consistent theme.

6. **The approach taken in the current contract — services consolidated in one locus of responsibility — should continue to be the basic approach to assure the best service and the best price for the service.** In order to retain lowest possible costs without compromising service, benefits of forwarder-carrier fixed-price negotiation should be continued.

7. **A.I.D. should continue to push for a better understanding of contractor costs and develop its own guidelines for structuring fees and evaluating fee levels.** Critical to the success of the next contract will be a well-constructed solicitation statement of technical requirements and evaluation criteria.

8. **A future contract should be awarded for up to a five-year period, rather than annually.** The need to develop specialized expertise and knowledge of A.I.D. shipping, customs clearance, and documentation requires development of an institutional memory in the contractor. Experience under the current contract suggests that six to eight months are required for contractor staff to gain familiarity with A.I.D.'s special requirements, particularly the customs clearance requirements of the large number of developing countries involved in this project. Changing contractors frequently denies A.I.D. the benefits of contractor experience. Allowable cost-escalation clauses should be developed based on semi-annual review, so that a mechanism can be adopted for extending the contract beyond its initial term, for a period of perhaps three years to a maximum of five years.

9. **The mode of contracting that should be considered to be most advantageous from a technical and cost point of view is a hybrid one, with a requirement for fixed prices on major transportation origin-destination pairs, and with cost-reimbursable and fee-based compensation for defined contract services.** The system of fixed rates for 20 leading destinations has worked well and to A.I.D.'s advantage. The benefits of this system should be continued in any future contract, if carriers are willing to continue to negotiate fixed two-year rates with prospective bidders on the A.I.D. contraceptive transportation contract. In addition, prospective contractors be encouraged to develop a simplified rate structure through adoption of zone rates from areas of the United States to destination regions.

10. **Direct reimbursement for selected services might better guarantee A.I.D.'s interests as the follow-on contract is solicited.** Under the current system, the additional costs required to assure quality performance, (e.g. repeated sending of documentation, upgrading of electronic data management) diminish Matrix's return. With the current contractor this has not led to diminished service.

If A.I.D. were to select cost reimbursement for the follow-on contract, the following mechanisms might be used to set shipping fees: air and truck shipping costs could be indexed to changes in fuel costs; ocean shipping could be set similar to other A.I.D. contracts that involve shipping. Alternatively, rates could be indexed to rates that A.I.D. pays Matrix for the shipment of personal effects. Or, the index could be tied to changes in rates bid by carriers for the U.S. State Department's Dispatch Agency or for Department of Defense movement of household goods; these rates are adjusted periodically.

If the new arrangements include quoted rates, then the rates should be quoted for a minimum of two years, with a procedure for renegotiation of rates between contractor and the carriers no more frequently than annually during the term of the contract. Cost escalation provisions, based on an index to be selected, should be considered as a means of extending the period during which fixed transportation rates will be effective.

11. **A contracting approach should be considered that allows amendment of the contract by either A.I.D. or the contractor on six months notice, with the right on A.I.D.'s part to review costs and fees, and determination by A.I.D. as to what can be considered as uncontrollable contractor cost factors. Ways in which carriers could "team-up" with the contractor and certify that they would abide by the contract's escalation factors should also be investigated.**

12. **To the extent possible, service and shipment-tracking coverage should be door-to-door. Plans should be developed on a country-by-country basis in conjunction with missions and CAs to move in this direction. Door-to-door, or through service, has the advantages of greater monitoring and control of shipments, more opportunities for consolidation, and better tracking of costs and transit times. Use of a single customs clearance agent for multi-recipient consolidations should be tested, but only with mission guidance. Door-to-port service should be considered less preferable, but will in many cases be the best level achievable.**

13. **The A.I.D. freight forwarder should subcontract for agent services in each transshipment port to monitor transshipment. These agents would be responsible for faxing the freight forwarder confirmation on the final-leg vessel, revised arrival date, local clearing agent, and container and seal numbers. This would enable the A.I.D.-contracted freight forwarder, and NEWVERN, to provide recipients more reliable information than that currently relayed to Matrix by U.S. shippers.**

14. **To obtain a continuing increase in benefits from consolidation, a review needs to be made of the potential for changes in the CPT and ordering processes, and for guiding missions and CA personnel on capacities of standard container configurations. The objective of such a review would be to ensure that containers are effectively utilized and shipments of individual products are effectively combined.**

15. **The contract should have incentives for sharing the savings realized by A.I.D. (as a result of contractor efforts) between A.I.D. and the contractor. The freight contractor should have incentives to spend on those quality and preventive measures which will produce a better combination of overall service and lower costs. Achieving this result will require good cost, performance, and trend measurement systems.**

Appendices

Appendix A

Attachment 1: Evaluation Scope of Work

Attachment 2: Persons Interviewed

Attachment 3: Project Identification Data

Attachment 4: Documents Reviewed

Attachment 1

Evaluation Scope of Work

EVALUATION OF S&T/POP CONTRACT WITH MATRIX INTERNATIONAL LOGISTICS, INC.

Under the Central Contraceptives Procurement Project (936-3018), the Office of Population has a contract with Matrix International Logistics, Inc. for transportation and warehousing of contraceptive commodities. The contract is for two years with an option to renew annually for up to three additional years. The contract was awarded on 9/21/89, and, therefore, it is appropriate to evaluate Matrix's performance under the contract as well as the contract's design. Following is some basic information on the Matrix contract:

I. Basic Project Information

Project Name and Number	Central Contraceptive Procurement (936-3018)
Agreement Number	DPE-3018-C-00-9025-00
Agreement Value	\$6,400,000 (to date)
Obligations to Date	\$6,400,000

II. Purpose of the Evaluation

The objective of the Matrix contract is to improve the efficiency of transporting contraceptive commodities to family planning programs in developing countries. To achieve this objective, Matrix provides the following major services:

1. Shipping: trucking contraceptive commodities from manufacturers to port or the warehouse, ocean and air transport to port of destination, and selected inland transportation (e.g., Texas to Mexico City, Durban to Harare, Matadi to Kinshasa, and Mombasa to Nairobi);
2. Warehousing: leasing and managing at least 50,000 cubic feet of storage, and insuring all warehoused contraceptive commodities against loss or damage;
3. Consolidation: maximizing opportunities to consolidate shipments of multiple products to a single consignee via trucking, ocean or air transport;
4. Communications: sending original shipping documents (bill of lading, packing list, commercial invoice and other required documentation) via courier to consignees or other designated recipients, and copies to designated recipients, for each shipment;

5. Reporting: maintaining in NEWVERN current shipping information for all shipments until receipt of product is confirmed at destination;

6. Trouble-shooting: correcting misshipments, pressing claims for lost or damaged shipments, and obtaining release of shipments stuck in port; and

7. Disposal: implementing disposal of expired or deteriorated products stored in the warehouse.

While the bulk of Matrix's effort is devoted to performing these freight forwarding services, Matrix's responsibility under the contract extends beyond the successful and efficient moving of freight.

The major focus of the evaluation is to assess Matrix's performance under the contract: the appropriateness, quality, timeliness, and cost-effectiveness of the services rendered under the contract. This review will include Matrix's management capacity, both for warehousing and for freight forwarding; Matrix's ability to provide statistical, word processing and domestic and international communications support services; Matrix's depth of personnel dedicated to this contract; and Matrix's contribution toward improving A.I.D.'s contraceptive commodities support program.

The evaluation team will also be asked to document whether it has been to A.I.D.'s advantage to consolidate contraceptive shipping and warehousing responsibilities into a single contract, in terms of management, quality of services to field programs and overall transportation costs. Finally, the evaluation team will be asked to assess the design of the current contract, and to demonstrate that this contract design should be utilized again for similar services or to identify a more efficient contract design (e.g., management and contractual oversight, establishing a longer-term contract and minimizing costs).

III. Background

The Office of Population has provided contraceptive commodities to family planning and AIDS prevention programs for over two decades. These commodities originate at seven manufacturing plants located in the U.S. and Puerto Rico, and are shipped to approximately 60 destinations each year. Prior to consolidating the necessary shipping and warehousing services into a single contract, A.I.D. utilized three separate agreements to obtain these services: an interagency agreement with GSA, a cooperative agreement with FPIA and a contract under the FPLM I project with John Snow, Inc.

An Inspector General audit during FY 1988 found fault with this proliferation and duplication of freight forwarding services, and concluded that S&T/POP/CPSD had lost control of this critical service to Missions and programs. The IG reported excessive and aging contraceptive supplies in the warehouses, and shipping procedures that resulted in lost or delayed shipments.

In order to regain management control of these freight forwarding services and to impose accountability for them, A.I.D. competitively solicited a contract to obtain these services through a single firm. A.I.D. awarded Matrix this contract in 9/89. Matrix transferred existing warehouse stocks to the Matrix warehouse in 12/89 and began to perform as S&T/POP/CPSD's sole freight forwarder in 1/90.

IV. Evaluation Questions

This evaluation will cover four topics:

1. Matrix's performance in freight forwarding;
2. Project management; and
3. Contract (re-) design.

1. Freight Forwarding of Contraceptive Commodities

a. How would the team assess the overall performance of Matrix in the freight forwarding field? Have the activities adequately addressed A.I.D., host country and program needs for shipping services?

- 1) Was the quantity of product received the same as the quantity of product ordered and shipped?
- 2) Were the markings on warehouse shipments clear and correct?
- 3) What was the condition of the product when received?
- 4) Was the product received on time and was the correct documentation provided on time?
- 5) Were problems solved in a timely and satisfactory way?
- 6) Were ad hoc requirements and emergency requests filled as needed?

b. How does Matrix's performance in shipping commodities compare to industry standards for excellence and cost, in terms of the best available and that obtained by other donors?

How does Matrix's performance compare in each of these major areas of service: U.S. domestic trucking (i.e., from the supplier to the Matrix warehouse), warehousing, consolidation, international ocean and air transport, and LDC inland shipping from port-to-door (i.e., Mombasa to Nairobi)?

c. Did Matrix provide the necessary warehousing, consolidation, documentation, trouble-shooting, reporting and related services?

1) Was product palletized and stored correctly in the warehouse? 2) Did the warehouse manage correctly the product in storage and employ acceptable inventory controls? 3) Were products shipped from the warehouse marked, packed and consolidated appropriately? 4) Was documentation for all shipments complete and accurate, and distributed as requested (originals, copies and timing)? 5) Were shipping problems reported early, corrective actions taken and reported, claims filed and reimbursements made? 6) Did Matrix update NEWVERN as requested, importing and transferring data as needed? 7) Did Matrix cooperate fully with contraceptive quality assurance audit activities, monitor warehouse conditions and dispose properly of expired product?

d. Did Matrix move shipments from origin to destination efficiently and on time? Were contract requirements on turn-around satisfied?

1) How long did it take for Matrix to pick up product from each of the seven suppliers once notified of its availability? 2) How long was the transit time between pick-up and delivery to port or the warehouse? 3) How long did it take for shipments to reach the Matrix warehouse, and how soon after receipt was NEWVERN informed of receipt? 4) How long did shipments stay in port before sailing or flying to destination? 5) How long did shipments stay at transshipment points? 6) Do Matrix's international transit times compare favorably with industry standards for excellence?

e. Did Matrix's shipping and reporting practices comply with FAR, MARAD and A.I.D. regulations and requirements?

1) Did Matrix obtain waivers for any use of non-U.S. flag carriers, as needed? 2) Did Matrix comply with cargo preference regulations? 3) Did Matrix provide rated ocean bills of lading to OP/TRANS and MARAD as required? 4) Does Matrix have evidence of competition for charges as required by the contract (shipments to non-quoted destinations, insurance, LDC inland transportation, etc.)?

2. Project Management

a. Is there sound internal management of contract resources by Matrix?

- 1) Is the current management structure of Matrix sufficient to ensure proper oversight of contract implementation (arrangements with suppliers, warehouse controls, methods of shipment, carriers used, data entry, NEWVERN updates, voucher preparation, etc.)?
- 2) What use has Matrix made in performing contract requirements of its affiliation with the Harper Group?
- 3) Does Matrix maintain adequate shipment files and financial controls to meet contract requirements?

b. What type of management practices does Matrix use to ensure that resources (i.e., staff, financial and material) are properly allocated to various tasks?

- 1) Are the management systems adequate and do they function efficiently?
- 2) Are requests for information from AID/W, Missions, Cas and programs answered in a timely fashion?
- 3) Are Matrix staff allocated to priority tasks?
- 4) Is there a good match between duties and staff skills?
- 5) What should be done by Matrix and S&T/POP to improve management under the contract?

c. Has A.I.D. provided adequate, timely and consistent guidance and information (proactively and upon request) to assist Matrix in implementing the contract?

- 1) Have requests for technical directions or contract clarifications been answered clearly and in a timely manner?
- 2) Have Missions confirmed receipt of product in a timely manner?
- 3) What should A.I.D. do to better facilitate Matrix performance under the contract?

d. Has Matrix worked carefully with A.I.D. to improve A.I.D.'s management of its commodity procurement and shipping service to field Missions and programs?

- 1) Has Matrix proposed ways for S&T/POP to improve its service to Missions, on the basis of lessons learned under the contract and standard industry practices?
- 2) Has Matrix fostered good working relationships with and been responsive to the peculiar requirements of S&T/POP's suppliers, field Missions and Cas?

3. Contract Design

a. Have S&T/POP, field Mission, Cas and family planning programs benefitted from the consolidation of freight forwarding and warehousing into a single contract?

1) Has the current contractual arrangement resulted in tighter S&T/POP control of these functions? 2) Has the current contract lessened the management burden in administering and overseeing this element of support to field Missions and programs? 3) Has this consolidation of responsibility resulted in improved service to the field? 4) How do the overall worldwide costs of shipping and warehousing compare to total costs under the previous arrangements? 5) How do costs under this contract to the major 20 recipients compare to their previous costs for both ocean and air shipments? 6) How do costs under this contract compare to industry costs in general for similar services?

b. Has the design of the current contract been adequate to serve the needs of S&T/POP, field Missions, Cas and family planning programs?

1) Have the contract requirements for turn-around time, documentation, communications and reporting satisfied the needs of those depending on these services? 2) Is it of benefit to the program for Matrix to take delivery of product at the supplier's door rather than at port or the warehouse? 3) Were quoted rates for 20 destinations necessary to obtain those costs to those destinations? 4) Did the contract amendment specifying quoted air rates to additional destinations result in lower costs than actual cost plus fee?

c. What changes to the current contract should A.I.D. consider to improve services and/or reduce costs?

1) Are shipments consolidated and charged to the maximum benefit of the Government? 2) Does the shipping fee adequately compensate Matrix for their services and provide sufficient incentive to take cost-cutting steps?

d. Is there a more effective and efficient method available to S&T/POP for obtaining these shipping and warehousing services?

1) Should these services continue to be consolidated into one locus of responsibility? 2) Should these services be obtained through a contract? 3) Should these services be obtained through open bid? 4) If by contract, which mode of contracting is most advantageous from a technical and cost point of view: cost-reimbursable, or fixed-price? 5) Is it more advantageous to award annually or for a 5-year period? 6) Is there a way to assure the best service and best

price for that service? 7) What can be done to provide flexibility in costs and retain lowest possible costs without compromising service?

8) Is there a way to preserve service oversight and accountability and reduce the administrative burden of reviewing costs on all shipments? 9) If the new arrangements include quoted rates, for how long an extended period of time is it advantageous to have them quoted? 10) Should the service be door-to-port, port-to-port, or door-to-door?

V. Composition of the Evaluation Team

The evaluation team will consist of two people who, between them, have expertise and at least 5 years experience in the following areas: U.S. Government and A.I.D. shipping regulations and requirements, international ocean and air transportation industries, domestic trucking and warehousing, and logistics and management information systems. In addition, the team should have experience in shipping commodities to developing countries, be good writers and be able to perform an unbiased and impartial evaluation of the Matrix contract.

The evaluation is projected to take place during the months of June and July, 1991, with meetings scheduled in Washington, DC. While in Washington, the team will meet with appropriate A.I.D., Matrix and cooperating agency personnel and have access to project files, vouchers, reports and other pertinent material. No international travel is envisioned, although the team may wish to interview by telephone or survey by cable A.I.D. population officers and/or developing country personnel. No domestic travel is envisioned, although the team may wish to interview by telephone representatives from the manufacturers, and the trucking companies, steamship lines and air carriers Matrix has utilized.

VI. Reporting Requirements

A draft evaluation report will be due to A.I.D. no later than the end of July, and, therefore, a draft must be submitted to POPTECH for editing and formatting by July 12, 1991. The report, excluding annexes, should not exceed 50 pages and should include:

- o a table of contents;
- o an executive summary (two to three pages) giving a brief overview of the contract's objectives, the purpose of the evaluation, the major findings and recommendations;

- o a statement of conclusions, findings, recommendations and lessons learned (five to ten pages) with supporting and empirical evidence for each of the conclusions;
- o the main body of the report should provide a full description of: 1) the purpose and major issues underlying the evaluation, 2) team composition and evaluation methodology, 3) important findings, conclusions and recommendations, and 4) lessons learned and recommendations for the next freight forwarding contract;
- o appendices, as needed, including evaluation scope of work, technical notes, lists of individuals interviewed and documents consulted, and dissenting views, etc.

At the time the draft report is completed, the team leader will hold a debriefing on the major findings and recommendations for interested A.I.D. staff.

Within two weeks of receipt of the draft report, A.I.D. will provide written comments and corrections, and approximately two weeks later the final evaluation report will be due.

VI. Funding and Logistical Support

All funding and logistical support for the Matrix evaluation will be provided through the POPTECH project. This includes recruitment and payment of evaluation team members, support for all expenses related to the evaluation and publication of the final report.

Attachment 2

Persons Interviewed

Duff G. Gillespie	Director, S&T/POP, A.I.D.
Terrence Tiffany	Deputy Director, S&T/POP, A.I.D.
Elizabeth S. Maguire	Associate Director, S&T/POP, A.I.D.
Mark Rilling	CTO, S&T/POP/CPSD, A.I.D.
John Crowley	Population Specialist, S&T/POP/CPSD, A.I.D.
Steve Dean	Contract Officer, Division Chief, OP/W/A.I.D.
Mark Walther	Contract Specialist, OP/W/HP
Bob Goldman	Division Chief, OP/TRANS
Rick Garcia	Contract Specialist, OP/TRANS
Linda Bernstein	Contract Specialist, OP/TRANS
Barbara Hodge	Contract Specialist, OP/TRANS
Margaret Neuse,	Regional Population Advisor, REDSO/ESA, Nairobi
John Paul James	Regional Population Advisor, REDSO/WCA, Abidjan
Bonnie Osegueda	Program Coordinator, Mexico
Mr. Wasey	Project Officer, Public Sector, USAID, Pakistan
Judi Shane	Commodity Management Officer, USAID, Alexandria, Egypt
Bill Martin	Population Officer, USAID, Zaire
Paul Lacerte	Commodity Management Specialist, USAID, Zaire
Nora Quesada	FPLM Latin America, Colombia
Rich Owens	Director, JSI/FPLM
Pete Hagen	Deputy Director, JSI/FPLM
Bill Felling	Deputy Director, JSI/FPLM
Maureen Comfort	NEWVERN Manager, JSI/FPLM
Howard Springstein	Field Management Advisor, JSI/FPLM
Peter Halpert	Field Management Advisor, JSI/FPLM
Bryce Atkinson	Resident Advisor, Bangladesh, JSI/FPLM
Tim Johnson	Director, Division of Reproductive Health, CDC
Neal Ewen	Field Management Advisor, CDC
Jack Graves	Field Management Advisor, CDC
Eli Carter	Project Manager, FHI
Steve Chapman	Project Manager, PSI
Santiago Plata	Project Director, SOMARC
Jim Weiss	MIS & Commodities, SOMARC
M. Allaman	Shipping Department, WHO/GPA
Mrs. T. Chadwal	Procurement Office, UNFPA
Sarita Kumar	Shipping Coordinator, IPPF/WH
Marie Infante	Shipping Coordinator, IPPF/WH
Helen Cunningham	Shipping Department, IPPF/LONDON
Brent Aillaud	Transport Officer, UNIPAC

Attachment 3

Project Identification Data

1. Project Title: Central Contraceptive Procurement
2. Project Number: 936-3018
3. Contract Number: DPE-3018-C-00-9025-00
4. Critical Project Dates: January 1990 through December 1991
5. Project Funding: \$6,400,000 (to date)
6. Scope: Worldwide
7. Mode of Implementation: Contract administered by S&T/POP/CPSD
8. Contractor: Matrix International Logistics, Inc., Alexandria, VA
9. Major Activities:
 - A. Shipping
 - B. Warehousing
 - C. Consolidation
 - D. Communications
 - E. Reporting
 - F. Trouble-shooting
 - G. Disposal

Attachment 4

Documents Reviewed

"Contraceptive Requirements and Demand for Contraceptive Commodities in Developing Countries by the Year 2000," UNFPA, (no cover sheet).

"NEWVERN Information System, JSI/FPLM, February 1990.

"NEWVERN User's Guide, Volume 1," JSI/FPLM, September 1989.

"User's Guide to the Office of Population," Agency for International Development, 1991.

"Population Assistance," A.I.D. Policy Paper, Bureau for Program and Policy Coordination, A.I.D., September 1988.

"Overview of A.I.D. Population Assistance, FY 1990, Office of Population, A.I.D., April 1991.

"A.I.D.'s Population Program: Response to the Committee on Appropriations, United States Senate, U.S. Agency for International Development, March 15, 1991.

"An Overview of the Centrally Funded Contraceptive Procurement Project No. 936-3018," The Inspector General, Office of Programs and Systems Audits, September 1989.

Memo re Inspector General's Audit, from S&T/POP/CPSD to Mission Pop/Health Officers, May 1, 1990.

A.I.D. Award/Contract: Matrix International Logistics, Inc., September 1989.

Appendix B

Questionnaire Cable and Summary of Responses

Appendix B

Questionnaire Cable and Summary of Responses

Questionnaire Cable

The following cable was sent to missions as State 112009Z JUN 91:

Subject: Population - S&T/POP Evaluation of Matrix Contract

1. The Office of Population requests mission assistance in evaluating the freight forwarding services provided by Matrix International Logistics, Inc. S&T/POP requests that missions respond by cable to the questions posed in this cable by July 1, 1991. S&T/POP urges missions to pass the questionnaire to knowledgeable personnel for assistance in answering questions.

2. **Background**

S&T/POP has a contract under the Central Contraceptive Procurement Project for freight forwarding services. The Matrix contract was awarded in September 1989 as a two-year contract. S&T/POP is evaluating Matrix's performance and the design of the Matrix contract during June and July 1991 in preparation to resolicit for these services during early FY 1992. The Matrix contract will be extended to allow a smooth transition to the new awardee. Matrix began to serve as S&T/POP's sole freight forwarder on January 2, 1990. Prior to S&T/POP's consolidating this responsibility into a single contract with Matrix, S&T/POP utilized three agreements to obtain these services: GSA, FPLA, and JSI.

Matrix has shipped for S&T/POP four kinds of contraceptive commodities to family planning and/or AIDS prevention programs worldwide: IUD (TCU 380A), oral contraceptives, (Lo-Femenal, Ovrette, Noriday, Norminest, Norquest), condoms (Raja, Sathi, Panther, Blue/Gold, No-logo, Sultan, Tahiti), and vaginal tablets (Conceptrol, Flower Logo).

Matrix's responsibilities under the contract include the following activities:

- a) Ocean and air transportation of the above contraceptive commodities to the port of destination, and delivery of commodities to an inland destination upon specific mission request;
- b) Consolidation of several shipments of different contraceptive commodities for the same consignee into a single shipment in order to reduce transportation costs, increase product safety, and ease logistics and management burden;
- c) Dispatch original shipping documents via courier to consignees or other designated recipient, and copies per mission request for each shipment;
- d) Tracking of all shipments, both commodities and couriered documentation, until receipt is confirmed at destination, and advising of shipment status upon request;
- e) Trouble-shooting transportation and/or documentation problems, correcting misshipments, pressing claims for lost or damaged shipments, and obtaining release to customs of shipments stuck in port; and
- f) Complying with mission guidance on special local transportation requirements; consularization, insurance, documentation, packing, carriers, etc.

3. Scope

The purposes of this cabled questionnaire are two:

- a) To assess Matrix's performance under the contract in providing the contraceptive commodities listed above between January 2, 1990 and June 30, 1991, and
- b) To assess the design of the current contract and the package of services it provides, and identify changes in the design and/or packaging of services for the follow-on solicitation.

4. Questions

a) Matrix's Performance

- 1) How well have Matrix's activities addressed mission, host country and program needs for contraceptive commodity shipping services:
 - a) very well
 - b) adequately
 - c) poorly
- 2) Do the quantities of products received match the quantities of product shipped:
 - a) always
 - b) usually
 - c) infrequently
- 3) If b) or c) in question 2, are the losses:
 - a) full shipping cartons
 - b) interior boxes
 - c) miscellaneous pieces
- 4) If b) or c) in question 2, are any losses the result of:
 - a) damage due to exposure (water) or handling (puncture or crushing, etc.)
 - b) non-delivery
- 5) What is the condition of the product when received:
 - a) excellent
 - b) fair
 - c) poor
 - d) unusable
- 6) Is the product received in port on time:
 - a) it arrives as Matrix has projected
 - b) Matrix estimates are not reliable
- 7) Is the correct documentation provided on time to the right person:
 - a) documentation is distributed per mission request

- b) documentation problems are infrequent
 - c) There are persistent problems in document distribution
- 8) Are shipping problems solved in a timely and satisfactory way:
- a) Matrix responds quickly to solve problems
 - b) Matrix is slow to respond
 - c) Shipping problems are resolved as they arise but are not remedied for future shipments
- 9) Are ad-hoc requirements and special requests handled as needed:
- a) yes
 - b) no
- 10) How do the services provided by Matrix compare to services the mission obtains from other freight forwarders for other commodities:
- b) Contract Review
- 1) How adequate was the design of the current contract been in serving mission, host country, and program needs for the shipping of contraceptive commodities:
- a) in all essential respects
 - b) mostly
 - c) partially
 - d) not at all
- 2) Has the consolidation of freight forwarding responsibilities into a single contract improved S&T/POP service to the field:
- a) considerably
 - b) no change or improvement noticed
 - c) things were better before Matrix
- 3) Are the documentation, communications, and reporting requirements of programs being met:
- a) yes
 - b) for the most part, but improvements are needed
 - c) no
- 4) If b) or c) in question 3 above, please comment.
- 5) Are there additional transportation services that missions and/or programs require:
- a) yes
 - b) no
- 6) If a) in question 3, please comment
- 7) Is it sufficient for Matrix responsibility to end with delivery of product to port of destination:
- a) yes

b) no

8) If b) in question 7 above, please comment.

5. S&T/POP appreciates mission and program assistance in providing answers to these questions and any additional guidance missions or programs would like to make in evaluating Matrix or designing the follow-on contract for freight forwarding services. S&T/POP hopes to meet mission and program needs effectively and efficiently and so relies heavily on your guidance. Please respond by cable by July 1, 1991.

Summary of Responses

Thirty-seven cabled responses to the June 11, 1991 outgoing cable were received between June 13 and August 12, 1991. Four of these cables were from missions that did not receive contraceptive commodities under this project, and one was from a mission whose staff person was on vacation. This gave a count of 32 usable responses.

Review of Mission Responses

a) Matrix's Performance

1) How well have Matrix's activities addressed mission, host country and program needs for contraceptive commodity shipping services:

a) very well (15)

Bangladesh, Barbados, Burkina Faso, Costa Rica, Egypt, El Salvador, Haiti, Jordan, Mexico, Morocco, Niger, Philippines, Rwanda, Tunisia, Zimbabwe

b) adequately (16)

Bolivia, Brazil, Cameroon, Dominican Republic, Ecuador, Ghana, Honduras, Jamaica, Kenya, Lesotho, Mali, Nepal, Pakistan, Thailand, Uganda

c) poorly (1)

Zaire

2) Do the quantities of products received match the quantities of product shipped:

a) always (17)

Bangladesh, Barbados, Burkina Faso, Costa Rica, Egypt, Haiti, Kenya, Lesotho, Mexico, Morocco, Niger, Philippines, Rwanda, Thailand, Tunisia, Zimbabwe

b) usually (12)

Brazil, Cameroon, Ecuador, El Salvador, Honduras, Jamaica, Jordan, Mali, Nepal, Pakistan, Uganda, Zaire

c) infrequently (2)

Dominican Republic, Ghana

Bolivia: [No experience,] do not know yet.

3) If b) or c) in question 2, are the losses:

a) full shipping cartons (2)

Honduras, Uganda

b) interior boxes (5)

Brazil, Dominican Republic, Ghana, Jamaica, Nepal

c) miscellaneous pieces (6)

Cameroon, Ecuador, El Salvador, Jordan, Uganda, Zaire

Mali: Losses and delays due to misrouting of products to wrong addressee (Botswana) have occurred.

4) If b) or c) in question 2, are any losses the result of:

a) damage due to exposure (water) or handling (puncture or crushing, etc.) (5)
Dominican Republic, Jamaica, Nepal, Pakistan, Zaire

Jamaica: Damage due to handling.

Nepal: Mission feels that this is not Matrix's fault.

Pakistan: Yes, due to handling at Karachi port.

b) non-delivery (4)

Brazil, Cameroon, Honduras, Uganda

Brazil: Losses are apparently due to customs officials, dock hands, Ministry of Health agents, etc., taking out items or boxes for unofficial use, inspection, or curiosity. It is not possible to discover if losses occur at the port of origin or port of entry.

Ecuador: Most [losses] while in transportation or in local customs.

El Salvador: The losses are due to the excessive length of time from arrival at the warehouse until withdrawal date from the customs warehouse.

Ghana: Losses appear to be due to pilferage in transit.

Jordan: Don't know.

Mali: Mission has received no reports of loss due to water or handling damage. Late deliveries have occurred due to misrouting of product shipments.

5) What is the condition of the product when received:

a) excellent (26)

Bangladesh, Barbados, Brazil, Burkina Faso, Cameroon, Costa Rica, Dominican Republic, Ecuador, Egypt, Ghana, Haiti, Honduras, Jamaica, Jordan, Kenya, Lesotho, Mexico, Morocco, Niger, Pakistan, Philippines, Rwanda, Thailand, Tunisia, Uganda, Zimbabwe

Uganda: At least better than choice b) fair.

b) fair (4)

El Salvador, Mali, Nepal, Zaire

c) poor (0)

d) unusable (0)

6) Is the product received in port on time:

a) it arrives as Matrix has projected (24)

Bangladesh, Barbados, Bolivia, Burkina Faso, Ecuador, Egypt, El Salvador, Haiti, Honduras, Jamaica, Jordan, Kenya, Lesotho, Mali, Mexico, Morocco, Niger, Pakistan, Philippines, Rwanda, Thailand, Tunisia, Uganda, Zimbabwe

Pakistan: Generally [arrives as Matrix has projected].

Rwanda: On time or a few days later.

Uganda: Arrives as projected, usually.

b) Matrix estimates are not reliable (6)

Brazil, Cameroon, Costa Rica, Dominican Republic, Ghana, Zaire

Brazil: Matrix did modify the shipping schedule established in 1990. Otherwise, ETA estimates are relatively reliable.

Costa Rica: Shipments have been unexpectedly moved up in some cases. Once a fax is received, the shipment is then assured.

Ghana: The main problem is that the shipping dates are poorly estimated. Thus, recent shipments that were scheduled for March 1991 were actually shipped in May.

Mali: Products usually arrive fairly close to projected time. Receipt of projections and shipping documentation from Matrix were often delayed due to improper addressing. U.S. Embassy, U.S. Management office, and U.S. Controller office have all received project delivery information. Matrix is finally addressing advice of shipment notices to Health/population office.

Nepal: Cannot answer--Amconsul in Calcutta takes care of this.

7) Is the correct documentation provided on time to the right person:

- a) documentation is distributed per mission request (18)

Bangladesh, Barbados, Bolivia, Burkina Faso, Costa Rica, Ecuador, El Salvador, Ghana, Honduras, Lesotho, Mexico, Morocco, Nepal, Niger, Philippines, Rwanda, Tunisia, Zimbabwe

- b) documentation problems are infrequent (6)

Egypt, Jamaica, Jordan, Kenya, Pakistan, Uganda

Jamaica: It is important for Matrix to note that in order for the consignee to avoid payment of storage charges, the consignee must receive, via DHL, an original of the clearance shipping documents before contraceptives arrive in country. (Documents should be dispatched to the consignee as soon as contraceptives have been shipped as consignee has only 3 working days to clear shipment before storage begins to accrue.) A second original of the clearance documents should be sent with shipment.

- c) There are persistent problems in document distribution (5)

Brazil, Cameroon, Dominican Republic, Mali, Zaire

Brazil: Documentation requirements have changed radically for BENFAM in Brazil over the past few years. Matrix has not updated its documentation process and, therefore, documentation has been inadequate and problems have persisted. Matrix needs to include essential information such as lot number and product expiration dates on the packing list to avoid complications for BENFAM.

Costa Rica: [Documentation is distributed per mission request] although we have had to request originals of missing documentation such as commercial invoices and certificates of donation.

Haiti: Some confusion has been noticed on document distribution.

Mali: Documentation is not always received prior to shipment. Corrections have been made in documentation distribution which has improved situation.

- 8) Are shipping problems solved in a timely and satisfactory way:

- a) Matrix responds quickly to solve problems (17)

Bangladesh, Barbados, Bolivia, Costa Rica, Ecuador, El Salvador, Honduras, Jamaica, Jordan, Mexico, Morocco, Nepal, Niger, Rwanda, Tunisia, Uganda, Zimbabwe

- b) Matrix is slow to respond (4)

Cameroon, Kenya, Mali, Zaire

Mali: Shipping schedules do not always correspond to those in the CPT's causing wider fluctuations in stock levels than desirable. Matrix could respond faster to resolve problems.

- c) Shipping problems are resolved as they arise but are not remedied for future shipments
(4)

Brazil, Dominican Republic, Haiti, Pakistan,

Belize: No shipping problems were experienced by Belize Family Life Association (BFLA).

Brazil: Matrix has assisted BENFAM to resolve some documentation problems, but was slow to make the necessary changes to assure proper documentation in the future.

Burkina Faso: No problems to date.

Ghana: Too few shipping problems to respond.

Philippines: So far have not experienced any shipping problems.

Are ad-hoc requirements and special requests handled as needed:

- a) yes (22)

Bangladesh, Bolivia, Brazil, Burkina Faso, Costa Rica, Dominican Republic, Ecuador, El Salvador, Ghana, Haiti, Honduras, Jamaica, Jordan, Kenya, Mexico, Morocco, Nepal, Rwanda, Thailand, Tunisia, Uganda, Zimbabwe

- b) no (3)

Cameroon, Mali, Zaire

Belize: Since BFLA's annual forecast of contraceptive needs have proven to be sufficient for program needs, no special requests have been necessary.

Mali: Ad-hoc problems are not handled well by S&T/POP/CPSD and therefore not a reflection on Matrix performance.

Philippines: Have not made any special requests to date.

How do the services provided by Matrix compare to services the mission obtains from other freight forwarders for other commodities:

Bangladesh: Matrix services are only services of this type obtained by OPH; we have no info on similar services provided to other mission offices and/or their contractors.

Belize: BFLA has had a very positive experience with its freight forwarders for contraceptive supplies, including Matrix. Freight forwarding services have been timely and efficient.

Bolivia: [Matrix services are] equally good.

Brazil: Pathfinder fund support for BENFAM and other projects has been somewhat more consistent in logistical terms. Recent experience with

Matrix has been better than previous years and we anticipate continued improvement.

- Burkina Faso: [Matrix services compare] favorably.
- Cameroon: [Matrix services compare] about the same.
- Costa Rica: Fine.
- Dominican Republic: [Matrix services compare] about the same.
- Ecuador: Mission started to purchase directly contraceptives in 1990: previous contraceptive provision were handled directly by Cas and local organizations: Therefore, we don't have [basis] for comparison.
- Egypt: Services provided by Matrix as freight forwarder are one of the best services received by mission population office for a long time.
- El Salvador: Fair.
- Ghana: Matrix appears to be providing better service.
- Honduras: The services provided by Matrix are similar to the services provided by other freight forwarders.
- Jamaica: Matrix services have been very good compared to other freight forwarders that shipped contraceptives prior to January 1990.
- Jordan: Earlier forwarders handled shipments adequately. However, with Matrix there is increase in communications, better confirmation of shipments and expected arrival dates. Difficult for HPN office to compare with other non-contraceptive shippers.
- Lesotho: As good as other freight forwarders dealt with under FHI-II.
- Mali: Service of Matrix is probably superior to other mission freight forwarders including UNIPAC.
- Morocco: USAID/Morocco is pleased to provide positive feedback on Matrix's performance. Matrix has been very responsive to USAID/Morocco's contraceptive shipment needs. Matrix has provided prompt and efficient service in areas of documentation, tracking, communication and reporting of contraceptive shipments. The shipments to date have been received in good condition and have been on time as projected. Matrix has been forthcoming in resolving problems that have arisen. For example, Matrix was amenable to advancing two condom shipments when our PROTEX social marketing campaign exceeded projections. Matrix has been a considerable improvement over the last contractor.
- Nepal: The quality of the services has considerably improved since Matrix took over the contract.
- Niger: Matrix has proven far superior to previous system.

Pakistan: Fair except documentation.

Philippines: Compared to GSA, Matrix's service is far superior.

Rwanda: USAID uses Matrix for other commodities.

Thailand: [Matrix services are] excellent.

Tunisia: USAID receives PL 480 Title I commodities: cannot compare Matrix small shipments against thousands [of] tons shipments of grains in bulk.

Uganda: Matrix services compare similarly and favorably to services provided by other companies.

Zaire: Matrix services are, in general, inferior to other forwarders with which USAID deals.

b) Contract Review

1) How adequate was the design of the current contract been in serving mission, host country, and program needs for the shipping of contraceptive commodities:

a) in all essential respects (19)

Bangladesh, Barbados, Belize, Burkina Faso, Costa Rica, Dominican Republic, Haiti, Jordan, Kenya, Lesotho, Mexico, Niger, Philippines, Rwanda, Thailand, Tunisia, Uganda, Zimbabwe

b) mostly (9)

Brazil, Cameroon, Egypt, El Salvador, Ghana, Honduras, Jamaica, Nepal, Pakistan

c) partially (1)

Zaire

d) not at all (1)

Mali

Mali: The design of the contract is very poor, in that it completely divides the ordering and contraceptive need projection functions from the shipping function and forces two contractors to collaborate with each other without effective supervision and monitoring from S&T/POP/CPSD. These two functions (projection and ordering, and shipping) should be combined into one function with one contract.

2) Has the consolidation of freight forwarding responsibilities into a single contract improved S&T/POP service to the field:

a) considerably (24)

Bangladesh, Barbados, Brazil, Burkina Faso, Costa Rica, Dominican Republic, Egypt, El

Salvador, Ghana, Haiti, Honduras, Jamaica, Jordan, Kenya, Lesotho, Mexico, Nepal, Niger, Pakistan, Philippines, Rwanda, Thailand, Tunisia, Zimbabwe

Jordan: Much better communication.

Philippines: Yes, consolidation of freight forwarding responsibilities into a single contract has improved S&T/POP's service to the field.

b) no change or improvement noticed (4)

Belize, Cameroon, Mali, Uganda

Belize: BFLA has not experienced any procurement difficulties, either before or after contract consolidation.

Bolivia: Expect it will [improve S&T service to the field].

Burkina Faso: This is not only due to the consolidation of services. Contraceptive delivery has also improved because mission began to procure contraceptives directly in December 1989. Previously the centrally-funded FPIA project procured contraceptives and made shipping arrangements.

Mali: A slight improvement has been noticed due to recent absence of FPIA involvement which also caused problems in the past.

Uganda: Personnel have changed, difficult to say.

c) things were better before Matrix (1)

Zaire

3) Are the documentation, communications, and reporting requirements of programs being met:

a) yes (21)

Bangladesh, Barbados, Belize, Bolivia, Dominican Republic, Egypt, Ghana, Haiti, Honduras, Jamaica, Jordan, Lesotho, Mexico, Nepal, Niger, Philippines, Rwanda, Thailand, Tunisia, Uganda, Zimbabwe

b) for the most part, but improvements are needed (8)

Brazil, Cameroon, Costa Rica, El Salvador, Kenya, Mali, Pakistan, Zaire

Mali: documentation is adequate when it is received on time.

c) no (1)

Burkina Faso

4) If b) or c) in question 3 above, please comment.

Brazil: Required shipping documents must now include lot number and expiration date information, quality control certificates, certificates of origin, and, in the

case of medications (for example, pills), the chemical composition of the item. As requested by BENFAM, Matrix needs to adjust their records to ensure that this information is included in all shipments to BENFAM.

- Burkina Faso:** Mission is not receiving adequate information on shipping costs (or commodity costs). We do not know the status of funds obligated for contraceptive procurement.
- Cameroon:** Improvements are needed. In some cases, contraceptives arrived without shipping documents.
- Costa Rica:** Shipments have been unexpectedly moved up in some cases. Once a fax is received, the shipment is then assured. [Documentation is distributed per mission request] although we have had to request originals of missing documentation such as commercial invoices and certificates of donation.
- El Salvador:** The USAID needs finance reports submitted more frequently that include shipment details to track specific orders.
- Jordan:** Exceptions noted above. Quality improved over time.
- Kenya:** A recent shipment developed serious problems specifically due to several communications breakdowns between Matrix, its receiving agent and USAID.
- Pakistan:** All shipments are consigned to host country counterpart who should receive original documents prior to arrival of the consignment at Karachi port. Likewise mission commodity and HPN offices should also receive copies of these documents well in advance to enable obtaining customs duty exemptions. Delays in receipt of documents by either office results in demurrage and delay in clearing consignment from port.
- Zaire:** USAID is getting its product. From a program standpoint, we are succeeding. From a logistics standpoint, there is room for much improvement. As explained in Olson/USAID telcons of July 9 and 10, and in Lacerte/Olson DHL of 7/12/91, Matrix chooses not to follow the advice of USAID commodities office. We find this hard to understand since we are far more experienced in local clearing, shipping and forwarding than Matrix. Further, our own instructions in PIO/Cs are not followed by Matrix.

Are there additional transportation services that missions and/or programs require:

a) yes (2)

Cameroon, Philippines

b) no (28)

Bangladesh, Barbados, Belize, Bolivia, Brazil, Burkina Faso, Costa Rica, Dominican Republic, Egypt, El Salvador, Ghana, Haiti, Honduras, Jamaica, Jordan, Kenya, Lesotho, Mali, Mexico, Nepal, Niger, Pakistan, Rwanda, Thailand, Tunisia, Uganda, Zaire, Zimbabwe

6) If a) in question 3, please comment

Cameroon: Mission is required to use air, road, and train transport from the port of entry, which is Douala.

Philippines: Yes, mission requires additional transportation services for the family planning program but this is an in-country requirement. Therefore mission will not need Matrix's service.

7) Is it sufficient for Matrix responsibility to end with delivery of product to port of destination:

a) yes (23)

Bangladesh, Barbados, Belize, Bolivia, Brazil, Burkina Faso, Costa Rica, Dominican Republic, Egypt, El Salvador, Ghana, Haiti, Honduras, Jamaica, Jordan, Mexico, Nepal, Pakistan, Philippines, Rwanda, Thailand, Tunisia, Zimbabwe

b) no (7)

Cameroon, Kenya, Lesotho, Mali, Niger, Uganda, Zaire

8) If b) in question 7 above, please comment.

Cameroon: If a shipping correspondent was available at the port city of Douala, he could complete customs forms, facilitate clearances, and arrange transportation for contraceptives to their final destinations. The current situation results in commodities arriving in Douala and sitting in the airport for several weeks before consignees are notified. Consequently, mission pays additional freight charges from Douala to Yaounde as well as airport storage charges for periods of two to three weeks.

Kenya: Door-to-door shipment for Kenya is critical to smooth and timely delivery of products. This arrangement through Matrix has proven to be extremely helpful.

Lesotho: Lesotho is completely landlocked. Depends on road/air shipment to Lesotho from port of Durban. Matrix assistance needed to facilitate last leg of shipment.

Mali: It would be good for the shipping contractor (Matrix) to also have the follow-up receiving report responsibility as well. Please refer to previous comments on ill-advised separation of functions between contractors.

Niger: Contract responsibility should extend through off-loading of products into port warehouse.

Uganda: Being in a landlocked country that sometimes experiences strained relations with its neighbor, we have experienced some problems. A shipment of condoms and pills intended for Uganda were recently found warehoused in Kenya. Staff shortages, communications problems, lack of foreign exchange, export/import documents, etc., all contribute to delays in clearing customs and transshipment.

Zaire: Refer to Olson/USAID telcons of July 9 and 10, and Lacerte/Olson DHL of 7/12/91 for more detail,

Other comments in cabled responses:

- Bangladesh:** The only problems mission has recently experienced with Matrix are (a) on one occasion commodities for the private and public sector programs were placed in the same container. Matrix was informed and this problem has not been repeated: (b) invoices were not always numbered as requested by BDG customs authorities, and (c) on occasion the terminology used in shipping documents for a single shipment has been inconsistent e.g. "cases" on a bill of lading but "cartons" on the invoice. Matrix has been quick to take corrective action with all these problems.
- Belize:** Both USAID and BFLA are satisfied with the freight forwarding services provided by Matrix and look forward to receiving continued high performance from any follow-on contraceptive freight forwarding contract.
- Bolivia:** USAID/Bolivia's first experience with Matrix is taking place this June 1991 with an order for contraceptives consigned to FAMES, a local PVO...Our suggestion to Matrix would be to familiarize themselves with import/donation requirements (documents needed) as best possible for the various countries they will be serving.
- Brazil:** Evaluation based on mission consultation with BENFAM regarding their evaluation of Matrix performance...New commodity arrangements for Pathfinder Fund to handle most of BENFAM's commodity orders will require close coordination and sharing of complete information by Matrix with all parties involved in local programming of these supplies. This will assure full awareness of incoming shipments and help streamline the receiving and delivery process.
- Costa Rica:** One persistent difficulty is with the so called commercial invoice. If Matrix would print them on a daisy wheel printer rather than a dot-matrix printer, they would appear more official. Mission has recommended this in the past, in an effort to ease customs clearance.
- Dominican Republic:** Mission requested PROFAMILIA, local IPPF affiliate, to respond to reftel. [Response contains] their answers, with mission input noted in some specific questions.
- Ghana:** In addition to above responses, mission wishes to comment that the monthly reporting cables on procurement in process are extremely helpful. They would be even more helpful if periodically--for example every quarter--another cable was sent that would show all future orders, including those that are not yet scheduled for production.
- Jordan:** Matrix has been assisting mission contraceptive procurements since April 1990, with three major shipments of condoms, IUDs, Lo-Femenal and Ovrette oral contraceptives and VFT to Jordan. Matrix has adequately informed mission of shipping dates and has been very responsive in addressing any problems. Specific problems encountered: May 1990 air shipment - (a) communications with ministry indicated that Ministry of

Health (MOH) received National Medical Institute (NMI) consignment. When both entities cleared shipments, they worked out transfer of correct quantities: (b) the certificate of origin was not included in NMI documentation, delaying clearance process. This was sent DHL immediately upon request. May 1990 sea shipment - (a) shipment was consigned to USAID, rather than MOH and NMI. Instructions were clearly given that shipments be consigned to MOH and NMI: (b) some delay in shipment arrival but Gulf crisis had already begun, causing major problem with shipments into Jordan. November 1990 sea shipment - no problems.

Morocco:

Our only suggestion for improvement would be to have a better tracking system to indicate draw down on mission annual OYB transfers for contraceptives. Mission understands that this system is under development. Please advise us of status.

Nepal:

The only suggestion mission would like to make is that the shipment documentation should include the ordering cable number or the PIO/C number. This would help the commodity person identify which shipment has arrived.

Zaire:

USAID encourages greater communication between S&T/POP/CPSD, Matrix, and USAID as discussed in Kinshasa 010839 [July]. We hope our comments have been useful and that this evaluation will lead to improved service.

Zimbabwe:

USAID/Zimbabwe has shared questionnaire with Zimbabwe National Family Planning Council (ZNFPC).

Appendix C

Consolidation Analysis by Shipment Mode and Recipient Country

Appendix C

Consolidation Analysis by Shipment Mode and Recipient Country January 1990 - May 1991 Shipment Count, Commodity Cost and Weight

Recipient Country	-----Not Consolidated-----					-----Consolidated-----				
	Shipment Count	Commodity Cost	Percent Commodity Cost	Weight	Percent Weight	Shipment Count	Commodity Cost	Percent Commodity Cost	Weight	Percent Weight
Anguilla	3	2,048	100	322	100	0	.	.	.	.
Antigua	4	41,961	46	5,305	42	6	49,194	53	7,282	57
Aruba	4	1,775	46	243	45	2	2,032	53	294	54
Bahamas	1	385	7	33	5	5	4,467	92	557	94
Bangladesh	27	10,621,474	60	1,422,620	66	34	6,897,692	39	704,109	33
Barbados	4	7,316	65	1,127	67	2	3,792	34	545	32
Belize	3	2,332	35	204	23	5	4,299	64	660	76
Benin	1	43,832	59	7,265	66	5	30,172	40	3,734	33
Bolivia	2	31,335	100	1,616	100	0	.	.	.	.
Botswana	5	110,303	100	12,100	100	0	.	.	.	.
Brazil	5	980,619	100	157,311	100	0	.	.	.	.
Burkina Faso	6	228,987	79	36,031	81	4	58,410	20	7,921	18
Cameroon	9	408,607	92	66,838	93	2	32,373	7	4,526	6
Central African Rep	1	1,049	100	174	100	0	.	.	.	.
Chile	6	732,485	86	81,339	84	2	113,829	13	15,025	15
Colombia	9	947,938	100	118,670	100	0	.	.	.	.
Costa Rica	8	358,861	78	52,880	79	5	100,126	21	13,304	20
Cote D'Ivoire	3	134,909	100	22,359	100	0	.	.	.	.
Curacao	4	11,022	80	1,318	79	2	2,722	19	334	20
Dominica	2	1,311	25	218	27	2	3,788	74	577	72
Dominican Republic	11	206,063	96	26,545	97	2	7,713	3	664	2
Ecuador	6	126,907	73	13,787	76	4	46,022	26	4,299	23
Egypt	27	5,326,661	93	585,659	97	2	344,872	6	17,696	2
El Salvador	9	152,656	37	15,323	27	10	255,654	62	40,275	72
Fiji	1	2,691	100	310	100	0	.	.	.	.

Source: Evaluation Team Analysis of NEWVERN Data

Note: Consolidated shipments are those with multiple shipment identification numbers (NEWVERN ID's) moving under the same bill of lading

Appendix C

Appendix C

Recipient Country	-----Not Consolidated-----					-----Consolidated-----				
	Shipment Count	Commodity Cost	Percent Commodity Cost	Weight	Percent Weight	Shipment Count	Commodity Cost	Percent Commodity Cost	Weight	Percent Weight
Gambia	1	8,965	100	1,479	100	0	.	.	.	.
Ghana	13	1,038,919	90	142,057	91	2	111,391	9	13,925	8
Grenada	2	796	100	92	100	0	.	.	.	.
Guatemala	30	790,088	86	94,293	91	5	123,503	13	8,814	8
Guinea	0	.	.	.	.	2	135,565	100	21,794	100
Haiti	7	181,077	49	23,997	44	8	184,801	50	29,557	55
Honduras	21	313,856	80	43,009	78	2	75,802	19	12,007	21
Jamaica	17	467,062	77	55,526	72	4	132,954	22	21,533	27
Jordan	1	2,964	4	347	4	18	68,510	95	7,255	95
Kenya	6	715,261	82	100,472	92	2	149,938	17	8,175	7
Lesotho	5	28,285	100	3,556	100	0	.	.	.	.
Madagascar	1	2,892	29	249	22	4	6,981	70	869	77
Malawi	18	565,200	84	86,367	85	7	109,859	16	14,485	14
Mali	22	148,718	88	17,372	90	9	20,162	11	1,875	9
Mauritius	4	149,255	62	19,433	59	6	90,538	37	13,100	40
Mexico	33	5,418,410	93	677,700	93	4	415,536	7	55,105	7
Montserrat	1	263	100	44	100	0	.	.	.	.
Morocco	14	820,494	84	103,647	86	5	159,554	16	17,805	14
Mozambique	0	.	.	.	.	2	60,075	100	5,855	100
Nepal	17	756,674	100	92,385	100	0	.	.	.	.
Nicaragua	2	38,130	100	5,065	100	0	.	.	.	.
Niger	7	84,592	63	7,445	59	4	48,065	36	5,019	40
Pakistan	23	7,667,403	63	1,159,290	61	20	4,560,285	37	745,490	39
Papua New Guinea	0	.	.	.	.	2	4,473	100	696	100
Paraguay	1	6,749	10	581	7	5	59,598	89	7,010	92

Appendix C

Recipient Country	-----Not Consolidated-----					-----Consolidated-----				
	Shipment Count	Commodity Cost	Percent Commodity Cost	Weight	Percent Weight	Shipment Count	Commodity Cost	Percent Commodity Cost	Weight	Percent Weight
Peru	10	480,183	39	43,665	33	23	743,660	60	87,850	66
Philippines	4	269,281	51	30,677	47	2	253,119	48	34,011	52
Rwanda	7	47,148	34	5,371	31	6	91,032	65	11,936	68
Senegal	4	88,008	29	11,211	31	12	206,531	70	23,978	68
Sri Lanka	1	151,182	56	23,328	63	2	114,352	43	13,306	36
St. Christopher	2	1,476	100	236	100	0	.	.	.	.
St. Lucia	6	14,282	79	1,733	76	2	3,792	20	545	23
St. Vincent	5	4,591	100	701	100	0	.	.	.	.
Suriname	7	76,730	100	12,170	100	0	.	.	.	.
Tanzania	20	1,737,012	97	278,647	98	4	46,816	2	5,277	1
Thailand	1	218,899	100	36,279	100	0	.	.	.	.
Togo	11	337,254	93	29,834	90	7	23,463	6	2,997	9
Trinidad & Tobago	5	228,789	100	33,076	100	0	.	.	.	.
Turkey	11	904,624	81	116,173	81	12	199,298	18	26,137	18
Uganda	4	276,745	100	40,118	100	0	.	.	.	.
Uruguay	4	115,942	76	15,591	73	2	35,529	23	5,505	26
Venezuela	4	6,060	42	879	43	2	8,231	57	1,148	56
Zaire	21	1,464,911	91	174,866	89	5	138,865	8	19,457	10
Zambia	3	98,242	100	16,246	100	0	.	.	.	.
Zimbabwe	9	1,210,698	94	162,895	96	3	68,791	5	6,442	3
Total	546	47,421,637	74	6,297,699	75	287	16,408,226	26	2,050,760	25

Appendix D

Analysis of Days between Port of Loading and Port of Entry and Days between Port of Entry and Destination

Appendix D

Analysis of Days between Port of Loading and Port of Entry (Interport) and Days between Port of Entry and Destination (Port-Dest) by Shipment Mode, Origin, and Port of Loading Export Shipments -- January 1990 through May 1991

<u>Ship Mode</u>	<u>Port of Loading</u>	<u>Port of Entry</u>	<u>Shipment Count</u>	<u>Minimum Interport</u>	<u>Maximum Interport</u>	<u>Average Interport</u>	<u>Minimum Port-Dest</u>	<u>Maximum Port-Dest</u>	<u>Average Port-Dest</u>
AIR	Raleigh/Durham, NC	Abidjan, Cote D'Ivoire	1	2	2	2	0	0	0
SEA	Baltimore, MD	Abidjan, Cote D'Ivoire	3	34	38	36	0	1	0
	Jacksonville, FL	Abidjan, Cote D'Ivoire	1	27	27	27	2	2	2
	Miami, FL	Abidjan, Cote D'Ivoire	1	45	45	45	0	0	0
AIR	Washington (IAD)	Accra, Ghana	5	4	13	6	0	0	0
SEA	Baltimore, MD	Alexandria, Egypt	8	13	52	27	0	0	0
	Charleston, SC	Alexandria, Egypt	5	16	20	18	0	0	0
	Elizabeth, NJ	Alexandria, Egypt	9	14	59	28	0	0	0
	Jacksonville, FL	Alexandria, Egypt	1	48	48	48	0	0	0
	Norfolk, VA	Alexandria, Egypt	6	13	19	16	0	0	0
AIR	Washington (IAD)	Amman, Jordan	6	5	5	5	0	0	0
SEA	Baltimore, MD	Amman, Jordan	1	51	51	51	0	0	0
AIR	San Juan, PR	Anguilla, W.I.	3	0	4	1	0	0	0
AIR	New York (JFK)	Antananarivo, Madag.	1	6	6	6	0	0	0
	Washington (IAD)	Antananarivo, Madag.	4	2	2	2	0	0	0
SEA	Baltimore, MD	Aqaba, Jordan	12	36	69	55	0	0	0

Source: Evaluation Team Analysis of NEWVERN Data

Appendix D

<u>Ship Mode</u>	<u>Port of Loading</u>	<u>Port of Entry</u>	<u>Shipment Count</u>	<u>Minimum Interport</u>	<u>Maximum Interport</u>	<u>Average Interport</u>	<u>Minimum Port-Dest</u>	<u>Maximum Port-Dest</u>	<u>Average Port-Dest</u>
SEA	Arlington, VA	Arlington, VA	1	0	0	0	0	0	0
AIR	Miami, FL	Asuncion, Paraguay	6	0	3	0	0	0	0
SEA	San Juan, PR	Baltimore, MD	2	(14)	8	(3)	0	5	2
AIR	Chicago (ORD)	Bamako, Mali	1	3	3	3	0	0	0
	New York (JFK)	Bamako, Mali	2	4	6	5	0	0	0
	Raleigh/Durham, NC	Bamako, Mali	22	2	59	9	0	0	0
	San Juan, PR	Bamako, Mali	3	4	18	10	0	0	0
	Washington (IAD)	Bamako, Mali	3	4	5	4	0	0	0
SEA	Baltimore, MD	Bangkok, Thailand	1	28	28	28	0	0	0
AIR	Raleigh/Durham, NC	Bangui, C.A.R.	1	5	5	5	0	0	0
AIR	New York (JFK)	Barbados, W.I.	3	0	0	0	0	0	0
	San Juan, PR	Barbados, W.I.	1	0	0	0	0	0	0
SEA	Miami, FL	Barbados, W.I.	2	10	10	10	0	0	0
SEA	Baltimore, MD	Barranquilla, Colombia	4	8	18	12	0	0	0

Appendix D

<u>Ship Mode</u>	<u>Port of Loading</u>	<u>Port of Entry</u>	<u>Shipment Count</u>	<u>Minimum Interport</u>	<u>Maximum Interport</u>	<u>Average Interport</u>	<u>Minimum Port-Dest</u>	<u>Maximum Port-Dest</u>	<u>Average Port-Dest</u>
SEA	New York, NY	Barranquilla, Colombia	1	14	14	14	0	0	0
	Savannah, GA	Barranquilla, Colombia	1	9	9	9	0	0	0
AIR	Miami, FL	Belize City, Belize	6	0	0	0	0	0	0
	San Juan, PR	BelizeCity, Belize	2	2	10	6	0	0	0
AIR	Miami, FL	Bogota, Colombia	2	0	0	0	0	0	0
LAND	Brownsville, TX	Brownsville, TX	14	0	0	0	0	0	0
	San Juan, PR	Brownsville, TX	1	2	2	2	0	0	0
SEA	Baltimore, MD	Calcutta, India	13	48	88	68	0	0	0
	Charleston, SC	Calcutta, India	1	74	74	74	0	0	0
	San Juan, PR	Calcutta, India	1	68	68	68	0	0	0
	San Pedro, CA	Calcutta, India	1	33	33	33	0	0	0
AIR	Miami, FL	Callao, Peru	1	0	0	0	0	0	0
SEA	Baltimore, MD	Callao, Peru	15	21	24	23	0	0	0
	Charleston, SC	Callao, Peru	1	21	21	21	0	0	0
	Miami, FL	Callao, Peru	13	8	16	11	0	0	0
	Port Everglades, FL	Callao, Peru	2	9	9	9	0	0	0
AIR	Miami, FL	Caracas, Venezuela	1	0	0	0	0	0	0

Appendix D

<u>Ship Mode</u>	<u>Port of Loading</u>	<u>Port of Entry</u>	<u>Shipment Count</u>	<u>Minimum Interport</u>	<u>Maximum Interport</u>	<u>Average Interport</u>	<u>Minimum Port-Dest</u>	<u>Maximum Port-Dest</u>	<u>Average Port-Dest</u>
AIR	San Juan, PR	Caracas, Venezuela	2	0	0	0	0	0	0
AIR	Raleigh/Durham, NC	Casablanca, Morocco	2	2	3	2	0	0	0
	Washington (IAD)	Casablanca, Morocco	1	1	1	1	0	0	0
SEA	Baltimore, MD	Casablanca, Morocco	12	18	64	32	0	0	0
	Jacksonville, FL	Casablanca, Morocco	1	38	38	38	0	0	0
	San Juan, PR	Casablanca, Morocco	2	35	50	42	0	0	0
	Savannah, GA	Casablanca, Morocco	1	33	33	33	0	0	0
SEA	Baltimore, MD	Chittagong, BG	6	51	84	69	0	0	0
	Elizabeth, NJ	Chittagong, BG	1	48	48	48	0	0	0
	Jacksonville, FL	Chittagong, BG	25	36	84	61	0	0	0
	Miami, FL	Chittagong, BG	1	60	60	60	0	0	0
	Norfolk, VA	Chittagong, BG	18	51	68	56	0	0	0
	San Pedro, CA	Chittagong, BG	6	37	51	44	0	0	0
AIR	Raleigh/Durham, NC	Colombo, Sri Lanka	3	10	37	19	0	0	0
SEA	Baltimore, MD	Conakry, Guinea	2	31	31	31	0	0	0
SEA	Baltimore, MD	Cotonou, Benin	6	42	47	46	0	0	0
AIR	Miami, FL	Curacao, N. Antilles	2	0	0	0	0	0	0

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<u>Ship Mode</u>	<u>Port of Loading</u>	<u>Port of Entry</u>	<u>Shipment Count</u>	<u>Minimum Interport</u>	<u>Maximum Interport</u>	<u>Average Interport</u>	<u>Minimum Port-Dest</u>	<u>Maximum Port-Dest</u>	<u>Average Port-Dest</u>
AIR	New York (JFK)	Curacao, N. Antilles	2	0	0	0	0	0	0
	San Juan, PR	Curacao, N. Antilles	1	2	2	2	0	0	0
SEA	San Juan, PR	Curacao, N. Antilles	1	7	7	7	0	0	0
AIR	Dallas Ft. Worth, TX	Dakar, Senegal	1	4	4	4	0	0	0
	Raleigh/Durham, NC	Dakar, Senegal	5	5	5	5	0	0	0
	Washington (IAD)	Dakar, Senegal	1	10	10	10	1	1	1
SEA	Baltimore, MD	Dakar, Senegal	9	30	67	47	0	0	0
	Jacksonville, FL	Dakar, Senegal	1	36	36	36	0	0	0
AIR	Washington (IAD)	Dar Es Salaam, Tanz.	2	5	9	7	0	0	0
SEA	Baltimore, MD	Dar Es Salaam, Tanz.	7	42	68	56	0	0	0
	Charleston, SC	Dar Es Salaam, Tanz.	1	50	50	50	0	0	0
	Jacksonville, FL	Dar Es Salaam, Tanz.	13	39	63	51	0	0	0
	San Juan, PR	Dar Es Salaam, Tanz.	1	54	54	54	0	0	0
AIR	Chicago (ORD)	Dhaka, Bangladesh	2	10	12	11	0	0	0
	Washington (IAD)	Dhaka, Bangladesh	2	8	8	8	0	0	0
AIR	Raleigh/Durham, NC	Douala, Cameroon	5	2	6	3	1	7	3
	Washington (IAD)	Douala, Cameroon	1	34	34	34	0	0	0
SEA	Baltimore, MD	Douala, Cameroon	4	32	69	47	0	0	0
	Jacksonville, FL	Douala, Cameroon	1	37	37	37	0	0	0
SEA	Baltimore, MD	Durban, South Africa	4	45	63	56	0	0	0

Appendix D

<u>Ship Mode</u>	<u>Port of Loading</u>	<u>Port of Entry</u>	<u>Shipment Count</u>	<u>Minimum Interport</u>	<u>Maximum Interport</u>	<u>Average Interport</u>	<u>Minimum Port-Dest</u>	<u>Maximum Port-Dest</u>	<u>Average Port-Dest</u>
SEA	Jacksonville, FL	Durban, South Africa	1	66	66	66	0	0	0
	New Orleans, LA	Durban, South Africa	2	22	31	26	0	11	5
	Pensacola, FL	Durban, South Africa	1	30	30	30	0	0	0
LAND	El Paso, TX	El Paso, TX	3	0	0	0	0	0	0
AIR	New York (JFK)	Gaborone, Botswana	1	12	12	12	0	0	0
	Raleigh/Durham, NC	Gaborone, Botswana	4	7	61	21	0	0	0
AIR	Miami, FL	Guatemala City	3	0	0	0	0	0	0
SEA	Baltimore, MD	Guatemala City	3	13	25	17	0	0	0
	Elizabeth, NJ	Guatemala City	1	7	7	7	0	0	0
	Jacksonville, FL	Guatemala City	1	11	11	11	0	0	0
	Miami, FL	Guatemala City	9	7	27	13	0	0	0
	New Orleans, LA	Guatemala City	12	4	10	6	0	0	0
	Port Everglades, FL	Guatemala City	4	17	18	17	0	0	0
	San Juan, PR	Guatemala City	6	4	19	8	0	0	0
SEA	Baltimore, MD	Guayaquil, Ecuador	3	12	14	12	0	0	0
	New York, NY	Guayaquil, Ecuador	4	8	8	8	0	0	0
AIR	Chicago (ORD)	Harare, Zimbabwe	4	5	7	6	0	0	0
	Dallas Ft. Worth, TX	Harare, Zimbabwe	1	5	5	5	0	0	0
	Philadelphia, PA	Harare, Zimbabwe	1	4	4	4	0	0	0

Appendix D

<u>Ship Mode</u>	<u>Port of Loading</u>	<u>Port of Entry</u>	<u>Shipment Count</u>	<u>Minimum Interport</u>	<u>Maximum Interport</u>	<u>Average Interport</u>	<u>Minimum Port-Dest</u>	<u>Maximum Port-Dest</u>	<u>Average Port-Dest</u>
AIR	Washington (IAD)	Harare, Zimbabwe	2	8	13	10	0	0	0
AIR	Washington (IAD)	Istanbul, Turkey	10	3	9	5	0	0	0
SEA	Baltimore, MD	Istanbul, Turkey	4	29	61	37	0	0	0
	Charleston, SC	Istanbul, Turkey	3	17	24	21	0	0	0
	Elizabeth, NJ	Istanbul, Turkey	3	17	27	21	0	0	0
	San Juan, PR	Istanbul, Turkey	1	49	49	49	0	0	0
SEA	Baltimore, MD	Izmir, Turkey	1	22	22	22	0	0	0
	Charleston, SC	Izmir, Turkey	1	21	21	21	0	0	0
AIR	New York (JFK)	Kampala, Uganda	1	13	13	13	0	0	0
	Washington (IAD)	Kampala, Uganda	1	16	16	16	0	0	0
AIR	Raleigh/Durham, NC	Karachi, Pakistan	1	10	10	10	0	0	0
SEA	Baltimore, MD	Karachi, Pakistan	3	36	46	42	0	0	0
	Elizabeth, NJ	Karachi, Pakistan	2	32	41	36	0	0	0
	Jacksonville, FL	Karachi, Pakistan	27	35	50	42	0	0	0
	San Juan, PR	Karachi, Pakistan	3	46	49	48	0	0	0
	San Pedro, CA	Karachi, Pakistan	7	33	40	35	0	0	0
AIR	Washington (IAD)	Kathmandu, Nepal	1	8	8	8	0	0	0
AIR	New York (JFK)	Kigali, Rwanda	5	2	8	6	0	0	0

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<u>Ship Mode</u>	<u>Port of Loading</u>	<u>Port of Entry</u>	<u>Shipment Count</u>	<u>Minimum Interport</u>	<u>Maximum Interport</u>	<u>Average Interport</u>	<u>Minimum Port-Dest</u>	<u>Maximum Port-Dest</u>	<u>Average Port-Dest</u>
AIR	Raleigh/Durham, NC	Kigali, Rwanda	2	7	11	9	0	0	0
	San Juan	Kigali, Rwanda	1	10	10	10	0	0	0
	Washington, (IAD)	Kigali, Rwanda	5	1	6	2	0	0	0
AIR	New York (JFK)	Kingston, Jamaica	4	0	0	0	0	0	0
SEA	Baltimore, MD	Kingston, Jamaica	1	8	8	8	0	0	0
	Jacksonville, FL	Kingston, Jamaica	9	5	12	6	0	0	0
	Miami, FL	Kingston, Jamaica	2	3	3	3	0	0	0
	Newark, NJ	Kingston, Jamaica	1	16	16	16	16	0	0
	San Juan, PR	Kingston, Jamaica	4	1	5	3	0	0	0
AIR	Raleigh/Durham, NC	Kinshasa, Zaire	12	3	14	5	0	0	0
	San Juan, PR	Kinshasa, Zaire	1	23	23	23	0	0	0
SEA	Miami, FL	La Guaira, Venezuela	3	6	6	6	0	0	0
AIR	Miami, FL	La Paz, Bolivia	2	3	20	11	0	0	0
SEA	Baltimore, MD	Lae, Papua New Guinea	2	57	57	57	0	0	0
LAND	Laredo, TX	Laredo, TX	1	0	0	0	0	0	0
AIR	New York (JFK)	Lilongwe, Malawi	4	7	8	7	0	0	0

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Ship Mode	Port of Loading	Port of Entry	Shipment Count	Minimum Interport	Maximum Interport	Average Interport	Minimum Port-Dest	Maximum Port-Dest	Average Port-Dest
AIR	Raleigh/Durham, NC	Lilongwe, Malawi	19	1	18	8	0	0	0
	San Juan, PR	Lilongwe, Malawi	2	8	15	11	0	0	0
SEA	San Juan, PR	Lima, Peru	1	1	1	1	0	0	0
AIR	Raleigh/Durham, NC	Lome, Togo	5	3	9	5	0	0	0
SEA	Baltimore, MD	Lome, Togo	10	41	73	51	0	3	0
	Jacksonville, FL	Lome, Togo	2	43	54	48	0	0	0
	Savannah, GA	Lome, Togo	2	44	44	44	0	0	0
AIR	Raleigh/Durham, NC	Lusaka, Zambia	1	2	2	2	0	0	0
	Washington (IAD)	Lusaka, Zambia	1	7	7	7	0	0	0
SEA	Baltimore, MD	Lusaka, Zambia	1	67	67	67	0	0	0
SEA	Elizabeth, NJ	Managua, Nicaragua	1	7	7	7	0	0	0
	Miami, FL	Managua, Nicaragua	1	8	8	8	0	0	0
AIR	Los Angeles, CA	Manila, Philippines	1	0	0	0	0	0	0
	New York (JFK)	Manila, Philippines	1	5	5	5	0	0	0
SEA	Long Beach, CA	Manila, Philippines	1	26	26	26	0	0	0
	Tacoma, WA	Manila, Philippines	3	28	28	28	0	0	0
AIR	Washington (IAD)	Maputo, Mozambique	2	21	21	21	0	0	0

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Ship Mode	Port of Loading	Port of Entry	Shipment Count	Minimum Interport	Maximum Interport	Average Interport	Minimum Port-Dest	Maximum Port-Dest	Average Port-Dest
AIR	Washington, (IAD)	Maseru, Lesotho	1	17	17	17	0	0	0
SEA	Baltimore, MD	Matadi, Zaire	8	41	77	63	0	13	2
	Elizabeth, NJ	Matadi, Zaire	1	52	52	52	0	0	0
	Jacksonville, FL	Matadi, Zaire	4	39	58	47	(5)	5	1
LAND	Alexandria, VA	Mexico City, D.F.	6	3	7	4	0	0	0
	Brownsville, TX	Mexico City, D.F.	1	2	2	2	0	0	0
	Dothan, AL	Mexico City, D.F.	3	3	4	3	0	0	0
	Lionville, PA	Mexico City, D.F.	1	7	7	7	0	0	0
	North Tonawanda, NY	Mexico City, D.F.	1	5	5	5	0	0	0
	Somerset, NJ	Mexico City, D.F.	1	2	2	2	0	0	0
SEA	Baltimore, MD	Mombasa, Kenya	5	51	69	60	0	11	3
	Elizabeth, NJ	Mombasa, Kenya	1	51	51	51	0	0	0
	Jacksonville, FL	Mombasa, Kenya	3	41	50	46	0	81	30
	San Juan, PR	Mombasa, Kenya	1	49	49	49	11	11	11
AIR	New York (JFK)	Montevideo, Uruguay	1	0	0	0	0	0	0
SEA	Baltimore, MD	Montevideo, Uruguay	4	21	22	21	0	0	0
	Philadelphia, PA	Montevideo, Uruguay	1	23	23	23	0	0	0
AIR	Los Angeles, CA	Nadi, Fiji	1	6	6	6	0	0	0

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<u>Ship Mode</u>	<u>Port of Loading</u>	<u>Port of Entry</u>	<u>Shipment Count</u>	<u>Minimum Interport</u>	<u>Maximum Interport</u>	<u>Average Interport</u>	<u>Minimum Port-Dest</u>	<u>Maximum Port-Dest</u>	<u>Average Port-Dest</u>
AIR	New York (JFK)	Nassau, Bahamas	6	0	0	0	0	0	0
LAND	San Juan, PR	New Orleans, LA	5	2	3	2	0	6	1
AIR	New York (JFK)	Niamey, Niger	1	1	1	1	0	0	0
	Raleigh/Durham, NC	Niamey, Niger	9	2	8	4	0	0	0
SEA	Norfolk, VA	Niamey, Niger	1	49	49	49	0	0	0
AIR	Raleigh/Durham, NC	Ouagadougou, Burkina Faso	6	3	11	6	0	0	0
AIR	Miami, FL	Paramaribo, Surinam	4	0	0	0	0	0	0
SEA	Miami, FL	Paramaribo, Surinam	3	6	14	9	0	0	0
AIR	Alexandria, VA	Plymouth, Montserrat	1	6	6	6	0	0	0
AIR	Washington (IAD)	Kathmandu, Nepal	1	8	8	8	0	0	0
AIR	Chicago (ORD)	Port Louis, Mauritius	3	11	13	11	0	0	0
	Dallas Ft. Worth, TX	Port Louis, Mauritius	2	10	10	10	0	0	0
	Washington (IAD)	Port Louis, Mauritius	2	14	14	14	0	0	0
SEA	Baltimore, MD	Port Louis, Mauritius	2	64	89	76	0	0	0
SEA	Baltimore, MD	Port of Spain, Trinidad & Tobago	2	10	10	10	0	0	0

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<u>Ship Mode</u>	<u>Port of Loading</u>	<u>Port of Entry</u>	<u>Shipment Count</u>	<u>Minimum Interport</u>	<u>Maximum Interport</u>	<u>Average Interport</u>	<u>Minimum Port-Dest</u>	<u>Maximum Port-Dest</u>	<u>Average Port-Dest</u>
SEA	Jacksonville, FL	Port of Spain, Trinidad & Tobago	1	15	15	15	0	0	0
	San Juan, PR	Port of Spain, Trinidad & Tobago	1	17	17	17	0	0	0
AIR	New York (JFK)	Port-au-Prince, Haiti	2	0	0	0	0	0	0
SEA	Baltimore, MD	Port-au-Prince, Haiti	2	8	8	8	0	0	0
	Jacksonville, FL	Port-au-Prince, Haiti	4	3	7	5	0	0	0
	Miami, FL	Port-au-Prince, Haiti	3	3	4	3	0	0	0
	San Juan, PR	Port-au-Prince, Haiti	4	2	3	2	0	0	0
SEA	Jacksonville, FL	Puerto Limon, Costa Rica	1	9	9	9	0	0	0
	Miami, FL	Puerto Limon, Costa Rica	4	8	22	11	0	0	0
	New Orleans, LA	Puerto Limon, Costa Rica	3	6	9	7	0	0	0
	Port Everglades, FL	Puerto Limon, Costa Rica	3	7	7	7	0	0	0
	San Juan, PR	Puerto Limon, Costa Rica	2	15	15	15	0	0	0
AIR	Miami, FL	Quito, Ecuador	3	0	0	0	0	0	0
AIR	Miami, FL	Rio De Janeiro, Brazil	1	1	1	1	0	0	0
SEA	Baltimore, MD	Rio De Janeiro, Brazil	2	15	17	16	0	0	0
	Jacksonville, FL	Rio De Janeiro, Brazil	2	13	25	19	0	0	0
AIR	Miami, FL	Roseau, Dominica	1	0	0	0	0	0	0
	San Juan, PR	Roseau, Dominica	1	6	6	6	0	0	0
SEA	Miami, FL	Roseau, Dominica	2	10	10	10	0	0	0

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<u>Ship Mode</u>	<u>Port of Loading</u>	<u>Port of Entry</u>	<u>Shipment Count</u>	<u>Minimum Interport</u>	<u>Maximum Interport</u>	<u>Average Interport</u>	<u>Minimum Port-Dest</u>	<u>Maximum Port-Dest</u>	<u>Average Port-Dest</u>
AIR	Miami, FL	San Salvador, El Sal.	1	0	0	0	0	0	0
SEA	Elizabeth, NJ	San Salvador, El Sal.	2	7	21	14	0	0	0
	Miami, FL	San Salvador, El Sal.	5	7	19	16	0	0	0
	New Orleans, LA	San Salvador, El Sal.	7	7	10	9	0	0	0
AIR	Miami, FL	Santo Domingo, D.R.	1	0	0	0	0	0	0
	New York (JFK)	Santo Domingo, D.R.	2	0	0	0	0	0	0
SEA	Baltimore, MD	Santo Domingo, D.R.	4	5	11	7	0	0	0
	Elizabeth, NJ	Santo Domingo, D.R.	1	5	5	5	0	0	0
	Miami, FL	Santo Domingo, D.R.	2	5	9	7	0	0	0
	San Juan, PR	Santo Domingo, D.R.	3	2	4	2	0	0	0
AIR	San Juan, PR	St. George's, Grenada	2	2	3	2	0	0	0
AIR	New York (JFK)	St. John's, Antigua	3	0	0	0	0	0	0
	Raleigh/Durham, NC	St. John's, Antigua	1	0	0	0	0	0	0
	San Juan, PR	St. John's, Antigua	2	1	1	1	0	0	0
SEA	Baltimore, MD	St. John's, Antigua	1	5	5	5	0	0	0
	Jacksonville, FL	St. John's, Antigua	2	9	9	9	0	0	0
	Miami, FL	St. John's, Antigua	1	5	5	5	0	0	0
AIR	San Juan, PR	St. Kitts, W.I.	2	0	1	0	0	0	0
AIR	San Juan, PR	St. Lucia, W.I.	5	0	0	0	0	0	0

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<u>Ship Mode</u>	<u>Port of Loading</u>	<u>Port of Entry</u>	<u>Shipment Count</u>	<u>Minimum Interport</u>	<u>Maximum Interport</u>	<u>Average Interport</u>	<u>Minimum Port-Dest</u>	<u>Maximum Port-Dest</u>	<u>Average Port-Dest</u>
SEA	Baltimore, MD	St. Lucia, W.I.	1	8	8	8	0	0	0
	Miami, FL	St. Lucia, W.I.	2	8	8	8	0	0	0
AIR	San Juan, PR	St. Nicolaas, Aruba	6	0	0	0	0	0	0
AIR	San Juan, PR	St. Vincent, W.I.	5	1	6	2	0	0	0
AIR	Miami, FL	Tegucigalpa, Honduras	23	0	3	0	0	0	0
SEA	Baltimore, MD	Tema, Ghana	7	35	50	41	0	0	0
	Jacksonville, FL	Tema, Ghana	3	34	41	38	0	0	0
SEA	Baltimore, MD	Valparaiso, Chile	6	19	20	19	0	0	0
	San Juan, PR	Valparaiso, Chile	2	25	39	32	0	0	0

Appendix E

Analysis of Transit Time and Total Trip Time by Region, Country, Shipment Mode and Port of Entry

Appendix E

Analysis of Transit Time and Total Trip Time by Region, Country, Shipment Mode and Port of Entry Shipments Reported as Received -- January 1990 through May 1991

<u>Region</u>	<u>Country</u>	<u>Port of Entry</u>	<u>Ship Mode</u>	<u>Shpmt Count</u>	<u>Transit Minimum</u>	<u>Transit Maximum</u>	<u>Transit Average</u>	<u>Ttl Trip Minimum</u>	<u>Ttl Trip Maximum</u>	<u>Ttl Trip Average</u>
AFR	Benin	Cotonou	SEA	5	52	52	52	84	84	84
	Botswana	Gaborone	AIR	4	8	63	23	7	96	36
	Burkina Faso	Abidjan, Cote d'Ivoire	SEA	1	53	53	53	68	68	68
		Ouagadougou	AIR	5	4	11	7	33	79	55
	Cameroon	Douala	AIR	2	7	35	21	21	49	35
			SEA	3	37	78	52	42	188	107
	Central African Republic	Bangui	AIR	1	6	6	6	20	20	20
	Cote d'Ivoire	Abidjan	AIR	1	5	5	5	25	25	25
			SEA	2	42	56	49	46	94	70
	Gambia	Dakar, Senegal	AIR	1	12	12	12	34	34	34
	Ghana	Accra	AIR	3	7	14	11	54	81	71
		Tema	SEA	1	78	78	78	124	124	124
	Guinea	Conakry	SEA	2	60	60	60	118	118	118
	Kenya	Mombasa	SEA	6	53	142	89	44	148	111
	Lesotho	Durban, R.S.A.	SEA	2	65	73	69	109	135	122

Source: Evaluation Team Analysis of NEWVERN Data

Note: Transit time based on elapsed days from supplier door (Matrix Pickup) to Matrix delivery at destination.
Total Trip time based on days from scheduled production date to reported actual receipt date.

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<u>Region</u>	<u>Country</u>	<u>Port of Entry</u>	<u>Ship Mode</u>	<u>Shpmt Count</u>	<u>Transit Minimum</u>	<u>Transit Maximum</u>	<u>Transit Average</u>	<u>Ttl Trip Minimum</u>	<u>Ttl Trip Maximum</u>	<u>Ttl Trip Average</u>
AFR	Malawi	Lilongwe	AIR	10	6	16	9	(15)	152	30
	Mali	Bamako	AIR	26	3	61	12	(11)	221	56
	Mauritius	Port Louis	AIR	2	18	18	18	42	42	42
	Mozambique	Maputo	AIR	2	21	21	21	60	60	60
	Niger	Niamey	AIR	10	4	27	10	0	66	30
	Rwanda	Kigali	AIR	8	4	17	9	23	93	54
	Tanzania	Dar Es Salaam	AIR	2	6	9	7	(1)	60	29
			SEA	1	76	76	76	90	90	90
	Togo	Lome	AIR	3	3	3	3	66	66	66
			SEA	6	50	65	60	74	164	101
	Uganda	Kampala	AIR	2	15	17	16	21	43	32
	Zaire	Kinshasa	AIR	12	5	51	16	0	178	69
		Matadi	SEA	9	54	85	71	110	285	220
	Zimbabwe	Durban, R.S.A.	SEA	4	40	74	53	21	150	77
		Harare	AIR	6	7	18	13	57	79	70

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<u>Region</u>	<u>Country</u>	<u>Port of Entry</u>	<u>Ship Mode</u>	<u>Shpmt Count</u>	<u>Transit Minimum</u>	<u>Transit Maximum</u>	<u>Transit Average</u>	<u>Ttl Trip Minimum</u>	<u>Ttl Trip Maximum</u>	<u>Ttl Trip Average</u>
ANE	Bangladesh	Chittagong	SEA	29	41	88	64	46	175	86
		Dhaka	AIR	3	9	14	10	21	38	32
	Egypt	Alexandria	SEA	24	19	67	37	3	101	41
	Fiji	Nadi	AIR	1	10	10	10	21	21	21
	Morocco	Casablanca	AIR	1	4	4	4	5	5	5
			SEA	2	43	46	44	34	167	100
	Nepal	Calcutta, India	SEA	12	50	107	78	93	221	137
		Kathmandu	AIR	1	10	10	10	53	53	53
	Pakistan	Karachi	AIR	1	12	12	12	37	37	37
			SEA	34	37	76	49	43	154	70
	Philippines	Manila	AIR	1	14	14	14	60	60	60
			SEA	4	41	45	42	60	79	66
	Lanka	Colombo	AIR	1	40	40	40	28	28	28
	Turkey	Istanbul	AIR	3	10	10	10	75	75	75
			SEA	7	19	60	43	62	139	84
Izmir		SEA	2	25	26	25	11	103	57	

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<u>Region</u>	<u>Country</u>	<u>Port of Entry</u>	<u>Ship Mode</u>	<u>Shpmt Count</u>	<u>Transit Minimum</u>	<u>Transit Maximum</u>	<u>Transit Average</u>	<u>Ttl Trip Minimum</u>	<u>Ttl Trip Maximum</u>	<u>Ttl Trip Average</u>
LAC	Anguilla	Anguilla	AIR	3	3	7	5	26	46	34
	Antigua	St. John's	AIR	5	2	3	2	7	30	19
			SEA	3	12	16	13	42	42	42
	Aruba	St. Nicolaas	AIR	3	0	7	3	8	28	15
	Bahamas	Nassau	AIR	6	1	4	2	2	46	18
	Barbados	Barbados	AIR	2	2	2	2	12	12	12
			SEA	1	19	19	19	60	60	60
	Belize	Belize City	AIR	6	4	12	9	54	64	57
	Brazil	Rio de Janeiro	AIR	1	17	17	17	49	49	49
			SEA	1	32	32	32	33	33	33
	Chile	Valparaiso	SEA	6	25	40	31	44	77	59
	Colombia	Barranquilla	SEA	3	18	32	23	(5)	84	34
		Bogota	AIR	1	4	4	4	58	58	58
	Costa Rica	Puerto Limon	SEA	12	12	35	20	26	140	83
	Curacao	Curacao	AIR	4	2	7	5	11	27	20

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<u>Region</u>	<u>Country</u>	<u>Port of Entry</u>	<u>Ship Mode</u>	<u>Shpmt Count</u>	<u>Transit Minimum</u>	<u>Transit Maximum</u>	<u>Transit Average</u>	<u>Ttl Trip Minimum</u>	<u>Ttl Trip Maximum</u>	<u>Ttl Trip Average</u>
LAC	Curacao	Curacao	SEA	1	17	17	17	69	69	69
	Dominica	Roseau	AIR	2	5	13	9	(1)	21	10
			SEA	2	19	19	19	57	57	57
	Dominican Rep.	Santo Domingo	AIR	3	2	15	7	16	57	33
			SEA	5	3	29	13	10	69	37
	Ecuador	Guayaquil	SEA	6	25	34	29	107	300	167
		Quito	AIR	3	4	13	10	155	291	241
	El Salvador	Guatemala City, Guat.	SEA	3	32	32	32	81	81	81
		San Salvador	AIR	1	2	2	2	1	1	1
			SEA	12	28	44	31	50	106	72
	Grenada	St. George's	AIR	2	3	4	3	32	46	39
	Guatemala	Guatemala City	AIR	2	5	7	6	12	79	45
			SEA	25	13	46	26	15	162	84
	Haiti	Port-au-Prince	SEA	10	8	27	14	12	172	58
	Honduras	Tegucigalpa	AIR	22	5	26	10	(5)	118	28
	Jamaica	Kingston	AIR	3	1	3	2	(18)	73	39

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<u>Region</u>	<u>Country</u>	<u>Port of Entry</u>	<u>Ship Mode</u>	<u>Shpmt Count</u>	<u>Transit Minimum</u>	<u>Transit Maximum</u>	<u>Transit Average</u>	<u>Ttl Trip Minimum</u>	<u>Ttl Trip Maximum</u>	<u>Ttl Trip Average</u>
LAC	Jamaica	Kingston	SEA	12	6	27	12	14	90	46
	Mexico	Brownsville, TX	LAND	9	2	7	5	33	159	95
		El Paso, TX	LAND	3	3	5	3	19	31	27
		Laredo, TX	LAND	1	13	13	13	212	212	212
		Mexico City, D.F.	LAND	10	2	7	4	5	190	118
		New Orleans, LA	LAND	5	4	16	8	29	218	101
	Montserrat	Plymouth	AIR	1	6	6	6	9	9	9
	Peru	Callao	AIR	1	7	7	7	143	143	143
			SEA	20	17	55	28	36	137	68
	St. Christopher	St. Kitts	AIR	1	8	8	8	23	23	23
	St. Lucia	St. Lucia	AIR	3	2	4	3	2	44	21
			SEA	.	17	17	17	69	69	69
	St. Vincent	St. Vincent	AIR	4	4	10	6	16	32	25
	Suriname	Paramaribo	AIR	3	7	15	10	7	69	38
	Trinidad & Tobago	Baltimore, MD	SEA	1	40	40	40	70	70	70

Appendix E

<u>Region</u>	<u>Country</u>	<u>Port of Entry</u>	<u>Ship Mode</u>	<u>Shpmt Count</u>	<u>Transit Minimum</u>	<u>Transit Maximum</u>	<u>Transit Average</u>	<u>Ttl Trip Minimum</u>	<u>Ttl Trip Maximum</u>	<u>Ttl Trip Average</u>
LAC	Trinidad & Tobago	Port of Spain	SEA	2	14	19	16	55	66	60
	Uruguay	Montevideo	SEA	2	25	25	25	79	79	79
	Venezuela	Caracas	AIR	2	1	11	6	22	68	45
		La Guaira	SEA	2	16	16	16	95	95	95

Appendix F

**Analysis of Days Spent en route from Supplier to Recipient
All Destinations Outside U.S.**

Appendix F

Analysis of Days Spent en route from Supplier to Recipient All Destinations Outside U.S. -- Shipments Reported as Received Only January 1990 through May 1991

<u>Port of Loading</u>	<u>Port of Entry</u>	<u>Ship Mode</u>	<u>Shpmt Count</u>	<u>-----Total Trip Time-----</u>			<u>-----Delay at Supplier-----</u>			<u>-----Days in Transit-----</u>			<u>-----Days in Clearance-----</u>		
				<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>
Benin															
Baltimore, MD	Cotonou	SEA	5	84	84	84	10	10	10	52	52	52	22	22	22
Botswana															
Raleigh/Durham, NC	Gaborone	AIR	4	7	96	36	(3)	16	5	8	63	23	2	17	7
Burkina Faso															
Jacksonville, FL	Abidjan, I. C.	SEA	1	68	68	68	(10)	(10)	(10)	53	53	53	25	25	25
Raleigh/Durham, NC	Ouagadougou	AIR	5	33	79	55	5	33	13	4	11	7	6	70	34
Cameroon															
Baltimore, MD	Douala	SEA	3	42	188	107	(13)	(1)	(7)	37	78	52	12	158	61
Raleigh/Durham, NC	Douala	AIR	1	21	21	21	(16)	(16)	(16)	7	7	7	30	30	30
Washington (IAD)	Douala	AIR	1	49	49	49	(3)	(3)	(3)	35	35	35	17	17	17
Central African Republic															
Raleigh/Durham, NC	Bangui	AIR	1	20	20	20	5	5	5	6	6	6	9	9	9

Source: Evaluation Team Analysis of NEWVERN Data

Note: Negative days (in parentheses) represent early supplier availability and Matrix pickup before the estimated ship date.

Appendix F

<u>Port of Loading</u>	<u>Port of Entry</u>	<u>Ship Mode</u>	<u>Shpmt Count</u>	<u>-----Total Trip Time-----</u>			<u>-----Delay at Supplier-----</u>			<u>-----Days in Transit-----</u>			<u>-----Days in Clearance-----</u>		
				<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>
Cote D'Ivoire															
Baltimore, MD	Abidjan	SEA	1	46	46	46	4	4	4	42	42	42	0	0	0
Miami, FL	Abidjan	SEA	1	94	94	94	(66)	(66)	(66)	56	56	56	104	104	104
Raleigh/Durham, NC	Abidjan	AIR	1	25	25	25	13	13	13	5	5	5	7	7	7
Gambia															
Washington (IAD)	Dakar, Senegal	AIR	1	34	34	34	9	9	9	12	12	12	13	13	13
Ghana															
Washington (IAD)	Accra	AIR	3	54	81	71	10	32	21	7	14	11	30	42	38
Baltimore, MD	Tema	SEA	1	124	124	124	(2)	(2)	(2)	78	78	78	48	48	48
Guinea															
Baltimore, MD	Conakry	SEA	2	118	118	118	33	33	33	60	60	60	25	25	25
Kenya															
Baltimore, MD	Mombasa	SEA	3	127	148	141	39	41	39	72	105	94	4	14	7
Elizabeth, NJ	Mombasa	SEA	1	44	44	44	(24)	(24)	(24)	60	60	60	8	8	8

Appendix F

Port of Loading	Port of Entry	Ship Mode	Shpmt Count	-----Total Trip Time-----			-----Delay at Supplier-----			-----Days in Transit-----			-----Days to Clearance-----		
				Minimum	Maximum	Average	Minimum	Maximum	Average	Minimum	Maximum	Average	Minimum	Maximum	Average
Kenya															
Jacksonville, FL	Mombasa	SEA	2	66	138	102	(4)	(1)	(2)	53	142	97	0	14	7
Lesotho															
Baltimore, MD	Durban, R.S.A.	SEA	2	109	135	122	8	28	18	65	73	69	34	36	35
Malawi															
New York (JFK)	Lilongwe	AIR	1	28	28	28	3	3	3	11	11	11	14	14	14
Raleigh/Durham, NC	Lilongwe	AIR	9	(15)	152	30	(28)	39	(2)	6	16	9	0	152	23
Mali															
Chicago (ORD)	Bamako	AIR	1	14	14	14	(11)	(11)	(11)	6	6	6	19	19	19
New York (JFK)	Bamako	AIR	2	(11)	104	46	(16)	67	25	5	9	7	0	28	14
Raleigh/Durham, NC	Bamako	AIR	17	1	221	64	(27)	46	10	3	61	14	0	114	39
San Juan, PR	Bamako	AIR	3	5	32	18	(9)	11	0	5	19	11	2	11	7
Washington (IAD)	Bamako	AIR	3	31	100	64	1	19	13	5	6	5	6	94	45
Mauritius															
Washington (IAD)	Port Louis	AIR	2	42	42	42	9	9	9	18	18	18	15	15	15

Appendix F

<u>Port of Loading</u>	<u>Port of Entry</u>	<u>Ship Mode</u>	<u>Shpmt Count</u>	<u>-----Total Trip Time-----</u>			<u>-----Delay at Supplier-----</u>			<u>-----Days in Transit-----</u>			<u>-----Days in Clearance-----</u>		
				<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>
Mozambique															
Washington (IAD)	Maputo	AIR	2	60	60	60	18	18	18	21	21	21	21	21	21
Niger															
New York (JFK)	Niamey	AIR	1	28	28	28	12	12	12	6	6	6	10	10	10
Raleigh/Durham, NC	Niamey	AIR	9	0	66	31	(6)	56	13	4	27	10	2	15	7
Rwanda															
New York (JFK)	Kigali	AIR	4	23	93	42	(6)	37	7	4	9	7	18	52	28
Raleigh/Durham, NC	Kigali	AIR	2	27	93	60	12	25	18	8	17	12	7	51	29
San Juan, PR	Kigali	AIR	1	93	93	93	9	9	9	12	12	12	72	72	72
Washington (IAD)	Kigali	AIR	1	54	54	54	19	19	19	8	8	8	27	27	27
Tanzania															
Charleston, SC	Dar Es Salaam	SEA	1	90	90	90	(14)	(14)	(14)	76	76	76	28	28	28
Washington (IAD)	Dar Es Salaam	AIR	2	(1)	60	29	(15)	2	(6)	6	9	7	8	49	28
Togo															
Baltimore, MD	Lome	SEA	5	74	164	103	3	71	26	50	65	60	8	29	17

Appendix F

Port of Loading	Port of Entry	Ship Mode	Shpmt Count	-----Total Trip Time-----			-----Delay at Supplier-----			-----Days in Transit-----			-----Days in Clearance-----		
				Minimum	Maximum	Average	Minimum	Maximum	Average	Minimum	Maximum	Average	Minimum	Maximum	Average
Togo															
Jacksonville, FL	Lome	SEA	1	89	89	89	(8)	(8)	(8)	65	65	65	32	32	32
Raleigh/Durham, NC	Lome	AIR	3	66	66	66	54	54	54	3	3	3	9	9	9
Uganda															
New York (JFK)	Kampala	AIR	1	21	21	21	(1)	(1)	(1)	15	15	15	7	7	7
Washington (IAD)	Kampala	AIR	1	43	43	43	0	0	0	17	17	17	26	26	26
Zaire															
Raleigh/Durham, NC	Kinshasa	AIR	11	0	178	72	(17)	62	18	5	51	15	0	122	37
San Juan, PR	Kinshasa	AIR	1	36	36	36	11	11	11	25	25	25	0	0	0
Baltimore, MD	Matadi	SEA	7	143	285	247	(6)	47	32	63	85	75	52	164	140
Elizabeth, NJ	Matadi	SEA	1	139	139	139	(6)	(6)	(6)	65	65	65	80	80	80
Jacksonville, FL	Matdi	SEA	1	110	110	110	(4)	(4)	(4)	54	54	54	60	60	60
Zimbabwe															
Jacksonville, FL	Durban, R.S.A.	SEA	1	150	150	150	(3)	(3)	(3)	74	74	74	79	79	79
New Orleans, LA	Durban, R.S.A.	SEA	2	21	61	41	(19)	(3)	(11)	40	58	49	0	6	3
Pensacola, FL	Durban, R.S.A.	SEA	1	79	79	79	(5)	(5)	(5)	41	41	41	43	43	43
Chicago (ORD)	Harare	AIR	4	57	71	67	4	25	19	7	18	15	28	46	32

Appendix F

<u>Port of Loading</u>	<u>Port of Entry</u>	<u>Ship Mode</u>	<u>Shpmt Count</u>	<u>-----Total Trip Time-----</u>			<u>-----Delay at Supplier-----</u>			<u>-----Days in Transit-----</u>			<u>-----Days in Clearance-----</u>		
				<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>
Zimbabwe															
Dallas, TX	Harare	AIR	1	79	79	79	9	9	9	9	9	9	61	61	61
Philadelphia, PA	Harare	AIR	1	71	71	71	34	34	34	11	11	11	26	26	26
Bangladesh															
Baltimore, MD	Chittagong	SEA	2	85	92	88	2	12	7	56	61	58	17	29	23
Elizabeth, NJ	Chittagong	SEA	1	99	99	99	13	13	13	57	57	57	29	29	29
Jacksonville, FL	Chittagong	SEA	15	58	175	85	(16)	86	1	41	88	66	0	47	17
Norfolk, VA	Chittagong	SEA	10	76	96	89	0	21	10	60	78	65	9	19	14
San Pedro, CA	Chittagong	SEA	1	46	46	46	(16)	(16)	(16)	55	55	55	7	7	7
Chicago (ORD)	Dhaka	AIR	1	21	21	21	(2)	(2)	(2)	14	14	14	9	9	9
Washington (IAD)	Dhaka	AIR	2	38	38	38	16	16	16	9	9	9	13	13	13
Egypt															
Baltimore, MD	Alexandria	SEA	6	25	74	51	(7)	40	7	32	62	44	0	2	0
Charleston, SC	Alexandria	SEA	3	23	38	32	(5)	(3)	(3)	26	43	34	0	3	1
Elizabeth, NJ	Alexandria	SEA	8	3	101	41	(21)	43	0	19	67	37	0	17	3
Jacksonville, FL	Alexandria	SEA	1	47	47	47	(7)	(7)	(7)	54	54	54	0	0	0
Norfolk, VA	Alexandria	SEA	6	15	43	33	(6)	12	5	21	37	28	0	0	0
Fiji															
Los Angeles, CA	Nadi	AIR	1	21	21	21	6	6	6	10	10	10	5	5	5

Appendix F

<u>Port of Loading</u>	<u>Port of Entry</u>	<u>Ship Mode</u>	<u>Shpmt Count</u>	<u>-----Total Trip Time-----</u>			<u>-----Delay at Supplier-----</u>			<u>-----Days in Transit-----</u>			<u>-----Days in Clearance-----</u>		
				<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>
Morocco															
Baltimore, MD	Casablanca	SEA	1	167	167	167	28	28	28	43	43	43	96	96	96
Raleigh/Durham, NC	Casablanca	AIR	1	5	5	5	1	1	1	4	4	4	0	0	0
Savannah, GA	Casablanca	SEA	1	34	34	34	(13)	(13)	(13)	46	46	46	1	1	1
Nepal															
Baltimore, MD	Calcutta, India	SEA	10	93	221	140	(23)	71	7	50	107	77	0	117	55
Charleston, SC	Calcutta, India	SEA	1	120	120	120	(14)	(14)	(14)	90	90	90	44	4	44
San Juan, PR	Calcutta, India	SEA	1	122	122	122	21	21	21	72	72	72	29	29	29
Washington (IAD)	Kathmandu	AIR	1	53	53	53	3	3	3	10	10	10	40	40	40
Pakistan															
Baltimore, MD	Karachi	SEA	3	46	154	94	(20)	5	(8)	37	62	48	15	129	54
Elizabeth, NJ	Karachi	SEA	2	70	73	71	4	12	8	43	49	46	15	20	17
Jacksonville, FL	Karachi	SEA	23	51	93	64	(20)	9	(7)	39	76	49	6	44	22
Raleigh/Durham, NC	Karachi	AIR	1	37	37	37	0	0	0	12	12	12	25	25	25
San Juan, PR	Karachi	SEA	3	92	112	105	(13)	8	(6)	51	52	51	33	73	59
San Pedro, CA	Karachi	SEA	3	43	66	58	(8)	(2)	(6)	45	61	55	0	13	8
Philippines															
Long Beach, CA	Manila	SEA	1	79	79	79	(5)	(5)	(5)	45	45	45	39	39	39

Appendix F

Port of Loading	Port of Entry	Ship Mode	Shpmt Count	-----Total Trip Time-----			-----Delay at Supplier-----			-----Days in Transit-----			-----Days in Clearance-----		
				Minimum	Maximum	Average	Minimum	Maximum	Average	Minimum	Maximum	Average	Minimum	Maximum	Average
Philippines															
Los Angeles, CA	Manila	AIR	1	60	60	60	(2)	(2)	(2)	14	14	14	48	48	48
Tacoma, WA	Manila	SEA	3	60	63	62	(11)	7	1	41	41	41	15	30	20
Sri Lanka															
Raleigh/Durham, NC	Colombo	AIR	1	28	28	28	(12)	(12)	(12)	40	40	40	0	0	0
Turkey															
Baltimore, MD	Istanbul	SEA	3	84	84	84	18	18	18	60	60	60	6	6	6
Charleston, SC	Istanbul	SEA	1	62	62	62	(22)	(22)	(22)	19	19	19	65	65	65
Elizabeth, NJ	Istanbul	SEA	2	63	78	70	(20)	(9)	(14)	25	30	27	53	62	57
San Juan, PR	Istanbul	SEA	1	139	139	139	22	22	22	51	51	51	66	66	66
Washington (IAD)	Istanbul	AIR	3	75	75	75	16	16	16	10	10	10	49	49	49
Baltimore, MD	Izmir	SEA	1	103	103	103	7	7	7	26	26	26	70	70	70
Charleston, SC	Izmir	SEA	1	11	11	11	(23)	(23)	(23)	25	25	25	9	9	9
Anguilla															
San Juan, PR	Anguilla	AIR	3	26	46	34	(7)	18	9	3	7	5	3	36	20
Antigua															
Jacksonville, FL	St. John's	SEA	2	42	42	42	(7)	(7)	(7)	12	12	12	37	37	37

Appendix F

<u>Port of Loading</u>	<u>Port of Entry</u>	<u>Ship Mode</u>	<u>Shpmt Count</u>	<u>-----Total Trip Time-----</u>			<u>-----Delay at Supplier-----</u>			<u>-----Days in Transit-----</u>			<u>-----Days in Clearance-----</u>		
				<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>
Antigua															
Miami, FL	St. John's	SEA	42	42	42	(9)	(9)	(9)	16	16	16	16	35	35	35
New York (JFK)	St. John's	AIR	3	21	30	27	3	19	8	2	2	2	0	25	16
San Juan, PR	St. John's	AIR	2	7	7	7	2	2	2	3	3	3	2	2	2
Aruba															
San Juan, PR	St. Nicolaas	AIR	3	8	28	15	1	21	7	0	7	3	3	7	5
Bahamas															
New York (JFK)	Nassau	AIR	6	2	46	18	(11)	35	8	1	4	2	2	18	7
Barbados															
Miami, FL	Barbados	SEA	2	60	60	60	23	23	23	19	19	19	18	18	18
New York (JFK)	Barbados	AIR	3	12	12	12	1	1	1	2	2	2	9	9	9
Belize															
Miami, FL	Belize City	AIR	5	54	64	58	13	15	13	4	12	8	29	45	35
San Juan, PR	Belize City	AIR	1	54	54	54	21	21	21	11	11	11	22	22	22
Brazil															
Baltimore, MD	Rio De Janeiro	SEA	1	33	33	33	1	1	1	32	32	32	0	0	0

Appendix F

Port of Loading	Port of Entry	Ship Mode	Shpmt Count	-----Total Trip Time-----			-----Delay at Supplier-----			-----Days in Transit-----			-----Days in Clearance-----		
				Minimum	Maximum	Average	Minimum	Maximum	Average	Minimum	Maximum	Average	Minimum	Maximum	Average
Brazil															
Miami, FL	Rio De Janeiro	AIR	1	49	49	49	15	15	15	17	17	17	17	17	17
Chile															
Baltimore, MD	Valparaiso	SEA	4	44	68	52	(15)	30	3	25	40	30	9	25	18
San Juan, PR	Valparaiso	SEA	2	70	77	73	20	42	31	26	40	33	9	10	9
Colombia															
Baltimore, MD	Barranquilla	SEA	1	23	23	23	(17)	(17)	(17)	32	32	32	8	8	8
New York, NY	Barranquilla	SEA	1	(5)	(5)	(5)	(24)	(24)	(24)	19	19	19	0	0	0
Savannah, GA	Barranquilla	SEA	1	84	84	84	38	38	38	18	18	18	28	28	28
Miami, FL	Bogota	AIR	1	58	58	58	(10)	(10)	(10)	4	4	4	64	64	64
Costa Rica															
Jacksonville, FL	Puerto Limon	SEA	1	74	74	74	(16)	(16)	(16)	13	13	13	77	77	77
Miami, FL	Puerto Limon	SEA	3	26	86	59	(15)	(4)	(9)	12	26	18	29	76	50
New Orleans, LA	Puerto Limon	SEA	3	96	140	125	(15)	28	0	28	35	30	33	127	95
Port Everglades, FL	Puerto Limon	SEA	3	78	78	78	(2)	(2)	(2)	18	18	18	62	62	62
San Juan, PR	Puerto Limon	SEA	2	69	73	71	13	13	13	16	16	16	40	44	42

Appendix F

Port of Loading	Port of Entry	Ship	Shpmt	-----Total Trip Time-----			-----Delay at Supplier-----			-----Days in Transit-----			-----Days in Clearance-----		
				Minimum	Maximum	Average	Minimum	Maximum	Average	Minimum	Maximum	Average	Minimum	Maximum	Average
Curacao															
Miami, FL	Curacao	AIR	2	27	27	27	15	15	15	7	7	7	5	5	5
New York (JFK)	Curacao	AIR	1	11	11	11	1	1	1	4	4	4	6	6	6
San Juan, PR	Curacao	AIR	1	18	18	18	12	12	12	2	2	2	4	4	4
		SEA	1	69	69	69	41	41	41	17	17	17	11	11	11
Dominica															
Miami, FL	Roseau	AIR	1	(1)	(1)	(1)	(14)	(14)	(14)	5	5	5	8	8	8
		SEA	2	57	57	57	23	23	23	19	19	19	15	15	15
San Juan, PR	Roseau	AIR	1	21	21	21	1	1	1	13	13	13	7	7	7
Dominican Republic															
Baltimore, MD	Santo Domingo	SEA	1	40	40	40	0	0	0	29	29	29	11	11	11
Elizabeth, NJ	Santo Domingo	SEA	1	69	69	69	(10)	(10)	(10)	14	14	14	65	65	65
Miami, FL	Santo Domingo	AIR	1	16	16	16	(2)	(2)	(2)	4	4	4	14	14	14
New York (JFK)	Santo Domingo	AIR	2	26	57	41	11	27	19	2	15	8	13	15	14
San Juan, PR	Santo Domingo	SEA	3	10	34	25	(4)	16	6	3	12	7	0	24	11
Ecuador															
Baltimore, MD	Guayaquil	SEA	2	276	300	288	242	275	258	25	34	29	0	0	0

Appendix F

Port of Loading	Port of Entry	Ship Mode	Shpmt Count	-----Total Trip Time-----			-----Delay at Supplier-----			-----Days in Transit-----			-----Days in Clearance-----		
				Minimum	Maximum	Average	Minimum	Maximum	Average	Minimum	Maximum	Average	Minimum	Maximum	Average
Ecuador															
New York, NY	Guayaquil	SEA	4	107	107	107	37	37	37	29	29	29	41	41	41
		SEA	6	77	137	95	(2)	54	42	22	55	30	0	74	22
Miami, FL	Quito	AIR	3	155	291	241	112	252	205	4	13	10	13	39	26
El Salvador															
New Orleans, LA	Guatemala City	SEA	3	81	81	81	(4)	(4)	(4)	32	32	32	53	53	53
Elizabeth, NJ	San Salvador	SEA	1	81	81	81	(1)	(1)	(1)	33	33	33	49	49	49
Miami, FL	San Salvador	AIR	1	1	1	1	(19)	(19)	(19)	2	2	2	18	18	18
		SEA	4	50	82	58	(7)	38	4	28	44	32	0	29	21
New Orleans, LA	San Salvador	SEA	7	57	106	79	(7)	6	(4)	29	32	30	32	80	52
Grenada															
San Juan, PR	St. George's	AIR	2	32	46	39	20	35	27	3	4	3	7	9	8
Guatemala															
Baltimore, MD	Guatemala City	SEA	3	67	146	119	6	23	17	21	33	25	28	102	77
Elizabeth, NJ	Guatemala City	SEA	1	48	48	48	(28)	(28)	(28)	29	29	29	47	47	47
Jacksonville, FL	Guatemala City	SEA	1	111	111	111	9	9	9	25	25	25	77	77	77
Miami, FL	Guatemala City	AIR	2	12	79	45	(5)	7	1	5	7	6	0	77	38
San Juan, PR	St. Lucia, W.I.	AIR	3	2	44	21	(10)	23	5	2	4	3	10	18	13

Appendix F

<u>Port of Loading</u>	<u>Port of Entry</u>	<u>Ship Mode</u>	<u>Shpmt Count</u>	<u>-----Total Trip Time-----</u>			<u>-----Delay at Supplier-----</u>			<u>-----Days in Transit-----</u>			<u>-----Days in Clearance-----</u>		
				<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>
Guatemala															
Miami, FL	Guatemala City	SEA	5	15	120	72	(12)	50	17	13	46	30	6	39	24
New Orleans, LA	Guatemala City	SEA	6	25	162	98	(19)	6	(1)	27	34	29	11	131	69
Port Everglades, FL	Guatemala City	SEA	4	31	75	64	(6)	34	24	27	27	27	10	14	13
San Juan, PR	Guatemala City	SEA	5	46	89	78	(12)	16	10	17	31	19	27	56	48
Haiti															
Baltimore, MD	Port-au-Prince	SEA	2	66	66	66	13	13	13	27	27	27	26	26	26
Jacksonville, FL	Port-au-Prince	SEA	4	24	82	53	(15)	(15)	(15)	8	11	9	28	89	58
Miami, FL	Port-au-Prince	SEA	2	13	172	92	(2)	52	25	11	14	12	1	109	55
San Juan, PR	Port-au-Prince	SEA	2	12	44	28	(7)	0	(3)	12	19	15	0	32	16
		SEA	2	57	57	57	23	23	23	19	19	19	15	15	15
Honduras															
Miami, FL	Tegucigalpa	AIR	22	(5)	118	28	(28)	101	4	5	26	10	0	51	14
Jamaica															
Baltimore, MD	Kingston	SEA	1	90	90	90	40	40	40	17	17	17	33	33	33
Jacksonville, FL	Kingston	SEA	6	14	56	29	(23)	4	(10)	7	27	11	7	55	28
Miami, FL	Kingston	SEA	2	35	47	41	(7)	6	0	12	20	16	21	30	25
New York (JFK)	Kingston	AIR	3	(18)	73	39	(37)	23	(2)	1	3	2	17	55	39
Newark, NJ	Kingston	SEA	1	46	46	46	0	0	0	23	23	23	23	23	23

Appendix F

<u>Port of Loading</u>	<u>Port of Entry</u>	<u>Ship Mode</u>	<u>Shpmt Count</u>	<u>-----Total Trip Time-----</u>			<u>-----Delay at Supplier-----</u>			<u>-----Days in Transit-----</u>			<u>-----Days in Clearance-----</u>		
				<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>
Jamaica															
San Juan, PR	Kingston	SEA	2	77	84	80	23	30	26	6	7	6	41	54	47
Mexico															
Brownsville, TX	Brownsville, TX	LAND	8	33	159	98	(22)	35	3	2	7	5	0	160	90
San Juan, PR	Brownsville, TX	LAND	1	66	66	66	24	24	24	3	3	3	39	39	39
El Paso, TX	El Paso, TX	LAND	3	19	31	27	3	6	4	3	5	3	11	25	18
Laredo, TX	Laredo, TX	LAND	1	212	212	212	38	38	38	13	13	13	161	161	161
Alexandria, VA	Mexico City	LAND	6	112	190	138	12	54	26	3	7	4	93	133	106
Brownsville, TX	Mexico City	LAND	1	66	66	66	0	0	0	4	4	4	62	62	62
Dothan, AL	Mexico City	LAND	2	117	169	143	(6)	(5)	(5)	3	4	3	119	171	145
Somerset, NJ	Mexico City	LAND	1	5	5	5	(5)	(5)	(5)	2	2	2	8	8	8
San Juan, PR	New Orleans, LA	LAND	5	29	218	101	6	26	15	4	16	8	1	188	77
Montserrat															
Alexandria, VA	Plymouth	AIR	1	9	9	9	2	2	2	6	6	6	1	1	1
Peru															
Baltimore, MD	Callao	SEA	12	36	76	50	1	47	18	26	37	29	0	3	2

Appendix F

<u>Port of Loading</u>	<u>Port of Entry</u>	<u>Ship Mode</u>	<u>Shpmt Count</u>	<u>-----Total Trip Time-----</u>			<u>-----Delay at Supplier-----</u>			<u>-----Days in Transit-----</u>			<u>-----Days in Clearance-----</u>		
				<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>
Peru															
Miami, FL	Callao	AIR	1	143	143	143	(17)	(17)	(17)	7	7	7	153	153	153
		SEA	6	77	137	95	(2)	54	42	22	55	30	0	74	22
Port Everglades, FL	Callao	SEA	2	92	92	92	(9)	(9)	(9)	17	17	17	84	84	84
St. Christopher															
San Juan, PR	St. Kitts	AIR	1	23	23	23	1	1	1	8	8	8	14	14	14
St. Lucia															
Baltimore, MD	St. Lucia	SEA	1	69	69	69	34	34	34	17	17	17	18	18	18
San Juan, PR	St. Lucia	AIR	3	2	44	21	(10)	23	5	2	4	3	10	18	13
St. Vincent															
San Juan, PR	St. Vincent	AIR	4	16	32	25	0	23	15	4	10	6	1	6	4
Suriname															
Miami, FL	Paramaribo	AIR	3	7	69	38	(17)	23	2	7	15	10	16	39	26
Trinidad & Tobago															
San Juan, PR	Baltimore, MD	SEA	1	70	70	70	21	21	21	40	40	40	9	9	9

Appendix F

<u>Port of Loading</u>	<u>Port of Entry</u>	<u>Ship Mode</u>	<u>Shpmt Count</u>	<u>-----Total Trip Time-----</u>			<u>-----Delay at Supplier-----</u>			<u>-----Days in Transit-----</u>			<u>-----Days in Clearance-----</u>		
				<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>
Trinidad & Tobago															
Baltimore, MD	Port of Spain	SEA	2	55	66	60	30	37	33	14	19	16	10	11	10
Uruguay															
Baltimore, MD	Montevideo	SEA	2	79	79	79	34	34	34	25	25	25	20	20	20
Venezuela															
Miami, FL	Caracas	AIR	1	22	22	22	1	1	1	11	11	11	10	10	10
San Juan, PR	Caracas	AIR	1	68	68	68	0	0	0	1	1	1	67	67	67
Miami, FL	La Guaira	SEA	2	95	95	95	23	23	23	16	16	16	56	56	56

Appendix G
Database Description

Appendix G

Database Description

The evaluation team developed a management reporting database in the course of performing the evaluation. This database was invaluable in performing the evaluation, and in understanding the patterns and timings that had been achieved during the first 17 months of the contract. NEWVERN-supplied data in machine-readable form was used to create the basic reporting information, as well as data from a Matrix-supplied memos file. Additional information (such as elapsed days waiting in port and days spent in transit) was also derived from the NEWVERN and Matrix source data. In automatically assigning various leg origin and destination points as the port of loading or port of entry, the team used a rule-based system.

For management reporting and performance measurement purposes, the team decided to maintain information at the individual shipment level for all shipments (about 1,000 in total) handled since the beginning of the contract. The source data was obtained on June 27 and 28, 1991, and this provided usable historical shipment information from January 1, 1990 to May 31, 1991.

The team used PC/Focus as the application development and reporting language. A number of reports and tables were developed to look at historical information from many different points of view. Tables were developed in PC/Focus, output as text files, and imported into WordPerfect. Graphs were produced from PC/Focus data, and imported into Harvard Graphics. Although the team did not have to use updates to the initial data supplied by NEWVERN and Matrix, the application was developed in a way that would allow rapid updating of the database.

One of the strengths of the NEWVERN system is in the amount of shipment and transit performance data collected. Although the team's management reporting database was not designed for production efficiency, the total space required for data and applications files was fairly large, at about 15 megabytes. The team used a 386SX-based laptop, running at 20MHz with a 40MB hard disk, as its primary development computer.

A number of data clean-up activities were required to correct misspellings and variations in names. Some dates also required correction, since the year had been entered incorrectly in either the NEWVERN or Matrix databases.

A listing showing the basic structure of the shipment database is included in this appendix.

Data File Name: SHIPMENT

Data Segment Name: BOLSEG S1

Field Name	Alt Field Name	Format	Description
BOL_CODE	BOLCODE	A10	Bill of Lading Code
BOL_BOOK	BOLBOOK	A9	Matrix Booking Number
BOL_COMPLETE	BOLCOMPLETE	A3	Matrix Arrival Indic(yes/no)
CONSOL_CODE	CONSOLCODE	A3	Consol Shpmt Code (yes/no)
DHL_CODE	DHLCODE	A9	DHL Airway Bill Number
DHL_DATE	DHLDATE	I6MDY	DHL Airway Bill Date Sent
LST_CHG_BY	LSTCHGBY	A16	Last Change in Newvern By
LAST_CHNG	LASTCHNG	I6MDY	Last Newvern Change Date
BOL_ORIG	BOLORIG	A20	Consolidation Origin Point
BOL_DEST	BOLDEST	A20	Consolidation Destination Point
BOL_CTRY	BOLCTRY	A20	Consolidation Dest. Country
BOL_MODE	BOLMODE	A4	Primary Mode for Shpts in Consol
BOL_ETD	BOL_ATD	I6MDY	Est/Actual BOL Departure Date
BOL_ETA	BOL_ATA	I6MDY	Est/Actual BOL Arrival Date
BOL_PROD	BOLPROD	A39	List of Product Types in BOL

Data Segment Name: NEWVSEG S1 PARENT=BOLSEG

Field Name	Alt Field Name	Format	Description
NEWVERN_ID	SID	A12	Newvern Shipment ID Number
DEST_CTRY	DESTCTRY	A20	Shipment Destination Country
RECIPIENT	CONSIGNEE	A40	Recipient Organization
PRODUCT	PRODCODE	A8	Newvern Product Code
SHIP_SOURCE	SUPPLIER	A8	Supplier
PO_CODE	POCODE	A12	GSA Purchase Order Number
AMT_SHIPPED	AMTSHIPPED	D11.0C	Qty Shipped (Int Case Lot)
AMT_RECVD	AMTRECVD	D11.0C	Reprtd Qty Recvd by Mission/CA
MODE	SHIP_MODE	A4	Shipment Mode
COMMOD_COST	COMMODCOST	D11.2CM	Product Cost
FRT_COST	FRTCOST	D11.2CM	Frt Cost From Matrix
MATRIX	MATRIX_SHP	A3	Matrix Handled (yes/no)
STATUS	STATUS	A9	Newvern Shipment Status Code
PROD_MEMO	PRODMEMO	I6MDY	Initial Prod Memo Date (Added)
PO_DATED	PODATED	I6MDY	GSA PO Date(Added-Not Newvern)
MEMO_SENT	MEMOSENT	I6MDY	Date of Last Chg in Prod. Memo
PO_RECVD	PORECVD	I6MDY	Date P.O. Received by JSI
INIT_SHIP	INITSHIP	I6MDY	Date Shpt Init Sched to Ship
DATE_DUE	DATEDUE	I6MDY	Prd Dte(Mo End)/Whse Due Dte+15
DATE_RECVD	DATERECVD	I6MDY	Reprtd Date Recvd by Missn/CA
TWAY_SENT	TWAYSENT	I6MDY	Date Two Way Memo Sent
COMMENT1		A70	Comments Line 1 About This Shipment
COMMENT2		A70	Comments Line 2 About This Shipment

Data Segment Name: CTRSEG S1 PARENT=BOLSEG

Field Name	Alt Field Name	Format	Description
CN_CODE	CNCODE	A20	Container Code Number
CN_SEAL	CNSEAL	A7	Container Seal Number
CN_CUBE	CNCUBE	I7C	Container Cubic Capacity (Cu Ft)
CN_WEIGHT	CNWEIGHT	I9C	Container Weight (Lbs)
CN_CASES	CNCASES	I8C	Cartons in This Container

Data Segment Name: LEGSEG S1 PARENT=BOLSEG

Field Name	Alt Field Name	Format	Description
LEG_NUM	LEG_NO	I3	Leg Sequence Number
LEG_REAL	LEGREAL	A3	Real (Not Newvern Dummy)(yes/no)
LEG_DEPART	LEGDEPART	A20	Leg Departure Point (Newvern)
LEG_ARRIVE	LEGARRIVE	A20	Leg Arrival Point (Newvern)
LEG_ORIG	LEGORIG	A20	Leg Origin Point (Redefined)
LEG_DEST	LEGDEST	A20	Leg Destination Pt (Redefined)
MO_CODE	MOCODE	A4	Leg Mode of Shpmt Code (Newvern)
CR_CODE	CRCODE	A20	Leg Carrier Code (Newvern)
LEG_VESSEL	LEGVESSEL	A20	Leg Vessel/Truck/Flt No. Ident
LEG_BOL	LEGBOL	A12	Leg Bill of Lading
LEG_PIER	LEGPIER	A20	Leg Departure Pier ID (Sea Only)
LEG_ETD	LEG_ATD	I6MDY	Est/Actual Leg Departure Date
LEG_ETA	LEG_ATA	I6MDY	Est/Actual Leg Arrival Date
LEG_CONFIRM	LEGCONFIRM	A3	Leg Left Departure Pt?(yes/no)
LEG_ACK	LEGACK	A3	Leg Arrived at Dest (yes/no)o
BEFORE_DAYS	PRE_DAYS	I5BC	Days Wait Prior to Leg Transit
LEG_DAYS	TRAN_DAYS	I5BC	Days Duration of Leg Transit
AFTER_DAYS	POST_DAYS	I5BC	Days Wait After Leg Transit

Data File Name: COUNTRY

Data Segment Name: CTRYSEG S1

Field Name	Alt Field Name	Format	Description
DEST_CTRY	DESTCTRY	A20	Newvern Destination Country
DEST_NAT	COUNTRY	A20	Dest Nation (Corrected)
CTRY_CODE	NAT_CODE	A2	Dest 2-Letter Country Code
REGION	REG_CODE	A3	Dest Region Code
QRESP	QUEST_RESP	A3	1991 Questionnaire Resp (yes/no)
TOP20	MAJOR	A3	Top 20 Recip Countries(yes/no)
QUOTE20	QMAJOR	A3	20 Quoted Destinations(yes/no)

 Data File Name: ITINFILE

Data Segment Name: ITINSEG S1

Field Name	Alt Field Name	Format	Description

BOL_CODE	BOLCODE	A10	Matrix Bill of Lading Code
ORIG	ORIGIN	A20	Consolidation Origin Point
OPORT	ORIG_PORT	A20	Consolidation Origin Port
DPORT	DEST_PORT	A20	Consolidation Destination Port
DEST	DESTINATION	A20	Consolidation Destination Point
DESTIN_CTRY	DESTINCTRY	A20	Newvern Destin Country for BOL
ETD	ATD	I6MDY	Date of Departure
ETA	ATA	I6MDY	Date of Arrival
BOL_DAYS	BOL_TRANSIT	I5BC	Transit Time For BOL Shipment
OPT_DAYS	OP_TRANS	I5BC	Transit Ti Origin to Origin Port
OPW_DAYS	OP_WAIT	I5BC	Wait Time at Origin Port
PPT_DAYS	PP_TRANS	I5BC	Trans Ti Orig Port to Dest Port
DPW_DAYS	DP_WAIT	I5BC	Wait Time at Destination Port
PDT_DAYS	PD_TRANS	I5BC	Trans Ti Dest Port to Destin
LEG1_ORIG	LEG1ORIG	A20	Leg 1 Origin
LEG1_DEST	LEG1DEST	A20	Leg 1 Destination
LEG1_MODE	LEG1MODE	A4	Leg 1 Mode of Transport
LEG1_CARR	LEG1CARR	A20	Leg 1 Carrier
LEG1_ETD	LEG1_ATD	I6MDY	Leg 1 Departure Date
LEG1_ETA	LEG1_ATA	I6MDY	Leg 1 Arrival Date
LEG2_ORIG	LEG2ORIG	A20	Leg 2 Origin
LEG2_DEST	LEG2DEST	A20	Leg 2 Destination
LEG2_MODE	LEG2MODE	A4	Leg 2 Mode of Transport
LEG2_CARR	LEG2CARR	A20	Leg 2 Carrier
LEG2_ETD	LEG2_ATD	I6MDY	Leg 2 Departure Date
LEG2_ETA	LEG2_ATA	I6MDY	Leg 2 Arrival Date
LEG3_ORIG	LEG3ORIG	A20	Leg 3 Origin
LEG3_DEST	LEG3DEST	A20	Leg 3 Destination
LEG3_MODE	LEG3MODE	A4	Leg 3 Mode of Transport
LEG3_CARR	LEG3CARR	A20	Leg 3 Carrier
LEG3_ETD	LEG3_ATD	I6MDY	Leg 3 Departure Date
LEG3_ETA	LEG3_ATA	I6MDY	Leg 3 Arrival Date
LEG4_ORIG	LEG4ORIG	A20	Leg 4 Origin
LEG4_DEST	LEG4DEST	A20	Leg 4 Destination
LEG4_MODE	LEG4MODE	A4	Leg 4 Mode of Transport
LEG4_CARR	LEG4CARR	A20	Leg 4 Carrier
LEG4_ETD	LEG4_ATD	I6MDY	Leg 4 Departure Date
LEG4_ETA	LEG4_ATA	I6MDY	Leg 4 Arrival Date
LEG5_ORIG	LEG5ORIG	A20	Leg 5 Origin
LEG5_DEST	LEG5DEST	A20	Leg 5 Destination
LEG5_MODE	LEG5MODE	A4	Leg 5 Mode of Transport

LEG5_CARR	LEG5CARR	A20	Leg 5 Carrier
LEG5_ETD	LEG5_ATD	I6MDY	Leg 5 Departure Date
LEG5_ETA	LEG5_ATA	I6MDY	Leg 5 Arrival Date
LEG6_ORIG	LEG6ORIG	A20	Leg 6 Origin
LEG6_DEST	LEG6DEST	A20	Leg 6 Destination
LEG6_MODE	LEG6MODE	A4	Leg 6 Mode of Transport
LEG6_CARR	LEG6CARR	A20	Leg 6 Carrier
LEG6_ETD	LEG6_ATD	I6MDY	Leg 6 Departure Date
LEG6_ETA	LEG6_ATA	I6MDY	Leg 6 Arrival Date
LEG7_ORIG	LEG7ORIG	A20	Leg 7 Origin
LEG7_DEST	LEG7DEST	A20	Leg 7 Destination
LEG7_MODE	LEG7MODE	A4	Leg 7 Mode of Transport
LEG7_CARR	LEG7CARR	A20	Leg 7 Carrier
LEG7_ETD	LEG7_ATD	I6MDY	Leg 7 Departure Date
LEG7_ETA	LEG7_ATA	I6MDY	Leg 7 Arrival Date
LEG8_ORIG	LEG8ORIG	A20	Leg 8 Origin
LEG8_DEST	LEG8DEST	A20	Leg 8 Destination
LEG8_MODE	LEG8MODE	A4	Leg 8 Mode of Transport
LEG8_CARR	LEG8CARR	A20	Leg 8 Carrier
LEG8_ETD	LEG8_ATD	I6MDY	Leg 8 Departure Date
LEG8_ETA	LEG8_ATA	I6MDY	Leg 8 Arrival Date
LEG9_ORIG	LEG9ORIG	A20	Leg 9 Origin
LEG9_DEST	LEG9DEST	A20	Leg 9 Destination
LEG9_MODE	LEG9MODE	A4	Leg 9 Mode of Transport
LEG9_CARR	LEG9CARR	A20	Leg 9 Carrier
LEG9_ETD	LEG9_ATD	I6MDY	Leg 9 Departure Date
LEG9_ETA	LEG9_ATA	I6MDY	Leg 9 Arrival Date
LEG1_PRE	LEG1_BEFORE	I5BC	Leg 1 Days Hold Before Transit
LEG1_TRAN	LEG1_TRANSIT	I5BC	Leg 1 Transit Days
LEG1_POST	LEG1_AFTER	I5BC	Leg 1 Days Hold After Transit
LEG2_PRE	LEG2_BEFORE	I5BC	Leg 2 Days Hold Before Transit
LEG2_TRAN	LEG2_TRANSIT	I5BC	Leg 2 Transit Days
LEG2_POST	LEG2_AFTER	I5BC	Leg 2 Days Hold After Transit
LEG3_PRE	LEG3_BEFORE	I5BC	Leg 3 Days Hold Before Transit
LEG3_TRAN	LEG3_TRANSIT	I5BC	Leg 3 Transit Days
LEG3_POST	LEG3_AFTER	I5BC	Leg 3 Days Hold After Transit
LEG4_PRE	LEG4_BEFORE	I5BC	Leg 4 Days Hold Before Transit
LEG4_TRAN	LEG4_TRANSIT	I5BC	Leg 4 Transit Days
LEG4_POST	LEG4_AFTER	I5BC	Leg 4 Days Hold After Transit
LEG5_PRE	LEG5_BEFORE	I5BC	Leg 5 Days Hold Before Transit
LEG5_TRAN	LEG5_TRANSIT	I5BC	Leg 5 Transit Days
LEG5_POST	LEG5_AFTER	I5BC	Leg 5 Days Hold After Transit
LEG6_PRE	LEG6_BEFORE	I5BC	Leg 6 Days Hold Before Transit
LEG6_TRAN	LEG6_TRANSIT	I5BC	Leg 6 Transit Days
LEG6_POST	LEG6_AFTER	I5BC	Leg 6 Days Hold After Transit
LEG7_PRE	LEG7_BEFORE	I5BC	Leg 7 Days Hold Before Transit
LEG7_TRAN	LEG7_TRANSIT	I5BC	Leg 7 Transit Days
LEG7_POST	LEG7_AFTER	I5BC	Leg 7 Days Hold After Transit
LEG8_PRE	LEG8_BEFORE	I5BC	Leg 8 Days Hold Before Transit

LEG8_TRAN	LEG8_TRANSIT	158C	Leg 8 Transit Days
LEG8_POST	LEG8_AFTER	158C	Leg 8 Days Hold After Transit
LEG9_PRE	LEG9_BEFORE	158C	Leg 9 Days Hold Before Transit
LEG9_TRAN	LEG9_TRANSIT	158C	Leg 9 Transit Days
LEG9_POST	LEG9_AFTER	158C	Leg 9 Days Hold After Transit

Data File Name: MA_MEMOS

Data Segment Name: MATRIX S1

Field Name	Alt Field Name	Format	Description
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SID	NEWVERNID	A12	Newvern Shipment ID
CU_NAME		A40	Customer Name
CU_ADDR1		A40	Customer Address 1
CU_ADDR2		A40	Customer Address 2
CU_ADDR3		A40	Customer Address 3
R_CONTACT		A40	Consignee/Recipient Contact
R_CNAME		A40	Consignee/Recipient Name
R_ADDR1		A40	Consignee/Recipient Address 1
R_ADDR2		A40	Consignee/Recipient Address 2
R_ADDR3		A40	Consignee/Recipient Address 3
R_MARK1		A40	Package Marking Line 1
R_MARK2		A40	Package Marking Line 2
R_MARK3		A40	Package Marking Line 3
R_MARK4		A40	Package Marking Line 4
R_MARK5		A40	Package Marking Line 5
R_MARK6		A40	Package Marking Line 6
MARK_PIOC		A28	PIO/C Marking (If Required)
MARK_HAND		A03	AID Handclasp Emblem (yes/no)
S_AMT_S		D09C	Amount to Ship/Order Quantity
			or, for Warehouse Receipts, Amount Recvd at This Time
MC_NAME		A07	Mode of Shipment
P_NAME		A26	Product Name
ORDERPCODE		A04	Product Code
S_PO_CODE		A12	GSA PO/Newvern Whse Memo Number
CUBE		D8CB	Cubic Feet
WEIGHT		D9CB	Weight in Pounds
COST		D9.2MC	Commodity Cost
SH_DAT1		A40	JSI Contact Name
SH_DAT2		A40	JSI Address Line 1
SH_DAT3		A40	JSI Address Line 2
SH_DAT4		A40	JSI Address Line 3
SH_DOC1		D01	Set 1 # of Negotiable BOL's
SH_DOC2		D01	Set 1 # of Copy BOL's
SH_DOC3		D01	Set 1 # of AWB's
SH_DOC4		D01	Set 1 # of Packing Lists

SH_DOC5	D01	Set 1 # of Export Invoices
SH_DAT5	A40	2nd Cont Act Name
SH_DAT6	A40	2nd Address Line 2
SH_DAT7	A40	2nd Address Line 3
SH_DAT8	A40	2nd Address Line 4
SH_DOC6	D01	Set 2 # of Negotiable BOL's
SH_DOC7	D01	Set 2 # of Copy BOL's
SH_DOC8	D01	Set 2 # of AWB's
SH_DOC9	D01	Set 2 # of Packing Lists
SH_DOC10	D01	Set 2 # of Export Invoices
SH_DAT9	A40	3rd Cont Act Name
SH_DAT10	A40	3rd Address Line 2
SH_DAT11	A40	3rd Address Line 3
SH_DAT12	A40	3rd Address Line 4
SH_DOC11	D01	Set 3 # of Negotiable BOL's
SH_DOC12	D01	Set 3 # of Copy BOL's
SH_DOC13	D01	Set 3 # of AWB's
SH_DOC14	D01	Set 3 # of Packing Lists
SH_DOC15	D01	Set 3 # of Export Invoices
SH_DAT13	A40	4th Contact Name
SH_DAT14	A40	4th Address Line 2
SH_DAT15	A40	4th Address Line 3
SH_DAT16	A40	4th Address Line 4
SH_DOC16	D01	Set 4 # of Negotiable BOL's
SH_DOC17	D01	Set 4 # of Copy BOL's
SH_DOC18	D01	Set 4 # of AWB's
SH_DOC19	D01	Set 4 # of Packing Lists
SH_DOC20	D01	Set 4 # of Export Invoices
SH_DAT17	A40	5th Contact Name
SH_DAT18	A40	5th Address Line 2
SH_DAT19	A40	5th Address Line 3
SH_DAT20	A40	5th Address Line 4
SH_DOC21	D01	Set 5 # of Negotiable BOL's
SH_DOC22	D01	Set 5 # of Copy BOL's
SH_DOC23	D01	Set 5 # of AWB's
SH_DOC24	D01	Set 5 # of Packing Lists
SH_DOC25	D01	Set 5 # of Export Invoices
SH_DAT21	A40	6th Contact Name
SH_DAT22	A40	6th Address Line 2
SH_DAT23	A40	6th Address Line 3
SH_DAT24	A40	6th Address Line 4
SH_DOC26	D01	Set 6 # of Negotiable BOL's
SH_DOC27	D01	Set 6 # of Copy BOL's
SH_DOC28	D01	Set 6 # of AWB's
SH_DOC29	D01	Set 6 # of Packing Lists
SH_DOC30	D01	Set 6 # of Export Invoices
O_NOTES1	A60	Special Instructions Line 1
O_NOTES2	A60	Special Instructions Line 2
O_NOTES3	A60	Special Instructions Line 3

O_NOTES4		A60	Special Instructions Line 4
S_PROD_DT		18YYMD	Production or Due Date
CY_NAME	CTRY_NAME	A20	Destination Country Name or 000-MHWS for Shipment to Warehouse
SOURCE	SOURCE_DOC	A20	Source-Newvern Shpt ID Document or Warehouse Lot Number (Shpts from Warehouse)
TOT_AMT		D9CB	Total Amount
T_TYPE		A04	Transaction Type (add/cha/del) (Warehouse Memo: wadd/wcha/wdel)