USAID | DELIVER PROJECT

Task Order 2, Avian Influenza

Project Completion Report

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USAID | DELIVER PROJECT, Task Order 2
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Acronyms

AED	Academy for Educational Development
AFRO	Regional Office for Africa
AI	avian influenza
AICSOG	AI Commodity Support Optimization Group
AIIS	Avian Influenza International Stockpile
API	Avian and Pandemic Influenza Preparedness and Response
CCB	Change Control Board
CDC	Centers for Disease Control and Prevention (Atlanta)
COTS	commercial off-the-shelf
EPT	Emerging Pandemic Threats
FAO	Food and Agriculture Organization
FOH	Federal Occupational Health
ILI	influenza-like illness
ILRI	International Livestock Research Institute
In-Vak	Vaccination Intensification Program
LMIS	logistics management information systems
MIS	management information system
MOA	Ministry of Agriculture
OAA	Office of Acquisition and Assistance
OR	operational research (generic)
PCR	polymerase chain reaction
PPE	personal protective equipment
QA	quality assurance
RAT	rapid antigen test
RDC	Regional Distribution Center
SARI	severe acute respiratory illness
SOP	standard operating procedure
SOW	scope of work

TA	technical assistance
TO	task order
TO2	Task Order 2
UPS	United Parcel Service (Supply Chain Solutions)
USAID	U.S. Agency for International Development
UTM	universal transport medium
WHO	World Health Organization

Summary

The USAID | DELIVER PROJECT, Task Order 2, (Avian Influenza) contract was awarded on March 22, 2007, to support the management of the U.S. Agency for International Development (USAID) Avian Influenza International Stockpile (AIIS) and to distribute avian influenza (AI) commodities to recipient countries throughout the globe. Ensuring the availability of personal protective equipment (PPE), decontamination equipment, and laboratory specimen and testing supplies supports the effective implementation of surveillance and outbreak response activities in countries at risk for and currently experiencing H5N1 outbreaks. Task Order 2 (TO2) meets the specific challenges of stockpile management and international distribution of the stockpile commodities.

TO2 funding was organized around two sub-activities. Under Activity 1, the project took over management of the AIIS and established a global supply chain to manage and distribute the commodities to meet outbreak response and resupply requirements. Stockpile quality monitoring resulted in significant improvements to the stockpile components and to the overall management of USAID assets. The project established a management information system (MIS) to ensure visibility into the supply chain managed by the project, providing up-to-date inventory and shipment data on current and past shipments. Under Activity 2, TO2 procured new items to replenish or improve the original stockpile items, as well as other commodities to meet programmatic needs in the field.

During the four years of the task order (TO), the epidemiological profile of the highly pathogenic AI H5N1 virus contracted from its once-broad range of affected countries to a concentrated incidence of new cases, in a smaller number of countries. The original project strategy, when the virus' spread was more diffuse, was to pre-position equipment at the national level in countries throughout the globe, with regional stockpiles available to provide rapid response in highly endemic regions. In response to this changing epidemiological profile, the project strategy shifted to place more emphasis on technical assistance and on revising the shipping approach. Ultimately, it was more efficient to retain the stockpile commodities in the central location in the U.S. Close coordination among USAID, MAP International, United Parcel Service (UPS), and the project ensured rapid and secure order processing, pick and pack, and shipping activities.

In addition to the activities to address H5N1, in response to the H1N1 influenza pandemic outbreak that began in April/May 2009, the USAID Avian and Pandemic Influenza Preparedness and Response (API) Unit expanded the TO2 scope of work to include H1N1 and all other emerging and existing pandemic threats. With this scope of work (SOW) change on September 19, 2009, the project was asked to respond to two new areas of work: commodity procurement and supply chain management technical assistance to USAID's H1N1 response efforts and Emerging Pandemic Threats (EPT) programs.

Task Order Objectives

The TO objectives are as follows:

- Establish and operate a secure, reliable global distribution mechanism for current and future USAID AIIS assets.
- Establish a comprehensive MIS to provide up-to-date information on the assets managed by the global distribution mechanism.
- Procure, assemble, and distribute additional assets, as required.
- Provide technical assistance (TA) to recipient countries, as required.

Under TO2, these investments led to the following results:

- Prepositioned 859,621 PPE kits, 3,563 decontamination kits, 237 laboratory kits in national and regional warehouses worldwide to ensure that national and international authorities can quickly respond to and contain disease outbreaks.
- Rapidly distributed additional stockpile commodities valued at U.S.$2,134,400 (including shipping and handling costs) to countries when outbreaks occurred.
- Ensured that information is readily available via the MIS on stockpile commodities available in the U.S. and regional warehouses; on commodities shipped to and received in individual countries; and on quantities distributed by country.
- Cost-effectively procured additional assets valued at $10,499,986.90 to meet evolving highly pathogenic AI and other emerging threats outbreak containment needs.
- Received, stored, and distributed AIIS commodities in-country.
- Provided TA for ongoing H5N1 programs, the World Health Organization (WHO)-led H1N1 vaccine deployment, and specific outbreak response activities. These activities supported investments in PPE, laboratory equipment, and consumables, and both animal and human vaccines.

In the following sections, we describe the work of the task order. The first section focuses on the task order's activities under Activity I of the contract, the overall management of the existing USAID AI stockpile commodities. The second section describes the project's activities as they relate to Activity II of the contract, focusing on the procurement of additional commodities, the continued global distribution of commodities, in-country coordination, provision of operational and technical support, and the tracking of all aspects of commodity distribution and procurement. The report also includes sections on quality assurance activities, technical assistance, and management information system accomplishments.

USAID Avian Influenza Stockpile Management

Stockpile Transfer and Standard Operating Procedure Development

In April 2007, the project established a warehouse facility in Savannah, Georgia, to house the incoming stockpile transferred from the previous contractor, Federal Occupational Health (FOH). The TO2 subcontractor, Medical Assistance Programs (MAP) International, managed the 62,000 square foot commercial warehouse, which is equipped with forklifts and shrink-wrap capability, and weighing machines to prepare shipments for international transport. Using standard operational procedures, MAP used industry best practice to manage the warehouse based on and adapted to the specific requirements of TO2—particularly quick turnaround time in picking and packing shipments for emergency response.

From April to June 2007, the project transferred the stockpile from the FOH to the MAP Savannah warehouse. During two months, UPS Supply Chain Solutions provided 110 50-foot trucks to support the transfer of commodities from the FOH Saddle Creek warehouse to the MAP Savannah warehouse. By October 2007, 98 percent of the stockpile commodities had been transferred; the transfer of the remaining items was delayed pending final clarification of the U.S. Government (USG) ownership. Working with subcontractor UPS, the project transferred the last of the remaining stockpile on April 2, 2008.

Re-assemble Kits to Maximize Cost Efficiency

Addressing Deficiencies in the Stockpile

To meet international shipping requirements and sound inventory management standards, the FOH inventory had to be reprocessed. When the MAP warehouse initially received the commodities, quality assurance subcontractor, FHI, conducted a quality control inspection of the warehouse; the recommendations from this inspection were implemented, including lot quality assurance practices and ongoing spot inspections. Table 1 summarizes the various improvements the project made to the original stockpile commodities, throughout the life of the project.

Table 1. Stockpile Commodity Improvement Actions

Product	Issue	Corrective Action Taken
All	Original pallets received did not meet international shipping requirements.	Replaced 4,000 pallets with heat-treated certified pallets.
PPE kits	Original instructions for donning/doffing inadequate and unclear.	Collaborated with Academy for Educational Development (AED) to insert revised instructions into each PPE carton.

Product	Issue	Corrective Action Taken
PPE kits, decon kits, lab kits	Carton labels were not appropriately branded as USAID donation.	Created compliant labels with branding and affixed to PPE, decon, and lab kit cartons.
Decontamination kits	Wipes in some kits contained 55% alcohol, prohibiting their shipment by air due to international shipping regulations.	Removed 55% alcohol wipes from kits; placed kits in quarantine, and eventually destroyed them.
	Some kits contained expired Virkon.	Removed expired Virkon and placed kits in quarantine, and eventually destroyed them.
	Some kits contained 1-gallon sprayers instead of the standard 2.5 gallon sprayers.	Removed 1-gallon sprayers; shipped to Haiti as part of the earthquake disaster response.
	Kits not marked with expiration date.	Each kit examined for Virkon expiration date; labels created to indicate appropriate expiration date for each kit.
Laboratory kits	Universal transport medium (UTM) and rapid antigen test (RAT) kits have cool storage requirement, but were housed within the original lab kits.	Removed the UTM and RAT from the lab kits; stored in separate cool storage facility within the stockpile warehouse.
	UTM and RAT have short shelf life.	To maximize the product's shelf life, shipped UTM and RAT directly from the vendor, upon request, at the time of an outbreak, instead of with the prepositioning shipments.
	Human AI rapid diagnostic test kits deemed ineffective by Centers for Disease Control and Prevention (CDC) experts due to concerns about specificity and sensitivity of the test.	Removed the human AI rapid test kit from the lab kit.
PPE kits	At regular quality assurance testing, nitrile gloves, vinyl gloves, and N-95 respirators tested for compliance with National Institutes of Occupational Safety and Health (NIOSH) and Occupational Safety and Health Administration (OSHA) performance standards. The gloves were found to be unusable.	Removed the vinyl and nitrile gloves from all remaining individual PPE kits in inventory. Replaced with individual boxes of nitrile and vinyl gloves, which will also help to better manage shelf life.
	Packaging of original PPE kits in single-walled cartons not durable enough for international shipping; size of original PPE kit shipping carton left dead space, resulting in overspending for freight because of the inefficient packaging.	Repacked remaining PPE kits in double-walled cartons of 50 PPE each to maximize the chargeable shipping weight.
	High humidity in recipient country environments could cause product to deteriorate.	Added desiccant packs to each PPE carton to reduce risk of moisture, mold, and mildew.

Supporting Improvements to Stockpile Commodities

Throughout the life of the project, TO2 supported USAID efforts to review and improve the contents of the AIIS. In September 2007, USAID convened experts from a wide variety of U.S. Government (USG) agencies to conduct a technical review of the contents of the kits in the AIIS. The expert review panel identified several major deficiencies specific to the decontamination kit, including culturally and/or technically inappropriate items, in addition to the lack of clear guidance to the field on how to deploy the kits. The experts recommended adjusting the contents of the laboratory kits slightly to update a few items; the PPE kits were then deemed suitable for the protection of workers.

In April 2008, the project convened a second expert panel of biohazard response experts from USG and the industry to analyze the decontamination kits to ensure that the contents were appropriate for responding to and containing an AI outbreak. As a result of the panel's recommendations, the project created two kits to replace the original decontamination kit. The two replacement kits have the appropriate equipment to implement protocols set by the Food and Agriculture Organization (FAO) for poultry outbreak management, as well as biohazard response standard operating procedures (SOPs). More than 60 percent of the materials in the original AIIS decontamination kit items were salvaged and reused in the new kits. The remaining materials from the AIIS decontamination kits were disposed of or donated through a competitive process.

The project procured prototypes; the kits were field tested in Bangladesh in September 2008. TO2 provided the biohazard response expertise to join a veterinary health expert at Stamping Out Pandemic and Avian Influenza (STOP-AI) and communications experts from the Academy for Educational Development (AED) Center for Global Health Communication and Marketing (AICOMM) to implement the field test, including counterparts from the Bangladesh Department of Livestock Services. With the prototypes, the project collaborated with these biohazard response experts to develop detailed instructions and training materials that would be inserted in each kit; these would provide information for the end users. The instructions were also field tested in Bangladesh and were finalized in October 2008. However, due to programmatic shifts within the USAID API Unit, the project was not asked to make additional kits after the prototypes. All documentation of the contents and specifications are available upon request.

In addition, TO2 hosted a diagnostic commodity strategy review meeting in August 2008 to discuss the stockpiling and distribution strategy for the RAT kits and diagnostic equipment, including laboratory specimen collection kits. During the meeting, attendees revised the USAID overall diagnostic commodity strategy, based on the changing nature of the AI disease patterns and the capacity of local countries to respond to outbreaks and endemic situations. As a result of the meeting—which included veterinary health experts from the STOP-AI project and procurement and commodity management experts from the USAID | DELIVER PROJECT—the USAID API Unit decided to discontinue future distribution of the laboratory kits, RATs, and universal transport medium (UTM) after the existing stock on hand was depleted.

Disposal of Damaged or Expired Product

At several points during TO2's work, the project took action to manage the disposition of damaged/expired products in its custody; as well as products that were usable, but no longer met USAID programmatic needs. The total value of donated or disposed goods under TO2 was

U.S.$2,297,713.84. [1]The most significant activity undertaken by TO2 involved a complex donation and disposal action of $2,266,043.86 in expired, damaged, or programmatically irrelevant stockpile commodities. The disassembly of the original decontamination kits in year 2 of the project resulted in the subsequent disposal of the unusable or expired components of those kits. This disposal action was completed in July/August 2009. After publicly soliciting expressions of interest, a joint donation activity, the project identified three non-profit organizations, Heart-to-Heart, Project Hope, and MAP International to receive the unexpired, usable items. USAID requested that several other items be retained in the warehouse inventory; these items could be used for distribution as individual items to meet outbreak response program needs. In addition to the U.S.-based disposal actions from the MAP warehouse, TO2 disposed of $34,773.41 in expired and damaged products that were in the Bangkok Regional Distribution Center (RDC) warehouse.

[1] All dollar amounts in this document are U.S. dollars.

Global Distribution System

Procurement

Procure Additional Stockpile Commodities

Under Task Order 2, the project procured $10,499,986.88 in commodities for all project activities, including items procured to replace and update items in the stockpile, as well as other items required for various programmatic needs. In doing so, the procurement team implemented SOPs and work instructions to ensure that we followed all applicable USG procurement regulations. In collaboration with the TO management team, the procurement team provided USAID with timelines for procurement processes, including manufacturer lead times and Office of Acquisition and Assistance (OAA) processing time. For all procurement actions, the procurement team collaborated with the requesting organization to refine the technical specifications and determine the most appropriate procurement approach for the identified items. Technical experts from within the project, such as laboratory advisors, were consulted case-by-case to engage in these specification discussions. Throughout the procurement process, the procurement team maintained continuous communication with the recipient to ensure a transparent process and to manage expectations.

Other Procurement to Support USAID Outbreak Response Programs

In addition to the procurement of items to replenish or upgrade various original AIIS stockpile commodities, the project procured other items on an ad hoc basis to meet the changing demands of USAID. This included $24,587 in lab supplies and equipment in July 2007 to support AI preparedness and response in Bangladesh; $111,847.80 for commodities to Indonesia; and $73,886.78 for outbreak response commodities for Egypt, Ghana, India, Nigeria, and Vietnam. Other one-off procurements included rapid antigen test kits and universal transport medium for country-specific programmatic requirements, as well as protective gear and outbreak response items for international institutions pandemic-simulation activities.

3D and SBS Kit Specifications and Procurement of Initial Quantities

The Decontamination Kit Review process recommended that we procure new kits. The TO2 procurement staff were very involved in the kit design process to ensure that proper technical specifications for all procured products were articulated. The field test of the prototype kits in Bangladesh, in September 2008, was a great success; the kit contents were finalized, based on field test recommendations. An order was placed with vendors for the project to procure 500 of each of the kits, and the OAA packet was submitted for approval. However, as the outlook on the highly pathogenic avian influenza (HPAI) virus shifted, and USAID's strategy for commodity support to field operations also changed, that order was canceled in early 2009.

Indonesia Procurement for Poultry Vaccination Operations Research

TO2 provided support to the in-country poultry vaccination program in Indonesia by procuring select products and managing a complex network of vendor relationships. To support the Indonesia

poultry vaccination operational research (OR) activity, the project worked closely with counterparts in Indonesia, including the International Livestock Research Institute (ILRI), FAO, and USAID/Jakarta, to develop technical specifications and a procurement plan for poultry vaccine. This activity involved procuring H5N1 influenza vaccine and Newcastle disease vaccine, as well as ancillary equipment: automatic syringes, needles, and incinerators, for a total value of $878,580.

This highly complex procurement operation required intensive collaboration with partners in the field, as well as developing innovative relationships with vendors based in Indonesia and internationally; the project coordinated delivery of a wide variety of products to ensure availability for the various rounds of the OR vaccination campaigns.

Market Decontamination Activity—Bangladesh, Indonesia

In July 2008, the USAID API Unit announced a strategy designed to stop the spread of the H5N1 virus in highly endemic countries. The strategy focused on wet market decontamination as a center of virus spread; throughout the late summer and early fall 2008, the effort targeted wet markets for an intensive proactive cleaning and decontamination campaign. To support this strategy, the project shipped AIIS stockpile Virkon disinfectant; and procured and distributed additional Virkon, detergent, high-powered sprayers; and other supporting equipment, such as rubber boots for Indonesia and Bangladesh. The value of these shipments was $1,184,684. The project also assisted other USAID AI project partners, including STOP-AI, by procuring backpack sprayers and other equipment to support their field and training programs related to market decontamination in Nigeria.

Infection control commodities

With USAID's expanding focus on emerging infectious diseases, the project was directed to procure and stockpile commodities to support infection control and health care worker protection in clinical settings. TO2 procured $759,750 in infection control equipment: examination gloves, surgical masks, non-sterile gowns, and goggles; these complement the existing stockpile items, which primarily protect workers in the field.

H1N1 Vaccination

TO2 was a key partner in the global response to the 2009 H1N1 influenza pandemic. At USAID's request, TO2 conducted rapid procurement to establish and manage a stockpile of ancillary vaccination equipment to complement the WHO-supplied H1N1 vaccine. Between October 2009 and July 2010, the USAID | DELIVER PROJECT procured 34,408,800 syringes and 404,225 safety boxes, and delivered them to 34 countries. The syringes, which originated in Spain, were stored in a UPS transit warehouse in Madrid. The safety boxes, which originated in Norway, were warehoused in Oslo. The supplies were available to ship by November. TO2 was a leading partner in coordinating shipments to ensure adequate bundling of the vaccines and ancillary supplies.

Table 2. Summary of Commodities Purchased and Distributed

Product	Quantity Purchased	Countries Delivered	Purchase Cost	Transport Cost
Syringes	34,408,800	34	$1,751,429	$1,321,958
Safety boxes	404,225	34	$416,352	$508,894

H1N1 Laboratory and Surveillance

As part of USAID's response to the global H1N1 influenza pandemic, the USAID directed TO2 to procure and deliver laboratory equipment to support the increased surveillance and analysis capacity for 25 countries around the globe. The project called on the expertise of a senior laboratory scientist with extensive experience with the polymerase chain reaction (PCR) process to work with the Centers for Disease Control and Prevention (CDC) experts and revise the initial product list to best meet the needs in the field. With that assistance, the project was able to develop *sets* or individual groups of supplies in the correct quantities needed to carry out the PCR operations. Altogether, the range of supplies was extensive—a total of 41 items. Table 3 lists the cost information for PCR equipment procurement and transport.

Table 3. Summary of Commodities Purchased and Distributed

Product	Quantity Purchased	Countries Delivered	Purchase Cost	Transport Cost
Polymerase chain reaction (PCR) equipment	25	19	$2,283,266	$295,868
Expendable supplies-reagents and dangerous goods	25	24 received reagents 25 received dangerous goods	$287,874	$47,700
Cold chain equipment	25	19	$867,240	$33,500

As with the vaccine deployment activity, the USAID | DELIVER PROJECT supply operations team managed procurement and global distribution. This complex operation included a long list and variety of supply items, which required the management of many suppliers; consolidation of U.S.-sourced goods at the MAP warehouse, prior to export; and intricate importation challenges because of the items being shipped.

PREDICT Procurement

As part of the expanded scope of work for TO2, the project worked with the EPT partner, PREDICT, to procure several pieces of laboratory equipment to support their work in emerging disease surveillance in select countries; including RNA extraction robots, negative pressure chambers, freezers, and laboratory consumables. The total value of the items procured for PREDICT, under TO2, was $386,667.85.

Supply Operations

Develop Order Management Processes

The TO2 management team worked closely with the Indefinite Quantity Contract (IQC) supply operations team to streamline order management systems and processes. This collaboration produced revised and strengthened SOPs and work instructions, which reduced redundancy and maximized effectiveness. The SOT ensures that all inventory management functions are consistent with industry best practice and professional standards, while working closely with the Savannah warehouse.

Coordinating In-country Receipt and Distribution—Establishing Processes and Standards for Ordering, Receiving, Transferring, Storing, Releasing, and Distributing

To support a streamlined order process for countries, and to collect the correct information in the most effective way possible, the project developed a logistics orientation packet for the recipients' reference. The packet provides a country's AI commodity checklist; this guides countries in assessing their local needs and capacity for logistics management of the commodities; it also help identify customs clearance procedures to ensure a smooth entry of the materials into the country. In addition, the project created and revised a formal commodity order form and instructions; over the life of the project, it will help countries submit the necessary information for an order. The project provided technical assistance to countries to conduct an initial assessment of storage capacity, importation requirements, and special documentation needs that will help facilitate the delivery of goods to support USAID programs.

Warehouse Management

Implementing Industry Best Practices for Warehouse Management

The project worked with USAID to suggest inventory management strategies for new types of products housed in the warehouse; and they monitored the shelf life and general condition of the products by doing regular cycle counts. An audit firm, familiar with best industry practices, annually conducted an independent inventory audit and procedure review. The findings indicated few discrepancies in inventory counts; they suggested several process improvements to ensure that routine communication of inventory cycle counts is clear and standardized. Close coordination between MAP warehouse and the DC-based inventory management team was the key to a seamless flow of information; it allowed the team to quickly identify issues and implement timely solutions to maintain the integrity of the inventory.

Providing Warehousing Services and/or Temporary Storage

Establishment of RDC Bangkok

The project opened its flagship RDC in Bangkok, Thailand, in March 2008. Project subcontractor UPS operated the RDC, in close collaboration with the supply operations team. The project opened the RDC in Asia to allow for rapid deployment of PPE, decontamination equipment, and laboratory specimen collection kits to at-risk countries in the region. The region was the hardest hit by the H5N1 AI virus; the close proximity of the RDC facilitated the 24- to 48-hour turnaround time on any emergency orders and one-week turnaround time for any standard orders received. The project prepositioned 45,000 PPE kits, 400 decontamination kits, and 10 laboratory kits in the Bangkok warehouse.

Although the RDC was proven to be an extremely cost-effective intervention which minimized risk of delayed response to deadly and economically detrimental outbreaks, based on the recommendations of the USAID Inspector General's audit conducted in the fall of 2008, the project worked in close collaboration with USAID and sub-partner UPS to close the Regional Distribution Center in Bangkok. At USAID's direction, the project successfully identified recipients for a large portion of the remaining PPE and laboratory kits stored in Bangkok.

To liquidate the inventory, the remaining PPE kits were returned to the MAP warehouse for quality assurance testing and incorporation into the stockpile PPE. After the RDC closed, all project shipments of stockpile commodities came from the MAP Savannah warehouse, thereby providing USAID with maximum control of the items in the stockpile.

In addition to the RDC, the project provided ad hoc warehousing services throughout the life of the TO. In early 2008, TO2 hired temporary storage for PPE distribution in Abuja, which allowed for immediate distribution of the product from Abuja to the state level, before sending the remaining PPE in a consignment to the Ministry of Agriculture warehouse, located outside Abuja. Another example is Egypt, where the team provided technical assistance to improve warehousing practices for AI commodities. Additionally, to support of the H1N1 pandemic influenza vaccination activity, the project secured warehouse space in Norway and Spain to stage shipments of syringes and safety boxes before international shipment to identified recipient countries.

Freight Forwarding

Providing International Freight Forwarding and Establishing a Global Supply Chain

The project worked closely with USAID to establish a freight forwarding capability to support the overall strategy of prepositioning a standard package of outbreak response commodities in countries throughout the globe; we sent larger consignments to countries with higher consumption patterns, based on the disease profile; and we maintained the capacity to respond rapidly to deploy commodities in the event of an outbreak. This helped ensure that USAID priority countries received AI prevention and response commodities based on an ongoing assessment of the epidemiological profile of the virus. In addition to the *standard* air freight shipment of 4,500 PPE, 40 decontamination kits, and one laboratory kit; several countries, including Indonesia, Egypt, and Nigeria, received larger consignments of 30,000 to 100,000 PPE kits to meet their higher demand. These shipments of two or more container loads were shipped by ocean. The establishment of the Bangkok, Thailand RDC in March 2008 facilitated a more nimble operation, improving the capacity of the project to quickly respond to any emergency in the highly affected Asia region, with 24-48 hour turnaround from the RDC on orders for that region. As the H5N1 AI virus contracted in its geographic reach, the strategy for global distribution necessarily shifted away from pre-positioning supplies at the national level in many countries throughout the globe, to a more focused strategy of resupply to select high-burden countries.

Over the life of the project, TO2 shipped $19,718,659 in USAID commodities to 96 countries in response to AI, ebola, yellow fever, H1N1 pandemic influenza, and other emerging pandemic threats. With shipping and handling costs included, the total landed value of all shipments throughout TO2 was $23,652,291. Subcontractor UPS provided door-to-door and door-to-port freight forwarding services, tracking and reporting on each shipment at each shipment leg, while maintaining all appropriate and necessary shipment documentation to meet importation and transit requirements. TO2 worked with both in-country and international partners to best meet recipient needs and to ensure smooth custody transfer of any goods shipped. Local project offices played a troubleshooting role, when required, and helped facilitate relationships between the freight forwarding agents and local officials.

USAID called on TO2 to support the WHO-led international response to the H1N1 influenza pandemic of 2009, leading the procurement and distribution efforts for laboratory and surveillance and vaccination programs. This included an emergency shipment of 100,000 PPE kits to Mexico.

This sizeable shipment was built and delivered by charter flight within 48 hours of receipt of the order. A second shipment to the United Nations Humanitarian Response Depot (UNHRD) in Panama of 50,000 PPE kits was also processed expeditiously during the same period. In addition to these initial emergency outbreak response shipments, the project shipped $3,438,380 worth of laboratory equipment to 25 countries, and $2,167,781 in ancillary equipment (syringes and safety boxes) to match WHO-donated vaccine doses shipped to 34 countries worldwide.

When USAID expanded its focus from H5N1 avian influenza to include a broader array of emerging infectious diseases, TO2 was called upon to procure and ship products to meet this new programmatic challenge. On behalf of USAID, the project shipped $442,177 in PPE, laboratory, surveillance, and other outbreak response commodities to support USAID's Emerging Pandemic Threats Program partners: PREDICT and RESPOND. In addition, during the cholera outbreaks in the aftermath of the earthquake in Haiti in 2010, the project collaborated with USAID's Office of Foreign Disaster Assistance to make all the remaining decontamination equipment, including buckets, brushes, and other items, available for infection control and other relief efforts. The value of the 625 pallets of disinfection equipment and other items shipped to Haiti totaled $694,975.

Quality Assurance

Task Order 2 implemented an overall quality assurance (QA) program to provide management and oversight of project supply operations, warehousing, freight forwarding, and procurement. Regular audits, both external and internal, were conducted under the task order to ensure continuing adherence to industry best practice and to identify any areas needing ongoing attention, or improvement. Other analyses were conducted, specifically for stockpile commodities and product testing, as well as a separate analysis related to freight rates and the global freight market. Elements of the QA approach are in the following sections.

Audits and Product Testing

The project contracted with a third-party accounting firm to conduct annual audits of warehouse procedures, including full physical counts of inventory stored at the MAP facility. An initial stockpile quality review, followed by periodic product testing for select stockpile items, gave the project information to recommend improvement measures to USAID regarding stockpile deficiencies. Thorough periodic internal audits of supply operations and procurement SOPs and work instructions provided more key elements to the QA plan implemented under TO2.

Freight Reasonableness Study

The quarterly freight reasonableness study was a valuable tool for TO2 management of global distribution. Under the study, to monitor the competitiveness of UPS freight rates, an independent third party analyzed shipping lanes and rates used for task order product distribution. Throughout the life of the project, the UPS rates were shown to be competitive. The quarterly freight reasonableness studies consistently showed that the service we receive through our relationship with UPS results in high-quality service, at competitive rates.

Avian Influenza Commodity Support Optimization Group

To synthesize the TO2 experience in managing the AIIS and the global distribution system, TO2 established an advisory group dedicated to the analysis of current system performance and the development of creative solutions to meet identified challenges. The goal of the AI Commodity Support Optimization Group (AICSOG) was to further streamline the global distribution system, striving for increased efficiencies in procurement, warehousing, inventory management, and distribution for the AIIS and related commodities. Led by the TO2 director, the AICSOG included technical experts in procurement, warehousing, inventory control, international freight forwarding, and QA from TO2 subcontractors, as well as from USAID and John Snow, Inc. (JSI).

Issues addressed by the AICSOG included a discussion of the results from the project's QA review of stockpile inventory, development of a strategy for replacing the gloves and wipes identified as deficient by the QA review, and review of proposals to maximize the cost effectiveness of packaging for the PPE. The group reviewed the TO2 Performance Scorecard and the results of the recent freight reasonableness study. Additionally, in light of the broadened scope of work for the TO, the AICSOG provided support and inputs for the review of TO2 activities and any resulting

adjustments. In the constantly evolving environment of response to pandemic threats, these regular meetings were an opportunity for USAID and the project to more closely connect programmatic goals to appropriate supply chain solutions.

Technical Assistance

Orientation for Overseas Logistics Advisors

The project provided TA to USAID Missions, U.S. embassies, local AI counterparts, as well as international partner institutions in logistics management for AI supplies. Although not initially envisioned as a major part of the project's scope of work, with increased requests from USAID, TA became more prominent in the overall TO activities. To meet this need, the project identified 44 logistics advisors, based in strategic locations throughout the world, to provide rapid response support, as required. To prepare these logistics advisors to provide assistance in AI, the project conducted an orientation session for U.S.-based logistics advisors in September 2007, in Arlington, Virginia, and a second orientation in October 2007 in Bangkok, Thailand, for internationally based advisors. Specific objectives were to train the group to manage the specific stockpile commodities and to provide an orientation on coordination and collaboration among the various participants in the AI arena.

AI Logistics Technical Working Group

To support the project's ability to provide comprehensive and coherent technical assistance, the project established an Avian Influenza Logistics Technical Working Group. Based on the project's work in AI logistics, as well as many years experience in logistics management for public health commodities, the AI Technical Working Group worked to define and document agreed-upon approaches to TA in AI emergency logistics system assessments, product selection, forecasting methodologies, procurement, warehousing and distribution, and inventory control and logistics management information systems (LMIS). The working group prepared an overarching Avian Influenza Supply Chain Readiness Guide, which was submitted in draft form to the API Unit. Based on the feedback from USAID, we will streamline the document, add more concrete country examples, and refine the quantification methods outlined in the document under the follow-on task order.

H1N1 Pandemic Influenza Technical Assistance

In April 2009, the H1N1 influenza virus spread rapidly around the world, prompting WHO to declare a pandemic. USAID played a critical role in providing commodity and logistics management support to the global response effort, most notably to support the increased surveillance and laboratory capacity in key countries and to support the global H1N1 vaccination program launched in September 2009. Task Order 2 provided procurement and distribution support to both the laboratory activity and the vaccination activity, and also was a key provider of TA to ensure the success of these efforts.

On the laboratory side, TO2 provided intensive TA to the product specification development phase of the procurement, working with CDC to refine their list of PCR machines and associated reagents and supplies to best meet the needs in the field. To evaluate the recipient laboratories' capacity to receive and use this high-tech equipment, we conducted technical assistance visits in Burkina Faso,

Malawi, and Mozambique. During these visits, we identified upgrades or mitigation actions needed before the laboratory equipment could be shipped.

The project was a key partner in ensuring the success of the WHO-led H1N1 vaccine deployment activity. TO2 seconded a procurement and logistics specialist to sit on the WHO H1N1 Vaccine Deployment Team in Geneva; their role was to coordinate all aspects of the vaccine procurement and deployment to recipient countries. Four additional cold chain and immunization logistics experts were seconded to WHO/Regional Office for Africa (AFRO) in Brazzaville, Harare, Libreville, and Ouagadougou to provide direct TA to the countries of the region in planning for and implementing the vaccination activity. The approach of seconding staff to WHO at several levels provided much-needed technical support and additional manpower to the international organization, allowing the global vaccination effort to support more countries with high-quality technical assistance.

In addition to the seconded staff, the project provided TA to countries in Asia and Latin America to finalize the national H1N1 vaccine distribution plans. The project was also called upon to provide direct funding to support the vaccination roll-out in select countries; these TA activities assisted the project in refining distribution plans and developing strategies for disbursement of the needed funds for the vaccination roll-out.

Country Program Technical Assistance

In addition to the TA activities summarized above, over the life of the project, Task Order 2 established in-country programs to support host-country government efforts to prevent and respond to H5N1 outbreaks and other diseases in Bangladesh, Indonesia, Nepal, and Nigeria. Each country developed a country-specific one-year workplan that reflected the unique situation and requirements for that country's H5N1 AI epidemiological profile and the government's response strategy. Workplan activities included providing TA in warehouse management, LMIS, monitoring, and procurement. TA also focused on establishing flexible supply chains for managing commodities for outbreak response and for routine activities—surveillance, wet market decontamination, and poultry vaccination. In addition to the workplan activities, in Vietnam and Thailand, TO2 identified supply chain–related needs and the STTA required for responding to them. Initial discussions were held around this needs-assessment, but it did not progress to the development stage because USAID had other priorities and the current task order was ending.

Bangladesh

In July and August 2008, the project conducted an assessment of selected district and upazila warehouses in Bangladesh. This assessment informed the development of a workplan that focused on improving warehousing, inventory control, and LMIS for the AI program, managed by the Department of Livestock Services. Building on work conducted in the first two years of the task order, the local team implemented the rollout of the newly designed LMIS, including training for central-, district-, and upazilla-level storekeepers. TO2 also assisted the Government of Bangladesh (GOB) in implementing the supply chain elements of the USAID-funded TA project proforma (TAPP). With the expanded mandate of TO2, USAID asked the local team to be the coordinating group for all Bangladesh EPT partners, on behalf of the USAID mission.

Egypt

Beginning in October 2007, the project provided technical support to Egypt to assist with strategic planning for AI commodities. The assistance supported the development of SOPs for the importation of AI commodities donated by USAID, detailing the roles and responsibilities of all local and international partners. During the TA visit, the team implemented these SOPs for a standard air freight shipment. Based on the success of this shipment and the established SOPs, plans were developed for future shipments of PPE and decontamination equipment. A follow-up visit focused specifically on operations and inventory management systems at the central and governorate levels. The team shared recommendations for warehouse improvements with USAID/Washington and the mission for further action.

Indonesia

Beginning in October 2007, the project assisted USAID/Jakarta in determining the project's role in implementing the ILRI/FAO/Ministry of Agriculture (MOA) operations research activity. Specifically, the project supported the procurement and distribution of H5N1 influenza vaccine, Newcastle disease vaccine, ancillary vaccination equipment, and cold chain equipment. During subsequent TA visits, the TO evaluated the existing cold chain infrastructure in the agriculture system in OR districts and made system improvement recommendations to achieve adequate cold chain capacity for the upcoming OR campaign. These actions ensured that USAID-funded vaccines would be handled safely. At other management visits, in discussions with the USAID Mission, the details of project support to the OR activity further refined the list of items for procurement. To ensure adequate management support for this complex activity, the project opened a local office in Jakarta in May 2008.

The project assisted the OR program by procuring a wide variety of items and by extensive TA to set up distribution and inventory management systems for the OR activity. Procurement began in March 2008, with delivery to meet the start of the OR activity in June. Throughout the distribution of the procured items, the project maintained close collaboration with all partners in Indonesia and USAID/Washington, providing extensive technical support to the process. The project also supported the Government of Indonesia in its pandemic preparedness planning. With technical assistance to the National Committee for AI Control and Pandemic Influenza Preparedness, we helped develop a distribution strategy for 10,000 PPE, which USAID donated to the committee.

In 2009, the project conducted a study of the existing cold chain network and prepared a lessons learned document, based on the project's experience with the OR programs. In addition, TO2 worked with the Government of Indonesia to strengthen the MOA's capacity to manage cold chain and logistics in the Vaccination Intensification Program (In-Vak) by training and mentoring MOA provincial and district animal health officers.

Beginning in 2009, TO2 provided significant TA to in-country partners in laboratory logistics for the national influenza surveillance program. The project conducted an assessment of the referral laboratory surveillance logistics system and worked with local counterparts to design a rational logistics management system for the laboratory supplies, consumables, and reagents required to support the influenza-like illness (ILI) and severe acute respiratory illness (SARI) laboratories in Indonesia. The team trained lab staff to use the newly designed system and implemented a monitoring plan to support the successful implementation of the system. In addition to the system design and implementation work, the TO2 team participated in major strategic planning activities

with key in-country partners with the goal of supporting logistics to ensure a successful influenza surveillance system.

Nepal

In accordance with the one-year workplan approved by USAID/Washington in December 2008, the project supported AI prevention and response activities at the central level and in two high-risk districts in the Eastern Development Region: Jhapa and Ilam. The project worked with the established national AI logistics committee (TO2 was the secretariat) on improving storage conditions and management practices at the central storage facility, assisting with a nationwide distribution plan for AI-related commodities, and providing targeted support to the two high-risk districts.

Nigeria

To prepare for a large ocean shipment of PPE to Nigeria, in September 2007, the project provided technical support to the Nigerian Ministry of Agriculture to ensure their readiness to receive the consignment. After assessing multiple storage options for the PPE stockpile, the project engaged the services of a vendor to make repairs to the central MOA warehouse in Kaduna, which were completed in November 2007, in time for the arrival of the PPE in February 2008. The project rented warehousing space in Abuja to temporarily store the goods until the repairs in Kaduna could be completed; it also was a staging location for the initial shipments to the state level.

Anticipating the need to resupply the states in the event of an unpredictable virus pattern, USAID/Nigeria identified logistics management as a significant issue to be addressed. In October 2008, the TO2 team conducted an initial assessment and logistics system design for the MOA, focusing on PPE, disinfectant, and other supplies necessary to manage the AI response in Nigeria. This led to the development of a one-year workplan, approved by USAID/Washington in December 2008. From the results of that system design activity, the team worked with the Ministry of Agriculture to develop SOPs for the system and to train the state desk officers in the new procedures for managing the AI commodities. Implementation of the new system, especially the LMIS, was supported by the project staff seconded to the MOA to facilitate the MOA leadership in using the data.

Management Information System

The MIS has evolved from an in-house, proprietary software to a customized Enterprise Resource Planning (ERP). The new MIS, based on a commercial off-the-shelf (COTS) software product, has been configured to meet the unique requirements of the emerging pandemic threats task order. The database software that stores the information is commercially available and is used by hundreds of government entities.

The availability and access to information has been greatly improved by the creation of the USAID | DELIVER PROJECT website. The website is available to authorized users at the home office, as well as in the field; it is accessible continuously, except for brief periods of maintenance during off-hours. All the current shipment tracking data, account status, and historical information from the start of the task order are available.

Behind the scenes, the MIS processes data and provides management reports to track financial accounts and funding, procure the correct amount of commodities at the right time, and track shipments through each step of the supply chain. Management information is only available to authorized parties through continuous web-based access, both centrally and in the field. Staffed by a small team with the expertise to run system operations, work on bug fixes, and implement minor enhancements as directed by the Change Control Board (CCB), the MIS team focuses primarily on day-to-day maintenance that ensures accurate and timely information. The CCB process uses input from USAID and other stakeholders and assesses the business impact of individual issues. Ultimately, these procedures ensure that the most critical problems are addressed first.

The MIS is positioned to grow and evolve as changes are required to meet the needs of U.S.- and field-based personnel.

Conclusion

During the life of the USAID | DELIVER PROJECT Task Order 2, to meet USAID's objectives, we—

- successfully transferred the stockpile commodities into our control, and provided secure warehousing and inventory control measures
- established a global distribution system, including efficient and effective specification review, procurement, order management, warehousing, shipping, and delivery—coordinating with in-country and global partners
- established a comprehensive MIS to ensure that information on shipments, accounts, and inventory is available to those who need it
- procured additional assets to support the expanded needs of the avian influenza program and the broader EPT objectives.

Given the activities and results of the task order, USAID is well positioned to move forward in support of EPT programming.

In addition to the contract deliverables, we—

- provided a technical review of stockpile commodities
- expanded our range of products to include sophisticated laboratory equipment and animal vaccines
- included a review of operations and warehousing procedures in our quality management program, as well as product quality oversight and testing.

Through our field offices and advisors, we provided technical assistance to support a range of activities for infection control and response—decontamination, warehousing and inventory control, LMIS implementation, and logistics system design and implementation. Cold chain management has emerged as important to support both animal vaccination and laboratory-related activities.

The project has shown considerable flexibility as USAID's priorities have shifted from avian influenza to a wider range of emerging public health threats. The project has the technical resources and capacity to continue supporting USAID's efforts to respond to outbreaks of pandemic and emerging diseases through procurement and global distribution and country-level supply chain management.

Appendix A

Quality Assurance and Surveillance Plan (QASP)

Deliverables	Indicators	Source	Frequency	Result
Objective 1: Establish and operate a secure and reliable global distribution mechanism to store, transport, and rapidly deliver current and future USAID AIIS assets				
Take control and reprocess existing AI stockpiled inventory	Stockpile of current commodities successfully moved from warehouse in Atlanta, Georgia, to MAP warehouse in Savannah, Georgia.	Atlanta audit report; MAP certificate of receipt of goods.	Once	Completed during previous reporting period.
	QA review of the stockpile from Atlanta.	FHI report	Once	Completed during previous reporting period.
	Pallets from Atlanta warehouse repacked to meet international shipping requirements.	Annual Report	Once	Completed during previous reporting period.
	Decontamination kits reviewed and reassembled.	Annual Report	Once	Completed during previous reporting period.
Manage existing and future USAID AIIS and procurement of new kit components	Annual independent inventory audit of MAP warehouse crosschecked and reconciled with the project database.	ORION	Annual	Completed June 2009.
	Timely shipment of vendor orders (supplier fill rate).	ORION	Bimonthly	98% of vendor orders were shipped on time.
	New kits assembled as requested.	ORION	As requested	Ongoing/current
	SOPs developed for disposal of damaged and/or expired products.	Project documents	Ongoing	Completed during previous reporting period.
	100% documentation of product disposal according to the SOP and USG guidelines.	Certificate of Disposal	As required	Ongoing/current
	Inventory and shipment quantity and value available to USAID.	ORION/MIS	As needed	All data available through http://deliver.jsi.com.

Deliverables	Indicators	Source	Frequency	Result
Provide international freight forwarding, as necessary, to routinely distribute existing and future USAID AIIS.	Emergency orders delivered to port no later than two days after desired receipt date (i.e., less than 9 days from date of receipt of approved order).	ORION	Quarterly	100% of emergency orders delivered to port on time.
	Standard air orders delivered to port no more than 7 days later than the desired receipt date.			100% of standard air orders delivered to port on time.
	Sea freight orders delivered to port within 4 weeks of desired receipt date.			N/A
Establish regional distribution centers and provide warehousing and/or temporary storage facilities, as requested	Cost-benefit analysis of RDCs	Ad hoc studies	To be determined	Completed during previous reporting period.
	Standard air orders delivered to port no more than 7 days later than the desired receipt date.	ORION	Quarterly	100% of standard air orders delivered to port on time.
Provide timely and effective response to scopes of work for TA	Provided effective response to TA SOWs.	Project documents	Annual	100%
Implement a QA program for supplies and processes	Implemented QA program to verify supplies meet contractual and product specifications.	Work plans, SOPs, FHI reports	By contract	From October 2008
	Implemented QA program for warehouse and inventory management processes.	Work plans, SOPs, FHI reports	By contract	From February 2009
Objective 2. Establish a comprehensive MIS to provide current information about all aspects of the AI global distribution mechanism from procurement to delivery				
Availability of the first release (R1) of the ORION MIS	All procurements and shipments managed using ORION R1.	Management reports	Once	From June 2007
Availability of the second release (R2) of the ORION MIS	Kitting module available	Management reports	Once	From January 2008
Availability of the third release (R3) of the MIS	Web-based inventory and shipment reporting available.	MIS	Once	From April 2008

Deliverables	Indicators	Source	Frequency	Result
Objective 3. Procure, assemble, and distribute additional assets as needed				
Procure additional USAID AI commodities	Bimonthly SOT scorecard review	ORION	Bimonthly	From October 2008
	Cost-effective implementation of procurement requests	Ad hoc analyses	TBD	Ongoing: (1) Negotiation memo for procurement requiring Office of Acquisition and Assistance approval; (2) competitive quotes; and (3) sole source justification
Manage and distribute additional assets, as needed	Warehouse managing and AIIS distribution indicators described above	As appropriate	As needed	Same as Objective 1

Appendix B

Shipment Quantities and Values

Indonesia and Bangladesh Market Decontamination Activity

Country	Item Name	Quantity	Unit of Measure	Commodity Cost	Shipping & Handling	Total
Bangladesh	Disinfectant, [Virkon], AI	2,000	Unit	$420,000	$4,029	$424,029
Bangladesh	Cleaner, All purpose, [KARCHER]	54	Each	$5,670	$3,779	$9,449
Bangladesh	Washer High-pressure [Karcher]	42	Each	$36,155	$7,736	$43,891
Bangladesh	Rotary Nozzle for washer press	42	Each	$1,852	$396	$2,248
Bangladesh	Spare part package, for washer	1	Each	$668	$143	$811
Bangladesh	Disinfectant, [Virkon], AI	200	Unit	$42,000	$4,008	$46,008
Bangladesh	Kit, Lab v2, AI	1	Unit	$590	$127	$717
Bangladesh	Kit, Decon 2.25gl sprayer, AI	202	Piece	$70,700	$15,206	$85,906
Bangladesh	PPE Kit Small	4,500	Unit	$39,375	$8,469	$47,844
Bangladesh	PPE Kit XLarge	100	Unit	$875	$844	$1,719
Bangladesh	Kit, 3D	3	Piece	$1,964	$1,895	$3,859
Bangladesh	Kit, SBS	3	Piece	$638	$616	$1,254
Bangladesh	Bag, Red, Biohazard 25x35in	40	Each	$36	$35	$71
Bangladesh	Gloves, scrub, latex, size 10,	20	Unit	$0	$0	$0
Bangladesh	Purifier of Water, PUR, 4 grs	20	Each	$9	$9	$18
Bangladesh	Tape, Duct, 1in x 60yrds, 1uni	4	Each	$14	$14	$28

Country	Item Name	Quantity	Unit of Measure	Commodity Cost	Shipping & Handling	Total
Bangladesh	Boot, Haz Mat, Size L, Yellow	10	1Pair	$45	$43	$88
Bangladesh	PPE Kit Large	28,500	Unit	$249,375	$6,365	$255,740
Bangladesh	Disinfectant, [Virkon], AI	400	Unit	$84,000	$2,144	$86,144
Bangladesh	Test, Poultry FLU Detect , AI	28	Kit of 20 tests	$4,200	$237	$4,437
Indonesia	Disinfectant, [Virkon], AI	1,000	Unit	$210,000	$6,084	$216,084
Indonesia	Kit, Decon 2.25gl sprayer, AI	982	Piece	$343,700	$9,957	$353,657
Indonesia	Cleaner, All purpose, [KARCHER	35	Each	$700	$3,437	$4,137
Indonesia	Cleaner, All purpose, [KARCHER	45	Each	$4,725	$4,225	$8,950
Indonesia	Washer High-pressure [Karcher]	42	Each	$57,845	$5,321	$63,166
Indonesia	Rotary Nozzle for washer press	42	Each	$2,111	$194	$2,305
Indonesia	Spare part package, for washer	1	Each	$1,145	$105	$1,250
Indonesia	Transport Medium, Viral, AI	7	Kit of 50 Tests	$395	$0	$395
Indonesia	Monitor, Temperature	781	Each	$12,410	$0	$12,410
Indonesia	Transport Medium, Viral, AI	1	Kit of 50 Tests	$56	$0	$56
Indonesia	Transport Medium, Viral, AI	39	Kit of 50 Tests	$2,202	$0	$2,202
Grand Total				$1,593,455	$85,418	$1,678,873

Indonesia Operations Research

Item Name	Quantity	Unit of Measure	Commodity Cost	Shipping & Handling	Total
AI-H5N1 Poultry Vaccine					
AI-H5N1 Poultry Vaccine	11,215	Bottle of 50ml	$37,682	$0	$37,682
AI-H5N1 Poultry Vaccine	14,275	Bottle of 50ml	$47,964	$0	$47,964
AI-H5N1 Poultry Vaccine	14,825	Bottle of 50ml	$49,812	$409	$50,221
AI-H5N1 Poultry Vaccine	15,365	Bottle of 50ml	$51,626	$407	$52,033
AI-H5N1 Poultry Vaccine	2,120	Bottle of 50ml	$7,123	$0	$7,123
AI-H5N1 Poultry Vaccine	10,110	Bottle of 50ml	$33,970	$394	$34,364
AI-H5N1 Poultry Vaccine	8,760	Bottle of 50ml	$29,434	$0	$29,434
AI-H5N1 Poultry Vaccine	11,805	Bottle of 50ml	$39,665	$566	$40,231
AI-H5N1 Poultry Vaccine	11,805	Bottle of 50ml	$39,665	$0	$39,665
AI-H5N1 Poultry Vaccine	5,755	Bottle of 50ml	$19,337	$405	$19,742
AI-H5N1 Poultry Vaccine	11,800	Bottle of 50ml	$39,648	$0	$39,648
AI-H5N1 Poultry Vaccine	10,830	Bottle of 50ml	$36,389	$395	$36,784
AI-H5N1 Poultry Vaccine	8,810	Bottle of 50ml	$29,602	$0	$29,602
AI-H5N1 Poultry Vaccine	12,870	Bottle of 50ml	$43,243	$400	$43,643

Item Name	Quantity	Unit of Measure	Commodity Cost	Shipping & Handling	Total
AI-H5N1 Poultry Vaccine	17,600	Bottle of 50ml	$59,136	$0	$59,136
AI-H5N1 Poultry Vaccine	17,600	Bottle of 50ml	$59,136	$401	$59,537
AI-H5N1 Poultry Vaccine	17,600	Bottle of 50ml	$59,136	$0	$59,136
AI-H5N1 Poultry Vaccine Total			$682,568	$3,377	$685,945
Newcastle Disease Vaccine					
Newcastle Disease Vaccine	6,930	Vial	$5,683	$0	$5,683
Newcastle Disease Vaccine	7,260	Vial	$5,953	$0	$5,953
Newcastle Disease Vaccine	6,170	Vial	$5,059	$41	$5,100
Newcastle Disease Vaccine	6,710	Vial	$5,502	$43	$5,545
Newcastle Disease Vaccine	980	Vial	$804	$0	$804
Newcastle Disease Vaccine	5,870	Vial	$4,813	$56	$4,869
Newcastle Disease Vaccine	5,200	Vial	$4,264	$0	$4,264
Newcastle Disease Vaccine	7,150	Vial	$5,863	$84	$5,947
Newcastle Disease Vaccine	5,830	Vial	$4,781	$0	$4,781
Newcastle Disease Vaccine	2,630	Vial	$2,157	$45	$2,202
Newcastle Disease Vaccine	6,500	Vial	$5,330	$0	$5,330
Newcastle Disease Vaccine	6,130	Vial	$5,027	$55	$5,082

Item Name	Quantity	Unit of Measure	Commodity Cost	Shipping & Handling	Total
Newcastle Disease Vaccine	4,970	Vial	$4,075	$0	$4,075
Newcastle Disease Vaccine	6,600	Vial	$5,412	$50	$5,462
Newcastle Disease Vaccine	8,800	Vial	$7,216	$0	$7,216
Newcastle Disease Vaccine	8,800	Vial	$7,216	$49	$7,265
Newcastle Disease Vaccine	8,800	Vial	$7,216	$0	$7,216
Newcastle Disease Vaccine Total			$86,371	$423	$86,794
Other Operations Research Commodities					
All purpose cleaner (100387)	45	Each	$4,725	$4,225	$8,950
All purpose cleaner (100386)	35	Each	$700	$3,437	$4,137
Washer High-pressure	42	Each	$57,845	$5,321	$63,166
Rotary Nozzle for washer press	42	Each	$2,111	$194	$2,305
Spare part package for washer	1	Each	$1,145	$105	$1,250
Spare valves and syringe	1,100	Pack	$3,960	$119	$4,079
Tube for automatic syringe	1,100	Pack	$14,740	$443	$15,183
Straps for vaccine carrier RCW	1,100	Each	$2,079	$0	$2,079
Temperature monitor	550	Each	$8,465	$0	$8,465
Safety Box, Sharp Disposable	3,200	Each	$3,136	$0	$3,136

Item Name	Quantity	Unit of Measure	Commodity Cost	Shipping & Handling	Total
Thermometer, Digital, min/max	60	Unit	$2,880	$0	$2,880
Spare valves and syringe	241	Pack	$2,386	$0	$2,386
Tube, for automatic syringe	1,089	Pack	$10,999	$0	$10,999
Needles, Re-usable Injection	1	Pack of 12 Units	$10	$0	$10
Disinfectant, [Virkon], AI	2,000	Unit	$420,000	$3,776	$423,776
Monitor, Temperature Device	2,800	Each	$73,080	$0	$73,080
Needles, Re-usable Injection	10,667	Pack of 12 Units	$51,202	$2,150	$53,352
Refrigerator, Vaccine Cooler	24	Each	$30,720	$2,018	$32,738
Refrigerator, Vaccine Cooler	24	Each	$34,176	$2,245	$36,421
Refrigerator, Vaccine Cooler	24	Each	$41,664	$2,737	$44,401
Needles, Re-usable Injection	3,000	Pack of 12 Units	$14,400	$243	$14,643
Total Other			$780,423	$27,013	$807,436
Grand Total			$1,549,362	$30,813	$1,580,175

H1N1 Vaccination

EPT - Safety Box Sharp Disposable 5L (100605) Vaccination Ancillary Supplies from 01-Dec-2009 through 31-Jul-2010

Country	Quantity	Commodity Cost	Shipping & Handling	Total Value
Afghanistan	6,650	$6,850	$12,018	$18,867
Azerbaijan	2,325	$2,395	$4,591	$6,986
Bangladesh	30,200	$31,106	$22,633	$53,739
Bolivia	11,975	$12,334	$26,683	$39,017
Burkina Faso	18,450	$19,004	$39,939	$58,942
Cambodia	3,650	$3,760	$5,007	$8,767
Cameroon	21,100	$21,733	$41,946	$63,679
Cote D'Ivoire	24,450	$25,184	$25,834	$51,017
East Timor	1,475	$1,519	$4,104	$5,623
El Salvador	28,375	$29,226	$34,921	$64,147
Ethiopia	39,850	$41,046	$35,606	$76,652
Georgia	1,225	$1,262	$2,912	$4,174
Ghana	6,150	$6,335	$8,803	$15,138
Guatemala	3,150	$3,245	$4,888	$8,132
Indonesia	46,500	$47,895	$36,530	$84,425
Kenya	8,850	$9,116	$9,240	$18,356
Laos	7,275	$7,493	$8,431	$15,925
Lesotho	2,375	$2,446	$4,699	$7,146
Liberia	975	$1,004	$2,431	$3,435
Malawi	15,750	$16,223	$18,659	$34,881
Moldova	1,225	$1,262	$2,225	$3,487
Mongolia	1,350	$1,391	$3,336	$4,727
Myanmar	12,950	$13,339	$15,706	$29,045
Namibia	2,900	$2,987	$4,161	$7,148

Nicaragua	1,375	$1,416	$2,555	$3,971
Pakistan	37,475	$38,599	$37,081	$75,681
Paraguay	11,500	$11,845	$28,174	$40,019
Philippines	22,975	$23,664	$16,197	$39,861
Rwanda	2,575	$2,652	$5,495	$8,147
Senegal	3,200	$3,296	$3,964	$7,260
Sri Lanka	4,675	$4,815	$5,515	$10,330
Swaziland	325	$335	$903	$1,237
Togo	8,550	$8,807	$17,393	$26,200
Ukraine	12,400	$12,772	$16,314	$29,086
WHO/Geneva- Global Basket	8,475	$8,729	N/A	$8,729
WHO/Geneva- Global Basket	6,350	$6,541	N/A	$6,541
WHO/Geneva- Global Basket	1,725	$1,777	N/A	$1,777
WHO/Geneva- Global Basket	15,025	$15,476	N/A	$15,476
WHO/Geneva- Global Basket	225	$232	N/A	$232
WHO/Geneva- Global Basket	2,025	$2,086	N/A	$2,086
WHO/Geneva- Global Basket	675	$695	N/A	$695
WHO/Geneva- Global Basket	425	$438	N/A	$438
WHO/Geneva- Global Basket	1,350	$1,391	N/A	$1,391
WHO/Geneva- Global Basket	150	$155	N/A	$155
WHO/Geneva- Global Basket	1,100	$1,133	N/A	$1,133
WHO/Geneva- Global Basket	675	$695	N/A	$695
WHO/Geneva- Global Basket	150	$155	N/A	$155
WHO/Geneva- Global Basket	325	$335	N/A	$335
WHO/Geneva- Global Basket	50	$52	N/A	$52
WHO/Geneva- Global Basket	50	$52	N/A	$52
WHO/Geneva- Global Basket	50	$52	N/A	$52
WHO/Geneva- Global Basket	50	$52	N/A	$52
WHO/Geneva- Global Basket	50	$52	N/A	$52

WHO/Geneva- Global Basket	225	$232	N/A	$232
WHO/Geneva- Global Basket	4,875	$5,021	N/A	$5,021
WHO/Geneva- Global Basket	2,275	$2,343	N/A	$2,343
WHO/Geneva- Global Basket	2,325	$2,395	N/A	$2,395
WHO/Geneva- Global Basket	825	$850	N/A	$850
WHO/Geneva- Global Basket	1,025	$1,056	N/A	$1,056
WHO/Geneva- Global Basket	8,475	$8,729	N/A	$8,729
WHO/Geneva- Global Basket	400	$412	N/A	$412
WHO/Geneva- Global Basket	3,400	$3,502	N/A	$3,502
WHO/Geneva- Global Basket	7,750	$7,983	N/A	$7,983
WHO/Geneva- Global Basket	125	$129	N/A	$129
WHO/Geneva- Global Basket	25,150	$25,905	N/A	$25,905
Grand Total Safety Boxes	**500,000**	**$515,011**	**$508,894**	**$1,023,905**

EPT - Syringe, auto-disable, 0.5ml (100577) Vaccination Ancillary Supplies from 01-Dec-2009 through 31-Jul-2010

Country	Quantity	Commodity Cost	Shipping & Handling	Total Value
Afghanistan	525,600	$26,806	$22,743	$49,549
Azerbaijan	182,400	$9,302	$14,338	$23,640
Bangladesh	2,625,600	$133,906	$62,385	$196,291
Bolivia	945,600	$48,226	$76,834	$125,060
Burkina Faso	1,524,000	$77,724	$106,947	$184,671
Cambodia	316,800	$16,157	$8,577	$24,734
Cameroon	1,917,600	$97,798	$100,712	$198,510
Cote D'Ivoire	2,308,800	$117,749	$104,065	$221,814
East Timor	127,200	$6,487	$6,623	$13,110
El Salvador	2,392,800	$122,033	$91,620	$213,653
Ethiopia	3,151,200	$160,711	$88,653	$249,364
Georgia	105,600	$5,386	$4,474	$9,860
Ghana	484,800	$24,725	$18,664	$43,389

Guatemala	273,600	$13,954	$9,619	$23,572
Indonesia	3,676,800	$187,517	$119,148	$306,664
Kenya	768,000	$39,168	$23,381	$62,549
Laos	631,200	$32,191	$16,142	$48,333
Lesotho	206,400	$10,526	$9,803	$20,330
Liberia	84,000	$4,284	$6,913	$11,197
Malawi	1,368,000	$69,768	$47,071	$116,839
Moldova	105,600	$5,386	$3,008	$8,393
Mongolia	105,600	$5,386	$5,991	$11,376
Myanmar	1,022,400	$52,142	$23,128	$75,270
Namibia	228,000	$11,628	$9,840	$21,468
Nicaragua	117,600	$5,998	$4,638	$10,636
Pakistan	3,256,800	$166,097	$94,132	$260,229
Paraguay	998,400	$50,918	$52,206	$103,125
Philippines	1,996,800	$101,837	$56,392	$158,228
Rwanda	211,200	$10,771	$8,737	$19,508
Senegal	252,000	$12,852	$8,918	$21,770
Sri Lanka	405,600	$20,686	$15,698	$36,383
Swaziland	26,400	$1,346	$1,451	$2,797
Togo	698,400	$35,618	$44,487	$80,105
WHO/Geneva- Global Basket	501,600	$25,582	N/A	$25,582
WHO/Geneva- Global Basket	736,800	$37,577	N/A	$37,577
WHO/Geneva- Global Basket	148,800	$7,589	N/A	$7,589
WHO/Geneva- Global Basket	1,185,600	$60,466	N/A	$60,466
WHO/Geneva- Global Basket	168,00	$857	N/A	$857
WHO/Geneva- Global Basket	158,400	$8,078	N/A	$8,078
WHO/Geneva- Global Basket	52,800	$2,693	N/A	$2,693
WHO/Geneva- Global Basket	33,600	$1,714	N/A	$1,714
WHO/Geneva- Global Basket	105,600	$5,386	N/A	$5,386

WHO/Geneva- Global Basket	12,000	$612	N/A	$612
WHO/Geneva- Global Basket	93,600	$4,774	N/A	$4,774
WHO/Geneva- Global Basket	60,000	$3,060	N/A	$3,060
WHO/Geneva- Global Basket	12,000	$612	N/A	$612
WHO/Geneva- Global Basket	26,400	$1,346	N/A	$1,346
WHO/Geneva- Global Basket	2,400	$122	N/A	$122
WHO/Geneva- Global Basket	2,400	$122	N/A	$122
WHO/Geneva- Global Basket	2,400	$122	N/A	$122
WHO/Geneva- Global Basket	2,400	$122	N/A	$122
WHO/Geneva- Global Basket	2,400	$122	N/A	$122
WHO/Geneva- Global Basket	19,200	$979	N/A	$979
WHO/Geneva- Global Basket	105,600	$5,386	N/A	$5,386
WHO/Geneva- Global Basket	180,000	$9,180	N/A	$9,180
WHO/Geneva- Global Basket	182,400	$9,302	N/A	$9,302
WHO/Geneva- Global Basket	69,600	$3,550	N/A	$3,550
WHO/Geneva- Global Basket	79,200	$4,039	N/A	$4,039
WHO/Geneva- Global Basket	736,800	$37,577	N/A	$37,577
WHO/Geneva- Global Basket	33,600	$1,714	N/A	$1,714
WHO/Geneva- Global Basket	295,200	$15,055	N/A	$15,055
WHO/Geneva- Global Basket	672,000	$34,272	N/A	$34,272
WHO/Geneva- Global Basket	9,600	$490	N/A	$490
WHO/Geneva- Global Basket	1,994,400	$101,714	N/A	$101,714
WHO/Geneva- Global Basket	271,200	$13,831	N/A	$13,831
WHO/Geneva- Global Basket	14,400	$734	N/A	$734
WHO/Geneva- Global Basket	36,000	$1,836	N/A	$1,836
WHO/Geneva- Global Basket	14,400	$734	N/A	$734
WHO/Geneva- Global Basket	88,800	$4,529	N/A	$4,529
Grand Total	**40,982,400**	**$2,090,961**	**$1,267,338**	**$3,358,299**

EPT - Syringe, auto-disable, 5ml (100576) Vaccination Ancillary Supplies from 01-Dec-2009 through 31-Jul-2010

Country	Quantity	Commodity Cost	Shipping & Handling	Total Value
Afghanistan	52,200	$2,532	$2,148	$4,680
Azerbaijan	18,000	$873	$1,346	$2,219
Bolivia	93,600	$4,540	$7,233	$11,772
Burkina Faso	151,200	$7,333	$10,090	$17,424
El Salvador	72,000	$3,492	$2,682	$6,174
Ethiopia	313,200	$15,190	$8,379	$23,570
Ghana	48,600	$2,357	$1,779	$4,136
Indonesia	365,400	$17,722	$11,260	$28,982
Mongolia	10,800	$524	$583	$1,106
Myanmar	102,600	$4,976	$2,207	$7,183
Namibia	23,400	$1,135	$960	$2,095
Rwanda	21,600	$1,048	$850	$1,897
Senegal	25,200	$1,222	$848	$2,070
Togo	70,200	$3,405	$4,255	$7,659
WHO/Geneva- Global Basket	50,400	$2,444	N/A	$2,444
WHO/Geneva- Global Basket	118,800	$5,762	N/A	$5,762
WHO/Geneva- Global Basket	1,800	$87	N/A	$87
WHO/Geneva- Global Basket	16,200	$786	N/A	$786
WHO/Geneva- Global Basket	5,400	$262	N/A	$262
WHO/Geneva- Global Basket	10,800	$524	N/A	$524
WHO/Geneva- Global Basket	18,000	$873	N/A	$873
WHO/Geneva- Global Basket	18,000	$873	N/A	$873
WHO/Geneva- Global Basket	190,800	$9,254	N/A	$9,254
WHO/Geneva- Global Basket	14,400	$698	N/A	$698
WHO/Geneva- Global Basket	59,400	$2,881	N/A	$2,881
WHO/Geneva- Global Basket	1,213,200	$58,840	N/A	$58,840

WHO/Geneva- Global Basket	156,600	$7,595	N/A	$7,595
WHO/Geneva- Global Basket	208,800	$10,127	N/A	$10,127
WHO/Geneva- Global Basket	286,200	$13,881	N/A	$13,881
WHO/Geneva- Global Basket	109,800	$5,325	N/A	$5,325
WHO/Geneva- Global Basket	70,200	$3,405	N/A	$3,405
WHO/Geneva- Global Basket	32,400	$1,571	N/A	$1,571
WHO/Geneva- Global Basket	1,800	$87	N/A	$87
WHO/Geneva- Global Basket	50,400	$2,444	N/A	$2,444
Grand Total	**4,001,400**	**$194,068**	**$54,620**	**$248,688**
Grand Total Syringes	**44,983,800**	**$2,285,029**	**$1,321,958**	**$3,606,987**

H1N1 Surveillance

Item Name	Quantity	Commodity Cost	Shipping & Handling	Total
Centrifuge Tube; 50mL	50	$11,850	$863	$12,713
Combination PCR Workstation	25	$106,250	$7,759	$114,009
Cooler, box, 9 can size, each	50	$1,000	$73	$1,073
Ethanol, MLCLR, Bio grqade PCR	150	$4,625	$8,909	$13,534
Gloves, Nitrile; Latex-free L	500	$26,250	$1,916	$28,166
Gloves, Nitrile; Latex-free M	500	$26,020	$1,899	$27,919
Marker, permanent, extra fine	50	$975	$1,876	$2,851
Microcentrifuge Tubes 0.65mL	100	$7,125	$521	$7,646
Microcentrifuge Tubes 1.7mL	400	$15,900	$1,161	$17,061
PCR AB assurance plan 3yr	20	$235,080	$14,339	$249,419
PCR FG Optical Cap 8caps/strip	240	$23,520	$1,436	$24,956
PCR MicroAmp Fast Optical w/b	21	$1,575	$95	$1,670
PCR MicroAmp Fast Optical wo/b	588	$22,050	$1,306	$23,356
PCR Real-Time On site training	20	$81,000	$4,942	$85,942
PCR, Nuclease-free Water	42	$4,410	$260	$4,670
PCR, QIAamp viral RNA MiniKit	250	$273,624	$23,247	$296,871
PCR, software 7500 Fast System	21	$52,500	$3,115	$55,615
PCR, tower, QST 7500 Fast Real	21	$987,000	$58,512	$1,045,512
PCR,SuperScript III Platinum	600	$867,240	$35,915	$903,155
Pipetter Tip DF10ST	500	$51,200	$3,740	$54,940
Pipetter Tip, DF1000	500	$57,150	$4,172	$61,322
Pipetter Tip, DF200	500	$51,200	$3,740	$54,940
Pipetter Tip, DF30ST	500	$51,200	$3,740	$54,940
Pipetter, single-chan P-1000	50	$15,500	$1,134	$16,634

Item Name	Quantity	Commodity Cost	Shipping & Handling	Total
Pipetter, single-channel Air	100	$34,975	$2,554	$37,529
Pipetter, single-channel Air,	50	$15,500	$1,134	$16,634
Rack Microcentrifuge 96Tubes	200	$4,800	$351	$5,151
Rack Preparation For PCR Tubes	50	$1,150	$83	$1,233
Refrigerant Pk Freeze -23C	50	$725	$2,425	$3,150
Shirt Tyvek 3SnapFront FlSleev	100	$12,700	$928	$13,628
Swab, Microbiological, Sterile	50	$9,200	$670	$9,870
Swab, Omni, collection of bucc	100	$10,000	$730	$10,730
Swab, UVT polyester-tipped pla	1000	$130,125	$9,498	$139,623
TF, Fast 7500 Chemical Install	20	$0	$0	$0
Tongue Depressor; Sterile; Cas	100	$3,225	$237	$3,462
Tough-Tags 0.5-2.0mLMicrotube	100	$2,500	$181	$2,681
Tough-Tags 1.5-2.0ml Microtube	100	$2,800	$204	$3,004
Tough-Tagsfor0.2mLPCRMicrotube	100	$3,725	$273	$3,998
Uninterruptible PwrSupply 3KvA	20	$72,000	$4,391	$76,391
Wipes, RNase surface decontami	300	$8,650	$16,659	$25,309
Grand Total		$3,286,319	$224,988	$3,511,307

Emerging Pandemic Threats

Country	Item Name and Number	Quantity	Commodity Cost	S&H	Total
Bolivia	PPE Kit Small	150	$1,313	$0	$1,313
Bolivia	PPE Kit Large	50	$438	$0	$438
Brazil	Easy Mag Extraction Instrument	1	$92,136	$0	$92,136
Brazil	Easy Mag, Magnetic Silica	1	$1,133	$0	$1,133
Brazil	Easy Mag, Extraction Buffer 3	1	$283	$0	$283
Brazil	Easy Mag, Disposables	1	$1,414	$0	$1,414
Brazil	Easy Mag, Lysis Buffer	1	$736	$0	$736
Brazil	Easy Mag, Extraction Buffer 1	1	$568	$0	$568
Brazil	Easy Mag, Extraction Buffer 2	1	$237	$0	$237
Brazil	Easy Mag, Tips for pipette	1	$2,826	$0	$2,826
Brazil	PPE Kit Small	50	$438	$6	$444
Brazil	PPE Kit Large	100	$875	$12	$887
Brazil	PPE Kit XLarge	50	$438	$6	$444
Cameroon	PPE Kit Small	50	$876	$258	$1,134
Cameroon	PPE Kit Large	100	$1,750	$516	$2,266
Cameroon	PPE Kit XLarge	50	$876	$258	$1,134
Colombia	PPE Kit Small	100	$875	$324	$1,199
Colombia	PPE Kit Large	100	$875	$324	$1,199
Congo, DRC	PPE Kit Small	1,250	$10,938	$2,502	$13,440
Congo, DRC	PPE Kit Large (100043)	1,750	$15,313	$3,503	$18,816

Country	Item Name and Number	Quantity	Commodity Cost	S&H	Total
Congo, DRC	PPE Kit XLarge	750	$6,563	$1,501	$8,064
Congo, DRC	Disinfectant, Virkon S 10lb	20	$781	$179	$960
Congo, DRC	PPE Kit Small	150	$1,313	$5	$1,318
Congo, DRC	PPE Kit Large	400	$3,500	$13	$3,513
Congo, DRC	PPE Kit XLarge	250	$2,188	$8	$2,196
Congo, DRC	Disinfectant, Virkon S 10lb	24	$937	$4	$941
Congo, DRC	Gown, isolation, fluid resista	5,200	$2,145	$8	$2,153
Congo, DRC	Goggles, Chemical splash, vent	1,400	$1,778	$7	$1,785
Congo, DRC	Gloves, Nitrile; Latex-free M	16	$832	$3	$835
Congo, DRC	Masks, Ear-loop, Standard Flui	14,000	$2,100	$8	$2,108
Congo, DRC	PPE Kit Small	150	$1,313	$9	$1,322
Congo, DRC	PPE Kit Large	400	$3,500	$23	$3,523
Congo, DRC	PPE Kit XLarge	250	$2,188	$14	$2,202
Congo, DRC	Disinfectant, Virkon S 10lb	12	$469	$3	$472
Congo, DRC	Gown, isolation, fluid resista	400	$165	$1	$166
Congo, DRC	Gloves, Nitrile; Latex-free M	8	$416	$3	$419
Congo, DRC	Masks, Ear-loop, Standard Flui	2,000	$300	$2	$302
Ecuador	PPE Kit Small	50	$438	$26	$464
Ecuador	PPE Kit Large	100	$875	$52	$927
Ecuador	PPE Kit XLarge	50	$438	$26	$464

Country	Item Name and Number	Quantity	Commodity Cost	S&H	Total
Gabon	PPE Kit Small	50	$438	$164	$602
Gabon	PPE Kit Large	100	$875	$327	$1,202
Gabon	PPE Kit XLarge	50	$438	$164	$602
Ghana	PPE Kit XLarge	300	$2,625	$631	$3,256
Haiti	Bucket, Avian Influenza, 5 gal	5,076	$25,380	$0	$25,380
Haiti	Brush, Scrub, 8.3"x3", Light B	2,560	$9,421	$0	$9,421
Haiti	Sprayer, 3 Gallon, Translucent	1,000	$20,000	$0	$20,000
Haiti	Sprayer, 1 Gallon, Al	1,080	$11,912	$0	$11,912
Haiti	Apron, Disposable, Heavy Duty	7,200	$13,320	$0	$13,320
Haiti	Gloves, scrub, latex, size 10,	6,000	$10,800	$0	$10,800
Haiti	Bag, Waste, Bio Hazard	10,800	$2,484	$0	$2,484
Haiti	Bucket, Avian Influenza, 5 gal	5,076	$25,380	$0	$25,380
Haiti	Brush, Scrub, 8.3"x3", Light B	2,560	$9,421	$0	$9,421
Haiti	Sprayer, 3 Gallon, Translucent	1,000	$20,000	$0	$20,000
Haiti	Sprayer, 1 Gallon, Al	1,080	$11,912	$0	$11,912
Haiti	Apron, Disposable, Heavy Duty	7,200	$13,320	$0	$13,320
Haiti	Gloves, scrub, latex, size 10,	6,000	$10,800	$0	$10,800
Haiti	Bag, Waste, Bio Hazard	10,800	$2,484	$0	$2,484
Haiti	Goggles - Al	3,600	$7,200	$0	$7,200

Country	Item Name and Number	Quantity	Commodity Cost	S&H	Total
Haiti	Bucket, Avian Influenza, 5 gal	7,115	$35,575	$0	$35,575
Haiti	Brush, Scrub, 8.3"x3", Light B	29,342	$107,979	$0	$107,979
Haiti	Sprayer, 3 Gallon, Translucent	4,240	$84,800	$0	$84,800
Haiti	Sprayer, 1 Gallon, Al	8,119	$89,553	$0	$89,553
Haiti	Apron, Disposable, Heavy Duty	13,982	$25,867	$0	$25,867
Haiti	Gloves, scrub, latex, size 10,	21,444	$38,599	$0	$38,599
Haiti	Bag, Waste, Bio Hazard	10,156	$2,336	$0	$2,336
Haiti	Wipes, Germicidal, Foil Wrap	7,016	$46,797	$0	$46,797
Haiti	Goggles - Al	28,556	$57,112	$0	$57,112
Haiti	Bootie, Protective, [TYVEK]	4,800	$3,300	$0	$3,300
Haiti	Bag, Red, Biohazard 25x35in	47	$43	$0	$43
Haiti	Bag, Red Biohazard 8x12in	198	$46	$0	$46
Haiti	Pad, Prep, Alcohol 70%, Medium	19,800	$347	$0	$347
Haiti	Tape, Flagging red w/biohazard	2	$31	$0	$31
Haiti	Gloves, Outer, Standard leather	27	$47	$0	$47
Haiti	Boot, Haz Mat, Size L, Yellow	2	$9	$0	$9
Haiti	Tarp, Heavy duty, blue 10x12 F	9	$127	$0	$127

Country	Item Name and Number	Quantity	Commodity Cost	S&H	Total
Haiti	Bucket Al collapsible vinyl 2g	8	$96	$0	$96
Haiti	Bag, containmt L 1/2 cubic m	10	$250	$0	$250
Haiti	Bootie, Protective, [TYVEK]	9,732	$8,175	$0	$8,175
Haiti	Brush, Scrub, Long Handle, 20"	3	$19	$0	$19
Haiti	Soap, with bleach [Tide]	5	$33	$0	$33
Madagascar	PPE Kit Small	1,000	$8,750	$3,011	$11,761
Madagascar	PPE Kit Large	1,000	$8,750	$3,011	$11,761
Madagascar	Disinfectant, Virkon S 10lb	20	$781	$269	$1,050
Madagascar	Kit, Lab v3, Al	10	$5,905	$2,032	$7,937
Malaysia	PPE Kit Small	150	$1,313	$458	$1,771
Malaysia	PPE Kit Large	50	$438	$153	$591
Malaysia	Easy Mag Extraction Instrument	1	$92,136	$2,100	$94,236
Malaysia	Easy Mag, Magnetic Silica	1	$1,133	$26	$1,159
Malaysia	Easy Mag, Extraction Buffer 3	1	$283	$6	$289
Malaysia	Easy Mag, Disposables	1	$1,414	$32	$1,446
Malaysia	Easy Mag, Lysis Buffer	1	$736	$17	$753
Malaysia	Easy Mag, Extraction Buffer 1	1	$568	$13	$581
Malaysia	Easy Mag, Extraction Buffer 2	1	$237	$5	$242
Malaysia	Easy Mag, Tips for pipette	1	$2,826	$64	$2,890

Country	Item Name and Number	Quantity	Commodity Cost	S&H	Total
Mexico	PPE Kit Small	50	$438	$17	$455
Mexico	PPE Kit Large	100	$875	$34	$909
Mexico	PPE Kit XLarge	50	$438	$17	$455
Nigeria	PPE Kit XLarge	450	$3,938	$1,676	$5,614
Nigeria	Disinfectant, Virkon S 10lb	40	$1,562	$665	$2,227
Rwanda	PPE Kit Small	50	$438	$211	$649
Rwanda	PPE Kit Large	100	$875	$421	$1,296
Rwanda	PPE Kit XLarge	50	$438	$211	$649
Rwanda	Kit, Lab v3, AI	3	$1,771	$853	$2,624
Tanzania	PPE Kit Small	50	$438	$215	$653
Tanzania	PPE Kit Large	100	$875	$430	$1,305
Tanzania	PPE Kit XLarge	50	$438	$215	$653
Uganda	Negative Pressure Chamber, Iso	1	$21,975	$10,900	$32,875
Uganda	Waste disposal unit	1	$2,230	$1,106	$3,336
Uganda	Negative pressure indicator an	1	$1,900	$942	$2,842
Uganda	HEPA filter for exhaust air	1	$650	$322	$972
Uganda	Ultra Violet (UV) Light tubes	1	$121	$60	$181
Uganda	Freezer, -86C Degrees, ULT2090	1	$11,495	$4,002	$15,497
Uganda	PPE Kit Small	50	$438	$203	$641
Uganda	PPE Kit Large	100	$875	$407	$1,282
Uganda	PPE Kit XLarge	50	$438	$203	$641
Uganda	PPE Kit Small	250	$2,188	$816	$3,004
Uganda	PPE Kit Large	500	$4,375	$1,632	$6,007

Country	Item Name and Number	Quantity	Commodity Cost	S&H	Total
Uganda	PPE Kit XLarge	250	$2,188	$816	$3,004
Uganda	PPE Kit XLarge	2,000	$17,500	$0	$17,500
Uganda	PPE Kit Large	2,000	$17,500	$0	$17,500
Uganda	PPE Kit Small	1,000	$8,750	$0	$8,750
Uganda	Disinfectant, Virkon S 10lb	100	$3,905	$0	$3,905
Vietnam	Disinfectant, Virkon S 10lb	60	$2,343	$1,032	$3,375
Grand Total			$1,102,593	$49,493	$1,152,086

Appendix C

Annual Scorecards

2009

Scorecard Perspective	Indicator of Performance	Definition	Target Quality Level	# of Shipments	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	YTD Result
Supplier Performance	Order fill rate : Full quantity of an order (PO) available on time by ASN Scheduled Ship Date	Percent of Purchase Orders (full quantity) with an ASN Scheduled Ship Date in reporting month that is no later than 7 working days of Goods Available Date from PO															
			70%	1/1					100%								100%
	Bayer Vietnam		70%	2/2											100%		100%
	BD Diagnostics		70%	4/4						100%			100%	100%			100%
	C-Tech		70%	3/4				100%	100%			0%					75%
	Cole Parmer		70%	2/2		100%					100%						100%
	Conney Safety Products		70%	2/2											100%		100%
	Dupont		70%	4/4		100%					100%		100%		100%		100%
	Fisher Scientific		70%	1/1												100%	100%
	Global-Protection		70%	2/2				100%			100%						100%
	Karcher		70%	3/3				100%									100%
	Neogen Corporation		70%	1/1						100%							100%
	PT MediBest		70%	2/2			100%				100%						100%
	PT Medion Farma Jaya		70%	11/11	100%	100%	100%	100%	100%	100%			100%		100%		100%
	Secorex		70%	1/1			100%										100%
	Selo, INC		70%	1/1		100%											100%
	Steriline SDN BHD		70%	1/1		100%											100%
	Synbiotics		70%	2/2									100%				100%
Shipper Performance	Bangkok																
	Expedited Air Orders by Arrival at Destination Port Date	Expedited Air shipments with Arrival at Port Date no more than 2 days later than the Desired Receipt Date	70%	0/0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A				N/A
	Standard Air Orders by Arrival at Destination Port Date	Standard Air shipments with Arrival at Port Date no more than 7 days later than the Desired Receipt Date	70%	6/6	N/A	N/A	N/A	100%	100%	100%	N/A	100%	N/A				100%
	Land Orders by Arrival at Destination Port Date	Land shipments with Arrival at Port Date no more than 1 month later than the Desired Receipt Date	70%	0/0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A				N/A
	Sea Freight Orders by Arrival at Destination Port Date	Ocean Freight shipments with Actual Arrival Date no more than 1 month later than the Desired Receipt Date	70%	0/0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A				N/A
	MAP																
	Expedited Air Orders by Arrival at Destination Port Date	Expedited Air shipments with Arrival at Port Date no more than 2 days later than the Desired Receipt Date	70%	0/0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A				N/A
	Standard Air Orders by Arrival at Destination Port Date	Standard Air shipments with Arrival at Port Date no more than 7 days later than the Desired Receipt Date	70%	45/50	88%	100%	100%	100%	100%	100%	67%	85%	100%	60%	100%	100%	90%
	Sea Freight Orders by Arrival at Destination Port Date	Ocean Freight shipments with Arrival at Port Date no more than 1 month later than the Desired Receipt Date	70%	5/5	N/A	100%	N/A	100%	N/A	100%	N/A	N/A	100%				100%
	Land Orders by Arrival at Destination Port Date	Land shipments with Arrival at Port Date no more than 1 month later than the Desired Receipt Date	70%	16/16	100%	N/A	N/A	N/A	N/A	100%	100%	N/A	100%		100%	100%	100%
Warehouse Performance	Right Quantity Received by Actual Receipt Date	Percent of quantities received compared to quantities ordered for shipments received in this reporting period	100%	150/150	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Right Condition by Actual Receipt Date	Percent of reported shipments arriving in perfect condition against total shipments	100%	150/150	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Inventory Discrepancies by Adjustment Date	Number and value of inventory discrepancies this month	0	0	N/A	N/A	N/A	N/A	N/A	N/A	2	0	4	2	0	1	9
			$0.00	$0.00	N/A	N/A	N/A	N/A	N/A	N/A	($8,851.09)	$0.00	$2,915.58	$5.25	$0.00	$0.00	($5,930.26)

⇧ GREEN 70% = On or above Target

⇔ YELLOW = 69% - 50% Below target within defined tolerable range

⇩ RED = 50% or less Below Target

2010

Scorecard Perspective	Indicator of Performance	Definition	Target Quality Level	# in Target this Period YTD	# in Count this Period YTD	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	YTD Result	Project TD Results
On Tim Shipments / Shipper Performance	Expedited Air Orders by Arrival at Destination Port Date	Expedited Air shipments with Arrival at Port Date no more than 2 days later than the Desired Receipt Date	80%	0	0														
	Standard Air Orders by Arrival at Destination Port Date	Standard Air shipments with Arrival at Port Date no more than 7 days later than the Desired Receipt Date	80%	120	137	50%	100%	100%	100%	87%	94%	90%	86%	100%	76%	100%	83%	88%	89%
	Land Orders by Actual Arrival Date	Land Freight shipments with Arrival at Port Date no more than 1 month later than the Desired Receipt Date	80%	4	4	100%	100%		100%	100%								100%	100%
	Sea Freight Orders by Arrival at Destination Port Date	Ocean Freight shipments with Arrival at Port Date no more than 1 month later than the Desired Receipt Date	80%	6	6	100%			100%	100%								100%	100%
Supplier Performance	Order fill rate: Full quantity of an order (PO) available on time by ASN Scheduled Ship Date	Percent of Purchase Orders (full quantity) with an ASN Scheduled Ship Date in reporting month that is no later than 7 working days of Goods Available Date from PO																	
	PT Medion		80%	10	10	100%	100%	100%		100%			100%	100%		100%		100%	
	Synbiotics		80%	1	1	100%												100%	
	Becton Dickinson		80%	6	6		100%	100%										100%	
	Fisher Scientific		80%	28	30		50%	0%	100%		100%							93%	
	Inter-Marketing Group		80%	1	1		100%											100%	
	Obbco Safety and Supply		80%	0	1		0%											0%	*N/A
	Polynor AS		80%	1	1			100%										100%	
	PT Medibest		80%	2	2			100%						100%				100%	
	Toko Sinar Raya		80%	1	1			100%										100%	
	Audio Plaza Shop		80%	1	1				100%									100%	
	Life Technologies Corporation		80%	28	28				100%			100%	100%					100%	
	Pt. Aneka Jaya Langgeng Sentosa		80%	1	1				100%									100%	
	Pt. Royal Sutan Agung		80%	1	1					100%								100%	
	Qiagen GMBH		80%	25	26					100%			100%				50%	96%	
	C. WOERMANN (GHANA) LTD.		80%	1	1									100%				100%	
			80%	0	0														
			80%	0	0														
			80%	0	0														
			80%	0	0								100%				50%		
			80%	0	0									100%					
			80%	0	0														
			80%	0	0														
Warehouse Performance	**Right Quantity Received by Actual Receipt Date	Percent of quantities received compared to quantities ordered for shipments received in this reporting period	100%	135	135	100%	100%	100%	100%	100%		100%						100%	100%
	Right Condition by Actual Receipt Date	Percent of reported shipments arriving in perfect condition against total shipments	100%	135	135	100%	100%	100%	100%	100%		100%						100%	72%
	Inventory Discrepancies by Adjustment Date	Number and value of inventory discreparcies this month	0	N/A	3	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**			**3**	**12**
			$0.00	N/A	-$3,923.82	$0.00	$0.00	-$3,923.82	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	-$3,923.82	-$9,854.08

⇧ GREEN 80% = On or above Target

⇔ YELLOW = 79% - 65% Belowtarget within defined tolerable range

⇩ RED = 64% or less Below Target

**Shipments received less than +/- one percent of the shipped quantity (industry standard) will be counted as fully received.

2011

Scorecard Perspective	Indicator of Performance	Definition	Target Quality Level	# in Target this Period YTD	# in Count this Period YTD	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	YTD Result	Project TD Results
On Tim Shipments / Shipper Performance	*Orders delivered on time by Desired Receipt Date	Percent sum of ontime orders	85%	34	41	100%	88%	50%	67%	100%	100%	88%						83%	83%
	Expedited Air Orders by Arrival at Destination Port Date	Expedited Air shipments with Arrival at Port Date no more than 2 days later than the Desired Receipt Date	85%	0	0														
	*Standard Air Orders by Arrival at Destination Port Date	Standard Air shipments with Arrival at Port Date no more than 7 days later than the Desired Receipt Date	85%	31	38	100%	88%	50%	67%	100%	100%	83%						82%	86%
	Land Orders by Actual Arrival Date	Land Freight shipments with Arrival at Port Date no more than 1 month later than the Desired Receipt Date	85%	3	3						100%	100%						100%	100%
	Sea Freight Orders by Arrival at Destination Port Date	Ocean Freight shipments with Arrival at Port Date no more than 1 month later than the Desired Receipt Date	85%	0	0														100%
Supplier Performance	Order fill rate: Full quantity of an order (PO) available on time by ASN Scheduled Ship Date	Percent of Purchase Orders (full quantity) with an ASN Scheduled Ship Date in reporting month that is no later than 7 working days of Goods Available Date from PO																	
	PT Medion		85%	1	1			100%										100%	*N/A
	Synbiotics		85%	0	0														
	Becton Dickinson		85%	0	0														
	Fisher Scientific		85%	3	4		0%	100%		100%								75%	
	Inter-Marketing Group		85%	0	0														
	Qiagen		85%	0	2	0%												0%	
	AIR FILTER MAINTENANCE SERVICES		85%	1	1		100%											100%	
	CV. ANEKA NUGRAHA		85%	1	1		100%											100%	
	DENKYU		85%	1	1		100%											100%	
	BIOMERIEUX FRANCE		85%	2	2				100%	100%								100%	
			85%	0	0														
			85%	0	0														
			85%	0	0														
			85%	0	0														
			85%	0	0														
			85%	0	0														
			85%	0	0														
			85%	0	0														
			85%	0	0														
			85%	0	0														
			85%	0	0														
			85%	0	0														
Warehouse Performance	**Right Quantity Received by Actual Receipt Date	Percent of quantities received compared to quantities ordered for shipments received in this reporting period	100%	34	34	100%	100%	100%	100%	100%	100%	100%						100%	100%
	*Right Condition by Actual Receipt Date	Percent of reported shipments arriving in perfect condition against total shipments	100%	34	34	100%	100%	100%	100%	100%	100%	100%						100%	100%
	Inventory Discrepancies by Adjustment Date	Number and value of inventory discrepancies this month	0	N/A	2		1	1	1	1	1	1						2	14
			$0.00	N/A	#VALUE!			$1.00				$1.00						$1.00	#VALUE!

GREEN 80% = On or above Target

YELLOW = 79% - 65% Below target within defined tolerable range

RED = 64% or less Below Target

* This indicator is for shipments 2 months prior to reporting month. For example October reporting would reflect shipments received in August.

**Shipments received less than +/- one percent of the shipped quantity (industry standard) will be counted as fully received.

For more information, please visit deliver.jsi.com.

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