

REQUEST FOR PROPOSALS

**TECHNICAL ASSISTANCE FOR THE SICHUAN PROVINCIAL DEPARTMENT OF
HEALTH**

**PROVINCIAL EMERGENCY MANAGEMENT MEDICAL SERVICES CAPACITY
BUILDING**

Submission Deadline: **12 p.m.**

LOCAL TIME

January 19, 2010

Submission Place: Mr. Zhu Guo Ying, Director General
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**SEALED PROPOSALS SHALL BE CLEARLY MARKED AND RECEIVED PRIOR TO THE
TIME AND DATE SPECIFIED ABOVE. PROPOSALS RECEIVED AFTER SAID TIME
AND DATE WILL NOT BE ACCEPTED OR CONSIDERED.**

REQUEST FOR PROPOSALS

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Section 1: INTRODUCTION

The U.S. Trade and Development Agency (USTDA) has provided a grant in the amount of US\$ 294,119 to the Sichuan Provincial Department of Health (the “Grantee”) in accordance with a grant agreement dated Friday, September 18, 2009 (the “Grant Agreement”). The grant will provide emergency medical services (EMS) training (“Technical Assistance”) to the Chengdu 120 Center in China (“Host Country”). The Grant Agreement is attached at Annex 4 for reference. The Grantee is soliciting technical proposals from qualified U.S. firms to provide expert consulting services to perform the Feasibility Study.

1.1 BACKGROUND SUMMARY

Fifty miles away from the 2008 earthquake’s epicenter, the Sichuan 120 Emergency Operations Center played a prominent role in emergency response, dispatching emergency teams a matter of seconds after they received distress calls. Established in 1997, the training center has trained thousands through programs organized by national and provincial emergency medical educators in cities, at the rural levels, and for engineers and dispatch technicians at emergency rescue centers throughout Sichuan. This TA will establish a train-the-trainer program in accepted U.S. EMS practices. Instructors, trained during the TA will subsequently train other EMS professionals such as emergency medical technicians (EMT), community doctors, and nurses, as well as other emergency services providers including: firefighters, police officers, and the general public.

A background Definitional Mission is provided for reference in Annex 2.

1.2 OBJECTIVE

This TA will plan, carry out, and evaluate an EMS/EMT training program for the Chengdu 120 Center, providing local emergency response teams with well-tested U.S. EMS/EMT best practices. A curriculum for the training program will be developed from an appropriate U.S. EMT training course, and will include consultation with U.S. and Host Country industry and other organizations. The Contractor shall deliver a two-phased technical training program over a period of one year to Host Country participants, each phase to consist of at least two sets of seminars/workshops, both six weeks in duration. Following the completion of the training programs this TA will evaluate the effectiveness of the completed training, and identify potential U.S. sources of emergency medical products and devices for Sichuan province. This TA aims to equip Sichuan emergency response teams with up-to-date EMS/EMT practices, with the wider goal of influencing EMS/EMT care throughout China.

The Terms of Reference (TOR) for this Feasibility Study are attached as Annex 5.

1.3 PROPOSALS TO BE SUBMITTED

Technical proposals are solicited from interested and qualified U.S. firms. The administrative and technical requirements as detailed throughout the Request for Proposals (RFP) will apply. Specific proposal format and content requirements are detailed in Section 3.

The amount for the contract has been established by a USTDA grant of US\$ 294,119. **The USTDA grant of \$US 294,119 is a fixed amount. Accordingly, COST will not be a factor in the evaluation and therefore, cost proposals should not be submitted.** Upon detailed evaluation of technical proposals, the Grantee shall select one firm for contract negotiations.

1.4 CONTRACT FUNDED BY USTDA

In accordance with the terms and conditions of the Grant Agreement, USTDA has provided a grant in the amount of US\$ 294,119 to the Grantee. The funding provided under the Grant Agreement shall be used to fund the costs of the contract between the Grantee and the U.S. firm selected by the Grantee to perform the TOR. The contract must include certain USTDA Mandatory Contract Clauses relating to nationality, taxes, payment, reporting, and other matters. The USTDA nationality requirements and the USTDA Mandatory Contract Clauses are attached at Annexes 3 and 4, respectively, for reference.

Section 2: INSTRUCTIONS TO OFFERORS

2.1 PROJECT TITLE

The project is called “Provincial Emergency Management Medical Services Capacity Building.”

2.2 DEFINITIONS

Please note the following definitions of terms as used in this RFP.

The term "Request for Proposals" means this solicitation of a formal technical proposal, including qualifications statement.

The term "Offeror" means the U.S. firm, including any and all subcontractors, which responds to the RFP and submits a formal proposal and which may or may not be successful in being awarded this procurement.

2.3 DEFINITIONAL MISSION REPORT

USTDA sponsored a Definitional Mission to address technical, financial, sociopolitical, environmental and other aspects of the proposed project. A copy of the report is attached at Annex 2 for background information only. Please note that the TOR referenced in the report are included in this RFP as Annex 5.

2.4 EXAMINATION OF DOCUMENTS

Offerors should carefully examine this RFP. It will be assumed that Offerors have done such inspection and that through examinations, inquiries and investigation they have become familiarized with local conditions and the nature of problems to be solved during the execution of the Feasibility Study.

Offerors shall address all items as specified in this RFP. Failure to adhere to this format may disqualify an Offeror from further consideration.

Submission of a proposal shall constitute evidence that the Offeror has made all the above mentioned examinations and investigations, and is free of any uncertainty with respect to conditions which would affect the execution and completion of the Feasibility Study.

2.5 PROJECT FUNDING SOURCE

The Feasibility Study will be funded under a grant from USTDA. The total amount of the grant is not to exceed US\$ 294,119.

2.6 RESPONSIBILITY FOR COSTS

Offeror shall be fully responsible for all costs incurred in the development and submission of the proposal. Neither USTDA nor the Grantee assumes any obligation as a result of the issuance of this RFP, the preparation or submission of a proposal by an Offeror, the evaluation of proposals, final selection or negotiation of a contract.

2.7 TAXES

Offerors should submit proposals that note that in accordance with the USTDA Mandatory Contract Clauses, USTDA grant funds shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in the Host Country.

2.8 CONFIDENTIALITY

The Grantee will preserve the confidentiality of any business proprietary or confidential information submitted by the Offeror, which is clearly designated as such by the Offeror, to the extent permitted by the laws of the Host Country.

2.9 ECONOMY OF PROPOSALS

Proposal documents should be prepared simply and economically, providing a comprehensive yet concise description of the Offeror's capabilities to satisfy the requirements of the RFP. Emphasis should be placed on completeness and clarity of content.

2.10 OFFEROR CERTIFICATIONS

The Offeror shall certify (a) that its proposal is genuine and is not made in the interest of, or on behalf of, any undisclosed person, firm, or corporation, and is not submitted in conformity with, and agreement of, any undisclosed group, association, organization, or corporation; (b) that it has not directly or indirectly induced or solicited any other Offeror to put in a false proposal; (c) that it has not solicited or induced any other person, firm, or corporation to refrain from submitting a proposal; and (d) that it has not sought by collusion to obtain for itself any advantage over any other Offeror or over the Grantee or USTDA or any employee thereof.

2.11 CONDITIONS REQUIRED FOR PARTICIPATION

Only U.S. firms are eligible to participate in this tender. However, U.S. firms may utilize subcontractors from the Host Country for up to 20 percent of the amount of the USTDA grant for

specific services from the TOR identified in the subcontract. USTDA's nationality requirements, including definitions, are detailed in Annex 3.

2.12 LANGUAGE OF PROPOSAL

All proposal documents shall be prepared and submitted in English and Chinese.

2.13 PROPOSAL SUBMISSION REQUIREMENTS

The **Cover Letter** in the proposal must be addressed to:

Mr. Zhu Guo Ying, Director General
120 Center, Chengdu Sichuan
No. 222 Fucheng Avenue, Hi-Tech Zone
Chengdu, Sichuan, P.R.C. 610041

Phone: +86 (028) 8532 2120/ +86 (028) 8532 0802

Mobile: +86 13881818666

Fax: +86 (028) 8532 2120

An Original and eight (8) copies of your proposal must be received in English and Chinese at the above address no later than 12:00 p.m. NOON (Local Time), on January 19, 2010.

Proposals may be either sent by mail, overnight courier, or hand-delivered. Whether the proposal is sent by mail, courier or hand-delivered, the Offeror shall be responsible for actual delivery of the proposal to the above address before the deadline. Any proposal received after the deadline will be returned unopened. The Grantee will promptly notify any Offeror if its proposal was received late.

Upon timely receipt, all proposals become the property of the Grantee.

2.14 PACKAGING

The original and each copy of the proposal must be sealed to ensure confidentiality of the information. The proposals should be individually wrapped and sealed, and labeled for content including "original" or "copy number x"; the original and eight (8) copies in English and Chinese should be collectively wrapped and sealed, and clearly labeled.

Neither USTDA nor the Grantee will be responsible for premature opening of proposals not properly wrapped, sealed and labeled.

2.15 AUTHORIZED SIGNATURE

The proposal must contain the signature of a duly authorized officer or agent of the Offeror empowered with the right to bind the Offeror.

2.16 EFFECTIVE PERIOD OF PROPOSAL

The proposal shall be binding upon the Offeror for 60 days after the proposal due date, and Offeror may withdraw or modify this proposal at any time prior to the due date upon written request, signed in the same manner and by the same person who signed the original proposal.

2.17 EXCEPTIONS

All Offerors agree by their response to this RFP announcement to abide by the procedures set forth herein. No exceptions shall be permitted.

2.18 OFFEROR QUALIFICATIONS

As provided in Section 3, Offerors shall submit evidence that they have relevant past experience and have previously delivered advisory, feasibility study and/or other services similar to those required in the TOR, as applicable.

2.19 RIGHT TO REJECT PROPOSALS

The Grantee reserves the right to reject any and all proposals.

2.20 PRIME CONTRACTOR RESPONSIBILITY

Offerors have the option of subcontracting parts of the services they propose. The Offeror's proposal must include a description of any anticipated subcontracting arrangements, including the name, address, and qualifications of any subcontractors. USTDA nationality provisions apply to the use of subcontractors and are set forth in detail in Annex 3. The successful Offeror shall cause appropriate provisions of its contract, including all of the applicable USTDA Mandatory Contract Clauses, to be inserted in any subcontract funded or partially funded by USTDA grant funds.

2.21 AWARD

The Grantee shall make an award resulting from this RFP to the best qualified Offeror, on the basis of the evaluation factors set forth herein. The Grantee reserves the right to reject any and all proposals received and, in all cases, the Grantee will be the judge as to whether a proposal has or has not satisfactorily met the requirements of this RFP.

2.22 COMPLETE SERVICES

The successful Offeror shall be required to (a) provide local transportation, office space and secretarial support required to perform the TOR if such support is not provided by the Grantee; (b) provide and perform all necessary labor, supervision and services; and (c) in accordance with best technical and business practice, and in accordance with the requirements, stipulations, provisions and conditions of this RFP and the resultant contract, execute and complete the TOR to the satisfaction of the Grantee and USTDA.

2.23 INVOICING AND PAYMENT

Deliverables under the contract shall be delivered on a schedule to be agreed upon in a contract with the Grantee. The Contractor may submit invoices to the designated Grantee Project Director in accordance with a schedule to be negotiated and included in the contract. After the Grantee's approval of each invoice, the Grantee will forward the invoice to USTDA. If all of the requirements of USTDA's Mandatory Contract Clauses are met, USTDA shall make its respective disbursement of the grant funds directly to the U.S. firm in the United States. All payments by USTDA under the Grant Agreement will be made in U.S. currency. Detailed provisions with respect to invoicing and disbursement of grant funds are set forth in the USTDA Mandatory Contract Clauses attached in Annex 4.

Section 3: PROPOSAL FORMAT AND CONTENT

To expedite proposal review and evaluation, and to assure that each proposal receives the same orderly review, all proposals must follow the format described in this section.

Proposal sections and pages shall be appropriately numbered and the proposal shall include a Table of Contents. Offerors are encouraged to submit concise and clear responses to the RFP. Proposals shall contain all elements of information requested without exception. Instructions regarding the required scope and content are given in this section. The Grantee reserves the right to include any part of the selected proposal in the final contract.

The proposal shall consist of a technical proposal only. A cost proposal is NOT required because the amount for the contract has been established by a USTDA grant of US\$ 294,119, which is a fixed amount.

Offerors shall submit one (1) original and eight (8) copies of the proposal in English and Chinese. Proposals received by fax cannot be accepted.

Each proposal must include the following:

- Transmittal Letter,
- Cover/Title Page,
- Table of Contents,
- Executive Summary,
- Company Information,
- Organizational Structure, Management Plan, and Key Personnel,
- Technical Approach and Work Plan, and
- Experience and Qualifications.

Detailed requirements and directions for the preparation of the proposal are presented below.

3.1 EXECUTIVE SUMMARY

An Executive Summary should be prepared describing the major elements of the proposal, including any conclusions, assumptions, and general recommendations the Offeror desires to make. Offerors are requested to make every effort to limit the length of the Executive Summary to no more than five (5) pages.

3.2 COMPANY INFORMATION

For convenience, the information required in this Section 3.2 may be submitted in the form attached in Annex 6 hereto.

3.2.1 Company Profile

Provide the information listed below relative to the Offeror's firm. If the Offeror is proposing to subcontract some of the proposed work to another firm(s), the information below must be provided for each subcontractor.

1. Name of firm and business address (street address only), including telephone and fax numbers.
2. Year established (include predecessor companies and year(s) established, if appropriate).
3. Type of ownership (e.g. public, private or closely held).
4. If private or closely held company, provide list of shareholders and the percentage of their ownership.
5. List of directors and principal officers (President, Chief Executive Officer, Vice-President(s), Secretary and Treasurer; provide full names including first, middle and last). Please place an asterisk (*) next to the names of those principal officers who will be involved in the Feasibility Study.
6. If Offeror is a subsidiary, indicate if Offeror is a wholly-owned or partially-owned subsidiary. Provide the information requested in items 1 through 5 above for the Offeror's parent(s).
7. Project Manager's name, address, telephone number, e-mail address and fax number.

3.2.2 Offeror's Authorized Negotiator

Provide name, title, address, telephone number, e-mail address and fax number of the Offeror's authorized negotiator. The person cited shall be empowered to make binding commitments for the Offeror and its subcontractors, if any.

3.2.3 Negotiation Prerequisites

1. Discuss any current or anticipated commitments which may impact the ability of the Offeror or its subcontractors to complete the Feasibility Study as proposed and reflect such impact within the project schedule.
2. Identify any specific information which is needed from the Grantee before commencing contract negotiations.

3.2.4 Offeror's Representations

If any of the following representations cannot be made, or if there are exceptions, the Offeror must provide an explanation.

1. Offeror is a corporation [*insert applicable type of entity if not a corporation*] duly organized, validly existing and in good standing under the laws of the State of _____. The Offeror has all the requisite corporate power and authority to conduct its business as presently conducted, to submit this proposal, and if selected, to execute and deliver a contract to the Grantee for the performance of the Feasibility Study. The Offeror is not debarred, suspended, or to the best of its knowledge or belief, proposed for debarment, or ineligible for the award of contracts by any federal or state governmental agency or authority. The Offeror has included, with this proposal, a certified copy of its Articles of Incorporation, and a certificate of good standing issued within one month of the date of its proposal by the State of _____.
2. Neither the Offeror nor any of its principal officers have, within the three-year period preceding this RFP, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.
3. Neither the Offeror, nor any of its principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 2 above.
4. There are no federal or state tax liens pending against the assets, property or business of the Offeror. The Offeror, has not, within the three-year period preceding this RFP, been notified of any delinquent federal or state taxes in an amount that exceeds \$3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.
5. The Offeror has not commenced a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself or its debts under any bankruptcy, insolvency or other similar law. The Offeror has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.

The selected Offeror shall notify the Grantee and USTDA if any of the representations included in its proposal are no longer true and correct at the time of its entry into a contract with the Grantee. USTDA retains the right to request an updated certificate of good standing from the selected Offeror.

3.3 ORGANIZATIONAL STRUCTURE, MANAGEMENT, AND KEY PERSONNEL

Describe the Offeror's proposed project organizational structure. Discuss how the project will be managed including the principal and key staff assignments for this Feasibility Study. Identify the Project Manager who will be the individual responsible for this project. The Project Manager shall have the responsibility and authority to act on behalf of the Offeror in all matters related to the Feasibility Study.

Provide a listing of personnel (including subcontractors) to be engaged in the project, including both U.S. and local subcontractors, with the following information for key staff: position in the project; pertinent experience, curriculum vitae; other relevant information. If subcontractors are to be used, the Offeror shall describe the organizational relationship, if any, between the Offeror and the subcontractor.

A manpower schedule and the level of effort for the project period, by activities and tasks, as detailed under the Technical Approach and Work Plan shall be submitted. A statement confirming the availability of the proposed project manager and key staff over the duration of the project must be included in the proposal.

3.4 TECHNICAL APPROACH AND WORK PLAN

Describe in detail the proposed Technical Approach and Work Plan (the "Work Plan"). Discuss the Offeror's methodology for completing the project requirements. Include a brief narrative of the Offeror's methodology for completing the tasks within each activity series. Begin with the information gathering phase and continue through delivery and approval of all required reports.

Prepare a detailed schedule of performance that describes all activities and tasks within the Work Plan, including periodic reporting or review points, incremental delivery dates, and other project milestones.

Based on the Work Plan, and previous project experience, describe any support that the Offeror will require from the Grantee. Detail the amount of staff time required by the Grantee or other participating agencies and any work space or facilities needed to complete the Feasibility Study.

3.5 EXPERIENCE AND QUALIFICATIONS

Provide a discussion of the Offeror's experience and qualifications that are relevant to the objectives and TOR for the Feasibility Study. If a subcontractor(s) is being used, similar information must be provided for the prime and each subcontractor firm proposed for the project. The Offeror shall provide information with respect to relevant experience and qualifications of key staff proposed. The Offeror shall include letters of commitment from the individuals proposed confirming their availability for contract performance.

As many as possible but not more than six (6) relevant and verifiable project references must be provided for each of the Offeror and any subcontractor, including the following information:

Project name,
Name and address of client (indicate if joint venture),
Client contact person (name/ position/ current phone and fax numbers),
Period of Contract,
Description of services provided,
Dollar amount of Contract, and
Status and comments.

Offerors are strongly encouraged to include in their experience summary primarily those projects that are similar to or larger in scope than the Feasibility Study as described in this RFP.

Section 4: AWARD CRITERIA

Individual proposals will be initially evaluated by a Procurement Selection Committee of representatives from the Grantee. The Committee will then conduct a final evaluation and completion of ranking of qualified Offerors. The Grantee will notify USTDA of the best qualified Offeror, and upon receipt of USTDA's no-objection letter, the Grantee shall promptly notify all Offerors of the award and negotiate a contract with the best qualified Offeror. If a satisfactory contract cannot be negotiated with the best qualified Offeror, negotiations will be formally terminated. Negotiations may then be undertaken with the second most qualified Offeror and so forth.

The selection of the Contractor will be based on the following criteria:

- 1) **Technical Approach and Work Plan – 30 points** – Bidders must provide a Technical Approach and Work Plan, and within this document, describe how they will approach and conduct the assignment. As part of this Technical Approach and Work Plan, the Bidding Team must commit to work the project as per the tasks, schedule, personnel and deliverables and related items as outlined in the Terms of Reference of the Grant Agreement. They must provide written and signed commitments by each team member regarding scheduling availability (e.g. linked to specific calendar dates such as “September 2006 forward” or “August 15, 2006 forward”) and clearly identify specific dates and/or situations that could impact upon their availability during the anticipated project cycle. The Contractor shall commit in writing that they will retain their availability for the complete duration of the project as per the Terms of Reference’s schedule. If a Contracting Team has resources or ideas as to how to enhance the Terms of Reference, these resources and/or ideas can be submitted for consideration as an enhancement to the requirements in the Terms of Reference, but may not substitute for any tasks, deliverables or scheduling plans identified in the Terms of Reference.
- 2) **Qualifications of Key Personnel – 50 points** – The Contractor shall fit the following profile requirements:

The Contractor selected to perform the work must demonstrate expertise in:

- Emergency Medical Services training and education

The Contractor shall demonstrate proficiency in one or more of the following:

- Professional EMS training
- Academic institution or program specializing in EMS
- Previous experience designing train-the-trainer programs
- Expert trainer(s) with a minimum 15 years’ experience (3 trainers)
- International / cross cultural experience highly desired.

The instructors (minimum of 4) should be intimately familiar with existing and emerging educational parameters likely to be adopted in the U.S. EMS training environment. The trainers should be capable of designing and implementing courses based on the U.S. EMS training model for:

- Emergency medical technicians (EMT)
- Basic life support
- First responder / advanced first aid
- First aid and CPR.

In addition to content experts and trainers responsible for the design and conduct of the technical assistance, to meet USTDA’s project management and reporting requirements, the Contractor will be expected to engage one or more consultants on its team with demonstrated experience in the preparation of studies, reports, whitepapers, evaluations, program appraisals, assessments, reviews, interim reports, final reports, project audits, or other written documentation associated

with the effective administration, management and evaluation of U.S. government technical assistant grants. Said consultants will prove an ability to:

- Evaluate the training program
- Provide an immediate assessment of the training quality
- Provide an assessment what impact the training could have on procurements.

3) Regional Experience (People's Republic of China) – 20 points – Experience working with government or State-run organizations or private entities in the People's Republic of China.

Proposals that do not include all requested information may be considered non-responsive.

Price will not be a factor in contractor selection.

ANNEX 1

Mr. Zhu Guo Ying, Director General
120 Center, Chengdu Sichuan
No. 222 Fucheng Avenue, Hi-Tech Zone
Chengdu, Sichuan, P.R.C. 610041

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Appropriation No.: 11 9/10 1001

Activity No.: 2009-31057A

Reservation No.: 2009310081

Grant No.: GH2009310021

Title: Provincial Emergency Management Medical Services Capacity Building

POC: John Kusnierek, USTDA, 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901, Tel: (703) 875-4357, Fax: (703) 875-4009. Provincial Emergency Management Medical Services Capacity Building. The Grantee invites submission of qualifications and proposal data (collectively referred to as the "Proposal") from interested U.S. firms that are qualified on the basis of experience and capability to develop a technical assistance to develop curriculum and implement a train-the-trainer program to familiarize emergency medical technicians across Sichuan province with modern methods of emergency response.

The Chengdu 120 Center is responsible for commanding, dispatching, organizing and coordinating all city daily emergency care as well as large-scale "sudden occurrences." It performs first-aid and transport of the sick and injured to intensive care facilities, leads emergency medical services during major events, and is responsible for emergency skills training and academic exchanges for pre-hospital care.

This technical assistance will develop a curriculum for and conduct two phases of six-week EMS training programs to be held at the Chengdu 120 Center.

The U.S. firm selected will be paid in U.S. dollars from a US\$ 294,119 grant to the Grantee from the U.S. Trade and Development Agency (USTDA).

A detailed Request for Proposals (RFP), which includes requirements for the Proposal, the Terms of Reference, and a background definitional mission report are available from USTDA, at 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901. To request the RFP in PDF format, please go to:

<https://www.ustda.gov/USTDA/FedBizOpps/RFP/rfpform.asp>. Requests for a mailed hardcopy version of the RFP may also be faxed to the IRC, USTDA at 703-875-4009. In the fax, please include your firm's name, contact person, address, and telephone number.

Some firms have found that RFP materials sent by U.S. mail do not reach them in time for preparation of an adequate response. Firms that want USTDA to use an overnight delivery service should include the name of the delivery service and your firm's account number in the request for the RFP. Firms that want to send a courier to USTDA to retrieve the RFP should allow one hour after faxing the request to USTDA before scheduling a pick-up. Please note that no telephone requests for the RFP will be honored. Please check your internal fax verification receipt. Because of the large number of RFP requests, USTDA cannot respond to requests for fax verification. Requests for RFPs received before 4:00 PM will be mailed the same day. Requests received after 4:00 PM will be mailed the following day. Please check with your courier and/or mail room before calling USTDA.

Only U.S. firms and individuals may bid on this USTDA financed activity. Interested firms, their subcontractors and employees of all participants must qualify under USTDA's nationality requirements as of the due date for submission of qualifications and proposals and, if selected to carry out the USTDA-financed activity, must continue to meet such requirements throughout the duration of the USTDA-financed activity. All goods and services to be provided by the selected firm shall have their nationality, source and origin in the U.S. or host country. The U.S. firm may use subcontractors from the host country for up to 20 percent of the USTDA grant amount. Details of USTDA's nationality requirements and mandatory contract clauses are also included in the RFP.

Interested U.S. firms should submit their Proposal in English and Chinese directly to the Grantee by 12:00 p.m. (Local Time), January 19, 2010 at the above address. Evaluation criteria for the Proposal are included in the RFP. Price will not be a factor in contractor selection, and therefore, cost proposals should NOT be submitted. The Grantee reserves the right to reject any and/or all Proposals. The Grantee also reserves the right to contract with the selected firm for subsequent work related to the project. The Grantee is not bound to pay for any costs associated with the preparation and submission of Proposals.

ANNEX 2

USTDA

Definitional Mission

China: Healthcare and Emergency
Response ICT Systems Projects

Requisition No 2009310006/200931007A

FINAL REPORT

July 2, 2009



Network Dynamics Associates LLC
Ken Zita, Managing Partner
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Weston, CT 06883
Telephone: (203) 227-9057
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Email: kzita@ndadventures.com
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Glossary

CHIMA	China Hospital Information Management Association
EHR	Electronic Health Record
EMR	Electronic Medical Record
HIT	Hospital Information Technology
ICT	Information and communications technologies
MoH	Ministry of Health
MoST	Ministry of Science and Technology
MCA	Ministry of Civil Affairs
NDRCC	National Disaster Reduction Center of China
RHIN	Regional Healthcare Information Network
PACS	Picture ArChiving System
US-CDC	US Center for Disease Control
ISV	Independent Software Vendor
HIMSS	Healthcare Information and Management Systems Society
DRM	Disaster Risk Management
GIS	Geographical Information System
EOC	Emergency Operations Center

Definitional Mission Report

China Emergency Response and Healthcare ICT

1.0 Executive Summary

Network Dynamics Associates (NDA) was retained by USTDA to perform a Definitional Mission in China covering information and communications technologies (ICTs) in two sectors: Healthcare and Emergency Response. The goal of the mission was to identify technical assistance projects for USTDA consideration related to China's national healthcare reform initiative and as part of the U.S. technical response to the Wenchuan earthquake in Sichuan Province last year.

At the time of contract award our assumption was that greatest opportunities for USTDA might lie in the emergency response and disaster management arena. Upon probing, we discovered that timing for USTDA activity in emergency response was simultaneously too early and too late. In our view it was too late to participate in post-earthquake technical support, as a number of programs had been initiated by other donors in the aftermath of the May 12, 2008 disaster. It was also too early because China has not yet formalized its national disaster management strategy. While estimates suggest China will spend more than \$1 billion on disaster management platforms and software in 2009-2010, at the present time authorities in both Beijing and at the provincial level are hesitant to undertake feasibility and planning studies until policy consensus has emerged.

Healthcare ICT is an extremely hot topic in China. In January the government announced a RMB 850 billion (\$124 billion) national stimulus package for the healthcare sector. The program aims to achieve universal insurance coverage, construct primary care facilities, improve public health, and extend services in rural areas. It also targets lowering the cost of medical services, beginning with reform of pharmaceutical charges and drugs distribution. Information technology is viewed as an enabler for the realization of policy objectives across all of these areas. Following numerous meetings with Chinese agencies and U.S. firms, Network Dynamics believes that USTDA can play a timely and constructive role in China's healthcare ICT sector by stimulating leading regional investments in networks and technology platforms in accordance with international healthcare standards.

We note that there are many conflicting opinions about the future direction of China's healthcare markets. We observed wide commonality of perspectives on the *objectives* of healthcare reform, following the State Council's direction. But we also encountered honest and sometimes profound differences of opinion about the right technological approach for achieving stated policy objectives. Experts are competing for the intellectual mandate that will shape evolution of the sector over time and the stakes are high. Network Dynamics met with an usual degree of "spin" from market participants and concerted efforts were made to shape our thinking. Often we were told completely

contradictory stories, both from Chinese officials and U.S. companies, as well as efforts by market players to discredit the views of competitors.

1.1 PROJECT PIPELINE

As a result of these complexities, Network Dynamics listened particularly closely to the wide range of opinions and tread carefully in our investigation and analysis. Our goal was to identify opportunities for USTDA for making maximum impact on the sector and U.S. exports while minimizing project execution risk. We recommend that USTDA support two related feasibility studies, a training grant, and two Orientation Visits, as follows:

1. **Sichuan Regional e-Health Services Strategy.** A Feasibility Study to assist the Sichuan Health Information Bureau (SHIB), the Provincial-level Ministry of Health authority responsible for planning electronic networks and services for healthcare. The study will define strategies and implementation plans for Electronic Health Records and Regional Health Information Networks (EHR/RHIN) in Sichuan (see Appendix 4-1). Sichuan estimates that it will spend over \$900 million on healthcare infrastructure and ICT networks in the next three years and American companies are positioning aggressively for the opportunity. Recommended size of the grant is **\$570,642**. We recommend that the project include the participation of the China Hospital Information Management Association (CHIMA).
2. **Zhejiang Regional e-Healthcare Services Strategy.** Similar to the opportunity in Sichuan, a Feasibility Study to assist the Zhejiang Health Information Bureau (ZHIB), the Provincial-level Ministry of Health authority responsible for planning electronic networks and services for healthcare. The study will define strategies and implementation plans for Electronic Health Records and Regional Health Information Networks (EHR/RHIN) in Sichuan (see Appendix 5-1). Zhejiang is one of China's wealthiest regions and has an advanced R&D capability in the healthcare applications sector. It is a technology leader and as such a trend-setter for future market trends. The potential market opportunity for U.S. firms approaches \$690 million over the next five year. Network Dynamics recommends a proposed FS budget is **\$473,107**.

We recommend implementing both the Sichuan and Zhejiang studies. In Sichuan, the opportunity is to define healthcare data standards that can accelerate investments in regional network investments, tied in part to earthquake reconstruction initiatives. The Zhejiang study covers similar ground but emphasizes the definition and creation of new business models for e-healthcare sustainability. Together, the projects represent an addressable market for U.S. companies of up to \$1.59 billion over the next five years. U.S. companies face keen competition from numerous international technology companies as well as Chinese domestic hardware, software and solutions providers. By supporting both projects, USTDA can participate and influence two of the most import “reference architectures” now underway in China.

3. **EMS Training for Chengdu 120 Center.** This is a training grant for the “120 Center” in Chengdu which hopes to become the leading training center for emergency services in Western China (see Appendix 6-1). In our view the training grant has the potential to influence or catalyze exports of up to \$240

million in the next three for a diversified range of emergency medical services and telecommunications equipment. Projected budget is **\$191,478**.

4. **Orientation Visit for Chengdu 120 Center.** We recommend an OV for the 120 Center to further support export interests. A brief overview of the rationale for the OV is summarized in Section 6.0, below.
5. **Orientation Visit for Emergency Communications.** Motorola is aggressively selling Provincial health bureau authorities in Sichuan and Zhejiang for in trunked radio systems related to “Government Information Networks.” Each opportunity is valued at approximately \$100 million. We have not defined the scope of the OV in this report.

1.2 METHODOLOGY

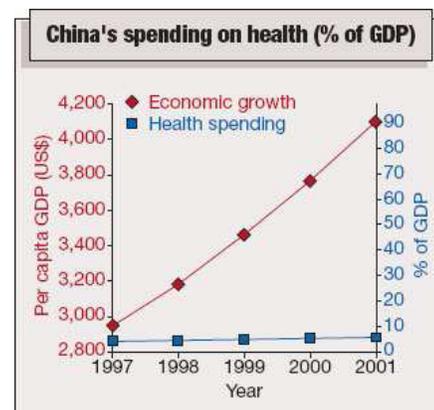
The project kicked off with a meeting at USTDA’s office on January 13th. Present at the meeting from USTDA were: Geoff Jackson, Lida Fitts, David Denny and Michael Davies. Network Dynamics was represented by Ken Zita. USTDA indicated that it had received an expression of interest for a technical assistance project from one organization, the 120 Center in Chengdu, following a USTDA visit to Sichuan in June 2008. USTDA further represented that the healthcare ICT and disaster management sectors were an “open slate” for development and USTDA engagement. Subsequent to the meeting, we were introduced to Foreign Commercial Service officers in Beijing and Chengdu.

NDA initiated secondary research on February 2, 2009. We made a detailed analysis of numerous online data sources, web sites, academic papers, news and other reporting services, concentrating on disaster management and healthcare reform in China, accessing both English and Chinese language sources. Additionally, we began preliminary telephone interviews with sources in China. Field research in Beijing and Chengdu took place February 23 through March 8, by a two-man NDA team: Ken Zita and Terry Graham. Follow-up interviews and refinement of project proposals and clarification of key data points took place via numerous conference calls with U.S. companies and Chinese officials between March 9 and April 3. Complete contact details can be found in Annex VII.

2.0 China Healthcare ICT

In January 2009 China announced a massive RMB 850 billion (\$124 billion) stimulus package over three years to fundamentally improve the nation’s healthcare sector. Some RMB 350 billion (\$52.2 billion) is slated to be allocated directly from the central government budget and is targeted principally at rural investments. The balance of RMB 500 billion (\$74.6 billion) is expected to be provided by provincial and municipal sources. China’s overall spending on healthcare amounted to about \$185 billion in 2007, or 5.67% of China’s GDP of \$3.251 trillion.

Healthcare costs have soared in recent years. From 1990 to 2006 outpatient costs were on average 12



Source: Dong Z. Hoven C. Rosenfield A. “Lessons from the Past”. *Nature*. 10 February 2005

times higher than 1990, and in-patient treatment costs were about 10 times higher. During the same period urban and rural incomes increased by only 5-7 times.¹ Spending on healthcare has clearly not kept pace with China's miraculous economic growth (see figure). Curiously, analysts suggest that, in response to the SARS crisis, China may have *over-invested* in complex public health systems at the expense of basic healthcare reform. The new stimulus appears ready to address the essential shortcomings of the system, while simultaneously achieving important political goals as well.

Beijing hopes to achieve results across five policy fronts:

- **Increase the number and quality of healthcare facilities.** Today China has some 19,000 hospitals at the county level and 45,000 at the township level. Overall, there are 315,000 health organizations across the country. Rural area facilities dramatically lag behind the cities in terms of quality, scope of services, and doctor/patient ratios. The government is keenly aware of the need to redress "imbalances" of healthcare service between wealthy and rural areas. In 2000 China ranked 188 out of 191 countries in the World Health Organization's ranking for fairness of healthcare finance. The stimulus will lead to the construction of 2000 hospitals at the county level and 5000 clinics at the township level. Rural investments will be made directly by the central government and not as a cost-share with the provinces, underscoring the importance Beijing places on improving living standards (and ensuring stability) in poor areas.

Additionally, MoH hopes to build 2400 to urban community or neighborhood **primary care clinics** to alleviate service demand on big hospitals. According to the MoH, the number of patients registering at city hospitals doubled from 2005 to 2007. Beijing's three largest hospitals each support more than 8000 new patient visits *per day*. Efforts will be made to link medical centers of excellence in the cities with outlying areas.

- **Establish universal healthcare insurance.** The government is keen to provide a safety net for the uninsured, especially important now that as many as 20 million migrant laborers have lost jobs since December 2008 and have returned to the countryside. Nearly 50% of healthcare costs in China are borne by individuals, which typically are paid out-of-pocket. MoH Health Minister Chen Zhu stated in March 2009 that about 77% of the population is currently covered by personal healthcare insurance (1 billion out of 1.3 billion total population, including 814 million rural residents), either through government, individual, or rural co-op medical schemes. The target is to reach 90% of the population in the next three years. U.S. industry observers doubt the government's current insurance penetration level. One company's research suggests that less than 30% of China's population has medical insurance today. The firm estimates that over 40% of the urban population and 57% of people in rural areas have no coverage at

¹ Gu, Edward "Towards Universal Coverage: China's New Healthcare Insurance Reforms" (forthcoming), cited in *Averting Crisis*

all.² In the poorest areas, covering hundreds of millions of citizens, people can not afford to pay for even basic healthcare service. Chinese commercial insurance companies have expressed an interest to become involved in the sector through public-private partnerships but the government has been reluctant to cede control and plans to administer insurance financial instruments through the state. The MoH states a preference for European and Canadian healthcare models, perhaps due to past imperfect efforts to introduce market-oriented reforms, especially in hospital care.

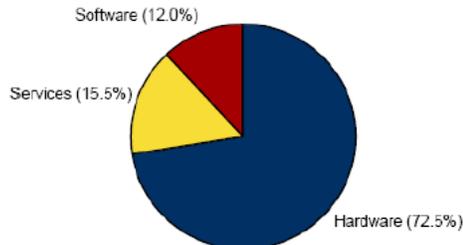
- **Reform pharmaceutical and drugs distribution.** In the market reforms of the 1990s, state-owned enterprises and collectives in the healthcare sector were downsized or dismantled and hospitals became independent profit centers (despite remaining state owned). They discovered significant margins of up to 15%, set by the state, could be made from marking up the distribution of drugs. This policy led to endemic over-prescribing of medications and routine over-charges to patients. More than 40% of hospital revenues are derived from sales of pharmaceuticals. A proposed national drug administration and management policy, “*State-owned Hospital Procurement for Drugs*,” first vetted in 2008, is expected to require hospitals to divest drug store operations. The government will centrally regulate drug prices. To enact this transformation, the MoH is seeking to reinvent the drug distribution supply chain, including introducing end-to-end management with enterprise resources planning (ERP) and related software solutions.
- **Improve public healthcare,** especially related to pandemic and infectious disease control. With the outbreak of SARS China profoundly stepped up its efforts related to infectious disease surveillance, mitigation and control. It has implemented a four-tier disease surveillance and response system utilizing a variety of devices, sensors, incident management decision support systems and operational procedures, some of which were developed with the assistance from the US Center for Disease Control (CDC). Meetings with US-CDC in Beijing indicate that the system is highly resilient and proved effective with the subsequent Avian Flu outbreak. It remains central to efforts to monitor influenza and is a cornerstone of bio-terrorism surveillance capability. With the advent of TB/HIV, China has also begun to address blood safety, particularly following well-publicized incidents of contamination in recent years. The government hopes to further strengthen the public health system for unknown and emerging infectious diseases as well as implement regional public health crisis management centers. MoH plans to develop 330 emergency centers around the country. Each of the centers will received central government funding of approximately \$500,000 per facility, or as much as \$165 million. Local authorities could augment budgets further.
- **Hospital reform** is aimed at better training for professionals and increased investment in healthcare IT. MoH statistics indicate that only 2.9% of healthcare

² The corporate statistics are supported by *Averting Crisis*, a white paper prepared for the Carnegie Endowment for International Peace, “*Averting Crisis: A Path Forward for China’s Healthcare System*,” by Meredith Wen http://www.carnegieendowment.org/files/China_Healthcare_System_Full_Text.pdf The paper notes that, prior to market reforms, about 75% of the urban labor force was covered between the Public Health Insurance Scheme and the Labor Health Insurance Schemes, but that by 2006 only 47% of urban residents were covered.

personnel working in township (rural) healthcare centers hold a BA degree; 24.9% have received a junior college education; 56.5% have secondary technical school backgrounds; and 15.8% have received a high school level of education or below. For hospitals, the figures are: 38.8%, 33.2%, 20.7% and 3.6% respectively. Additionally, a key aspect of hospital reform is the move to establish “digital hospitals” through investments in Healthcare IT (HIT) and adoption of electronic medical record standards. Regional Healthcare Information Networks (RHIN) are intended to establish networks to share data and clinical services among geographically dispersed communities.

Aspects of the reform agenda depend on new structural capabilities that can only be made possible through comprehensive application of ICTs. Improved transparency, lower costs, higher efficiency, remote healthcare, universal insurance, and interoperability among systems and shared resources all depend on new information technology platforms. Interestingly, the stimulus package dedicates only a single paragraph to the enabling information infrastructure required to achieve the strategic policy goals. No mention is made of funds that will be allocated specifically for ICT. Network Dynamics estimates that the percentage of new HIT spending associated with the stimulus will be between 1.2% and 1.8% of total. This equates to approximately \$1.45 billion to \$2.6 billion for 2009-2011, or annual incremental spending of \$500 million to \$1 billion. These estimates are based on discussions with multiple expert sources.

Healthcare market Segment by Solution, 2007

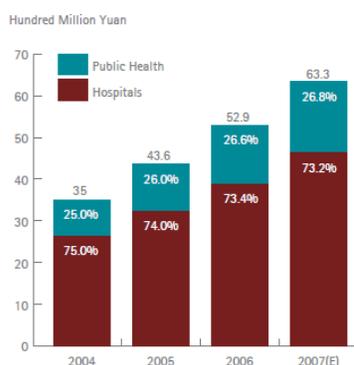


Source: IDC China Healthcare Industry IT Solution Forecast

According to the Chinese Hospital Information Management Association (CHIMA), HIT spending hit RMB 6.5 billion (\$970 million) in 2007, up 62.7% from the previous year. Growth has averaged about 20% per year since 2004 and compound annual growth rate for 2007-2012 is estimated at 21.2%. Sales could reach \$1.2 billion this year, before the addition of new investment from the stimulus package. Total spending could top \$2 billion per

annum in the years ahead.

The bulk of spending has been within hospitals themselves, about 73% (see CHIMA figure³). Hospital capital spending is however highly decentralized, with each facility making its own purchasing decisions. A lack of standardization has led to a plethora of unique or customized technical systems, with limited interoperability. The inability to transfer data effectively raises restricts patient and clinical care options and raises overall healthcare costs. Most systems in place today are associated chiefly with administrative



management. Only the largest, wealthiest and most sophisticated hospitals have expanded their information systems to include clinical diagnosis, decision support, and electronic patient records. Fewer still are pursuing

paper on China's Hospital Information Systems," May 2008

information sharing through regional health information networks, a centerpiece of the government's reform effort. It bears noting that there is wide disparity in spending levels by geography, with most extensive commitment having been made in the wealthy Eastern provinces. On average, Chinese hospitals invest 2%-5% of operating revenues into IT compared to 12%-15% in the US. Rural spending on healthcare IT is minimal.

Competition in the HIT market is heavily fragmented. Most spending is made at a local level and at the discretion of hospital information management departments. Consequently there are many niche players. CHIMA estimates that fewer than 20 out of the 300 Chinese independent software vendors (ISVs) involved in health informatics have more than 100 staff. Even the largest ISVs – Bsoft, Kingstar Winning, Neusoft – have failed to earn more than 8% market share. IBM, a powerhouse in China's IT, claims a 45% position. With so many buyers of hospital systems, and so many sellers, there are few industry norms. The notable exceptions are hospitals associated with the People's Liberation Army, which have a unified technological approach for many IT platforms and services.

2.1 HEALTHCARE IT STANDARDS

The lack of standardization complicates take-up and adoption of unified e-healthcare solutions. China has been struggling to define standards for two important technical frameworks: Electronic Medical Records (EMR), the data standard for formatting "cradle-to-grave" patient medical history information; and, Electronic Health Records (EHR), the standard to govern the transmission and interoperability of medical data between healthcare facilities and insurers, doctors, pharmacies and the wider healthcare establishment. EHR is coupled closely with the need to develop regional health information networks (RHIN). Both the EMR and EHR standards are crucial to widespread adoption of healthcare information technology in China but achieving commonality of understanding of what the standards should be has proven elusive. The government reform program states that uniform health records for all of China will be launched from 2009 onwards – but most observers believe the transformation will take at least 5-10 years to implement. Today as many as 30 EHR/RHIN pilots are said to be currently underway.

The MoH created the Electronic Records Standards Technical Steering Committee in 2006 to develop draft national standards for EMR and EHR/RHIN. Common standards are clearly in the U.S. interest. A unified technical approach would favor strong solutions integration companies by normalizing development and deployment of systems. IBM, Microsoft, Intel and GE Healthcare all participate in the Steering Committee as members. US companies would like the Chinese to adopt standards that comply with globally accepted international approaches (e.g., HL7)⁴.

Serious technical debate – and serious bureaucratic competition – prevails within the industry. Within the MoH, there is tension between those advocating fundamental adoption of international standards, which can be modified for the Chinese market, and those who prefer to develop and mandate a Chinese standard from scratch. For EHR/RHIN, MoH seeks to define a data format that can be adopted as a national

⁴ For reference, see: <http://www.hitsp.org/>

standard. By contrast, provincial leaders are moving ahead with regional trials, often in line with international approaches. They hope their trials become accepted as “golden pilots”: demonstration technologies that become de facto standards. Each project is competing against other regions (and in some cases against Beijing) for first-mover advantage. In April 2009 MoH published a 170-page “EHR Guidebook”⁵ in effort to steer debate but observers note that it falls short of codifying a national EHR standard.

EHR/RHIN is vital, in part, because of pressures on social services created by increased personal mobility within China. The pace of internal migration is accelerating compared to strict restrictions on travel from just a few years ago. As many as 300 million rural residents will move to the cities by 2020, according to the World Health Organization. Today it is virtually impossible for a person from one province to gain access to pension, social security, medical reimbursements and so on in another. Technical medical standards would ensure that healthcare data is portable. From a technical perspective, the challenge is defining the data vocabulary and structure that can capture the myriad of methods already in use by hospitals and health administrators. The greater obstacle perhaps is creating the organizational mandate to encourage take up and adoption of a national standard while regional and local solutions continue to proliferate. This applies equally to efforts to create a new standard for EMR.

Essential to the EHR/RHIN vision is the potential for enabling the next generation of “tele-medicine” services. Powerful telecom networks, shared applications and data centers would allow patients in poor areas to obtain clinical services “virtually” from rich ones, using advanced ICT. Tele-radiology (PACS), video diagnosis, drugs databases, public health disease surveillance are just a few applications that can be provided electronically to remote regions. By leveraging shared infrastructure, poor areas will be able to participate in modern medical network services without having to replicate the investments locally.

2.1.1 *EMR Standard Proposal from MoH*

Network Dynamics has reviewed proposals for two feasibility studies related to standards development. The first, for EMR, was developed by the Ministry of Health, Center for Health Statistics and Information and titled: “*Terms of Reference for China Hospital EMR Developing Strategy and Interoperability Standard Framework* (March 3, 2009).” The MoH proposal provides an outline of a comprehensive study to research and define the functional model, information architecture and system architecture of hospital EMR, and the conditions for inter-operability. MoH estimates the work to require three years to complete with a project budget of \$1 million. It recommends four work streams:⁶

- “**First**, propose an EMR user requirement analysis report based on strong statistical data from Chinese hospitals. The report will answer the following questions: the objective for EMR in Chinese hospitals; the content and development phases for EMR; the function and data requirement; the current IT context around EMR; analysis of users of EMR; and the functional and information requirements.

⁵ *Scheme for the Construction of a Regional Health Information Platform for Medical Records (For Discussion)*

⁶ MoH language edited for readability.

- **Second**, the project will research and propose a reference standard for hospital EMR implementation, including EMR basic functions, content and structure. It is not a physical model for a specific case, but should provide concrete guidelines for EMR implementation and inter-operability. For example, the content and structure standard for medical summary to guarantee the bottom line of inter-operability.
- **Third**, the project will research and propose hospital EMR functional and developmental specification, provide a plan and design for use by independent software vendors (ISVs), and cooperate with users and ISVs to define the guidelines.
- **Fourth**, the project will propose the EMR policy suggestion with the MoH based on successful worldwide case examples. The policy will take more local factors into consideration to push health ecosystem reform, push hospital to apply EMR, improve health service efficiency, decrease healthcare errors and lower healthcare cost. The policy will promote inter-operability and avoid the storing of application data in silos.”

As part of our consideration of this study, Network Dynamics attempted to identify the market potential for ICT products and services that could result from adoption of an EMR standard, as well as ascertain interest in the study from U.S. technology companies. According to CHIMA, incremental spending associated with EMR would amount to approximately RMB 5 million (\$750,000) per hospital at the largest “Grade 3” hospitals, of which there are approximately 1000 in China. CHIMA estimates that about 10% of hospitals, or 100, are sufficiently advanced that they might adopt an EMR standard were it to be introduced in the next 3 years. The addressable market for EMR-related investments is thus perhaps \$75 million in the near term. If American firms achieve market share of 20%-50%, the export potential could be \$15 million-\$37.5 million. Additional investments might also be associated with the replacement of existing hospital IT systems of up to RMB 50-100 million per hospital (\$7.5 million-\$15 million). However, hospitals would be unlikely to completely turn over installed technology to adopt a new EMR standard.

U.S. companies have made clear that the absence of healthcare IT standards is a “strong inhibitor” to successful participation in the market. Nevertheless, Network Dynamics recommends that USTDA should not undertake the MoH EMR study at this time for the following reasons:

1. EMR is an extremely complex issue with a long history of inconclusive debate in China. A USTDA study may not be able to untangle the technology and policy stalemate, exposing USTDA to execution risk;
2. There is no uniformity of commitment for the study within the top ranks of technical planners at MoH and competition among internal projects could become a liability;

3. China is a “provider market” of healthcare services and each hospital can choose its own IT technology strategy, making administration and acceptance of a national standard complicated;
4. With high market fragmentation, hospital IT systems are won on a case-by-case basis, a competitive dynamic that favors local software firms with preexisting relationships with hospital buyers;
5. The budget (\$1 million) and duration (3 years) of the study is beyond USTDA’s typical scope. It is not evident that the scale could be significantly reduced without compromising the technical resources required to define a technical standard as proposed;
6. U.S. corporations have fundamental differences of opinion regarding the utility of a national EMR study. Some have commercial interests tied directly to resolution of EMR while others are pursuing alternative approaches. The lack of consensus among the U.S. export community is difficult to reconcile;
7. Regional projects may offer better opportunities to accomplish concrete results than an effort that aims to reform the entire national system;
8. The time scale for measurable results for U.S. exports is not encouraging. MoH suggests a 3-year timeline for completion of the study. In fact resolution of the issue could take longer, as evidenced by the ongoing dialog about EMR since at least 2002.

Finally, despite intensive research and widespread discussions – as well as wide acknowledgment by industry players that Network Dynamics has quickly and correctly identified the key strategic issues impacting the sector – we simply do not know enough about the political and technical nuances of EMR in China to comfortably recommend a study at this time. Because the study request comes from official state organizations, we recommend that USTDA continue dialog with MoH through the health sector specialists in the Foreign Commercial Service at the embassy to determine if a study on EMR might be appropriate in the future.

2.1.2 EHR Standard Proposal from CHIMA

Network Dynamics also received a proposal for a feasibility study to develop an EHR/RHIN standard from CHIMA. CHIMA is the leading industry association, think-tank, and independent policy voice tracking technology trends in China’s healthcare industry, and a sub-group of the powerful China Hospital Association. It is aligned closely with the Healthcare Information and Management Systems Society (HIMSS) (<http://www.himss.org/ASP/index.asp>). CHIMA’s proposal was submitted following a full day working session with Network Dynamics on February 27, 2009. The Foreign Commercial Service participated in the meeting as did healthcare IT specialists from leading hospitals in Beijing. A follow-on half-day session was held on March 18, 2009.

CHIMA makes a compelling case about the importance of EHR/RHIN standards in China. Among the arguments in favor include:

- The State Council has indicated that an EHR standard must be adopted beginning in 2010. Now is a critical juncture in the planning process;

- An EHR standard will ensure interoperability between healthcare systems, allowing portability of patient and clinical data among healthcare service providers;
- A standard will lower infrastructure capital costs and avoid duplication of administrative resources. CHIMA estimates that the cost of a scalable regional RHIN data center is about the same as each of the many local data centers that would need to be constructed without the EHR standard;
- EHR will help standardize clinical treatments and procedures, thereby improving the overall quality of healthcare
- The market will be significant.

From the U.S. export perspective, the most enticing argument is the size of the potential market that will be created with the adoption of EHR/RHIN. CHIMA's research indicates that at least 100 municipalities on the Eastern seaboard are planning EHR/RHIN initiatives. Average infrastructure spending per city is estimated at RMB 400 million to RMB 500 million (\$60 million to \$75 million). These figures yield a potential addressable market of \$6 billion to \$7.5 billion over the next 10 years. When the interior provinces are included, nationwide spending could top \$15 billion. CHIMA optimistically projects that U.S. firms can capture 50% of the market (an estimate Network Dynamics considers aggressive). Regardless of perspective, U.S. companies concur a national standard would support their interests and commercial opportunities.

Despite these strong positions in favor, Network Dynamics has made a difficult "judgment call" not to recommend a feasibility study for a national EHR/RHIN. We expended a considerable amount of thought coming to this conclusion. While we are in complete agreement with CHIMA's strategic perspective and have high confidence in its professional capabilities, we nonetheless conclude that significant externalities complicate chances for project impact. We came to this conclusion based on four principal observations:

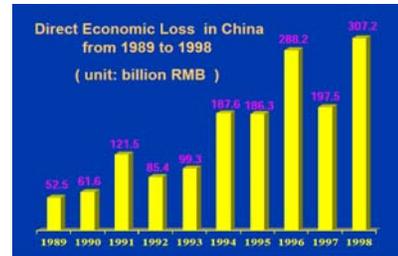
1. **Key constituencies at MoH do not support the effort.** CHIMA's voice in the healthcare industry is strong. However, to be successful, a sustainable national EHR standard would need to be endorsed by the government (CHIMA itself agrees on this point). Unfortunately, the head of the responsible department at the MoH (Rao Ke Qing) does not support an initiative to develop an EHR/RHIN according to international standards. In fact, he holds a nearly opposite view, alluded to in the sections above. USTDA risks stepping into competition among senior technocrats with opposing points of view, exacerbating existing strategic rifts. While it is clearly in the U.S. interest to encourage China to adopt international norms, Network Dynamics' perspective is that it is not possible to achieve the required government buy-in through a CHIMA-supported project. Active political support from the Minister or Vice Minister level is required to overcome internal rivalries and ensure USTDA is not drawn unproductively into internal battles. It is possible that executive support for a national standards initiative by USTDA could be obtained, but the effort is not within the resource scope of this Definitional Mission.

2. **It may be easier, and more effective, to support EHR/RHIN at the regional level.** Regional health authorities are moving ahead with EHR/RHIN trials, today, without waiting for Beijing to resolve the national standards conundrum. All the major cities in the Eastern provinces are formulating plans to implement systems beginning in 2010 and have the resources to fund the projects without financial assistance from the central government. Network Dynamics believes that USTDA can make a meaningful impact by supporting two of the leading EHR/RHIN plans, in Sichuan and Zhejiang. Both projects are a) strongly inclined toward adopting international healthcare IT standards; b) in active discussions with U.S. firms to supply technology platforms for the projects; and c) the net impact of successful trials could be equal to or greater than definition of a data standard that is not connected explicitly with infrastructure spending.
3. **The technical dimension of EHR/RHIN standard definition in China is highly technical and not well suited to a feasibility study.** Defining a national standard in China for EHR/RHIN demands a dedicated technical team to resolve many complex and competing concepts regarding data vocabulary, application definition, functional workflow, communications protocols, and so on. USTDA could consider a Technical Assistance project rather than a Feasibility Study. It would however require expert understanding of the technical underpinnings, and policy dimension of the technical debate, if it wishes to commission the resources wisely. Given that the technical debate on this subject has been underway for years, with no obvious sign of conclusion, Network Dynamics has come to the view that it is simply too complicated a problem for USTDA consideration.
4. **The scope and timescale would not lead to immediate U.S. commercial opportunities.** While the market potential is enticing, the definition and promulgation of an EHR/RHIN standard is by nature a long-term affair. It is unlikely that a national standard could be completed, vetted and implemented in the next three years. From a USTDA perspective, the gap between funding to measurable results does not meet the Agency's evaluation criteria.

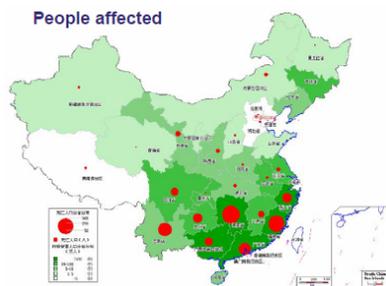
Despite the difficulties associated with the national initiative, we believe strongly in supporting CHIMA's agenda. To harness its depth, energy and expertise, we propose that CHIMA be made an integral part of the study team for the recommended project in Sichuan. In this respect, if it agrees to participate, CHIMA can provide a pro-international standards voice to the dialog and influence the outcome of an important near-term investment initiative.

3.0 Disaster Risk Management and Emergency Response

China has long been plagued by natural hazards. In 2005 the death toll from floods, typhoons, and earthquakes, droughts, blizzards, and landslides reached 2,475 with direct economic losses of RMB 204 billion (\$25.3 billion).⁷ Over 70 per cent of Chinese cities and more than 50 per cent of the 1.3 billion Chinese population are distributed in regions with severe natural disasters like weather-related disasters, earthquakes, geological disasters, and marine disasters. The Yangtze River flood of 1998, the drought in Chongqing Municipality and Sichuan Province in 2006, the Huai River flood of 2007, the 2008 snowstorms in southern China and, of course, the massive quake in Sichuan have all inflicted major losses of life and property. Economic losses from accidents and disasters amounted to 650 billion yuan (80.15 billion US dollars) a year, accounting for six per cent of the country's GDP, according to a senior official from the Ministry of Public Security.⁸



Recent H5N1 Bird Flu outbreaks (as well as persistent concerns related to the China origins of influenza and Avian flu) in the Eastern Provinces create social jitters and have increased pressure on the government to do better. Both national and regional authorities have been roundly criticized for poor execution. The government is acutely aware that it needs to improve disaster preparedness, response and recovery performance to save lives and property – and, ultimately, to mitigate public wrath. Substantial investment in ICT for emergency response may be required to achieve policy objectives.



The government has responded with the creation of a 'national disaster emergency management system.' A State Council directive established a general emergency response plan said to be now implemented in all 31 provinces, along with 25 sub-plans for specific emergencies and 80 ministerial sub-plans. Clearly, however, there are gaps in the government's efforts. The Wenchuan earthquake (May 12, 2008) led to deaths toll of over 69,000 with 5.5 million – and as many as 11 million – left homeless and the government has struggled to cope with larger problems. The financial impact exceeded RMB 85 billion (\$12.6 billion).

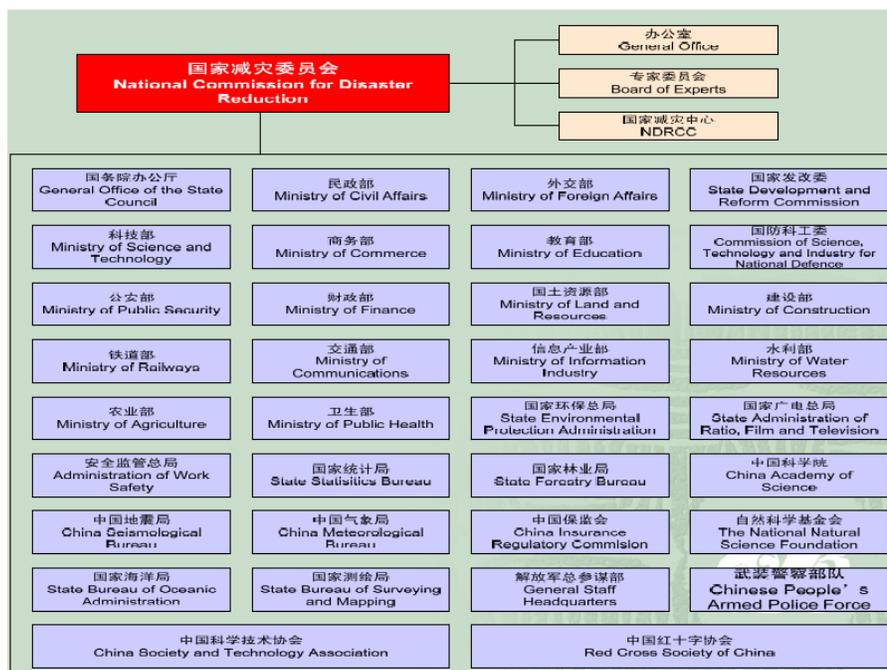
Beijing initiated an intense review of its approach to Disaster Risk Management (DRM) immediately following the Sichuan earthquake. Though China's overall DRM capabilities are formidable, the system showed significant weaknesses in the recent crises, owing largely to a lack of coordination between the myriad agencies responsible

⁷ Source: Data estimate from WorldWatch Institute. Chart from NDRCC.

⁸ "Accidents Haunt Weekend," China Daily, 28 November 2005.

for different emergencies. A State Disaster Relief Commission (SDRC), established in 2005, is responsible for coordinating all disaster management affairs in China. It operates a 24/7 command center with links to

multiple agencies and government jurisdictions. An important part of its work is to oversee information collection, analysis and response efforts of the 30 different ministries and departments that have direct roles in DRM (see figure). Different state units, comprised of different stations and networks, are assigned responsibility for monitoring, forecasting, and handling different types of disasters: meteorological, oceanic, hydrological, geological / earthquakes, plant diseases, crop insect pests, forest fires, forest diseases, forest insect pests, traffic accidents, industrial accidents, public health incidents, and social safety incidents. And so on. The array of organizations, each with



vertical organizations with representatives in each province nationally, is dizzying.

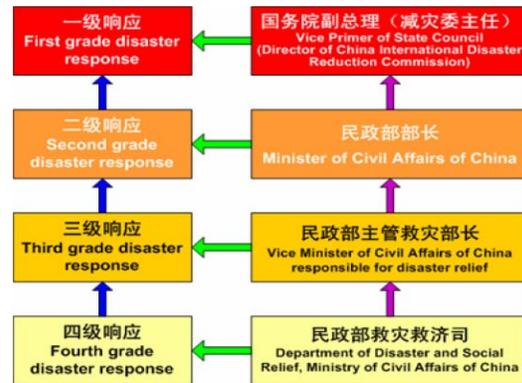
The great challenge to SDRC is that state ministries, accustomed to dealing with their own immediate responsibilities and protective of political turfs, tend to be rigid and protective of their “silos of expertise.” To develop effective, cross-jurisdictional communication for DRM, vested bureaucracies need to become more flexible and embrace coordination. An immensely complicated task to begin with is made more difficult by an inability to exchange information and data among the various departments through efficient ICTs.

The National Disaster Reduction Center of China (NDRCC) is an advisory body housed within the Ministry of Civil Affairs. NDRCC is directly involved in emergency relief work and academic studies including, for example, creating a predictive database to anticipate the occurrence of future natural disasters. Last year NDRCC launched two remote sensing satellites for monitoring natural disasters. It was also given a modular datacenter from Sun to collect and analyze the data streams coming from the sensors on

the satellite. NDRCC prepares contingency plans for a variety of disasters, including a 4-stage model that is used to categorize disasters according to severity, and which also launches the appropriate administrative response (see figure). It holds monthly meetings with key DRM response agencies.

President Hu Jintao has pledged to commit wider application of science and technology in disaster reduction. He has stated that China needs to set up a national platform of ICTs for information sharing on disaster prevention and risk management, at the intra-ministry and intra-region levels. Greater emphasis is also being placed on deployment of remote sensing aircraft, life detectors, and emergency broadband wireless communication systems in relief work.

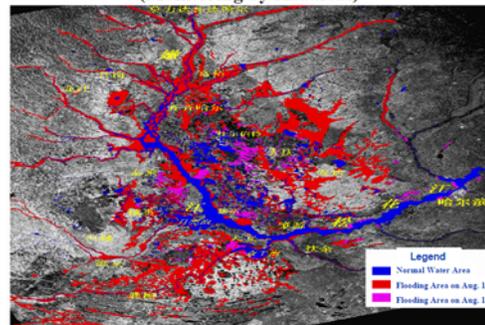
State Emergency Response Plan for Natural Disasters



In June 2008 Hu gave a speech outlining the six areas for DRM reform, captioned as follows:

1. "...provide a theoretical basis for scientific predictions and preventions of natural disasters.
2. ... establish a network-centric setup integrating disaster monitoring, research, and early warning and forecast.
3. study the relations between various natural disasters... and the environment and social development;
4. ...speed up application of remote sensing, geographic information systems, global positioning systems, and network communications technologies and the transformation and comprehensive integration of high-tech disaster prevention and reduction results, establish a national platform for sharing disaster reduction and risk management information, and improve national and local command systems for disaster monitoring, early warning, assessment, and emergency assistance.
5. ... optimize and consolidate science and technology resources...and raise the disaster prevention awareness;
6. ...extensively forge international exchanges and cooperation.”⁹

Flooding Status in Len Jiang & Song Huajiang Area (Monitoring by Radarsat)



⁹ Xinhua, 23 Jun 2008, reported by BBC

A detailed manifesto on China's goals, prepared by the China National Committee for International Disaster Reduction (CNCIDR), a part of the Ministry of Civil Affairs, can be found at: <http://www.preventionweb.net/english/hyogo/national/list/v.php?id=36>.

It is within this policy framework that change will be ushered. It should be noted that the government issued a comprehensive 11th Five-Year National Disaster Reduction Plan in August 2007, prior to the devastating Wenchuan earthquake, which outlined the existing “weak links” in DRM capabilities. Those same weak links persist but will now be addressed with a renewed sense of urgency and purpose.

While some critical elements are missing, China excels at many aspects of disaster relief and reconstruction. As a centrally planned economy (and, arguably, a police state), China can quickly mobilize and leverage the extensive resources of the nation-wide Public Security apparatus and the People's Liberation Army (PLA). In times of floods, nightly video footage of PLA soldiers shoring up dikes or strengthening levies with sandbags serves as effective propaganda. The video is not just show-and-tell: the Chinese government has adopted information and communications technologies that allow nearly instantaneous “situational awareness” of emergency situations. In Chengdu, for example, there is a network of 5000 CCTV cameras capturing images from all over the city, linked to geospatial information systems (GIS) maps and decision support software for data analysis. When something happens, the authorities know about it. For emergency response, this degree of social surveillance is useful. It is equally applied to observing unofficial gatherings and quelling societal disturbances in the guise of promoting greater societal harmony.



3.1 RECOMMENDATIONS

While DRM is a high priority area for the government, we do not envision an opportunity for USTDA as part of the current DM cycle. USTDA is both too early and too late at this juncture in time (early 2Q09). It is too early because Beijing is only beginning to formulate a national strategy for DRM, a broad vision to get the various government agencies tasked with DRM to communicate and coordinate more effectively with one another. This process is just starting. Because the policy has not yet been set, government officials were reluctant to discuss or provide guidance on upcoming DRM program initiatives. That said, the Chinese DRM agencies we met showed a willingness to consider collaboration with USTDA when the timing was right.

Conversely, USTDA is too late with its technical assistance initiative as the World Bank, Asia Development Bank (ADB), and European Union (EU) moved quickly to provide funding for a DRM programs immediately following Wenchuan. These offers included direct aid as well as technical assistance to promote more inclusive and effective disaster risk management systems.

With the renewed effort to combat disasters, spending seems to be rising though no official figures on state DRM spending are available. In 2004 China is believed to have

invested approximately RMB 4 billion (\$500 million) on DRM, an increase from 1995's estimated budget of \$230 million (RMB 1.9 billion). IBM estimates that DRM spending will expand as much as 40% in 2009 and exceed \$1 billion investment for platforms and systems, however this estimate includes spending by security agencies.

Additionally, there is growing perception within the Chinese government that the civilian agencies involved in DRM must increase and enhance their capabilities, and that civil society must be more proactively engaged. Here a lack of planning, coordination, and preparedness is exacerbated by the diffuse, fragmented nature of the emergency response system, and the vertical stacks of responsibilities within each ministry.

Going forward, USTDA should consider two areas of engagement that are likely to meet Agency funding criteria: Provincial- and Municipal-level Emergency Management Centers.

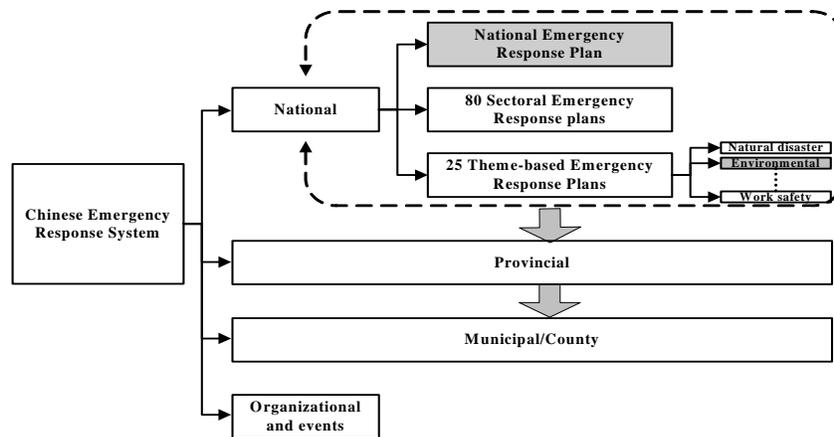
When a disaster strikes in China, the provincial government is often the administrative organ with the most tangible resources at hand, in close proximity to an unfolding crisis.¹⁰ Each province is required to formulate plans and deploy infrastructure for DRM in compliance with the requirements of the national emergency response system. "The provincial headquarters' responsibility is primarily to unify leadership and command of the relief effort within the province, mobilize and integrate resources and make rapid decisions related to relief work. [It] is responsible to request central government or extra-provincial support and to mobilize and command military units, including the army, armed police and local reserve units. The headquarters convenes technical experts and uses impact assessment results to make decisions and allocate resources. Lastly, the headquarters is the consolidation point for data collection and the only body authorized to report information to higher authorities or the public via the media."¹¹

The figure¹² on the following page depicts the relationship of the Provincial and Municipal level emergency response function in the context of the national plan:

¹⁰ *Flood Across the Border: China's Disaster Relief Operations and Potential Response to a North Korean Refugee Crisis*, Drew Thompson and Carla Freeman, Ph.D., U.S.-Korea Institute (USKI) of the Johns Hopkins University's School of Advanced International Studies (SAIS) (April 1, 2009)

¹¹ *Ibid.*

¹² Dr. Zhang Lei and Dr. Zhong Lijin, Environmental Policy Group, Wageningen University, The Netherlands, programs.ssrc.org/eastasia/Zhang%20Lei.ppt



Best near-term (4Q2009) opportunities for USTDA include:

1. Sichuan Emergency Management Centers (EMC).

In Sichuan – where the need for a natural hazards warning and response capability is arguably greatest, in part as a political response to the earthquake – a proposal is under consideration to create a new emergency operations facility. It would combine a new command center, data center, and emergency response communications system and establish a full time staff of up to 40 professionals. Professor Wang Ansheng, Director of the Center for Disaster Reduction at the Chinese Academy of Sciences (CAS), stated that the Sichuan Bureau of Civil Affairs will be responsible for constructing the system. It will cover surveillance, detection, early warning, assessment, and emergency aid command for natural disasters. This planned center will incorporate modern scientific tools like sensors, real time telecoms, GIS, disaster forecasting, and hazard maps. The political motivation in Sichuan is high to cut across the barriers and obstacles that have prevented the establishment of such command and control centers in the past.

The budget for the project is said to be RMB 1.1 billion (\$164 million). Sources indicate that the funds have already been allocated from the central government to the Ministry of Civil Affairs, and that there is a “90 percent” probability that the investment will be released to Sichuan before the end of 2009. *We recommend that USTDA strongly consider a follow-on DM at the beginning of FY2010 in order to capture this opportunity.*¹³ Export opportunities lie with:

- Trunk radio systems (Motorola)
- Network platforms (Cisco)
- Incident management and Decision Support Systems (IBM, Microsoft)
- Servers (Cisco, IBM, HP, Sun)
- Data storage (IBM, others)
- Solutions and systems integration services.

¹³ Prof. Wang attempted to set up a meeting on our behalf with the officials in charge of this provincial China Center for Disaster Reduction but they were reluctant to meet as they are only talking of commencing this plan, and do not yet have concrete proposal to offer.

Also in Sichuan, the provincial government is contemplating related (and possibly parallel) investments in two additional emergency operations platforms. Yuan Chengxin, Director at the **Sichuan Information Industry Bureau**, expressed excitement about a provincial EOC project for health and rescue operations to incidents, accidents, and sudden events. Additionally, the **Sichuan Health Bureau Information Office** is in the early planning stages for establishing an expanded operations center and telecom capacity, according to Yang Yong, Deputy Chief of the Bureau, and colleagues.

2. **City-Level Emergency Operations Centers.** Big city governments are actively developing plans to establish municipal incident management and emergency operations centers to coordinate the disparate crisis response functions at the local level. IBM reports that it is in current discussions with several large city IT departments / mayor's offices planning to commission integrated capabilities in the second half of 2009, too soon for USTDA involvement. Importantly, there is growing recognition within China that local emergency response is timely and growing market sector. *We recommend that include an evaluation of potential city projects be included as part of the follow-on DM suggested above.* The export opportunities are essentially the same.

Additionally, Professor Liu Lianyou with the **Academy of Disaster Reduction and Emergency Management** at Beijing Normal University recently completed an exhaustive assessment of the damage inflicted by the Wenchuan earthquake. The Academy published two books that are circulating internally with the designated ministries for their approval for wider distribution. Prof. Liu and his colleagues have put together a very initial proposal for a nationwide risk evaluation database. The project requires government approval and an official sponsor before they can even contemplate a (pre-) feasibility study. He mentioned this issue was the first (and unfulfilled) of the eight natural disaster response projects mentioned in the 11th Five Year Plan.

The **Chengdu Municipal Information Office**, a large Motorola customer, was less encouraging. Ms. Li Changhong, Deputy Director, indicated Chengdu city is deploying a GIS software and database platform and applications with assistance provided by the EU, administered by the EU China Information Society Project. The Chengdu Municipal government, which also has a Tetra network from Motorola, appeared to be angling for support for a study to see how the existing government radio network could be augmented and coverage extended through TD-CDMA (a Chinese standard) networks -- literally seeking to supplant an existing relationship with Motorola through the use of Chinese home-made technology for next-generation wireless communications. We informed Motorola of our concerns.

4.0 EMS Training for Chengdu 120 Center

4.1 EXECUTIVE SUMMARY

Following the May 12, 2008 Sichuan earthquake tremendous attention has been paid to China's emergency medical services. In particular, the 120 emergency operations center in Chengdu, 50 miles from the earthquake epicenter, played a prominent role in emergency response. In the first three days following the disaster, 12,668 emergency medical technicians (EMT) were dispatched and 42,212 victims were rescued. The 120 Center sent its ambulances in less than a minute of receiving the first call and had emergency personnel on the scene in the worse-hit areas 35 minutes later. During the crisis the Center assembled the activities of 86 hospitals, 244 township clinics and more than 3000 medical first-responders, dispatched 4576 emergency vehicles, and transferred 10,695 patients. The 120 Center's efforts were lauded by the international humanitarian relief effort and it was praised by senior government leaders for its outstanding performance.

USTDA first began supporting the 120 Center in 2005 following the advance work and recommendations made by the Foreign Commercial Service at the consulate in Chengdu. An Orientation Visit to the U.S. by 11 Sichuan and Chengdu administrative leaders and medical experts toured emergency medical training facilities and technology corporations in Chicago and Washington D.C. The delegation was particularly impressed by the U.S. National Communications System;¹⁴ the National Disaster Medical System¹⁵; the composition and duties of medical rescue teams; emergency medical training and drill content; and training methods and materials employed by first responders and emergency medical physicians. Substantial trade opportunities emerged as a result of the OV. Motorola sold an emergency radio system to Chengdu City government valued at more than \$30 million. Additional contracts were concluded with Bird and Bear, Zoll, Medtronic, Welch, Ford, Marquette, GE Healthcare and others.

In July 2008 USTDA visited Chengdu to explore further opportunities for collaboration. In early 2009 USTDA retained Network Dynamics Associates to perform this Definitional Mission in part to consider a proposal from the 120 Center to expand the scope of its training center. The 120 Center seeks to create a premier emergency medical services training center for Western China. The facility is intended to become the center of excellence for emergency medical services for the region (population about 200 million), just as the Italian government has sponsored the creation of a widely-respected emergency medical training center for the Eastern Provinces in Shanghai.

Clearly China needs to improve its emergency management capability, especially in the rural areas. According to an important academic study,¹⁶

¹⁴ <http://www.ncs.gov/>

¹⁵ <http://www.hhs.gov/aspr/oepo/ndms/index.html>

¹⁶ *Policy and Service Delivery: The Current Workforce Status of Pre-hospital Care in China*, Article 990127, Dr Xing-Yu Hou and Prof Chuan-Zhu Lu, *Journal of Emergency Primary Healthcare (JEPHC)*, Vol. 3, Issue 3, 2005 ISSN 1447-4999

the presence of a pre-hospital care system appears to be particularly lacking in rural areas of China. In Zhong-Jiang County of Sichuan province, the staff working in the Emergency Department of the county hospital are also responsible for the pre-hospital emergency care, which may reduce the quality and quantity of health service in both pre-hospital and hospital care. Some of the employed staff working in pre-hospital care are not qualified to practice as a doctors or nurses but are there in some instances from unsuccessful attempts to meet the entry requirements for medical education.

The 120 Center believes that the proposed training program will become “a great banner as well as a model of friendship and cooperation that China and U.S government’s support for earthquake reconstruction.” Leaders at the Center further believe than an EMS training program will be “a window that plays a positive role in promoting U.S advanced technology and equipment in China.”

The essential value of the training program at the Center is that can serve as a showcase and standard-setter for EMS products for the entire region. Visible success in EMS in Chengdu will almost certainly lead to economic pull-through for additional sales in neighboring provinces. The project has the potential to stimulate or influence exports throughout the Western China region valued at up to \$240 million over the next three years.

Network Dynamics recommends in this DM a two-part grant package: technical assistance related to training, and an Orientation Visit to the U.S.

4.2 PROJECT DESCRIPTION

The 120 Center seeks technical training in the area of emergency services and care for general pre-hospital emergency medical care. It is responsible for commanding, dispatching, organizing and coordinating all city daily emergency care as well as large-scale “sudden occurrences.” It performs field first-aid and transport of the sick and injured to intensive care facilities, leads emergency medical services during major events, and is responsible for emergency skills training and academic exchanges for pre-hospital care. In Sichuan Province there are 20,765 medical hospitals and clinics, and a total of 202 “120 Centers” that provide EMS services. The 120 Center in China is considered the premier EMS institution in the Province.

The Center has been impressed by its first-hand exposure to U.S. training methodologies and techniques from the 2005 USTDA OV. It intends to adopt U.S. training approaches and standards for emergency medical care. It seeks assistance developing the training curriculum and course materials, and receiving training from experienced American emergency medical services (EMS) experts. The objective is to significantly upgrade the quality and versatility of human resources for emergency medical care in Western China.

The Center will initially target EMS professionals in the province such as emergency medical technicians (EMT), community doctors, and nurses. The Center anticipates expanding its target audience for training to include police, fire and other emergency

services providers that, unlike the U.S., have not historically received emergency medical training. In addition, the Center will offer emergency medical training to the public for the first time, including introductory classes that are less rigorous than full EMT training. Courses will be offered at the Center's training facility in Chengdu (see below). In the future, as Provincial health bureau telecommunications networks are upgraded to broadband, the Center will provide training courses virtually to remote locations throughout Sichuan and Western China.

The 120 Center and training academy was established in June 1997. The training building is 1500m² (15,000 sq. ft.). It includes the main Academic Hall, which seats 80 people, and four working training rooms that can accommodate 32 students each: 1) Cardiopulmonary resuscitation; 2) airway management; 3) Intensive care unit (ICU); and Trauma Care. It offers nine courses for emergency knowledge and skills training class (including two classes related communications and command center management), as well as 50 seminars and 20 specialized skill teaching programs. The Center currently has 31 training experts and 706 trainees.

The Center has offered training programs organized by national, provincial emergency medical educators in eight cities, where it trained 1535 people. It also provided grass-roots training classes at the rural level, training 2327 people. Additionally, it has trained 49 engineers and dispatch technicians for more than 10 emergency rescue centers throughout Sichuan.

It has been involved with a number of international exchange programs. The U.S. non-governmental organization, Heart-to-Heart International (<http://www.hearttoheart.org/>) has provided cooperative training since 2002. A total of 23 U.S. emergency experts have held lectures at the center, and there have been a total of five academic exchanges covering 17 topics with 900 people involved.

The Center established an emergency ICU capability following the earthquake, and expects to procure mobile communications command facilities and vehicles, remote-site portable video devices, and a remote diagnosis system. The Sichuan Health Information Bureau, which USTDA is considering supporting through a separate technical assistance grant, is preparing to expand regional telecom and data center facilities to improve disaster management and healthcare in Sichuan, which will be of direct benefit to the Center. Also, the Chengdu City local government is moving toward Phase II of its wireless trunk network program with Motorola, and these radios will be used in part for emergency medical services.

The proposed training program with USTDA will provide an intensive train-the-trainer assistance to prepare 120 Center instructors to adopt and propagate U.S. emergency medical services training and methodologies. It will also include an Orientation Visit to the U.S. to further develop commercial relationships with U.S. suppliers of EMS technologies and services.

4.3 PROJECT SPONSOR'S CAPABILITIES AND COMMITMENT

The Chengdu 120 Center is the premier emergency medical training facility in Sichuan province. It expects to expand its profile and be recognized as the leading EMS training

facility for all of Western China, addressing Sichuan, Yunnan and Guizhou Provinces plus Chongqing Municipality and the Tibet Autonomy Region, a population of approximately 200 million. The management team is focused, ambitious, well-managed and appropriately-positioned to realize the organization's vision. It has the support of the Sichuan Health Bureau, the local Party Secretary, and Provincial authorities. Clearly it is determined to make the regional training concept a success, and plans to leverage upcoming technology investments by the SHIB to deploy virtual training services.

4.4 IMPLEMENTATION FINANCING

Nationally, the MoH in Beijing plans to raise investment and improve the nationwide emergency medical rescue system over 2000 counties. Following this lead, the Sichuan Health Bureau will increase development and investment in 180 county-level medical institutions and over 1000 township hospitals, enhancing the capacity of emergency medical at the grass-roots level.

According to the Foreign Commercial Service in Chengdu, the Sichuan Provincial Healthcare Bureau will purchase approximately \$100 million of medical products in next 3 years, which of \$80 million will be for EMS devices, apparatus and related infrastructure.

4.5 U.S. EXPORT POTENTIAL

American companies have done well in Sichuan, in part as a result of past USTDA cooperation with the 120 Center and pro-active efforts of FCS. Motorola deployed a trunk radio emergency wireless telecommunication system for more than \$30 million. Medtronic has sold 400 sets defibrillators valued at \$3 million. The future pipeline looks equally bright. In April 2009, Sichuan Healthcare Bureau announced a competitive bid for 919 sets of respiratory machines with a total market value of \$10 million. The \$80 million procurement budget for 2009 for the 120 Center and Sichuan Health Bureau includes, among others, the following types of equipment:

- EMS devices
- Ambulances (up to 30)
- Mobile command vehicle
- Helicopters
- EMS command and communication systems
- Wireless radio devices (200-300 units)
- Mobile communications exchanges
- GPS terminals (>200 units)
- Portable hospitals devices
- Personal safety devices
- Portable ventilators
- Anesthesia machines
- X-ray machines

- B-ultrasound devices
- Defibrillator monitors
- Stretcher cars
- Spine boards and inflatable stretchers, plastic splints, miscellaneous devices, etc.

The market for EMS products in Sichuan alone is attractive. The potential addressable market is larger. According to FCS estimates, derived from statements from the 120 Center, the total market for the EMS services in the Western China region could amount to \$240 million in the next three years.

U.S. medical equipment companies, notably Medtronic and GE Healthcare, have expressed interest and verbal support for a training initiative with the 120 Center at the corporate level. Both companies have multiple product lines that could potentially benefit from a American-sponsored training effort. Due to the diversity of the company's product lines – typically managed through independent business units – it is difficult to estimate with precision the complete extent of the export business opportunity. Similarly, because of the range of products slated for procurement by the 120 Center, it is a non-trivial exercise to map U.S. suppliers' inventories against the market opportunity in the context of this DM.

The potential correlation between the training program and U.S. exports is not self-evident. To the best of Network Dynamics' knowledge and understanding, there are few, if any, direct linkages between the training program requested by the 120 Center and specific sales and business development efforts on the part of the American companies we interviewed. No U.S. firm has requested the training in furtherance of a specific sales opportunity as it often the case with USTDA training grants. Our view is that the proposed training project will not with certainty create export opportunities that can with confidence be shown to be a direct and explicit outcome of the program. If USTDA seeks absolute correlation between the technical assistance and demonstrable exports, this proposal presents risks. On the other hand, if USTDA chooses to view the opportunity through a "trade development" lens, the project can be seen as a chance to influence Chinese government perceptions and, potentially, positively influence long term procurement choices. To realize the potential benefits of this study, USTDA would need to structure a trade development initiative in cooperation with the Foreign Commercial Service to promote U.S. interests in this sector independent of the training grant requested by the 120 Center.

4.6 FOREIGN COMPETITION AND MARKET ENTRY ISSUES

The MoH established a National Medical Emergency Training Centre (NMETC) at Shanghai Medical Emergency Centre in 1993, partially through technical assistance from the Government of Italy. The NMETC trains staff who work in the pre-hospital emergency care system all over China, including transport drivers, transport policemen, fire fighters, university students, and doctors and nurses working in the emergency department in hospitals or pre-hospital care. The short term training duration varies between different groups of participants, e.g. approximately 66 hours for doctors and nurses, and 40 hours for others. By contrast, the 120 Center in Chengdu will provide EMT training of 120 or 160 hours. The NMETC has trained approximately 1800 personnel as of 2005, the last year for which

statistics are readily available.¹⁷ The Italian government's health training centre worked with NMETC for a period of 11 months (November 2002 to October 2003) and in that time conducted six workshops: three in pre-hospital care management (a seven day course), and three in pre-hospital clinical performance (a 14 day course). The total participants from China reached over 200¹⁸.

According to the academic study, Italy is not the only country to provide assistance with China's pre-hospital emergency care system. In July 2004, Queensland Ambulance Service (QAS) and Queensland University of Technology (QUT) signed a Memorandum of Understanding (MoU) and a Letter of Intent (Photo 1) with the Emergency Branch of Chinese Hospital Association (EBCHA) to support the development of the pre-hospital care system by providing short term training programs in China or in Australia.

A leading expert in emergency medicine in China, Prof Wang Yi-Tang, suggests that it is crucial to develop China's own standard in short term training courses in relation to content, teaching or training methods and regulations of the courses, such as basic trauma life support and advanced trauma life support. An EMS training program provided through USTDA, utilizing U.S. standards will effectively promote the U.S. methodology and approach as the de facto standard in Western China.

The essential question for USTDA is if a training program for the 120 Center will establish a clear link to potential U.S. exports. Medtronic's subsidiary Physio-Control, Inc, which manufactures defibrillators, expressed in a telephone interview that a training facility could directly help its sales efforts. Network Dynamics' perception is that the training effort will show Washington's support for U.S. commercial interests, and thus indirectly influence market behavior. Our assessment is that the leadership at the 120 Center and other Provincial healthcare officials have difficulty making a distinction between the public and private sector in the U.S. and that an absence of support for U.S. companies by the U.S. government is perceived as a lack of commitment. The training grant could become a small step to positively influencing promotion of U.S. trade interests in the region.

If USTDA wished to tightly couple the training exercises with export potential, it could stipulate that the Contractor's trainers have explicit relationships with specific U.S. exporting firms. Both Medtronic and Physio-Control made introductions to a total of four professional trainers in the emergency medical sector whom Network Dynamics interviewed in the course of this DM. Our perspective, however, is that the market opportunity in Chengdu, Sichuan and Southwest China generally is larger than might be conveyed by trainers narrowly directed by specific company or product interests. Our recommendation would be to not tie the trainers to a specific company or product line but rather encourage a broader "American" suite of products and services in common usage by emergency training personnel in the U.S. to influence to the long term export opportunity.

4.7 DEVELOPMENT IMPACT

Emergency medical training is clearly a weak link in China's healthcare system. The Yu and Lu study states: "Similar to the rest of the world, the health system in rural areas of China, covering small size villages, is underdeveloped compared with urban areas in

¹⁷ *Ibid.*

¹⁸ *Ibid.*

China. This however, is particularly dire in the pre-hospital care system. The only health workforce in China, with respect to small villages, are doctors (colloquially known as barefoot doctors) who have minimal training in medicine, and no formal training at medical school.” The 120 Center states that establishing a professional emergency medical and rescue training institution “will create a good image of Sino-US friendship and cooperation and mutual benefit in Sichuan disaster areas” as well as introduce “public training, popularize emergency knowledge, improve social response and self-help capacity.” The development benefits of the project are tangible and profound. Improved pre-hospital medical care would directly impact the ability of emergency responders to save lives.

4.7.1 Primary Developmental Benefits

Several additional development impacts are likely:

- (1) Infrastructure: The training project will have no relationship to infrastructure investments. The 120 Center will be a user of infrastructure that will be constructed and managed by the Sichuan Health Bureau.
- (2) Market- Oriented Reform: Training EMS personnel is not likely to lead to commercially-oriented market reform. It will, however, introduce a greater number and range of participants in the EMS sector, for example, police and fire professionals and general public, who in the past have not been trained in emergency medical services. In this respect, it will expand the “market” of social participation and build resilience into the healthcare system.
- (3) Human Capacity Building: The proposed technical assistance will lead to the direct training of 48 instructors during the course of the project, who in turn will train many hundreds of professionals over time. Those trainers will in turn serve as a new generation of instructors that will train many students in the years going forward. Based on advise from U.S. EMS training experts, we assume that the Student:faculty ratio for EMS training is 6:1.
- (4) Technology Transfer and Productivity Enhancement: The key outcomes of the project are to: 1) introduce U.S. training methodologies, approaches and standards for adoption by what will become the leading EMS training center for Western China; 2) dramatically improve EMS training capability in Sichuan and Western China, thereby making an important development impact; 3) showcase a diversified range of U.S. products and services that can target an addressable market of \$80 million in Sichuan and \$240 million in Western China in the next three years, building on recent export success.

4.8 IMPACT ON THE ENVIRONMENT

The EMS training project will have no negative impact on the environment. The long-term vision of enabling virtual training services to remote areas will have a positive impact on the environment by reducing travel required to obtain high-quality medical services in distant hospitals and clinics.

4.9 IMPACT ON U.S. LABOR

The project will have a positive impact on U.S. labor. It will stimulate demand for a range of U.S. products, as outlined above in Section 5.5. Some of the products involved are almost certainly manufactured in the U.S.; for example, 31 of Medtronic 33 production facilities are located in the U.S. (including the unit that manufacturers

defibrillators). By encouraging adoption of U.S. EMS standards, the 120 Center in Chengdu as well as throughout the region may be inclined to purchase goods and equipment optimized for the U.S. operational and training standards.

4.10. QUALIFICATIONS

The Contractor selected to perform the work must demonstrate expertise in:

- Emergency Medical Services training and education

The instructors should be intimately familiar with existing and emerging educational parameters likely to be adopted in the U.S. EMS training environment. The trainers should be capability of designing and implementing courses based on the U.S. EMS training model for:

- Emergency medical technicians (EMT)
- Basic life support
- First responder / advanced first aid
- First aid and CPR.

The Contractor shall demonstrate proficiency in one or more of the following:

- Professional EMS training
- Academic institution or program specializing in EMS
- Previous experience designing train-the-trainer programs
- Expert trainer(s) with a minimum 15 years' experience (3 trainers)
- International / cross cultural experience highly desired.

In addition to content experts and trainers responsible for the design and conduct of the technical assistance, to meet USTDA's project management and reporting requirements, the Contractor will be expected to engage one or more consultants on its team with demonstrated experience preparing studies, reports, whitepapers, evaluations, program appraisals, assessments, reviews, interim reports, final reports, project audits, or other written documentation associated with the effective administration, management and evaluation of U.S. government technical assistant grants, with a preference to Contractors with an understanding of the specific evaluation criteria expected by USTDA. Said consultants will prove an ability to:

- Evaluate the training program
- Provide an immediate assessment of the training quality
- Provide an assessment what impact the training could have on procurements.

4.11. JUSTIFICATION

Past USTDA support for technical assistance to the 120 Center in Chengdu has led to direct and concrete export benefits for U.S. companies. The Center's plans to expand its training program and become a center of excellence for EMS training in Western China will broaden its strategic profile. The training center can become a showcase for U.S.

products, services and operational modalities that can influence purchase decisions by emergency healthcare facilities in a regional market of 200 million. The 120 Center has demonstrated its willingness to work closely with Washington and American companies, and this relationship and goodwill could help position U.S. companies in this competitive marketplace.

4.12. TERMS OF REFERENCE

TOR is attached below as Appendix 6-1

4.13 TECHNICAL ASSISTANCE BUDGET

We propose a budget for the project of **\$294,119** for the project, which is comprised of two segments:

- \$ 162,000 for technical training services, and
- \$ 132,119 for travel and per diem expenses.

Total Task Cost Summary	
Labor Total	\$162,000
Other Direct Costs	\$132,119
Total Budget Cost	\$294,119

Budget Breakdown	
Contractor Cost Share	\$0
Grantee Cost Share	\$0
USTDA Contribution	\$294,119
Total	\$294,119

We recommend that USTDA also host an Orientation Visit for the 120 Center. We have not estimated the budget for the OV.

The duration of the engagement as defined in the terms of reference is projected to be completed within twelve (12) months from the commissioning of the Contractor.

4.13.1 Line Item Budget and Task Breakdown

The Contractor must complete all work items specified in the TOR. The budget assumes a total of 240 person days based on three (3) trainers spending a total of 12 weeks in country.

The total budget for the training project is \$294,119. No cost share is implied. Estimated additional and travel costs are as follows (see next page):

**Chengdu 120 Center EMS Training
Budget Detail by Task**

Task Summary Labor Days	Program Manager	Senior Trainers (3)	Total	Task \$
1 Develop training program	30		30	\$24,000
2 Phase 1 Certified Training		120	120	\$51,000
Phase 2 Certified Training		120	120	\$51,000
3 Evalaute Training Program	20		20	\$16,000
4 Identify U.S. Sources of Supply	5		5	\$4,000
5 Final report	20			\$16,000
Sub Total	75	240	295	\$162,000
Daily Rate	\$800	\$425		

Task Labor Cost Summary			
1 Develop training program	\$24,000	\$0	\$24,000
2 Phase 1 Certified Training	\$0	\$51,000	\$51,000
Phase 2 Certified Training	\$0	\$51,000	\$51,000
3 Evalaute Training Program	\$16,000	\$0	\$16,000
4 Identify U.S. Sources of Supply	\$4,000	\$0	\$4,000
5 Final report	\$16,000	\$0	\$16,000
Total Labor Cost Summary	\$60,000	\$102,000	\$162,000

Other Direct Costs			Total
Training and course materials			\$2,500
Translation	250	\$40.00	\$10,000
Sub total Other Direct Costs			\$12,500

Misc. Inc. Tel & Fax	Number	Cost/Unit	Total
Telephone & Fax / month	4	\$500.00	\$2,000
Reproduction Draft Report			\$500
Shipping and freight			\$500
Local transportation	105	\$20.00	\$2,108
Sub total Misc. Inc. Tel & Fax			\$27,608

Travel Expenses			
Air Fare	\$2,500.00	8	\$20,000
Per Diem Location (Chengdu)	\$211.00	316	\$66,729
Taxi To & From Airport	\$100.00	9	\$900
Travel contingency (5%)	5%		\$4,381
Sub total Airfare, Per Diem and Transportation			\$92,010
Total Other Direct Costs			\$132,119

**4.13.2
Budget
Narrative**

The budget for the *Chengdu 120 Center Technical Training* study was prepared by Network Dynamics Associates. We had discussions with the 120 Center to ascertain their needs and interests, and also with several emergency medical services training experts in the U.S. We further sought to gauge fair market value for the training services. We determined that an EMT course on average requires 120 hours (20 days), to a maximum of 160 hours. We assume that the time to conduct training course in Chinese will take longer, due to the language and cultural issues. We identified that the optimal student:faculty ratio for EMS training is 6:1. The 120 Center requested training for

between “30 and 300” students. We opted for 36. To arrive at a training course for 36 professionals, we assumed that a team of three (3) trainers would conduct two (2) training sessions over the course of a calendar year. The Contractor may wish to use a greater or fewer consultants to perform the tasks as stated. We recommend two phases to the training to build a relationship with 120 Center over time to maximum long-term impact.

Budget Items

The “Labor” category in the budget includes all human resources and expertise required to accomplish the tasks. This category includes all of the Contractor’s direct hired employees, subcontractors and consultants. We assume that the Contractor’s team is comprised entirely of U.S. nationals, however we assume contractors will follow USTDA procurement rules regarding use of local contractors. For simplicity, we assigned a single category of professional experience: Senior Trainer. We assume the Contractor will deploy four (4) trainers for each of the two phases of training, We assigned an average per diem compensation for their effort of \$425 per day, about \$53 per hour. The fee scale represents a premium of approximately 100% over typical U.S. EMS training rates (\$25 - \$50 /hour). We justify the premium in order to ensure quality EMS training contractors are attracted to the opportunity in Chengdu. We recommend that the Contractors use the same trainers for both training phases, if possible, in order to achieve efficiencies through repetition; the second phase is estimated to be a week shorter than the first.

A Program Manager to design and manage the training program, as well as to prepare all USTDA-required reports and evaluations, will be compensated at the rate of \$800 per day, for a total of 75 days.

The “Travel” category represents an estimate of the travel needed by the experts to accomplish the project tasks. We assume that the U.S. expert teams will be required to make a minimum of three trips to China of two weeks each. Certain experts may spend a greater or lesser amount of time in country, depending on the ability of the contractor to manage certain tasks remotely, and the specific tasks being performed by the individual. We have budgeted for 8 round trip airfares from Washington DC to Chengdu (total of six trainers plus program manager twice). Airfare cost per trip is estimated at \$2500 per trip. We assume that trainers will spend 100% of professional time in China (240 days), while the Program Manager will spend about 16 days. Total man-days in country have been calculated by adding professional days in China with an adjustment for weekend per diem days, totaling 316 adjusted man-days in country. The State Department’s per diem estimate for Chengdu is \$211 per day. Per diem expenses were estimated using figures from State Department’s overseas expenses index¹⁹ and travel expenses are based on educated estimates.

4.13.3 Orientation Visit

120 Center has requested, and we recommend, that USTDA fund an Orientation Visit for the 120 Center and related institutions in Sichuan. The OV should consider including visits to the following locations:

¹⁹ http://aoprals.state.gov/web920/per_diem.asp

- Chicago, IL (Motorola)
- Washington, DC (national emergency response)
- Youngstown, OH or Pittsburg, PA (University programs)
- Redmond, WA (Medtronic)
- Orlando, FL

U.S. companies that would likely be interested in the OV include: Cisco, GE Healthcare, HP, IBM, Intel, Medtronic, Motorola, Oracle and others. Academic institutions could include: Harvard University, Youngstown State University, and George Washington University. Timing for the OV could productively coincide with the National Association of EMS Educators Annual Conference in Orlando, FL (August 13-20).

We note that the Center requests travels to Kansas, Texas and Oklahoma where executive have friends, particularly from Heart to Heart International. The locations are not related to U.S. export concerns and Network Dynamics does not believe USTDA should fund the travel.

4.14. RECOMMENDATIONS

Network Dynamics recommends that USTDA proceed with *Emergency Medical Services Training for Chengdu 120 Center* as a strategic investment in developing relationships in the emergency medical services sector in China. The 120 Center plays a prominent role in Sichuan's healthcare system. It can become a regional showcase for American products, services, and operational approaches that will make a long-term impact on future exports. The last OV led to the creation of favorable impressions toward U.S. EMS practices and products and catalyzed the sale of up to \$33 million in exports. The current project, which aims to provide training not only for Sichuan but for the entire Western China region, taps a market of 200 million people that is valued at up to \$240 million in EMS products in the next three years. Based on the past export success of assisting the 120 Center in Chengdu, we believe the likelihood is high that further export wins can be achieved, even though there is no direct correlation between the training program requested by the 120 Center and specific export opportunities.

4.15. PROJECT PORTFOLIO ASSESSMENT

The recommendation to proceed with a training grant and OV is directly related to past export success associated with the 2005 OV.

4.0 CONTACTS

IBM China Investment Company Limited	Wei	Sun	Senior Manager, Research Staff Member	Diamond Building, ZGC	Software Park # 19, Dong	Shanghai		China	(86-10) 58748402	(86-10) 58748330		weisun@cn.ibm.com	March '09	
CDC-GAP China Office	Jay	K. Varma	Director, International Emerging Infections Program	Suite 403-Dongwai Diplomatic Office	23 Dongzhimenwai Dajie	Beijing	100600	China	(86-10) 8532-2633 ext. 8004	(86-10) 8532-2634	(86) 135-0139-6576		March '09	
Commercial	Eric	Wolff	Commercial Consul	Post		Chengdu	610041	China	86-28-85589642 Ext.6961	86-28-85589221		Eric.Wolff@mail.doc.gov	March '09	SCO in Chengdu
GE	Kan-Wei	Wu	General Manager Southwest Region, China	Room 2011, Times Plaza	2 Zongfu Road, Chengdu	Chengdu	610016	China	(8628) 8666 9617	(8628) 8665 3854		Kan-Wei.Wu@ge.com	March '09	
Chengdu Software Industry Development Center	Li	Xin	Director	Add: 1st Floor, No.8 Building	Road, Hi-tech District, Chengdu	Chengdu	-610041	China	(028) 85335781	(028) 85336899-800	13981772277	Lixincd@gmail.com	March '09	
Sichuan Province Bureau of Information Industry	Yang	Xin	Cooperation Department In & Abroad	Post		Chengdu	610017	China	(+86 28)86392025	(028) 86740914	13980480373	yangxin@scit.gov.cn	March '09	
China National Committee for Disaster Reduction	Wang	Xingling	Associate Professor	Add: Room 1206, Zhong Min Plaza, NO.7 Baiguang Road	Xuanwu District	Beijing	100053	China	tel: +86-10-83551203	-83553747		wangxingling@ndrec.gov.cn	March '09	
Information Industry Department of Sichuan Province	Yang	Xu	Vice-Director	Post		Chengdu	610017	China	0086-28-86740251	0086-28-86740914		xuyang@scit.gov.cn	March '09	
Cisco Systems (China) Networking Technology Co., Ltd.	Yu	Yi	Executive Director Corporate Social Responsibility	7-12/F Building C, Yintai Office Tower	Beijing Yintai Centre No. 2 Jianguomenwai	Beijing		China	(8610) 8515 5000			yuyi@cisco.com	March '09	Cisco lead for Sichuan healthcare project
Sichuan Emergency Health Office	Yang	Yong	Department of Sichuan Province			Chengdu	610041	China	Mx (Fax) : 028-86130403			y-yongd@163.com	March '09	
Dorenfest Group	Grace	Zhiyuan YU	China Project Manager	NBC Tower, Suite 2725	455 N. Cityfront Plaza Drive	Chicago	60611-5555	United States	(312) 464-3000	(312) 467-0541		yuz@dorenfest.com	March '09	
Ministry of Health - Department of Planning and Finance	Shili	Yu	Director - Division of Planning and Pricing	1, Xi Zhi Men Wai Nan Lu		Beijing	100044	PR China	8610-6879-2155	8610-6879-2157		yus@moh.gov.cn	March '09	
ESTH Section, U.S. Embassy, Beijing	Elizabeth	F. Yuan	Health Attache - HHS	55, An Jia Lou Road	Chao Yang District, 100600	Beijing		China	86-10-8531-3414	86-10-8531-3939	86-1391-053-7651	Yuanef@state.gov	March '09	
IBM China Investment Company Limited	Pan	Yue	Senior Manager Information and Knowledge	Diamond Building, ZGC	Software Park # 19, Dong	Beijing	100193	China	(86-10) 58748083	(86-10) 58748730		panyue@cn.ibm.com	March '09	
Microsoft (China) Co., Ltd.	Quen	Zhang	Public Sector Healthcare Solution Manager	19F Hyundai Motor Tower	38 Xiaoyun Road, Chaoyang District	Beijing		China	(86-10) 5896-8179	(86-10) 5925-8588	(86) 13911009643	quenzh@microsoft.com	March '09	Microsoft lead for healthcare in China
Institute of Medical Informatics Chinese PLA General Hospital & Postgraduate Medical School	Junping	Zhao	Director	No. 28 Fuxing Road		Beijing	100053	China	(8610) 6693 9773	(8610) 6693 9773		zhaopj@30hospital.com.cn	March '09	
Institute of Medical-care Information Technology	Benjamin	Zheng		P.C. : 310012	Hangzhou	Zhejiang		China	0571-28065838	0571-28065836	13606805130	jie.zheng@imit.org.cn	March '09	
IBM Global Services (China) Company Limited	She	Duan Zhi	Chief Representative	25/F, IBM Tower	Pacific Century Place	Beijing		China	(86-10) 63612266	(86-10) 63618551	86-13911094193	sbedz@cn.ibm.com	March '09	IBM head for services in China
National Disaster Reduction Center of China	Yan	Zhizhuang	Deputy Director	Room 1405, Zhong Min Plaza	No.7 Baiguang Road Xuanwu District	Beijing	10053	China	+86-10-83551209 83559988-1404	83555068		yanzhizhuang@ndrec.gov.cn	March '09	
120 Center of Chengdu	Yuan Jin	Li	Party Secretary			Chengdu						lyj12133@126.com	March '09	Principal contact for 120 Center project

ANNEX 3



U.S. TRADE AND DEVELOPMENT AGENCY Arlington, VA 22209-2131

NATIONALITY, SOURCE, AND ORIGIN REQUIREMENTS

The purpose of USTDA's nationality, source, and origin requirements is to assure the maximum practicable participation of American contractors, technology, equipment and materials in the prefeasibility, feasibility, and implementation stages of a project.

USTDA STANDARD RULE (GRANT AGREEMENT STANDARD LANGUAGE):

Except as USTDA may otherwise agree, each of the following provisions shall apply to the delivery of goods and services funded by USTDA under this Grant Agreement: (a) for professional services, the Contractor must be either a U.S. firm or U.S. individual; (b) the Contractor may use U.S. subcontractors without limitation, but the use of subcontractors from host country may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the subcontract; (c) employees of U.S. Contractor or U.S. subcontractor firms responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for implementation of the Study and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and (e) goods and services incidental to Study support (e.g., local lodging, food, and transportation) in host country are not subject to the above restrictions. USTDA will make available further details concerning these standards of eligibility upon request.

NATIONALITY:

1) Rule

Except as USTDA may otherwise agree, the Contractor for USTDA funded activities must be either a U.S. firm or a U.S. individual. Prime contractors may utilize U.S.

subcontractors without limitation, but the use of host country subcontractors is limited to 20% of the USTDA grant amount.

2) Application

Accordingly, only a U.S. firm or U.S. individual may submit proposals on USTDA funded activities. Although those proposals may include subcontracting arrangements with host country firms or individuals for up to 20% of the USTDA grant amount, they may not include subcontracts with third country entities. U.S. firms submitting proposals must ensure that the professional services funded by the USTDA grant, to the extent not subcontracted to host country entities, are supplied by employees of the firm or employees of U.S. subcontractor firms who are U.S. individuals.

Interested U.S. firms and consultants who submit proposals must meet USTDA nationality requirements as of the due date for the submission of proposals and, if selected, must continue to meet such requirements throughout the duration of the USTDA-financed activity. These nationality provisions apply to whatever portion of the Terms of Reference is funded with the USTDA grant.

3) Definitions

A "U.S. individual" is (a) a U.S. citizen, or (b) a non-U.S. citizen lawfully admitted for permanent residence in the U.S. (a green card holder).

A "U.S. firm" is a privately owned firm which is incorporated in the U.S., with its principal place of business in the U.S., and which is either (a) more than 50% owned by U.S. individuals, or (b) has been incorporated in the U.S. for more than three (3) years prior to the issuance date of the request for proposals; has performed similar services in the U.S. for that three (3) year period; employs U.S. citizens in more than half of its permanent full-time positions in the U.S.; and has the existing capability in the U.S. to perform the work in question.

A partnership, organized in the U.S. with its principal place of business in the U.S., may also qualify as a "U.S. firm" as would a joint venture organized or incorporated in the United States consisting entirely of U.S. firms and/or U.S. individuals.

A nonprofit organization, such as an educational institution, foundation, or association may also qualify as a "U.S. firm" if it is incorporated in the United States and managed by a governing body, a majority of whose members are U.S. individuals.

SOURCE AND ORIGIN:

1) Rule

In addition to the nationality requirement stated above, any goods (e.g., equipment and materials) and services related to their shipment (e.g., international transportation and insurance) funded under the USTDA Grant Agreement must have their source and origin in the United States, unless USTDA otherwise agrees. However, necessary purchases of goods and project support services which are unavailable from a U.S. source (e.g., local food, housing and transportation) are eligible without specific USTDA approval.

2) Application

Accordingly, the prime contractor must be able to demonstrate that all goods and services purchased in the host country to carry out the Terms of Reference for a USTDA Grant Agreement that were not of U.S. source and origin were unavailable in the United States.

3) Definitions

“Source” means the country from which shipment is made.

“Origin” means the place of production, through manufacturing, assembly or otherwise.

Questions regarding these nationality, source and origin requirements may be addressed to the USTDA Office of General Counsel.

A N N E X 4

GRANT AGREEMENT

This Grant Agreement is entered into between the Government of the United States of America, acting through the U.S. Trade and Development Agency ("USTDA") and the Sichuan Provincial Department of Health ("Grantee"). USTDA agrees to provide the Grantee under the terms of this Agreement US\$294,119 ("USTDA Grant") to fund the cost of goods and services required for a technical assistance ("TA") on the proposed Provincial Emergency Medical Services Capacity Building project ("Project") in the People's Republic of China ("Host Country").

1. USTDA Funding

The funding to be provided under this Grant Agreement shall be used to fund the costs of a contract between the Grantee and the U.S. firm selected by the Grantee ("Contractor") under which the Contractor will perform the TA ("Contract"). Payment to the Contractor will be made directly by USTDA on behalf of the Grantee with the USTDA Grant funds provided under this Grant Agreement.

2. Terms of Reference

The Terms of Reference for the TA ("Terms of Reference") are attached as Annex I and are hereby made a part of this Grant Agreement. The TA will examine the technical, financial, environmental, and other critical aspects of the proposed Project. The Terms of Reference for the TA shall also be included in the Contract.

3. Standards of Conduct

USTDA and the Grantee recognize the existence of standards of conduct for public officials, and commercial entities, in their respective countries. The parties to this Grant Agreement and the Contractor shall observe these standards, which include not accepting payment of money or anything of value, directly or indirectly, from any person for the purpose of illegally or improperly inducing anyone to take any action favorable to any party in connection with the TA.

4. Grantee Responsibilities

The Grantee shall undertake its best efforts to provide reasonable support for the Contractor, such as local transportation, office space, and secretarial support.

5. USTDA as Financier

(A) USTDA Approval of Competitive Selection Procedures

Selection of the U.S. Contractor shall be carried out by the Grantee according to its established procedures for the competitive selection of contractors with advance notice of the procurement published online through *Federal Business Opportunities* (www.fedbizopps.gov). Upon request, the Grantee will submit these contracting procedures and related documents to USTDA for information and/or approval.

(B) USTDA Approval of Contractor Selection

The Grantee shall notify USTDA at the address of record set forth in Article 17 below upon selection of the Contractor to perform the TA. Upon approval of this selection by USTDA, the Grantee and the Contractor shall then enter into a contract for performance of the TA. The Grantee shall notify in writing the U.S. firms that submitted unsuccessful proposals to perform the TA that they were not selected.

(C) USTDA Approval of Contract Between Grantee and Contractor

The Grantee and the Contractor shall enter into a contract for performance of the TA. This contract, and any amendments thereto, including assignments and changes in the Terms of Reference, must be approved by USTDA in writing. To expedite this approval, the Grantee (or the Contractor on the Grantee's behalf) shall transmit to USTDA, at the address set forth in Article 17 below, a photocopy of an English language version of the signed contract or a final negotiated draft version of the contract.

(D) USTDA Not a Party to the Contract

It is understood by the parties that USTDA has reserved certain rights such as, but not limited to, the right to approve the terms of the contract and any amendments thereto, including assignments, the selection of all contractors, the Terms of Reference, the Final Report, and any and all documents related to any contract funded under the Grant Agreement. The parties hereto further understand and agree that USTDA, in reserving any or all of the foregoing approval rights, has acted solely as a financing entity to assure the proper use of United States Government funds, and that any decision by USTDA to exercise or refrain from exercising these approval rights shall be made as a financier in the course of funding the TA and shall not be construed as making USTDA a party to the contract. The parties hereto understand and agree that USTDA may, from time to time, exercise the foregoing approval rights, or discuss matters related to these rights and the Project with the parties to the contract or any subcontract, jointly or separately, without thereby incurring any responsibility or liability to such parties. Any approval or failure to approve by USTDA shall not bar the Grantee or USTDA from asserting any right they might have against the Contractor, or relieve the Contractor of any liability which the Contractor might otherwise have to the Grantee or USTDA.

(E) Grant Agreement Controlling

Regardless of USTDA approval, the rights and obligations of any party to the contract or subcontract thereunder must be consistent with this Grant Agreement. In the event of any inconsistency between the Grant Agreement and any contract or subcontract funded by the Grant Agreement, the Grant Agreement shall be controlling.

6. Disbursement Procedures

(A) USTDA Approval of Contract Required

USTDA will make disbursements of Grant funds directly to the Contractor only after USTDA approves the Grantee's contract with the Contractor.

(B) Contractor Invoice Requirements

The Grantee should request disbursement of funds by USTDA to the Contractor for performance of the TA by submitting invoices in accordance with the procedures set forth in the USTDA Mandatory Clauses in Annex II.

7. Effective Date

The effective date of this Grant Agreement ("Effective Date") shall be the date of signature by both parties or, if the parties sign on different dates, the date of the last signature.

8. TA Schedule

(A) TA Completion Date

The completion date for the TA, which is March 31, 2011, is the date by which the parties estimate that the TA will have been completed.

(B) Time Limitation on Disbursement of USTDA Grant Funds

Except as USTDA may otherwise agree, (a) no USTDA funds may be disbursed under this Grant Agreement for goods and services which are provided prior to the Effective Date of the Grant Agreement; and (b) all funds made available under the Grant Agreement must be disbursed within four (4) years from the Effective Date of the Grant Agreement.

9. USTDA Mandatory Clauses

All contracts funded under this Grant Agreement shall include the USTDA mandatory clauses set forth in Annex II to this Grant Agreement. All subcontracts funded or partially funded with USTDA Grant funds shall include the USTDA mandatory clauses, except for clauses B(1), G, H, I, and J.

10. Use of U.S. Carriers

(A) Air

Transportation by air of persons or property funded under the Grant Agreement shall be on U.S. flag carriers in accordance with the Fly America Act, 49 U.S.C. 40118, to the extent service by such carriers is available, as provided under applicable U.S. Government regulations.

(B) Marine

Transportation by sea of property funded under the Grant Agreement shall be on U.S. carriers in accordance with U.S. cargo preference law.

11. Nationality, Source and Origin

Except as USTDA may otherwise agree, the following provisions shall govern the delivery of goods and services funded by USTDA under the Grant Agreement: (a) for professional services, the Contractor must be either a U.S. firm or U.S. individual; (b) the Contractor may use U.S. subcontractors without limitation, but the use of subcontractors from Host Country may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the subcontract; (c) employees of U.S. Contractor or U.S. subcontractor firms responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for performance of the TA and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and (e) goods and services incidental to TA support (e.g., local lodging, food, and transportation) in Host Country are not subject to the above restrictions. USTDA will make available further details concerning these provisions upon request.

12. Taxes

USTDA funds provided under the Grant Agreement shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in Host Country. Neither the Grantee nor the Contractor will seek reimbursement from USTDA for such taxes, tariffs, duties, fees or other levies.

13. Cooperation Between Parties and Follow-Up

The parties will cooperate to assure that the purposes of the Grant Agreement are accomplished. For five (5) years following receipt by USTDA of the Final Report (as defined in Clause I of Annex II), the Grantee agrees to respond to any reasonable inquiries from USTDA about the status of the Project.

14. Implementation Letters

To assist the Grantee in the implementation of the TA, USTDA may, from time to time, issue implementation letters that will provide additional information about matters covered by the Grant Agreement. The parties may also use jointly agreed upon implementation letters to confirm and record their mutual understanding of matters covered by the Grant Agreement.

15. Recordkeeping and Audit

The Grantee agrees to maintain books, records, and other documents relating to the TA and the Grant Agreement adequate to demonstrate implementation of its responsibilities under the Grant Agreement, including the selection of contractors, receipt and approval of contract deliverables, and approval or disapproval of contractor invoices for payment by USTDA. Such books, records, and other documents shall be separately maintained for three (3) years after the date of the final disbursement by USTDA. The Grantee shall afford USTDA or its authorized representatives the opportunity at reasonable times to review books, records, and other documents relating to the TA and the Grant Agreement.

16. Representation of Parties

For all purposes relevant to the Grant Agreement, the Government of the United States of America will be represented by the U. S. Ambassador to Host Country or USTDA and Grantee will be represented by Mr. Zhu Guoying, Director General, 120 Center, Chengdu Sichuan. The parties hereto may, by written notice, designate additional representatives for all purposes under the Grant Agreement.

17. Addresses of Record for Parties

Any notice, request, document, or other communication submitted by either party to the other under the Grant Agreement shall be in writing or through a wire or electronic medium which produces a tangible record of the transmission, such as a telegram, cable or facsimile, and will be deemed duly given or sent when delivered to such party at the following:

To: Mr. Zhu GuoYing, Director General
120 Center, Chengdu Sichuan
No. 222 Fucheng Avenue, Hi-Tech Zone,
Chengdu, Sichuan, P.R.C. 610041

Phone: +86 (028) 8532 2120/+86 (028) 8532 0802
Mobile: +86 13881818666
Fax: +86 (028) 8532 2120

To: U.S. Trade and Development Agency
1000 Wilson Boulevard, Suite 1600
Arlington, Virginia 22209-3901
USA

Phone: (703) 875-4357
Fax: (703) 875-4009

All such communications shall be in English, unless the parties otherwise agree in writing. In addition, the Grantee shall provide the Commercial Section of the U.S. Embassy in Host Country with a copy of each communication sent to USTDA.

Any communication relating to this Grant Agreement shall include the following fiscal data:

Appropriation No.: 11 9/10 1001
Activity No.: 2009-31057A
Reservation No.: 2009310081
Grant No.: GH2009310021

18. Termination Clause

Either party may terminate the Grant Agreement by giving the other party thirty (30) days advance written notice. The termination of the Grant Agreement will end any obligations of the parties to provide financial or other resources for the TA, except for payments which they are committed to make pursuant to non-cancellable commitments entered into with third parties prior to the written notice of termination.

19. Non-waiver of Rights and Remedies

No delay in exercising any right or remedy accruing to either party in connection with the Grant Agreement shall be construed as a waiver of such right or remedy.

20. U.S. Technology and Equipment

By funding this TA, USTDA seeks to promote the project objectives of the Host Country through the use of U.S. technology, goods, and services. In recognition of this purpose, the Grantee agrees that it will allow U.S. suppliers to compete in the procurement of technology, goods and services needed for Project implementation.

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IN WITNESS WHEREOF, the Government of the United States of America and the Sichuan Provincial Department of Health, each acting through its duly authorized representative, have caused this Agreement to be signed in the English language in their names and delivered as of the day and year written below. In the event that this Grant Agreement is signed in more than one language, the English language version shall govern.

For the Government of the United States of America

For the Sichuan Provincial Department of Health

By: _____

By: _____

Date: _____

Date: _____

Witnessed:

Witnessed:

By: _____

By: _____

Annex I -- Terms of Reference (See ANNEX V)

Annex II -- USTDA Mandatory Clause

Annex II

USTDA Mandatory Contract Clauses

A. USTDA Mandatory Clauses Controlling

The parties to this contract acknowledge that this contract is funded in whole or in part by the U.S. Trade and Development Agency ("USTDA") under the Grant Agreement between the Government of the United States of America acting through USTDA and the Sichuan Provincial Department of Health ("Client"), dated _____ ("Grant Agreement"). The Client has selected _____ ("Contractor") to perform the technical assistance ("TA") for the Provincial Emergency Medical Services Capacity Building project ("Project") in People's Republic of China ("Host Country"). Notwithstanding any other provisions of this contract, the following USTDA mandatory contract clauses shall govern. All subcontracts entered into by Contractor funded or partially funded with USTDA Grant funds shall include these USTDA mandatory contract clauses, except for clauses B(1), G, H, I, and J. In addition, in the event of any inconsistency between the Grant Agreement and any contract or subcontract thereunder, the Grant Agreement shall be controlling.

B. USTDA as Financier

(1) USTDA Approval of Contract

All contracts funded under the Grant Agreement, and any amendments thereto, including assignments and changes in the Terms of Reference, must be approved by USTDA in writing in order to be effective with respect to the expenditure of USTDA Grant funds. USTDA will not authorize the disbursement of USTDA Grant funds until the contract has been formally approved by USTDA or until the contract conforms to modifications required by USTDA during the contract review process.

(2) USTDA Not a Party to the Contract

It is understood by the parties that USTDA has reserved certain rights such as, but not limited to, the right to approve the terms of this contract and amendments thereto, including assignments, the selection of all contractors, the Terms of Reference, the Final Report, and any and all documents related to any contract funded under the Grant Agreement. The parties hereto further understand and agree that USTDA, in reserving any or all of the foregoing approval rights, has acted solely as a financing entity to assure the proper use of United States Government funds, and that any decision by USTDA to exercise or refrain from exercising these approval rights shall be made as a financier in the course of financing the TA and shall not be construed as making USTDA a party to the contract. The parties hereto understand and agree that USTDA may, from time to time, exercise the foregoing approval rights, or discuss matters related to these rights and the Project with the parties to the contract or any subcontract, jointly or separately, without thereby incurring any responsibility or liability to such parties. Any approval or failure to approve by USTDA shall not bar

the Client or USTDA from asserting any right they might have against the Contractor, or relieve the Contractor of any liability which the Contractor might otherwise have to the Client or USTDA.

C. Nationality, Source and Origin

Except as USTDA may otherwise agree, the following provisions shall govern the delivery of goods and services funded by USTDA under the Grant Agreement: (a) for professional services, the Contractor must be either a U.S. firm or U.S. individual; (b) the Contractor may use U.S. subcontractors without limitation, but the use of subcontractors from Host Country may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the subcontract; (c) employees of U.S. Contractor or U.S. subcontractor firms responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for performance of the TA and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and (e) goods and services incidental to TA support (e.g., local lodging, food, and transportation) in Host Country are not subject to the above restrictions. USTDA will make available further details concerning these provisions upon request.

D. Recordkeeping and Audit

The Contractor and subcontractors funded under the Grant Agreement shall maintain, in accordance with generally accepted accounting procedures, books, records, and other documents, sufficient to reflect properly all transactions under or in connection with the contract. These books, records, and other documents shall clearly identify and track the use and expenditure of USTDA funds, separately from other funding sources. Such books, records, and documents shall be maintained during the contract term and for a period of three (3) years after final disbursement by USTDA. The Contractor and subcontractors shall afford USTDA, or its authorized representatives, the opportunity at reasonable times for inspection and audit of such books, records, and other documentation.

E. U.S. Carriers

(1) Air

Transportation by air of persons or property funded under the Grant Agreement shall be on U.S. flag carriers in accordance with the Fly America Act, 49 U.S.C. 40118, to the extent service by such carriers is available, as provided under applicable U.S. Government regulations.

(2) Marine

Transportation by sea of property funded under the Grant Agreement shall be on U.S. carriers in accordance with U.S. cargo preference law.

F. Workman's Compensation Insurance

The Contractor shall provide adequate Workman's Compensation Insurance coverage for work performed under this Contract.

G. Reporting Requirements

The Contractor shall advise USTDA by letter as to the status of the Project on March 1st annually for a period of two (2) years after completion of the TA. In addition, if at any time the Contractor receives follow-on work from the Client, the Contractor shall so notify USTDA and designate the Contractor's contact point including name, telephone, and fax number. Since this information may be made publicly available by USTDA, any information which is confidential shall be designated as such by the Contractor and provided separately to USTDA. USTDA will maintain the confidentiality of such information in accordance with applicable law.

H. Disbursement Procedures

(1) USTDA Approval of Contract

Disbursement of Grant funds will be made only after USTDA approval of this contract. To make this review in a timely fashion, USTDA must receive from either the Client or the Contractor a photocopy of an English language version of a signed contract or a final negotiated draft version to the attention of the General Counsel's office at USTDA's address listed in Clause M below.

(2) Payment Schedule Requirements

A payment schedule for disbursement of Grant funds to the Contractor shall be included in this Contract. Such payment schedule must conform to the following USTDA requirements: (1) up to twenty percent (20%) of the total USTDA Grant amount may be used as a mobilization payment; (2) all other payments, with the exception of the final payment, shall be based upon contract performance milestones; and (3) the final payment may be no less than fifteen percent (15%) of the total USTDA Grant amount, payable upon receipt by USTDA of an approved Final Report in accordance with the specifications and quantities set forth in Clause I below. Invoicing procedures for all payments are described below.

(3) Contractor Invoice Requirements

USTDA will make all disbursements of USTDA Grant funds directly to the Contractor. The Contractor must provide USTDA with an ACH Vendor Enrollment Form (available from USTDA) with the first invoice. The Client shall request disbursement of funds by USTDA to the Contractor for performance of the contract by submitting the following to USTDA:

(a) Contractor's Invoice

The Contractor's invoice shall include reference to an item listed in the Contract payment schedule, the requested payment amount, and an appropriate certification by the Contractor, as follows:

(i) For a mobilization payment (if any):

"As a condition for this mobilization payment, the Contractor certifies that it will perform all work in accordance with the terms of its Contract with the Client. To the extent that the Contractor does not comply with the terms and conditions of the Contract, including the USTDA mandatory provisions contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA. "

(ii) For contract performance milestone payments:

"The Contractor has performed the work described in this invoice in accordance with the terms of its contract with the Client and is entitled to payment thereunder. To the extent the Contractor has not complied with the terms and conditions of the Contract, including the USTDA mandatory provisions contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA."

(iii) For final payment:

"The Contractor has performed the work described in this invoice in accordance with the terms of its contract with the Client and is entitled to payment thereunder. Specifically, the Contractor has submitted the Final Report to the Client, as required by the Contract, and received the Client's approval of the Final Report. To the extent the Contractor has not complied with the terms and conditions of the Contract, including the USTDA mandatory provisions contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA."

(b) Client's Approval of the Contractor's Invoice

(i) The invoice for a mobilization payment must be approved in writing by the Client.

(ii) For contract performance milestone payments, the following certification by the Client must be provided on the invoice or separately:

"The services for which disbursement is requested by the Contractor have been performed satisfactorily, in accordance with applicable Contract provisions and the terms and conditions of the USTDA Grant Agreement."

(iii) For final payment, the following certification by the Client must be provided on the invoice or separately:

"The services for which disbursement is requested by the Contractor have been performed satisfactorily, in accordance with applicable Contract provisions and terms and conditions of the USTDA Grant Agreement. The Final Report submitted by the Contractor has been reviewed and approved by the Client. "

(c) USTDA Address for Disbursement Requests

Requests for disbursement shall be submitted by courier or mail to the attention of the Finance Department at USTDA's address listed in Clause M below.

(4) Termination

In the event that the Contract is terminated prior to completion, the Contractor will be eligible, subject to USTDA approval, for reasonable and documented costs which have been incurred in performing the Terms of Reference prior to termination, as well as reasonable wind down expenses. Reimbursement for such costs shall not exceed the total amount of undisbursed Grant funds. Likewise, in the event of such termination, USTDA is entitled to receive from the Contractor all USTDA Grant funds previously disbursed to the Contractor (including but not limited to mobilization payments) which exceed the reasonable and documented costs incurred in performing the Terms of Reference prior to termination.

I. USTDA Final Report

(1) Definition

"Final Report" shall mean the Final Report described in the attached Annex I Terms of Reference or, if no such "Final Report" is described therein, "Final Report" shall mean a substantive and comprehensive report of work performed in accordance with the attached Annex I Terms of Reference, including any documents delivered to the Client.

(2) Final Report Submission Requirements

The Contractor shall provide the following to USTDA:

(a) One (1) complete version of the Final Report for USTDA's records. This version shall have been approved by the Client in writing and must be in the English language. It is the responsibility of the Contractor to ensure that confidential information, if any, contained in this version be clearly marked. USTDA will maintain the confidentiality of such information in accordance with applicable law.

and

(b) One (1) copy of the Final Report suitable for public distribution ("Public Version"). The Public Version shall have been approved by the Client in writing and must be in the English language. As this version will be available for public

distribution, it must not contain any confidential information. If the report in (a) above contains no confidential information, it may be used as the Public Version. In any event, the Public Version must be informative and contain sufficient Project detail to be useful to prospective equipment and service providers.

and

(c) Two (2) CD-ROMs, each containing a complete copy of the Public Version of the Final Report. The electronic files on the CD-ROMs shall be submitted in a commonly accessible read-only format. As these CD-ROMs will be available for public distribution, they must not contain any confidential information. It is the responsibility of the Contractor to ensure that no confidential information is contained on the CD-ROMs.

The Contractor shall also provide one (1) copy of the Public Version of the Final Report to the Foreign Commercial Service Officer or the Economic Section of the U.S. Embassy in Host Country for informational purposes.

(3) Final Report Presentation

All Final Reports submitted to USTDA must be paginated and include the following:

(a) The front cover of every Final Report shall contain the name of the Client, the name of the Contractor who prepared the report, a report title, USTDA's logo, USTDA's mailing and delivery addresses. If the complete version of the Final Report contains confidential information, the Contractor shall be responsible for labeling the front cover of that version of the Final Report with the term "Confidential Version." The Contractor shall be responsible for labeling the front cover of the Public Version of the Final Report with the term "Public Version." The front cover of every Final Report shall also contain the following disclaimer:

"This report was funded by the U.S. Trade and Development Agency (USTDA), an agency of the U. S. Government. The opinions, findings, conclusions or recommendations expressed in this document are those of the author(s) and do not necessarily represent the official position or policies of USTDA. USTDA makes no representation about, nor does it accept responsibility for, the accuracy or completeness of the information contained in this report."

(b) The inside front cover of every Final Report shall contain USTDA's logo, USTDA's mailing and delivery addresses, and USTDA's mission statement. Camera-ready copy of USTDA Final Report specifications will be available from USTDA upon request.

(c) The Contractor shall affix to the front of the CD-ROM a label identifying the Host Country, USTDA Activity Number, the name of the Client, the name of the Contractor who prepared the report, a report title, and the following language:

“The Contractor certifies that this CD-ROM contains the Public Version of the Final Report and that all contents are suitable for public distribution.”

(d) The Contractor and any subcontractors that perform work pursuant to the Grant Agreement must be clearly identified in the Final Report. Business name, point of contact, address, telephone and fax numbers shall be included for Contractor and each subcontractor.

(e) The Final Report, while aiming at optimum specifications and characteristics for the Project, shall identify the availability of prospective U.S. sources of supply. Business name, point of contact, address, telephone and fax numbers shall be included for each commercial source.

(f) The Final Report shall be accompanied by a letter or other notation by the Client which states that the Client approves the Final Report. A certification by the Client to this effect provided on or with the invoice for final payment will meet this requirement.

J. Modifications

All changes, modifications, assignments or amendments to this contract, including the appendices, shall be made only by written agreement by the parties hereto, subject to written USTDA approval.

K. TA Schedule

(1) TA Completion Date

The completion date for the TA, which is March 31, 2011, is the date by which the parties estimate that the TA will have been completed.

(2) Time Limitation on Disbursement of USTDA Grant Funds

Except as USTDA may otherwise agree, (a) no USTDA funds may be disbursed under this contract for goods and services which are provided prior to the Effective Date of the Grant Agreement; and (b) all funds made available under the Grant Agreement must be disbursed within four (4) years from the Effective Date of the Grant Agreement.

L. Business Practices

The Contractor agrees not to pay, promise to pay, or authorize the payment of any money or anything of value, directly or indirectly, to any person (whether a governmental official or private individual) for the purpose of illegally or improperly inducing anyone to take any action favorable to any party in connection with the TA. The Client agrees

not to receive any such payment. The Contractor and the Client agree that each will require that any agent or representative hired to represent them in connection with the TA will comply with this paragraph and all laws which apply to activities and obligations of each party under this Contract, including but not limited to those laws and obligations dealing with improper payments as described above.

M. USTDA Address and Fiscal Data

Any communication with USTDA regarding this Contract shall be sent to the following address and include the fiscal data listed below:

U.S. Trade and Development Agency
1000 Wilson Boulevard, Suite 1600
Arlington, Virginia 22209-3901
USA

Phone: (703) 875-4357
Fax: (703) 875-4009

Fiscal Data:

Appropriation No.:	11 9/10 1001
Activity No.:	2009-31057A
Reservation No.:	2009310081
Grant No.:	GH2009310021

N. Definitions

All capitalized terms not otherwise defined herein shall have the meaning set forth in the Grant Agreement.

O. Taxes

USTDA funds provided under the Grant Agreement shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in Host Country. Neither the Client nor the Contractor will seek reimbursement from USTDA for such taxes, tariffs, duties, fees or other levies.

(2/28/08 version)

ANNEX 5

TERMS OF REFERENCE

Provincial Emergency Medical Services Capacity Building

Purpose and objective of the project

The purpose of the project is to develop and deliver a train-the-trainer program in Emergency Medical Services at the 120 Center in Chengdu, Sichuan, that follows U.S. training standards. The goal is to create local market awareness to the quality of U.S. emergency training practices, technologies and products.

Technical Assessment

The 120 Center, through the Sichuan Provincial Department of Health, seeks technical training in the area of emergency services and care for pre-hospital emergency medical care. It is responsible for commanding, dispatching, organizing and coordinating all city daily emergency care as well as large-scale “sudden occurrences.” It performs field first-aid and transport of the sick and injured to intensive care facilities, leads emergency medical services during major events, and is responsible for emergency skills training and academic exchanges for pre-hospital care. In Sichuan Province there are 20,765 medical hospitals and clinics, and a total of 202 “120 Centers” that provide EMS services. The 120 Center in Chengdu is considered the premier EMS institution in the Province.

The Center has been impressed by the U.S. training methodologies and techniques it was exposed to during the 2005 USTDA Orientation Visit. It intends to adopt U.S. training approaches and standards for emergency medical care. It seeks assistance developing the training curriculum and course materials, and receiving training from experienced American emergency medical services (EMS) experts. Its objective is to significantly upgrade the quality and versatility of human resources for emergency medical care in Western China and to expose local practitioners to American emergency medical care products, services and methodologies.

The Center will initially target EMS professionals in the province such as emergency medical technicians (EMT), community doctors, and nurses. The Center anticipates expanding its target audience for training to include police, fire and other emergency services providers that, unlike in the U.S., have not historically received emergency medical training. In addition, the Center will offer emergency medical training to the public for the first time, including introductory classes that are less rigorous than full EMT training. Courses will be offered at the Center’s training facility in Chengdu.

The 120 Center and training academy was established in June 1997. The training building is 1500m² (15,000 sq. ft.). It includes the main Academic Hall, which seats 80 people, and four working training rooms that can accommodate 32 students each: 1) Cardiopulmonary resuscitation; 2) airway management; 3) Intensive care unit (ICU); and Trauma Care. It offers nine courses for emergency knowledge and skills training class (including two classes related to communications and command center management), as well as 50 seminars and 20 specialized skill teaching programs. The Center has offered training programs organized by national and provincial emergency medical educators in eight cities, where it trained 1535 people. It also provided grass-roots training classes at the rural level, training 2327 people. Additionally, it has trained 49 engineers and dispatch technicians for more than 10 emergency rescue centers throughout Sichuan.

The training program will provide intensive train-the-trainer assistance to prepare 120 Center instructors to adopt and propagate U.S. emergency medical services training and methodologies.

Proposed Approach

The Contractor shall develop a curriculum and deliver a training course for emergency medical services based on accepted U.S. EMS training standards. The objective of the train-the-trainer program is to enable the 120 Center to adopt and replicate U.S. EMS training approaches and methodologies and to share knowledge of U.S. technologies available for EMS needs.

The Contractor shall:

Task 1: Develop a U.S. EMS/EMT training curriculum for use at the 120 Center

- 1.1 The Contractor shall adapt for the Sichuan 120 Center the U.S. “Emergency Medical Technical-Basic National Standard Curriculum” for EMS/EMT personnel developed by the U.S. National Highway Traffic Safety Administration (<http://www.nhtsa.dot.gov/people/injury/ems/pub/emtbns.pdf>) or other appropriate U.S. EMT technical training course. On the basis of this curriculum, the Contractor shall develop a training program consisting of 2 sets of six week seminars/workshops and work in close consultation with the executive management and Director General of the 120 Center in Chengdu to customize the training to the needs of the trainees and the standard practices of the 120 Center. The Contractor shall consult with no fewer than six U.S. individual experts or professional associations that can provide perspectives and experiences on cross-cultural training programs in emergency medical services. Additionally, the Contractor shall consult with U.S. government entities including USTDA and the Foreign Commercial Service for outreach and other program support. In addition to training seminars, workshops, conferences, activities, and one-on-one meetings to facilitate networking and coordination between Chinese and U.S. standards organizations, other formats for establishing communication and coordination between these organizations may be utilized as appropriate.

- 1.2 The Contractor shall actively solicit and promote U.S. industry participation in the training, covering all areas of emergency medical services quality improvement, including, but not limited to emergency procedures, advanced life support, disaster management, training accreditation, equipment selection, quality improvement plans, policy mechanisms and best practices. The Contractor shall work with these industry groups, as well as other interested industry organizations, to develop coursework to be covered in the seminars/workshops to improve emergency medical services quality in China, including mobile hospital services.
- 1.3 The Contractor shall coordinate with U.S. and Host Country government entities and industry organizations to develop industry- and sector-specific training materials that shall be used to familiarize Host Country participants with U.S. industry-led international standards and approaches.
- 1.4 Once the specific details of each set of seminars/workshops are finalized, the Contractor shall prepare a course catalogue or syllabus for each set of seminars/workshops. These materials shall include, at a minimum, the following:
 - Overview of the seminar/workshop
 - Materials to be provided
 - Qualifications of presenter(s)
 - Appropriate attendees
 - Venue
 - Registration information, including deadline for registration
 - Date and duration of the seminar/workshop

Task 1 Deliverable: The Contractor shall produce an Interim Report that provides a summary of all of the work described above, details of each seminar/workshop to be delivered, the specific course descriptions and content, and summary of U.S. firms that the Contractor will solicit.

Task 2: Deliver Two Phase Training Program

- 2.1 The Contractor shall deliver a two-phased technical training program over a period of one year to Host Country participants. Each phase shall consist of at least 2 sets of seminars/workshops and shall last six (6) weeks in duration, or 120 person days, for a total of 240 person days.
- 2.2 Scope. The Contractor shall instruct 18 students in each phase utilizing a 6:1 student:faculty ratio.
- 2.3 Instructors and materials. All courses shall be taught by certified instructors. The Contractor shall make available a minimum of thirty-six (36) sets of training courseware material. The Contractor shall identify, procure and reproduce (as necessary and allowed by applicable copyright laws) the material for distribution to the training program participants.

- 2.4 Location. The Grantee shall provide the venue for all training. The Contractor shall conduct all training at the 120 Center training facility in Chengdu, Sichuan Province, China.
- 2.5 Interpretation. The Contractor shall conduct the training in English. In advance of the training, the Contractor shall coordinate with the 120 Center for the Center to arrange for sufficient interpretation services, which shall be paid for by the 120 Center.
- 2.6 Translation. To ensure a clear understanding on the part of the Chinese participants regarding what will be involved in each training seminar/workshop, all documents issued to participants shall be translated into Chinese by the Contractor and provided in advance of each training seminar/workshop. All translation shall be undertaken by a professional technical translator familiar with the subject matter, and then reviewed and edited by bilingual technical experts to assure its accuracy. The translation shall only pertain to courseware materials, not to any ancillary recommendations, for example, optional textbooks.
- 2.7 Guest Industry Presenters. The Contractor shall identify U.S. private sector representatives from a minimum of six (6) U.S. medical products and/or medical technology companies that can discuss, present and contribute case studies associated with aspects of the training curricula. The U.S. private sector representatives will serve as expert presenters and facilitate case study sessions to enhance participants' understanding of emergency services technologies and practices as it relates to the priority areas of interest to Host Country entities and industry organizations. The Contractor shall coordinate U.S. private sector travel logistics, prepare presentations and provide access to presentation equipment. The Contractor shall encourage the participating U.S. firm/entity to bear responsibility for costs associated with participating in the program, such as travel and lodging.
- 2.8 Coordination with U.S. stakeholders. The Contractor shall regularly update USTDA, U.S. government partners such as the Federal Emergency Management Agency, the Department of Homeland Security, the National Fire Protection Association and other U.S. stakeholders on the progress of the training program. This will require updates prior to the start of each training phase and upon the completion of each training phase, at a minimum. Updates shall include brief summaries of the tasks to be completed, topics to be discussed and results of the training delivery. These updates are intended to ensure that U.S. government entities and stakeholders are fully informed of the issues being addressed. Additionally, the Contractor shall provide USTDA and U.S. government partners with an electronic draft copy of the training materials to be used in the training program to ensure they comply with US policy and trade goals.
- 2.9 Other. The Contractor shall assist the participants in all reasonable requests to obtain additional information related to the training topics, including, as needed, follow-up mailings subsequent to the conclusion of the training phases. During

the course of the training program, the Contractor shall be available, via phone, email, fax or letter, to answer any questions on any of the topics covered under this training program. The Contractor shall provide copies of presentation materials to the relevant Chinese beneficiaries of each training seminar/workshop.

Task 2 Deliverable: Following completion of each phase of training, the Contractor shall draft a report on project accomplishments. The report should include, but not be limited to, a description of the training completed, a copy of all training materials, a list of trainees and their contact information, an appraisal by the Contractor and the Grantee of the effectiveness of the training, lessons learned, and improvements that can be included in the training. The Contractor shall present its assessments as the Phase 1 Report and Phase 2 Report, respectively.

Task 3: Evaluate the Effectiveness of the Training Delivered

- 3.1 The Contractor shall evaluate the effectiveness of the seminars/workshops by preparing questionnaires, to be completed by all Host Country participants. Questionnaires shall be administered to measure the immediate (two months following conclusion of each phase) success of the program. The questionnaires must contain the following criteria, at a minimum:
- Appropriateness of material to needs of trainers and their prospective training audience
 - Thoroughness of understanding gained of the material
 - Understanding of standards, policies and resources that support EMS in Sichuan and globally
 - Understanding of technology solutions available to aid EMS practice
 - Plans for implementing training in Sichuan, to what volume and to what audience
 - Plans for acquiring resources, including technology, identified in the course
 - Suggestions for improvements to the training

More than one type of questionnaire may be required to determine the effectiveness of the training. Additional feedback shall be gathered by the Contractor from seminar/workshop presenters in oral and written evaluations. Through follow-up with the Grantee, trainees and the U.S. private sector participants, the Contractor shall identify the most productive prospective commercial relationships that were assisted by the events. The Contractor shall consult with U.S. and Host Country government entities, and U.S. and Host Country industry organizations on methods to improve the quality of the Project based upon the feedback provided.

Task 3 Deliverable: The Contractor shall include in the Phase 1 Report, the Phase 2 Report and the Final Report a section that evaluates the effectiveness of each of the seminars/workshops delivered according to the criteria identified in this task.

Task 4: Identify U.S. Export Sources

Task 4 Deliverable: The Contractor shall identify no fewer than fifteen (15) suppliers of emergency medical products and devices that produce goods at manufacturing facilities in the U.S. The Contractor shall identify the specific products; potential export opportunity in Sichuan Province; and contact information for each of the suppliers.

Task 5: Final Report

5.1 Final Report: The Contractor shall prepare and deliver to the Grantee and USTDA a substantive and comprehensive final report of all work performed under these Terms of Reference (“Final Report”). The Final Report shall be organized according to the above tasks, and shall include all deliverables and documents that have been provided to the Grantee. The Final Report shall be prepared in accordance with Clause I of Annex II of the Grant Agreement.

Each of the above tasks in this Terms of Reference must be distinctly set forth in the Final Report in a substantive and comprehensive manner, and shall include all corresponding deliverables as well as an executive summary. In addition to any other required deliverables in accordance with Clause I of Annex II of the Grant Agreement, the Contractor will provide both the Grantee and USTDA with 6 copies (each) of the Final Report on CD-ROM. The CD-ROM version of the Final Report will include:

- Adobe Acrobat readable copies of all documents;
- Source files for all drawings in AutoCAD or Visio format; and
- Source files for all documents in MS Office 2000 or later formats.

In addition, the Contractor’s Final Report shall include each of the sub-sections below:

5.1.1 Economic Analysis. The Contractor shall explore and briefly report on any positive economic impacts that may be produced from the training. The Contractor shall identify and quantify economic benefits resulting from the program. The assessment shall be made to the best of Contractor’s internal abilities and utilizing existing subject matter expertise. An exhaustive econometric forecast and analysis is not required.

5.1.2 Environmental Analysis. *The Contractor will make a preliminary review of the project’s anticipated impact on the environment with reference to local requirements and those of multilateral lending agencies (such as the World Bank). This review shall identify potential negative impacts and discuss the extent to which they can be mitigated. Because the project for the 120 Center involves the provision of professional training, few, if any, negative environmental impacts can be anticipated. Conversely, positive impacts may possibly be created by the Project and any such beneficial impacts shall be highlighted.*

5.1.3 Development Impact Analysis. *The Contract shall provide an analysis of key host country development impacts. These development impact factors are intended to provide USTDA and the Grantee with a broader view of the Project’s*

potential effects on the Host Country. While specific focus shall be paid to the immediate impact of the Project, analysis shall include any additional developmental benefits that may result from the training, including spin-off and demonstration effects. Accordingly, the analysis shall include an assessment of each of the following categories with respect to the Project's potential development impact:

- (1) **Infrastructure**: Provide a statement on the infrastructure impact, giving a brief synopsis. For example, how will the 120 Center training improve delivery of emergency medical services in Sichuan? Other issues as appropriate shall also be identified.
- (2) **Market- Oriented Reform**: Provide a description of any regulations, laws, or institutional changes that are recommended and the effect they would have if implemented, including leading to adoption and /or customization of international emergency medical services standards for China. The Contractor shall highlight any new market-oriented reforms that may result from the training.
- (3) **Human Capacity Building**: The Contractor shall assess the number and type of professionals that will be trained by the immediate program, and as a result of "training the trainers" over a five year period of time.
- (4) **Technology Transfer and Productivity Enhancement**: Provide a description of any advanced technologies that would be utilized as a result of the Project and a description of any efficiency that would be gained.
- (5) **Other**: Describe any other developmental impacts or benefits that would result from the Project.

For specific information regarding USTDA's Development Impact goals and measures, please contact the East Asia Country Manager at USTDA, or see the Guidance on USTDA Development Impact Measures at www.ustda.gov/resources.

Notes:

- (1) **The Contractor is responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of the Terms of Reference.**
- (2) **The Contractor and the Grantee shall be careful to ensure that the public version of the Final Report contains no security or confidential information.**
- (3) **The Grantee and USTDA shall have an irrevocable, worldwide, royalty-free, non-exclusive right to use and distribute the Final Report and all work product that is developed under these Terms of Reference.**

7. Project Manager's name, address, telephone number, e-mail address and fax number .

B. Offeror's Authorized Negotiator

Provide name, title, address, telephone number, e-mail address and fax number of the Offeror's authorized negotiator. The person cited shall be empowered to make binding commitments for the Offeror and its subcontractors, if any.

C. Negotiation Prerequisites

1. Discuss any current or anticipated commitments which may impact the ability of the Offeror or its subcontractors to complete the Feasibility Study as proposed and reflect such impact within the project schedule.

2. Identify any specific information which is needed from the Grantee before commencing contract negotiations.

D. Offeror's Representations

Please provide exceptions and/or explanations in the event that any of the following representations cannot be made:

1. Offeror is a corporation [*insert applicable type of entity if not a corporation*] duly organized, validly existing and in good standing under the laws of the State of _____. The Offeror has all the requisite corporate power and authority to conduct its business as presently conducted, to submit this proposal, and if selected, to execute and deliver a contract to the Grantee for the performance of the Feasibility Study. The Offeror is not debarred, suspended, or to the best of its knowledge or belief, proposed for debarment, or ineligible for the award of contracts by any federal or state governmental agency or authority. The Offeror has included, with this proposal, a certified copy of its Articles of Incorporation, and a certificate of good

standing issued within one month of the date of its proposal by the State of _____.

2. Neither the Offeror nor any of its principal officers have, within the three-year period preceding this RFP, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.
3. Neither the Offeror, nor any of its principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 2 above.
4. There are no federal or state tax liens pending against the assets, property or business of the Offeror. The Offeror, has not, within the three-year period preceding this RFP, been notified of any delinquent federal or state taxes in an amount that exceeds \$3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.
5. The Offeror has not commenced a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself or its debts under any bankruptcy, insolvency or other similar law. The Offeror has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.

The selected Offeror shall notify the Grantee and USTDA if any of the representations included in its proposal are no longer true and correct at the time of its entry into a contract with the Grantee. USTDA retains the right to request an updated certificate of good standing from the selected Offeror.

Signed: _____
(Authorized Representative)

Print Name: _____

Title: _____

Date: _____