Assessment of the Communication Infrastructure of the Environmental Resources Management Branch of the Texas Army National Guard

Prepared by Students in the Fall Semester 2001 Class in

*Systems Analysis and Evaluation*

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1.0 EXECUTIVE SUMMARY

1.1 INTRODUCTION

An assessment of the communication infrastructure and processes of the Environmental Resources Management Branch (AGTX-EV) of the Texas Army National Guard (TXARNG) formed the project, for the Fall Semester 2001, of the Systems Analysis and Evaluation class from the Graduate School of Library and Information Science at The University of Texas at Austin.

The goal of the project was to help the AGTX-EV prepare for an impending audit, to be performed by the Environmental Protection Agency (EPA), of the Guard's environmental management system. The project team compared the guidelines for communications as outlined in established standards such as the Code of Environmental Management Principles (CEMP) and the International Organization for Standardization’s (ISO) Principle 14001 with the communication practices of the AGTX-EV.

1.2 Methodology

The project team employed several methods during the process of project fulfillment. After initial contacts and introductory visits with the AGTX-EV, members of the team engaged in an intense data-gathering effort. Preliminary questionnaires were composed and electronically distributed to all staff personnel. These were used to gain a very general understanding upon which to build a plan of attack. Because of the time constraints imposed on the project team by the events surrounding 11 September 2001, intensive data gathering and analysis proceeded swiftly.

The results of the initial questionnaire were used to formulate detailed inquiries into the tasks of specific AGTX-EV project managers. Interviews were conducted during numerous site visits to the client’s headquarters at Camp Mabry, and an extensive evaluation of the TXARNG website was instigated.

The team would like to emphasize the fact that this study concentrates on only a small area, albeit a crucial area, that the EPA will examine during the course of their audit. Had there been sufficient time and personnel power, the team members would have gladly evaluated other practices and procedures of the AGTX-EV. As it stands, this document contains an analysis of the client’s communication infrastructure and some recommendations for improvement in various areas.

Team members are happy to report that the AGTX-EV’s practices in the area of communication are, for the most part, in compliance with international standards as set forth in the CEMP and ISO 14001. There are still many areas that need improvement, and recommendations have been made accordingly. Thanks to the commitment and creativity of AGTX-EV staff members and management, ambitious plans seem already underway to remedy each of those areas that need the most improvement.

All raw data from questionnaires, interviews, and usability walk-throughs have been included in the Appendices to this document.

1.3 Project Team

The members of the project team were Hyeyoung Lee, Li Ma, Erik Magnuson, Tushar Patel, Anna Shin, Zachary Twining, and Cheer Yi, all of whom are students in the master's-degree program of the Graduate School of Library and Information Science, The University of Texas at Austin. They carried out their project under the general direction of Professor Ronald E. Wyllys. The project was initiated in conversations between Ms. Valerie Stein, Manager, Environmental Resources Management Branch, and Dr. Wyllys.
2.0 SWOT ANALYSIS OF THE COMMUNICATION INFRASTRUCTURE OF THE ENVIRONMENTAL RESOURCES MANAGEMENT BRANCH OF THE TEXAS ARMY NATIONAL GUARD

2.1 INTRODUCTION

2.2 STRENGTHS

2.3 WEAKNESSES

2.4 OPPORTUNITIES

2.5 THREATS

2.6 CONCLUSION

2.0 SWOT Analysis of the Communication Infrastructure of the Environmental Resources Management Branch of the Texas Army National Guard

2.1 Introduction

This SWOT Analysis identifies the Strengths, Weaknesses, Opportunities, and Threats concerning AGTX-EV’s communication structure. By nature, the SWOT deals with the strengths and weaknesses that concern the organization internally, while identifying the external opportunities and threats. The SWOT only provides an overview. More detailed information concerning specific issues found in the SWOT may be found in the attached appendices.

2.2 Strengths

- **Strong, Clearly Defined Mission**
  The AGTX-EV has a clearly defined mission statement. The staff is dedicated to accomplishing this mission.

- **Internal, Informal Communications**
  Because the organization is so small, the informal communication between staff members is effective. Staff members communicate informally using oral, electronic mail, telephone, and written formats. Members within individual programs conduct frequent informal meetings and conversations in order to consult one another on their work. The program managers and the Environmental Manager are always available for informal consultation.

- **Formal Meetings**
  The environmental staff participates in monthly formal meetings to discuss ongoing projects and/or any problems. These meetings ensure that all members of the environmental staff are aware of all activities conducted by the various environmental groups.

- **Generation of Information and Reports**
  Every member of the AGTX-EV staff frequently generates various forms and progress reports, using various means, such as electronic spreadsheets and written reports. Their website contains a vast amount of information, especially information that may be used by troops in the field. The Environmental Manager is constantly informed of the activities of her staff.

- **New Training Initiative**
  The AGTX-EV is currently developing new training so as to instill environmental awareness in the soldiers of the TXARNG.

2.3 Weaknesses

- **Inconsistency in the Use of Various Forms of Communication**
The staff utilizes various means of communication. While this is essential for informal communications, such as conversations among various program members, the inconsistency in the utilization of various means of communication for the dissemination of formal information leads to the loss of efficiency. This is especially true concerning reports made by program managers. Some managers communicate primarily through oral reports, others use email, and still others use written reports. There is efficient use of databases, especially for information well suited for spreadsheets; however, it would be more efficient if formal reports were submitted to the Environmental Manager using the same format.

- **Need for Better Familiarity among Staff with Each Other’s Activities**
  Although the activities of many of the staff members do not concern anyone other than those within their own programs, it might prove beneficial to the organization as a whole if everyone were more familiar with the activities of the others. This is especially true in an organization as small as the AGTX-EV. Some of the time spent in the monthly meetings of the Environmental Staff could be devoted to greater exchange of information among the staff members about their activities.

- **Inadequate Use of Virtual Resources**
  The AGTX-EV maintains a useful and informative website for use by external parties, although its availability is currently limited because of precautions put in place after 11 September. The staff could also benefit from greater use of an Intranet accessible only by them. Establishing an Intranet would allow the use of a virtual bulletin board so that all staff members could be informed simultaneously about important events, needs, and information. A virtual library has been established, but it needs to be used. If there were a standard format for reports, and that format were electronic, the reports could be stored in the virtual library and would be more accessible.

2.4 Opportunities

- **Inconsistency in the Use of Various Forms of Communication**
  AGTX-EV communicates frequently with various external entities, but these communications take various forms. In some cases, such as with communications with federal entities such as the National Guard Bureau, these communications must adhere to federally mandated forms. This engenders efficiency and allows those entities receiving the information to deal with it more easily. But the AGTX-EV’s communications with other external entities, such as contractors and individual commanders, do not follow any mandated forms. The AGTX-EV could follow the federal example, and require that all communications sent to the AGTX-EV be in a certain format. This would lead to consistency, and allow easier archiving of official documentation. There will always be informal telephone conversations and the like, but with formal communications, consistency will lead to greater efficiency. One example is the Training Event Record of Environmental Consideration (TEREC). This report is currently available online to troops in the field. If they were required to fill out the form and submit it online as well, it would be more efficient and easier to archive.

- **Training**
  The AGTX-EV currently conducts good training for external entities, especially troops. This training could be expanded to include changes to the way information is submitted to AGTX-EV (see the TEREC example above). Training could also be implemented for unit commanders, so they know what information needs to be submitted to AGTX-EV and how that information is to be submitted. This could lead to further efficiency. The formal training of troops on the use of the AGTX-EV website would also provide further efficiency in the dissemination of information. There is also a need for adequate and consistent documentation for training that is completed by the soldiers.

- **AGTX-EV Website**
  The AGTX-EV website is very extensive and provides much useful information. It is so extensive, however, that it would benefit from a formal usability study in order to enhance the information architecture. As it stands, troops who have not been formally trained on the system may have difficulty in finding the information they need.
2.5 Threats

- **No Control Over Electronic Capabilities and/or Access**
  Units in the field may not have the capability to use the website, to submit forms online, or to communicate electronically. This may be due to lack of training, or lack of infrastructure. The current political situation means that it may be difficult for concerned parties to gain full access. Some of these problems may be alleviated through training, but the AGTX-EV may not be able to get this training implemented due to the small size of its staff, its small budget, and its possible lack of influence in requiring this additional training.

- **Resistance to Change**
  The AGTX-EV accomplishes its mission well, but one consequence of this fact is that its activities sometimes encounter a natural human resistance to change on the part of those outside the organization. Commanders may be concerned about the need for their organizations to be aware of environmental impacts in connection with their activities and training. Other external entities may feel that the current system is perfectly adequate. There is also a general lack of awareness on the part of the soldiers towards environmental issues.

- **Budget Constraints**
  Any change requires additional funding. In an organization where budgets are already tight, it may seem impossible to implement any changes, especially when the mission is being accomplished. If the EPA makes the same recommendations after their audit, perhaps some additional funds may be procured.

2.6 Conclusion

The AGTX-EV staff is deeply dedicated to its mission. Overall, it has good communication among its personnel, but eliminating inconsistencies would be a tremendous benefit. It may be hard to implement changes, (especially those concerning communications with external entities), because of insufficient funds, the current political situation, and resistance to change (both internally and externally), but the AGTX-EV would benefit greatly if it were able to streamline its communication processes. As mentioned in the Threat area, perhaps the EPA audit will provide some impetus for improvement in this area.
3.0 ORGANIZATIONAL CHART OF THE ENVIRONMENTAL RESOURCE MANAGEMENT BRANCH

Environmental Manager
Ms. Valerie Stein

Environmental Protection Specialist
Vacant

Budget Analyst
Ms. Cathy Krueger

Environmental Quality Specialist
Mr. Ron Sollitt

Environmental Quality Specialist
Mr. Dave Boucher

Natural Resources Specialist
Ms. Dawn Johnson

Environmental Compliance Coordinator
Ms. Sharon Jones

Web Master
Mr. Miroslav Dvorak

Communications Intern
Ms. Kim Koenig

Communications Intern
Mr. Peter Tran

Integrated Training Area Management (ITAM) Coordinator

System Analyst GIS
Mr. Burhan Girgin

Cultural Resources Manager
Ms. Shellie Prewitt

Natural Resources Specialist
Ms. Janet Bauchman

Environmental Engineer
Mr. Shakeel Ahmad

Engineering Assistant
Mr. Mark Mendel

As of October 2001
4.0 ENVIRONMENTAL FUNCTIONS OF AGTX-EV

4.1 INTRODUCTION

For the Environmental Management System (EMS) to be effective, individual roles and responsibilities must clearly be defined as they relate to the achievement of environmental objectives and targets and the overall operation of the EMS.

All employees of the organization should clearly understand their environmental roles and responsibilities as well as understand the importance of the environmental targets and objectives that they can affect. In that sense, the organizational chart should be defined in writing. The organizational chart will be helpful for illustrating many of the environmental responsibilities that must be addressed.

4.2 EVALUATION OF AGTX-EV ENVIRONMENTAL ORGANIZATIONAL CHART

While the AGTX-EV has maintained a staffing and organizational chart and each staff member is committed to the impact of their own areas on the environment, the organizational chart does not address the roles and responsibilities of each staff member.

By supplementing the organizational chart, AGTX-EV can identify more clearly what environmental issues should be planned for and taken into account.

4.3 ROLES AND RESPONSIBILITIES

As the audit proceeds, the following roles and responsibilities should be taken into account.

4.3.1 ENVIRONMENTAL MANAGEMENT REPRESENTATIVE

Environmental Management Representative (EMR) (Ms. Stein)

- Ensures the homogeneity of the implementation process and the continual improvement of the system once it has been established
- Reports on the performance of the EMS to top management every six months for evaluation and improvement purposes

EMS management
• Provides guidance concerning data relationship and business requirements
• Supports project through staff commitment
• Issues EMS procedure and policy

4.3.2 BUDGET ANALYST

Budget Analyst (Ms. Krueger)

• Manages and maintains the Environmental Budget Report (EBR) and management of the Environmental Program Requirements (EPR) report
• Is responsible for the Installation Status Report (ISR), the Environmental Quality Report (EQR), and the management of the Obligation Tracking System (OTS)
• Combines the EPR, EQR, and ISR report data given by the program managers into an electronic report for the National Guard Bureau (NGB)
• Coordinates the Master Cooperative Agreement

4.3.3 ENVIRONMENTAL QUALITY SPECIALIST

Environmental Quality Specialist (Mr. Sollitt)

• Is responsible for environmental compliance at TXARNG facilities
  • Tracks ECAS to find which units are not in compliance and sends ECAS findings (compliance program) about those units to the related program manager who is in charge of the subject area
  • Handles external and internal audits and assessments, all of which are conducted at TXARNG facilities. The coverage of ECAS includes air emissions management, cultural resources, hazardous materials, natural resources, pesticides, Petroleum and Oil and Lubricants management (POL), toxic substances management, waste water, pollution prevention, installation restoration, and environmental program management
• Conducts environmental assessment upon request and reports to the Environmental Manager Representative
• Handles Pest and noise management
• Monitors National Environmental Policy Act (NEPA) regulations and environmental checklists
• Conducts environmental studies for acquired or excess properties
• Prepares the Installation Status Report (ISR), Part II
• Submits EQR to Budget Analyst

4.3.4 ENVIRONMENTAL QUALITY SPECIALIST

Environmental Quality Specialist (Mr. Boucher)

• Is responsible for Installation Restoration Program (IRP), which is aimed at investigating the potential environmental impacts of past practices and cleaning up contaminated environments on active/operating Army installations and activities, within TXARNG
• Oversees Environmental Assessments (EA) and Environmental Impact Statements (EIS)
  • EA and EIS both evaluate a federal action for its potential impact on the human and natural environment and for its compliance with environmental laws and regulations
• Ensures that all environmental activities within TXARNG comply with the processes set forth by NEPA
• Oversees the VST program: the cleanup of leaking tank sites, registering tanks, and assessment of old tank sites
• Coordinates with Logistics regarding hazardous waste and materials issues. Generates purchase orders and reviews the sampling of hazardous waste characteristics
• Is responsible for the pollution prevention program, which is aimed at saving resources and helping to preserve the environment and protect worker safety within TXARNG
• Oversees recycling and reuse of waste materials and initiatives for reductions, substitutions and process changes designed to reduce the use of hazardous materials and to lower the generation of hazardous waste by TXARNG facilities
• Handles ECAS audits (compliance assessments) and maintains the required ECAS software
• Reports to State/EPA all Emergency Planning and Community Right-to-know Act (EPCRA) requirements
• Registers above-ground storage tanks and maintains fee payments to the state
• Oversees air emissions inventories for facilities requiring such action. Oversees conformity analysis and synthetic minor permits

4.3.5 CULTURAL RESOURCES MANAGER

Cultural Resources Manager (Ms. Prewitt)

• Preserves and protects cultural resources while allowing the military to continue with its mission
• Manages cultural resource inventories and testing
• Carries out architectural evaluations
• Conducts ethnographic and historical studies and Native American consultations
• Consults with the Texas Historical Commission on issues concerning Section 106 and 110 of the National Historic Preservation Act and the Texas State Antiquities Code
• Submits EPR, EQR, and ISR to Budget Analyst
• Develops Integrated Cultural Resources Management Plan (ICRMP)

4.3.6 NATURAL RESOURCES MANAGER

Natural Resources Specialist (Ms. Johnson)

• Manages the Natural Resources at TXARNG facilities to protect and preserve, while supporting the military mission by sustaining training environments
• Provides expertise for NEPA and consultations on threatened and endangered species
• Instituted Standard Operating Procedures (SOPs) for natural resources at major training centers
• Develops recreational and rehabilitation plans for facilities
• Conducts Invasive Species Management

4.3.7 NATURAL RESOURCES SPECIALIST

Natural Resources Specialist (Ms. Bauchman)

• Manages areas of responsibility: deer, bat (not surveys), and forest management, as well as prescribed burns and timber harvesting
• Reviews all Training Event Record of Environmental Consideration (TEREC) records and submits them to the training facility and unit that will need authorization
• Develops Integrated Natural Resource Management Plans (INRMP)
  • INRMPs have a formal and federally mandated process
• Handles musters
• Provides backup for Cultural Resources (Shellie Prewitt) and Environmental Assessments (Dave Boucher), and any natural resource need

4.3.8 ENVIRONMENTAL ENGINEER

Environmental Engineer (Mr. Ahmad)
• Manages all projects associated with the Clean Water, Clean Air and Safe Drinking Water Act
• Tracks storm water pollution prevention program (the storm water pollution prevention program is a major focus of the EPA because the TXARNG has many maintenance facilities that are regarded as industrial activities)
• Is responsible for the technical aspects of environmental issues and projects at TXARNG facilities requiring study, engineering design, consultation, construction of pollution control and environmental protection projects such as storm water pollution prevention
• Submits EPR, EQR, and ISR reports
• Handles Obligation Tracking System (OTS)

4.3.9 GEOGRAPHIC INFORMATION SYSTEM (GIS) MANAGER

System Analyst (Mr. Girgin)

• Is responsible for Spatial Data Management, Maps, GPS, and Automation
• Ensures that all final products of AGTX-EV, requiring any type of spatial data, match AGTX-EV standards as well as the state and federal standards set for GIS data
• Supports all the other project officers (such as the Natural Resources Manager and the Cultural Resources Manager) with their annual report submissions to the NGB regarding spatial information and maps in these reports
• Serves as GIS and Global Positioning System (GPS) instructor and service provider

4.3.10 INTEGRATED TRAINING AREA MANAGEMENT (ITAM) COORDINATOR

Integrated Training Area Management Coordinator (Mr. Bassett)

• Exists to ensure that the TXARNG can continue to train and produce forces of the highest quality—able to deploy rapidly, to fight, to sustain themselves, and to win quickly with minimum casualties
• Assists the TXARNG to achieve optimum sustainable use of training lands and to conduct training in accordance with doctrinally based standards and under realistic combat conditions. This is accomplished by establishing a systematic ecological land management program that includes:
  • Inventorying and monitoring of land conditions at existing and future training sites
  • Integrating National Guard training requirements with carrying capacity of the land
  • Educating National Guard personnel to conduct their land use activities in a way that minimizes adverse impacts to the ecological systems
  • Providing for ecological system rehabilitation and maintenance

4.3.11. ENVIRONMENTAL COMPLIANCE COORDINATOR

Environmental Compliance Coordinator (Ms. Jones)

• Conducts and/or arranges training as required
• Develops training programs
• Maintains and updates environmental website
• Conducts environmental compliance coordination and manages programs such as Environmental Awareness, distance and virtual education, local internships and fellowships, and other training initiatives to ensure TXARNG forces remain knowledgeable about the requirements to maintain compliance in their daily activities
• Conducts internal environmental compliance assessment (ICAS) visits at TXARNG facilities
4.3.12 WEB MASTER

Web Master (Mr. Dvorak)

- Maintains TXARNG website
- Develops the Environmental Management System (EMS)
  - Communicates with all involved parties to maintain agreed upon physical design
  - Updates and requests guidance from project manager
  - Gathers, converts and loads data into EMS
  - Conducts system tests and implements refinements when necessary
  - Documents database design

4.3.13 RESPONSIBILITIES OF ALL PROJECT MANAGERS IN REGARD TO THE EMS

- Provide input concerning information flow and business requirements
- Inform Project Manager and Programmer about data locations and formats
5.0 COMPARISON OF INTERNATIONAL STANDARDS WITH AGTX-EV PRACTICES

5.1 CEMP PRINCIPLES AND DERIVATIVE EMS PRINCIPLES

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<tr>
<th>CEMP Principle</th>
<th>EMS Principle</th>
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<tr>
<td><strong>3.1 Training:</strong> The agency ensures that personnel are fully trained to carry out the environmental responsibilities of their positions.</td>
<td><strong>TRAINING</strong></td>
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<td>Awareness Training (all employees)</td>
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<td>Mandatory Training (direct involvement)</td>
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<td>Skills Training (specific tasks/equipment)</td>
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<td>Refresher Training</td>
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<td>Core Curriculum</td>
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<td>Outside Training</td>
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<td>In-house Training</td>
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<td>In-house Training Group to Track Program</td>
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<td>Computer Based or Video Conference Training</td>
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<td>Encourage Continuing Education (Seminars, Conferences, Courses)</td>
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<td>Training the Trainers</td>
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<td>Feedback from Employees About Training</td>
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<td>Routine Departmental Meetings</td>
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<td>Flyers, Leaflets, and Bulletin Board Presentations</td>
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<td>Subscriptions to Environmental Magazines, Legal Newsletters, etc.</td>
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**3.2 Structural Supports:** The agency develops and implements procedures, standards, systems, programs, and objectives that enhance environmental performance and support positive achievement of organizational environmental and mission goals.

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<tr>
<th><strong>STRUCTURAL SUPPORTS</strong></th>
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<tr>
<td>Commitment Reflected in Mission/Vision Statements</td>
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<td>Clear and Concise Organizational Documentation</td>
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<td>Methods to Receive Constructive Input from Personnel</td>
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<td>Periodic Reviews (Reevaluations) of Procedures to Insure Currency</td>
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<td>Results of Periodic Reviews Are Documented</td>
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<td>Use of World-Wide Web to disseminate environmental information</td>
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<td>&quot;Lessons Learned&quot; Programs to Educate Personnel</td>
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<td>Coordination of EMS with Other Management Programs to Save Costs</td>
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<tr>
<td>&quot;Top Management&quot; Must Be Involved</td>
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**3.3 Information Management, Communication, Documentation:** The agency develops and implements systems that encourage efficient management of environmentally-related information, communication, and documentation.

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<th><strong>INFORMATION MANAGEMENT, COMMUNICATION, DOCUMENTATION</strong></th>
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<tr>
<th>Practices and Procedures for Communication and Information Management</th>
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<td>Procedures for Generation/Distribution of Manual Reports</td>
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<td>Procedures for Generation/Distribution of Electronic Reports</td>
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<td>In-House Auditing of Communication Procedures</td>
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<td>Third Party Auditing of Communication Procedures</td>
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<tr>
<td>Assign “Shepherds” for Organizational Groups</td>
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<tr>
<td>Clearly Delineated Organizational Structure</td>
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<td>Efficient Voice Mail, Electronic Mail, and Inter-office Mail</td>
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<td>Status Updates Through Newsletters or Electronic Bulletin Boards</td>
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<td>Respond to External Parties’ Environmental Concerns</td>
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<td>Anonymous Means for Internal Personnel to Communicate Concerns</td>
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<tr>
<td>Communication with Other Organizations (also Benchmarking)</td>
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<td>Centralized Filing System</td>
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<tr>
<td>Adequate Storage and Retrieval System for Records</td>
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<td>All Employees Should Work with the Same Set of Documents</td>
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<td>Public Outreach</td>
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5.2 ISO PRINCIPLES AND DERIVATIVE EMS PRINCIPLES

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<th>ISO 14001 Principle</th>
<th>EMS Principle</th>
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<tr>
<td>4.4.2 Training, Awareness and Competence: The organization shall identify training needs. It shall require that all personnel, whose work may create a significant impact on the environment, have received appropriate training. It shall establish and maintain procedures to make its employees or members at each relevant function and level aware.</td>
<td>TRAINING</td>
</tr>
<tr>
<td>Awareness Training (all employees)</td>
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<td>Outside Training</td>
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<td>Encourage Continuing Education (Seminars, Conferences, Courses)</td>
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<td>Training the Trainers</td>
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<tr>
<td>Feedback from Employees About Training</td>
<td></td>
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<tr>
<td>Routine Departmental Meetings</td>
<td></td>
</tr>
<tr>
<td>Flyers, Leaflets, and Bulletin Board Presentations</td>
<td></td>
</tr>
<tr>
<td>Subscriptions to Environmental Magazines, Legal Newsletters, etc.</td>
<td></td>
</tr>
<tr>
<td>4.4.6 Management Review: The organization’s top management shall, at intervals that it determines, review the environmental management system, to ensure its continuing suitability, adequacy and effectiveness. The management review process shall ensure that the necessary information is collected to allow management to carry out this evaluation. This review shall be documented. The management review shall address the possible need for changes to policy, objectives, and other elements of the environmental management system, in the light of environmental management system audit results, changing circumstances and the commitment to continual improvement.</td>
<td>STRUCTURAL SUPPORTS</td>
</tr>
<tr>
<td>Commitment Reflected in Mission/Vision Statements</td>
<td></td>
</tr>
<tr>
<td>Clear and Concise Organizational Documentation</td>
<td></td>
</tr>
<tr>
<td>Methods to Receive Constructive Input from Personnel</td>
<td></td>
</tr>
<tr>
<td>Periodic Reviews (Reevaluations) of Procedures to Insure Currency</td>
<td></td>
</tr>
<tr>
<td>Results of Periodic Reviews Are Documented</td>
<td></td>
</tr>
<tr>
<td>Use of World-Wide Web to disseminate environmental information</td>
<td></td>
</tr>
<tr>
<td>“Lessons Learned” Programs to Educate Personnel</td>
<td></td>
</tr>
<tr>
<td>Coordination of EMS with Other Management Programs to Save Costs</td>
<td></td>
</tr>
<tr>
<td>“Top Management” Must Be Involved</td>
<td></td>
</tr>
<tr>
<td>4.4.3 Communication: With regard to its environmental aspects and environmental management system, the organization shall establish and maintain procedures for: a) internal communication between the various levels and functions of the organization; b) receiving, documenting and responding to relevant communication from external interested parties. The organization shall consider processes for external communication on its significant environmental aspects and record its decision.</td>
<td>INFORMATION MANAGEMENT, COMMUNICATION, DOCUMENTATION</td>
</tr>
</tbody>
</table>
### 4.4.4 Documentation:
The organization shall establish and maintain (a) programme(s) for achieving its objectives and targets. It shall include: A. designation of responsibility for achieving objectives and targets at each relevant function and level of the organization; B. the means and time frame by which they are to be achieved. If a project relates to new developments and new or modified activities, products or services, programme(s) shall be amended where relevant to ensure that environmental management applies to such projects.

### 4.4.5 Document Control:
The organization shall establish and maintain information, in paper and electronic form, to:
1. Describe the core elements of the management system and their interaction;
2. Provide direction to related documentation.

### 4.5.3 Records:
The organization shall establish and maintain procedures for the identification, maintenance and disposition of environmental records. These records shall include training records and the results of audits and reviews. Environmental records shall be legible, identifiable and traceable to the activity, product or service involved. Environmental records shall be stored and maintained in such a way that they are readily retrievable and protected against damage, deterioration or loss. Their retention times shall be established and recorded. Records shall be maintained, as appropriate to the system and to the organization, to demonstrate conformance to the requirements of this International Standard.

<table>
<thead>
<tr>
<th>Use of Intranet to disseminate environmental information</th>
<th>Procedures for Generation/Distribution of Manual Reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procedures for Generation/Distribution of Electronic Reports</td>
<td>In-House Auditing of Communication Procedures</td>
</tr>
<tr>
<td>Third Party Auditing of Communication Procedures</td>
<td>Assign &quot;Shepherds&quot; for Organizational Groups</td>
</tr>
<tr>
<td>Clearly Delineated Organizational Structure</td>
<td>Efficient Voice Mail, Electronic Mail, and Inter-office Mail</td>
</tr>
<tr>
<td>Status Updates Through Newsletters or Electronic Bulletin Boards</td>
<td>Respond to External Parties' Environmental Concerns</td>
</tr>
<tr>
<td>Anonymous Means for Internal Personnel to Communicate Concerns</td>
<td>Communication with Other Organizations (also Benchmarking)</td>
</tr>
<tr>
<td>Centralized Filing System</td>
<td>Adequate Storage and Retrieval System for Records</td>
</tr>
<tr>
<td>All Employees Should Work with the Same Set of Documents</td>
<td>Public Outreach</td>
</tr>
</tbody>
</table>
### 5.3 EMS PRINCIPLES AND AGTX-EV PRACTICES

<table>
<thead>
<tr>
<th>EMS Principle</th>
<th>Texas Army National Guard Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TRAINING</strong></td>
<td>------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Awareness Training (all employees)</td>
<td>Earth Guard Newsletter (published every January &amp; June)</td>
</tr>
<tr>
<td></td>
<td>Production of Coffee Mugs, Mouse Pads, and T-shirts</td>
</tr>
<tr>
<td></td>
<td>Laminated Environmental/Soldiers Field Card for each employee</td>
</tr>
<tr>
<td></td>
<td>Awareness Posters</td>
</tr>
<tr>
<td>Mandatory Training (direct involvement)</td>
<td>Short Video: &quot;Environment and the Soldier&quot; (must be viewed annually)</td>
</tr>
<tr>
<td></td>
<td>Annual Hazardous Waste &amp; Materials Training: Federally Mandated</td>
</tr>
<tr>
<td>Skills Training (specific tasks/equipment)</td>
<td>Annual Hazardous Waste &amp; Materials Training: Federally Mandated</td>
</tr>
<tr>
<td></td>
<td>Burn Training</td>
</tr>
<tr>
<td></td>
<td>Cultural Resources Training (Dinosaur Remains/Native American Sites)</td>
</tr>
<tr>
<td></td>
<td>Animal Handling (i.e., Tranquilizing Deer, etc.)</td>
</tr>
<tr>
<td>Refresher Training</td>
<td>Monthly Poster Program, Earth Guard &quot;Tip of the Month&quot;</td>
</tr>
<tr>
<td>Core Curriculum</td>
<td>Make commanders aware of Environmental Law and Liability</td>
</tr>
<tr>
<td>Outside Training</td>
<td>HAZMAT Training contracted from Texas A&amp;M</td>
</tr>
<tr>
<td>In-house Training</td>
<td>All training</td>
</tr>
<tr>
<td>In-house Training Group to Track Program</td>
<td>Sharon Jones; UECO (Unit Environmental Compliance Officer) is going to be this group</td>
</tr>
<tr>
<td>Computer Based or Video Conference Training</td>
<td>Short Video is on website</td>
</tr>
<tr>
<td>Encourage Continuing Education (Seminars, Conferences,</td>
<td>$5000 training allotment per project manager; managers pick seminars and courses and apply for approval to take them</td>
</tr>
<tr>
<td>Courses)</td>
<td>Training the Trainers</td>
</tr>
<tr>
<td></td>
<td>UECO (Unit Environmental Compliance Officer) trained by M-Day Environmental Staff</td>
</tr>
<tr>
<td>Feedback from Employees About Training</td>
<td>Web-based surveys with reported results</td>
</tr>
<tr>
<td>Routine Departmental Meetings</td>
<td>Monthly staff meetings; Monthly meeting of the M-Day Environmental Staff</td>
</tr>
<tr>
<td>Flyers, Leaflets, and Bulletin Board Presentations</td>
<td>Earth Guard Newsletter, Posters, Mouse Pads, T-shirts, Patches, etc.</td>
</tr>
<tr>
<td>Subscriptions to Environmental Magazines, Legal</td>
<td>Notices from TNRCC, Water Orgs, Engineers, Email from EPA, Listserv</td>
</tr>
<tr>
<td>Newsletters, etc.</td>
<td></td>
</tr>
<tr>
<td><strong>STRUCTURAL SUPPORTS</strong></td>
<td>------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Commitment Reflected in Mission/Vision Statements</td>
<td>Mission statement clearly defined on website with outline of goals</td>
</tr>
<tr>
<td>Clear and Concise Organizational Documentation</td>
<td>UECO Handbook in process of composition; training brochures that emphasize the needs of the four major training grounds (Bowie, Maxey, Swift, Wolters)</td>
</tr>
<tr>
<td>Methods to Receive Constructive Input from Personnel</td>
<td>Email communication from project managers/personnel; web-based survey</td>
</tr>
<tr>
<td>Periodic Reviews (Reevaluations) of Procedures to Insure Currency</td>
<td>Internal Compliance Audits (ICAS) on a 4 year cycle/Annual External Compliance Audits (ECAS); UECO Handbook created with past problems and trouble areas from 3rd party audits taken into consideration</td>
</tr>
<tr>
<td>Results of Periodic Reviews Are Documented</td>
<td>ECAS Records are used to determine the following years goals</td>
</tr>
<tr>
<td>Use of World-Wide Web to disseminate environmental</td>
<td>Extensive organization website</td>
</tr>
<tr>
<td>information</td>
<td></td>
</tr>
<tr>
<td>&quot;Lessons Learned&quot; Programs to Educate Personnel</td>
<td>&quot;Repeat Findings&quot; are used to set future goals in the mission statement</td>
</tr>
<tr>
<td>&quot;Top Management&quot; Must Be Involved</td>
<td>Make upper management (military echelons) aware of Environmental Law and Liability</td>
</tr>
<tr>
<td>INFORMATION MANAGEMENT, COMMUNICATION, DOCUMENTATION</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Use of Intranet to disseminate environmental information</td>
<td>Extensive organization website</td>
</tr>
<tr>
<td>Procedures for Generation/Distribution of Manual Reports</td>
<td>Each project manager generates specific reports (see attached section)</td>
</tr>
<tr>
<td>Procedures for Generation/Distribution of Electronic Reports</td>
<td>Each project manager generates specific reports (see attached section)</td>
</tr>
<tr>
<td>In-House Auditing of Communication Procedures</td>
<td>GSLIS master's candidates evaluated process during Oct-Nov 2001</td>
</tr>
<tr>
<td>Third Party Auditing of Communication Procedures</td>
<td>GSLIS master's candidates evaluated process during Oct-Nov 2001</td>
</tr>
<tr>
<td>Assign &quot;Shepherds&quot; for Organizational Groups</td>
<td>Project Managers are considered &quot;shepherds&quot;</td>
</tr>
<tr>
<td>Clearly Delineated Organizational Structure</td>
<td>Organizational chart exists; project managers are aware of their place within the organization</td>
</tr>
<tr>
<td>Efficient Voice Mail, Electronic Mail, and Inter-office Mail</td>
<td>Heavy use of email for office communications</td>
</tr>
<tr>
<td>Status Updates Through Newsletters or Electronic Bulletin Boards</td>
<td>Earth Guard newsletter published twice/year; monthly awareness activities</td>
</tr>
<tr>
<td>Respond to External Parties' Environmental Concerns</td>
<td>Noise complaint forms exist for researching external complaints</td>
</tr>
<tr>
<td>Anonymous Means for Internal Personnel to Communicate Concerns</td>
<td>Anonymous 1-800 phone number for complaints made directly to the state</td>
</tr>
<tr>
<td>Centralized Filing System</td>
<td>Creation of a virtual library is underway to replace traditional printed matter</td>
</tr>
<tr>
<td>Adequate Storage and Retrieval System for Records</td>
<td>Printed record keeping is a shambles</td>
</tr>
<tr>
<td>All Employees Should Work with the Same Set of Documents</td>
<td>Principles found in the Army Policy Correspondence Manual are followed</td>
</tr>
<tr>
<td>Public Outreach</td>
<td>As a result of the events of 11 September 2001, some outreach programs have been suspended temporarily, such as access by the general public to the AGTX-EV website</td>
</tr>
</tbody>
</table>
### 5.4 EMS PRINCIPLES AND RECOMMENDATIONS

<table>
<thead>
<tr>
<th>EMS Principle</th>
<th>Recommendations for Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TRAINING</strong></td>
<td></td>
</tr>
<tr>
<td>Awareness Training (all employees)</td>
<td>Only 2000 Earth Guard bulletins printed for 20000 employees; print higher volume</td>
</tr>
<tr>
<td></td>
<td>Playing cards, stickers, patches, etc. planned; follow through</td>
</tr>
<tr>
<td></td>
<td>Posters should link duty to the environment with duty as a soldier (Sharon Jones is already working on this)</td>
</tr>
<tr>
<td>Mandatory Training (direct involvement)</td>
<td>Video is several years old and probably needs an update; the video should be available on website</td>
</tr>
<tr>
<td>Skills Training (specific tasks/equipment)</td>
<td></td>
</tr>
<tr>
<td>Refresher Training</td>
<td>Create EMS Listserv; smaller units need better access to Internet</td>
</tr>
<tr>
<td>Core Curriculum</td>
<td>Innovate new ways to train so that employees have a reason to care (Sharon Jones is already working on this)</td>
</tr>
<tr>
<td>Outside Training</td>
<td></td>
</tr>
<tr>
<td>In-house Training</td>
<td></td>
</tr>
<tr>
<td>In-house Training Group to Track Program</td>
<td>Development/Implement web-based short courses in Environmental Awareness (Sharon Jones is already working on this)</td>
</tr>
<tr>
<td>Computer Based or Video Conference Training</td>
<td></td>
</tr>
<tr>
<td>Encourage Continuing Education (Seminars, Conferences, Courses)</td>
<td></td>
</tr>
<tr>
<td>Training the Trainers</td>
<td></td>
</tr>
<tr>
<td>Feedback from Employees About Training</td>
<td>Encourage employees to respond to surveys</td>
</tr>
<tr>
<td>Routine Departmental Meetings</td>
<td>One staff member should formally “take minutes” and post them on the website</td>
</tr>
<tr>
<td>Flyers, Leaflets, and Bulletin Board Presentations</td>
<td></td>
</tr>
<tr>
<td>Subscriptions to Environmental Magazines, Legal Newsletters, etc.</td>
<td>Some subscriptions currently exist; the desirability of adding more should be explored</td>
</tr>
<tr>
<td><strong>STRUCTURAL SUPPORTS</strong></td>
<td></td>
</tr>
<tr>
<td>Commitment Reflected in Mission/Vision Statements</td>
<td>Generate hardcopy version of mission statement; incorporate into awareness training/activities</td>
</tr>
<tr>
<td>Clear and Concise Organizational Documentation</td>
<td></td>
</tr>
<tr>
<td>Methods to Receive Constructive Input from Personnel</td>
<td>Traditional suggestion box or electronic (web-based) suggestion box (both anonymous)</td>
</tr>
<tr>
<td>Periodic Reviews (Reevaluations) of Procedures to Insure Currency</td>
<td>Create an electronic library to maintain ICAS and ECAS reports. (These should be linked to the WEBCASS system that the NGB is creating.)</td>
</tr>
<tr>
<td>Results of Periodic Reviews Are Documented</td>
<td></td>
</tr>
<tr>
<td>Use of World-Wide Web to disseminate environmental information</td>
<td>Redesign website architecture; Increase tech capabilities of some smaller sites</td>
</tr>
<tr>
<td>“Lessons Learned” Programs to Educate Personnel</td>
<td>Create web page that focuses on these findings (for EPA benefit); it should be noted, however, that this could give rise to liability problems, and this possibility should be considered before creating such a web page.</td>
</tr>
<tr>
<td>Coordination of EMS with Other Management Programs to Save Costs</td>
<td></td>
</tr>
<tr>
<td>“Top Management” Must Be Involved</td>
<td></td>
</tr>
<tr>
<td><strong>INFORMATION MANAGEMENT, COMMUNICATION, DOCUMENTATION</strong></td>
<td></td>
</tr>
<tr>
<td>Use of Intranet to disseminate environmental information</td>
<td>Redesign website architecture; Increase tech capabilities of some smaller sites</td>
</tr>
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<td>Procedures for Generation/Distribution of Manual Reports</td>
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<td>Procedures for Generation/Distribution of Electronic Reports</td>
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<tr>
<td>In-House Auditing of Communication Procedures</td>
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<tr>
<td>Third Party Auditing of Communication Procedures</td>
<td></td>
</tr>
<tr>
<td>Assign &quot;Shepherds&quot; for Organizational Groups</td>
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</tr>
<tr>
<td>Clearly Delineated Organizational Structure</td>
<td></td>
</tr>
<tr>
<td>Efficient Voice Mail, Electronic Mail, and Inter-office Mail</td>
<td>Creation of a Listserv for Environmental Office personnel might be useful</td>
</tr>
<tr>
<td>Status Updates Through Newsletters or Electronic Bulletin Boards</td>
<td>Post a lot of the monthly awareness to the web (if not already there)</td>
</tr>
<tr>
<td>Respond to External Parties' Environmental Concerns</td>
<td>No formal means of external complaints concerning the environment (there seems to be no need)</td>
</tr>
<tr>
<td>Anonymous Means for Internal Personnel to Communicate Concerns</td>
<td>Anonymous suggestion boxes (traditional &amp; electronic)</td>
</tr>
<tr>
<td>Communication with Other Organizations (also Benchmarking)</td>
<td></td>
</tr>
<tr>
<td>Centralized Filing System</td>
<td></td>
</tr>
<tr>
<td>Adequate Storage and Retrieval System for Records</td>
<td>Build a reference library and create an adequate filing system for it</td>
</tr>
<tr>
<td>All Employees Should Work with the Same Set of Documents</td>
<td></td>
</tr>
<tr>
<td>Public Outreach</td>
<td>Resume public access to website, tours of the base, and Earth Day activities when the social climate makes this feasible</td>
</tr>
</tbody>
</table>
6.0 COMMUNICATION PROCEDURE

This section describes the standard procedures and the various modes of communication involving the staff members of the AGTX-EV.

6.1 COMMUNICATION PROCEDURE—Ron Sollitt (Environmental Quality Manager)

6.1.1 ENVIRONMENTAL COMPLIANCE

- Scheduled inspection every 4 years

The scheduled inspection is done by an external agency every 4 years. The external agency refers to a contractor (different every time) that is under contract with the National Guard Bureau. The contractor conducts inspections on 19 different areas such as clean water and clean air.

After the inspection is completed, the contractor makes a report (WINCASS (ECAS) REPORT) and submits it to Ron Sollitt and to the NGB. Ron sends a copy to the units that were not in compliance. The units will return a plan (via letter or email) outlining their plan to eliminate the problems. Ron then tracks the unit by a computer program and reports to NGB (Installation Response to Findings). A copy of the ECAS is also sent to the related program manager who is in charge of the subject area, as well as the commander of the unit not in compliance.

The ECAS is the only written report stored in a database. It is sent electronically to NGB.

- Unscheduled inspections

The unscheduled inspections are performed by local or state agencies. They may occur at anytime. When the inspection is completed, the affected agency will send a formal letter to Ron. Ron will then send a copy to NGB, the related program managers, and the units that were not in compliance. The units are required to send back an action plan to Ron. A copy of the final report goes to the government agency that did the inspection.

All these reports are printed documents.

6.1.2 INTERNAL COMPLIANCE (every 2 years)

Internal compliance is measured every 2 years. Ron usually does this, but sometimes other program managers will do it. There are about 200 TXARNG facilities across Texas. After the inspection, Ron writes a letter (electronic or hard copy) to the facilities affected and asks them to reply within 30-60 days.
The letter contains suggestions for program improvements and gives recommendations for compliance measures. A copy of the letter also goes to the commander of the facility and related program managers.

It is hard to track the facilities because there are so many and they are widespread, and they often do not reply to written letters. If they do not reply, Ron will inform headquarters.

6.1.3 ENVIRONMENTAL QUALITY REPORT (submitted quarterly)

Data for the Environmental Quality Report (EQR) is generated by Ron and other program managers detailing specific facts concerning certain programs. Cathy Krueger uses the data from the program managers to generate a quarterly electronic report to NGB. Copies go to the program managers affected.

6.1.4 PEST MANAGEMENT

Twenty-five percent of the TXARNG’s pest-management program is carried out each quarter. Ron tracks the names of application personnel and the amounts dispensed, and then gives the data to Cathy. Other quarterly reports require different data. A copy of the finished report goes to NGB.

6.1.5 NOISE

Ron receives complaints from civilians and then fills out a Complaint Report. A copy goes to those responsible for researching and fixing the problem. They send back the report indicating whether or not the problem has been resolved.

The Complaint Report is a file document. There used to be two or three complaints per month, but now there are only two to three complaints per year.

6.1.6 ENVIRONMENTAL ASSESSMENT (EA)

Program managers (or contractors) perform environment assessments. Valerie Stein receives a letter requesting an environmental assessment and then assigns people to do it (usually Ron). When the assessment is completed, a report goes to Valerie. The report is a formal letter.

6.1.7 MEETINGS

Formal meetings are held at the request of program managers. Occasional meetings are held for the Environmental Quality Control Committee and for safety. Minutes are taken at all meetings and copies would depend on the meeting and content. These are usually given to program managers for review.

6.2 COMMUNICATION PROCEDURE—Shellie Prewitt (Cultural Resources Manager)

6.2.1 ENVIRONMENTAL PROGRAM REQUIREMENTS (EPR) REPORT SUBMISSION

The EPR is submitted to Cathy Krueger quarterly. The purpose of the EPR is to track modifications to existing projects as well as new projects in the area of cultural resources.

6.2.2 ENVIRONMENTAL QUALITY REPORT (EQR) SUBMISSION

The EQR is submitted to Cathy Krueger quarterly. The purpose of the EQR is to track data concerning compliance, conservation, and pollution prevention.

6.2.3 INSTALLATION STATUS REPORT (ISR) SUBMISSION

The ISR is submitted to Cathy Krueger annually. The purpose of the ISR if to provide a macro-level overview of the environmental status of Army installations.
6.2.4 NATURE OF THE INFORMATION RELATING TO CULTURAL RESOURCE MANAGEMENT

Shellie Prewitt shares this information on a need-to-know basis, because this information is confidential. The facilities and Ms. Prewitt communicate regularly. She makes quarterly reports (EPR, EQR, and ISR) and forwards those reports to Cathy when they are due.

6.2.5 COMMUNICATION PARTIES

Cultural Resource Inventories and Testing, Architectural Evaluations, Ethnographic and Historical Studies, and Native American Consultations are usually in spreadsheet format or text documents. Shellie consults with the Texas Historical Commission on issues concerning Section 106 and 110 of the National Historic Preservation Act and the Texas State Antiquities Code. These reports are submitted to and archived by the National Guard Bureau, the Army Environmental Center, and the Texas Historical Commission. Shellie also archives her own records.

6.2.6 THE METHOD OF COMMUNICATION

Shellie usually talks over the phone with external parties (e.g., facility managers, Texas Historical Commission). She also holds meetings with her contractors and with the Texas Historical Commission on a contract-by-contract basis.

6.2.7 MEETINGS

Shellie holds meetings with contractors and with the Texas Historical Commission on a contract-by-contract basis. There are no minutes taken during meetings, but she takes her own notes on action items and things that she needs to get to the people or they need to get to her in order to facilitate the process.

6.3 COMMUNICATION PROCEDURE—Sharon Jones (Environmental Compliance Coordinator)

6.3.1 FORMAL AND INFORMAL TRAINING REPORTS

Formal and informal training reports are generated when training is conducted to include the type of training and a roster of students who completed training. If federal and/or state law, such as hazardous materials training, requires the training and/or certification, a record of training is entered into individual’s personnel file. If training is elective, informative, or only required by Army regulation, the environmental section maintains a roster of attendance. Formal and informal reports are Microsoft Word documents.

Training reports are in Microsoft Word format, with sign-in sheets completed manually during training classes. Training reports are maintained on file at the environmental office. Certifications are submitted to an individual’s personnel file.

6.3.2 VERBAL AND WRITTEN SUGGESTIONS

Constant verbal and written suggestions are made on the scope of Sharon’s job duties.

Recommendations and suggestions are submitted verbally and electronically by email first to Valerie Stein, and if warranted, to the specific program manager responsible for the affected program area.

6.3.3 ENVIRONMENTAL PROGRAM REQUIREMENTS (EPR) BUDGETARY REPORTS

EPR budgetary reports are generated at the beginning of each fiscal year to validate requests for funding for training and environmental awareness.
EPR budget requests are submitted to Cathy Krueger. Cathy Krueger generates budget reports. Corrections or additions are made manually to the printout and are returned to Cathy for input into the fiscal databases as needed. All required submittals go to the National Guard Bureau (NGB).

6.3.4 ICAS

Results generated during internal inspections of Guard facilities will be entered and tracked in the Internal Compliance Assessment System (ICAS) computer database. ICAS goes to NGB.

6.3.5 MEETINGS

Staff meetings are held periodically, as needed, to disseminate information to the whole group. Everyone takes notes (no formal minutes are prepared).

6.4 COMMUNICATION PROCEDURE—Shakeel Ahmad (Environmental Engineer)

6.4.1 ENVIRONMENTAL PROGRAM REQUIREMENTS

Shakeel Ahmad generates Environmental Program Requirements (EPRs) for modifications to existing and new projects wherever clean water, clean air, or safe drinking water is concerned. The EPR report provides critical input to the Installation Status Report, Part II, which is the principal mechanism for commanders to evaluate the performance of their environmental program.

EPR updates are performed in January, March, June, and October. They are submitted to Valerie Stein and Cathy Krueger.

6.4.2 ENVIRONMENTAL QUALITY REPORTING

Shakeel updates the Environmental Quality Report (EQR), which is designed to provide an automated environmental reporting process to collect measures of merit (MoMs) data for Service Headquarters (HQ), Commands, and Installations.

The EQR is performed in January, April, July, and October. It is submitted to Valerie Stein and Cathy Krueger, and winds up as part of an annual report to Congress.

6.4.3 INSTALLATION STATUS REPORT

Shakeel is responsible for updating the Installation Status Report (ISR), which is designed to give installation, Major Army Command (MACOM), and Headquarters Department of the Army (HQDA) commanders and senior leaders a macro-level overview of the environmental status of Army installations.

The ISR is done in April, and is submitted to the headquarters of NGB, and also to Valerie Stein and Cathy Krueger.

6.4.4 COMMUNICATION PROCEDURES

All the previously mentioned reports are in spreadsheet format and are submitted to Valerie Stein and Cathy Krueger.

Shakeel usually communicates with maintenance shop people and several agencies, such as the Texas Military Facilities Commission (TMFC), AGTX-logistics, AGTX-maintenance, and USPF for concerned areas. He receives no reports from them. He communicates with them by telephone. If they have something that requires his attention, they call or e-mail him.

6.4.5 MEETINGS
Formal meetings occur once a month for the environmental staff to give updates on all projects and any changes at NGB or within the agency. There are also meetings to improve public speaking. Everyone takes notes.

6.5 COMMUNICATION PROCEDURE—Janet Bauchman (Natural Resources Specialist)

6.5.1 TEREC

TERECs (Training Event Record of Environmental Consideration) are evaluated as they come in. TEREC authorizations are issued in the form of a letter or stamped approval, and these are submitted to the training facility and unit that will need authorization.

6.5.2 INTEGRATED NATURAL RESOURCES MANAGEMENT PLANS (INRMPs)

Project managers oversee the preparation of those portions of Integrated Natural Resources Management Plans (INRMPs) that concern their areas of responsibility. INRMPs have a formal, federally mandated process, and a formal protocol for public input.

6.5.3 DOCUMENTATION

Copies are submitted to Janet Bauchman’s office and to the various training centers. INRMPs are filed in Ms. Bauchman’s office, training centers, and the NGB.

6.6 COMMUNICATION PROCEDURE—Burhan Girgin (Geographic Information Systems Manager)

6.6.1 THE METHOD OF COMMUNICATION

Burhan Girgin makes suggestions and recommendations in the form of direct conversations with supervisors or with the project officers. Informal recommendations and suggestions happen very often as they start a new project or open a bid for contractors to compete. Verbal communications are either converted to some kind of memorandum by the project officers or simply get reported to the related parties.

6.6.2 MOU

MOUs (Memorandum of Understanding) or other memo forms constitute correspondence with other state and federal agencies and with the National Guard Bureau (NGB).

6.6.3 COMMUNICATION PARTIES

Burhan supports all the other project officers such as the Natural Resources Manager and the Cultural Resources Manager with their annual report submissions to National Guard Bureau since they require quite a bit of spatial information in these reports in the form of maps. Annual reports to NGB usually are in the form of bound reports. Bound forms going to NGB are archived by the project officers and the NGB.

6.6.4 DOCUMENTATION

Geographic Information Systems (GIS) and Global Positioning Systems (GPS) guidelines are in electronic form or in the form of office memoranda. Electronic reports are stored in the workstation.

GIS Data Request Forms are utilized through webpages. Inside and outside requestors of GIS data (outside access is temporarily shut off because of security concerns) can fill out this form on the Internet. Every request form would automatically generate an email message to Burhan Girgin and also get stored in a database file.
6.6.5 MEETINGS
Meetings are usually held on short notice. They occur six or seven times a year or as crises arise. No minutes are taken.

6.7 COMMUNICATION PROCEDURE—Dawn Johnson (Natural Resources Manager)

6.7.1 REQUEST FOR PROPOSAL
Dawn Johnson writes Requests for Proposals that can be up to ten pages and are in an academic-report format. They are submitted to contractors (professors, consulting firms, and military agencies) on an as-needed basis.

6.7.2 SCOPES OF WORK
Scopes of Work are submitted to contractors as needed. They are usually in the form of Microsoft Word documents.

6.7.3 VEGETATION RESTORATION PLANS AND OTHER LONG-TERM PLANS
Vegetation restoration plans and other long-term plans are submitted to AGTX-EV, various site managers, the NGB, and Valerie Stein. They are submitted occasionally, usually in formal and semi-formal format. The semi-formal format consists of a report, which is distributed to AGTX-EV personnel or other Texas National Guard personnel for guidance on specific topics and reflects AGTX-EV policies. This would most likely take the form of a memorandum (per Army standards) such as letter format or trip report format. Some of these reports, such as long-term plans, may be used internally in one form and then incorporated into a formal report in the future. Informal/semi-formal reports are also submitted to Valerie Stein.

6.7.4 COMMUNICATION PARTIES
All the reports are submitted to Valerie Stein, other co-workers, other people with Facilities and Engineering (F&E) and others in the National Guard. All files generated are saved digitally and some area archived as hard copies in folders.

Dawn receives animal and plant survey reports as well as results from demonstration (applied research) projects, and also verbal communications from soldiers at training sites. Survey and demonstration reports are usually submitted both digitally and in hardcopy.

6.7.5 DOCUMENTATION
All files generated are saved digitally and some pieces are archived as hard copies in folders. Some of the files are text documents; some, spreadsheets; some, databases; and some are, or include, photographs.

6.7.6 MEETINGS
Dawn is involved in about one formal meeting a month with either other parts of the National Guard or external agencies (e.g., the U.S. Fish and Wildlife Service [USFWS]). She takes notes and usually types a digital record—either as a trip report or as a conversation.

6.8 COMMUNICATION PROCEDURE—Delbert M. Bassett (Integrated Training Area Management [ITAM] Coordinator)

6.8.1 COMMUNICATION METHODS
Delbert Bassett generates only a few formal reports (e.g., his portion of the Environmental Program Requirements Report, and reports to the NGB), because he has found that informal communications are best done face-to-face discussing how a given National Guard element can be a better steward of the land while achieving all required military training tasks. Informal communications are done as required—there is no preset frequency, and they are submitted to users of the training areas.

6.8.2 MEETINGS

Staff meetings are held as needed, and usually occur at least once a month.

6.9 COMMUNICATION PROCEDURE—Cathy Krueger (Budget Analyst)

6.9.1 ENVIRONMENTAL PROGRAM REQUIREMENTS MODULE

Cathy Krueger is responsible for the Environmental Program Requirements Module (EPRM). She reviews budget submissions; plans, and programs designed to defend resources needed to execute the Army environmental program. In addition the EPR report provides critical input to the Installation Status Report, Part II, which is the principal mechanism for Commanders to evaluate the performance of their environmental program.

The EPRM is submitted in January, March (initial and final), June, and October (initial and final), and it is submitted to NGB, Major Army Commands (MACOMs) and Headquarters, Department of the Army (HQDA)

6.9.2 ENVIRONMENTAL QUALITY REPORTING

Environmental Quality Reporting (EQR) is designed to provide an automated environmental reporting process to collect measures of merit (MoMs) and data for Service Headquarters (HQ), Commands, and Installations.

EQR submission takes place in January, April, July, and October. It is submitted to NGB, and there is an annual report to Congress.

6.9.3 INSTALLATION STATUS REPORT

The Installation Status Report (ISR) is designed to give installation, Major Army Command (MACOM), and Headquarters Department of the Army (HQDA) commanders and senior leaders a macro-level overview of the environmental status of Army installations.

ISR submission occurs in April (annually). It is submitted to the Headquarters of the NGB.

6.9.4 DOCUMENTATION

All of the previously mentioned reports are in electronic (web-based) format.

6.9.5 REPORTS RECEIVED FROM ELECTRONIC DATABASE

Reports received from electronic database:
- Project validation report (NGB)
- Environmental State Operating Budget (ESOB)
- Finman = overall status appropriation: United States Property and Fiscal Office (USPFO)
- Transaction register: (USPFO)
- Funding Allowance Target (FAT)
6.9.6 MEETINGS

They try to have a formal meeting once a month for the Environmental staff to give updates on all projects, changes at NGB, and/or the agency. No minutes are taken.
7.0 ENVIRONMENTAL MANAGEMENT SYSTEM (EMS) DEVELOPMENT

7.1 GOALS OF AGTX-EV
7.2 STREAMLINING PROCESSES
7.3 ENVIRONMENTAL TRAINING PLAN
7.4 COMPLIANCE MEASUREMENT
7.5 ROLES AND RESPONSIBILITIES
7.6 EMS DATA SOURCE

7.0 ENVIRONMENTAL MANAGEMENT SYSTEM (EMS) DEVELOPMENT

7.1 GOALS OF THE ENVIRONMENTAL RESOURCES MANAGEMENT BRANCH OF THE TEXAS NATIONAL ARMY GUARD (AGTX-EV)

A branch meeting of AGTX-EV resulted in the establishment of measurable goals that could be tracked by the newly developed EMS. These goals will be the basis for determining measurement of current and future program successes and employee accountability. The goals are as follows:

7.2 STREAMLINING PROCESSES

- Diagram process flowcharts by 2003 at the rate of 40% per year
- Create a standard guidance document and implement by 2003
- Revise and review the guidance document every year starting in 2004

7.3 ENVIRONMENTAL TRAINING PLAN

- Develop an Environmental training plan by 2002
- Begin implementation of plan at the rate of 20% of outlined tasks per year
- Evaluate and adjust plan in 2004

7.4 COMPLIANCE MEASUREMENT

Measure and evaluate long-term trends as annual data are gathered and compared. Compliance measurement also includes relating short-term data by quarter or by month. It will capture descriptions of each of the goals, and explain the purpose of measurement, the standards, benchmarks (regulatory competition, etc.), initiatives, improvements, and explanations of trends and variations to explain performance.

7.5 ROLES AND RESPONSIBILITIES

The roles necessary for the successful completion of this project include:

7.5.1 PROJECT MANAGER (Sharon Jones)

The Project Manager, Sharon Jones,

- Plans and schedules projects
- Reports to management the status of projects and related issues
- Coordinates with Network Administrator for network and hardware configuration requirements
- Coordinates with Network Administrator to develop backup and maintenance strategy
- Manages database development and supervises the database programmer (Miroslav Dvorak)
- Conducts interviews in conjunction with the database programmer to determine necessary reports and data queries
- Creates data-flow diagrams and/or logical data models in conjunction with the database programmer
7.5.2 STAFF

- Provide input as to information flow and business requirements
- Inform project manager and programmer as to data locations and formats

7.5.3 NETWORK ADMINISTRATOR

- Coordinates with project manager in the development of backup and maintenance procedures for the EMS
- Assures available network resources and connections to EMS during business hours

(Note: The above statements re goals for the Network Administrator reflect our understanding of these goals. The network programmer, Miroslav Dvorak, was not interviewed, owing to scheduling conflicts.)

7.6 ENVIRONMENTAL MANAGEMENT SYSTEM (EMS) DATA SOURCES

7.6.1 USER INPUTS

Users inputs are kept in file “md project types and attributes.doc”

7.6.2 OBLIGATION TRACKING SYSTEM (OTS)

The database-management system used for the Obligation Tracking System (OTS) is Microsoft Access 97. User access to the database is not yet possible but is a priority goal of the development for the OTS.

7.6.3 INTERNAL COMPLIANCE ASSESSMENT SYSTEM (ICAS)

The database-management system used for the Internal Compliance Assessment System (ICAS) is Sybase SQL Anywhere 5.0.

User Access: ODBC bridge
Is 2nd Normal Form (2NF) achieved?: yes
Are reference integrity constraints defined?: yes

Description: Information about findings—facility, SCS, rating, root cause, CC alternative, PP alternative, approval, etc.

7.6.4 ENVIRONMENTAL QUALITY REPORT (EQR)

The database-management system used for the Environmental Quality Report (EQR) is Oracle.

User Access: Possible via tables downloaded from World-Wide Web interface
2NF: yes

Description: Information about permits—permit number, facility name, agency name, expiration date, etc.

7.6.5 ENVIRONMENTAL PROGRAM REQUIREMENTS (EPR)

The database-management system used for the Environmental Program Requirements (EPR) statement is Oracle. Export is possible into dBase or txt formats.

User Access: Upload data
2NF: yes

Reference integrity constraints: no
8.0 TRAINING PROGRAM EVALUATION

8.1 Purpose of Training
8.2 Organization Structure
8.3 Identification of Training Needs and Contents
8.4 Training Contents
  8.4.1 Environmental Awareness
  8.4.2 General Environmental Regulation and Law Training
  8.4.3 Compliance Training
  8.4.4 M-Day Training Program
8.5 Training Hierarchy
8.6 In-House Training and Outside Training
8.7 Various Methods of Training
8.8 Refresher Training and the Tracking of Completed Training
8.9 Training Documentation
8.10 Strengths of the Training
8.11 Weaknesses of the Training
8.12 Suggestions for the AGTX-EV Training Program

8.0 TRAINING PROGRAM EVALUATION

8.1 PURPOSE OF TRAINING

The purpose of training by the Texas Army National Guard Environmental Resources Management Branch (AGTX-EV) is to ensure that all personnel have environmental awareness and understand both the impact that their actions have on the environment and also how they may achieve conformance with the requirements of related laws and regulations. This is described in the TXARNG Mission Statement: “provide environmental awareness training support to TXARNG units.”

8.2 ORGANIZATIONAL STRUCTURE

The AGTX-EV has a full-time training coordinator, Sharon Jones, who is responsible for collecting information on training. She works with the specific project managers in the environmental resources management branch and outside their office to make training plans on a yearly or as-needed basis. The information she collects covers Army National Guard training programs, private contractors’ training programs, and other environmental agencies training programs. The information comes from parent agencies, commercial organizations, and her own web searching. The specific projects include the following:

- Geographic Information Systems
- Hazardous Material/Wastes Program
- Natural Resources Program
- Culture Resources Program
- Pollution Prevention Program
- Environmental Compliance Program

Specific procedures to design training plans are as follows:

1) The training coordinator sends a “Wish list for the year” to every project manager. These managers are responsible for answering the following questions with respect to courses that they or their staff members may need to attend:
   - How many people will need to receive training that year
   - What courses they need to take
   - Who the sponsors of the courses are, and what are the locations and dates for the courses
Their suggestions for training programs

2) Based on the information that Ms. Jones collects, she and the project managers make a detailed schedule for that year’s training.

8.3 IDENTIFICATION OF TRAINING NEEDS AND CONTENTS

According to the International Organization for Standardization’s (ISO) Standard 14001, Principle 4.4.2, “the organization shall identify training needs. It shall require that all personnel, whose work may create a significant impact on the environment, have received appropriate training.”

Environmental Resources Management of the TXARNG identifies such needs by the individual project department based on ISO 14001, CEMP, NEPA, TEREC, REC, and EIS (See Appendix). For example, the cultural resources manager consults with the Texas Historical Commission on issues concerning the National Historic Preservation Act and the Texas State Antiquities Code and decides how to preserve and protect cultural resources while allowing the military to continue with its mission.

8.4 TRAINING CONTENTS

8.4.1 ENVIRONMENTAL AWARENESS

According to ISO 14001, Principle 4.4.2, the organization shall “establish and maintain procedures to make its employees or members at each relevant function and level aware of the importance of conformance with the environmental policy and procedures and with the requirements of the environmental management system”

AGTX-EV has adopted many ways and devices for aiding in the development of environmental awareness in the TXARNG. These tools for environmental awareness include:

- Earth Guard newsletter (see appendix)
- Hondo Challenge: On their website, there is a test center where guardsmen can take a test on any environmental topic. If they pass the test, they get an official environmental awareness-training certificate for their training record.
- Soldier’s Field Card (see appendix): On this card, there are “environmental dos and don’ts” which cover basic and important information for staff to comply with environmental laws and regulations. This card is small enough to be carried in a soldier’s pocket.
- Posters (see appendix.): They have created a Natural Resources and GIS poster, Pollution Prevention Poster, and Protect Now poster. The posters use striking pictures and intensive ideas to improve the environmental awareness of Guard personnel.
- Recycled Mugs (see appendix.): They made some coffee mugs from recycled materials and with AGTX-EV’s website and name on it. These mugs were distributed throughout the whole Texas Army National Guard. The mugs are a good product serving as an educational tool for recycling resources.
- Recycling Pen (see appendix.): The pens are made from recycled paper and plastic with the words “Texas Army National Guard Closes the Loop.” They represent another way to improve employees’ environmental awareness.
- Video (see appendix.): They have created two videos, “Non-Point Sources Pollution and the Soldier,” and “Environmental Awareness: The Soldier’s Responsibility.”
- Recycling Wheel (See Appendix.): It describes different ways in which products can be recycled, the states of recycling, and options for reducing and reusing.
- Integrated Training Area Management (ITAM) Cards, Patches, and T-shirts
- Mouse pads with environmental information, distributed to all units
- T-shirts with Earth Guard logos and environmental messages, printed up for use as prizes for good inspections, etc.
8.4.2 GENERAL ENVIRONMENTAL REGULATION AND LAW TRAINING

This type of training is mainly for the training coordinator, project managers, and Commanders in the field. The training content covers ISO 14001, EPA, U.S. Federal, and Army environmental laws and regulations.

8.4.3 COMPLIANCE TRAINING

Compliance training is integrated into various projects such as Hazardous Waste Training, Clean Water, Clean Air and Safe Drinking Water training, Animal and Plant management training (e.g., Tranquilizing Deer), and Integrated Training Area Management as well as Culture Resources Training.

For example, in the project of Integrated Training Area Management, the coordinator (Delbert M. Bassett) is responsible for conducting training in accordance with doctrinally based standards and under realistic combat conditions. They have established a systematic ecological land management program to ensure environmental compliance with related laws and regulations.

Though the Environmental Compliance Assessment System (ECAS) does not, in itself, require training, ECAS audits can identify cases where lack of suitable training appears to be the root cause or reason why a violation finding was noted. In such cases, AGTX-EV uses the findings from the ECAS audit to focus on what training needs to be provided, or developed, in order to avoid such findings in the future.

Some of these compliance-training programs are mandatory, such as hazardous waste training, which is held on an annual basis. Others are taken, or developed, when the need arises.

8.4.4 M-DAY TRAINING PROGRAM

AGTX-EV is now working with M-day staff on environmental training of M-day soldiers. The people who are in charge of this training program are Sharon Jones, Valerie Stein and Maj. Papke. They determine training requirements and the forms of training. Training is based on the Unit Environmental Compliance Officers Handbook (UECO HB). The UECO HB covers environmental protocols (Air, Water, HAZMAT, etc). It also contains key practices that have an impact on the environment and provides specific guidance for achieving compliance. A new UECO HB is currently under development.

This program is in the developmental stages, but it shows great promise for conducting systematic environmental training for all M-day personnel.

8.5 TRAINING HIERARCHY

Environmental Resources Management in the TXARNG training system is composed of two levels: the upper-level training of the training coordinator and specific project managers, and the lower-level training of staff who perform specific jobs.

It conforms to the requirement of ISO14001, Principle 4.4.2: “A training system should also include training for executives to ensure that they understand the EMS, know their responsibility and have the knowledge . . .”

The training coordinator and project managers keep their knowledge of EMS Aspects, Objectives, Targets, and related environmental laws and regulations up to date. They usually acquire such information by external resources such as parent agencies.

8.6 IN-HOUSE TRAINING AND OUTSIDE TRAINING

According to ISO 14001, Principle 4.4.2, “Where in-house training is not adequate, out-sourced training should be utilized”
The AGTX-EV uses both in-house training and outside training. They organize in-house training themselves; they choose the schedule and curriculum, and they provide training by themselves or by inviting guest speakers.

AGTX-EV also utilizes training by outside contractors. The choice to use in-house training or contractor training is driven by regulatory requirements. For the mandatory programs, such as hazardous-waste training, they normally choose contractor training. For those that are not mandatory and are only need-based, they use in-house training.

**8.7 VARIOUS METHODS OF TRAINING**

According to ISO14001, Principle 4.4.2, “Apart from formal training sessions, other methods of training may be used.”

AGTX-EV currently uses traditional training sessions, where they may use videos, CDs, PowerPoint, etc as class tools. Apart from that, they also use other methods for training:

- They occasionally use their website for training purposes.
- They subscribe to newsletters from environmental agencies.
- They use the newsletter *Earth Guard*, the bulletin board, and training reports as training materials.

In the future, they will implement website training on a scheduled basis as outlined in their plan by FY03.

**8.8 REFRESHER TRAINING AND TRACKING OF COMPLETED TRAINING**

The AGTX-EV plans to produce a monthly poster program, covering a new topic every month, to enhance environment awareness. Also under development is a “Tip of the Month,” which will be sent out to commands and installations via an email listserv, as another way to refresh people's environmental awareness. They also have monthly staff meetings to exchange ideas and experiences regarding training.

As of this time, AGTX-EV has not yet completed a system for tracking the quality of training. But they use Web-based surveys with reported results to get feedback from employees about training. Sign-up sheets are kept after each training session is conducted, and these are used as a means of keeping track of who has received what training.

AGTX-EV has recently appointed Sharon Jones as the Training Coordinator, and she is currently assessing the situation regarding all aspects of environmental training.

**8.9 TRAINING DOCUMENTATION**

The Training Coordinator keeps all the information regarding external training programs and manages it manually. For the specific training session, the coordinator keeps the sign-up sheet. Project managers also write trip reports after training, and these reports provide a way of sharing the information gained with the training coordinator and others. Most of these documents are managed manually, but the staff plan to set up a database system in order to manage this information and allow them to make quick and efficient use of such information.

**8.10 STRENGTHS OF THE TRAINING**

Though the Training Coordinator has other duties, including her primary duty as Compliance Coordinator. in her capacity as Training Coordinator she works with the specific program managers within the AGTX-EV and specific project managers beyond their office. She toils to plan training throughout the year, and to decide the methods of training, which usually includes outside training (contractor training) and the AGTX-EV's own in-house training based on regulatory requirement. New training programs are approved when there is a need and a requirement to do so.
The AGTX-EV has excellent methods for improving environmental awareness including posters, pocket brochures, the newsletter, and T-shirts.

The AGTX-EV has a sufficient budget for training, and this helps to ensure the best quality of training programs.

8.11 WEAKNESSES OF THE TRAINING

The AGTX-EV needs a more realistic system for tracking the quality of training. They only keep the sign-up sheet that was filled out at the training program and have a record of what people have received training, and the types of training they have undergone. They need a database system to help them manage this information better.

There are indications of a lack of adequate concern with protection of the environment on the part of some soldiers of the Texas Army National Guard. Soldiers may feel that their job is to “punch holes in the ground or in the air” rather than to safeguard them. The AGTX-EV staff is committed to finding a remedy for this lack of concern, and staff members with an impressive creative imagination are using innovative ways to educate Guard members and employees about environmental custodianship.

8.12 SUGGESTIONS FOR THE AGTX-EV TRAINING PROGRAM

New methods need to be instituted to combat the lack of concern for environmental training and management that is widespread among employees and soldiers of the Texas Army National Guard. Many guardsmen are of the opinion that they are at the camps to engage in training and learn how to drive tanks, use explosives, fire weaponry, and the like. They resist anything that gets in the way of these duties, and, unfortunately, environmental training and management falls into this category for many of them.

Slogans and initiatives should be implemented that links a guardsman’s duty as a soldier to his or her duty to the environment. For example, the AGTX-EV produced a poster that displayed a line of tanks following a road. The poster stated something to the effect that “a good soldier remains unseen.” The idea behind this is that tanks should always travel in single file along known courses and roads to hide both their numbers and the telltale signs of their passing. This has the added effect of preserving the environment by convincing soldiers of the importance of not straying from approved courses and running tanks over land that could easily be destroyed.

By cleverly linking environmental management with military duty, the AGTX-EV can effectively ensure environmental compliance by creating situations where soldiers behave with environmental awareness without even knowing they are doing so. Members of the AGTX-EV should continue these initiatives keeping in mind the following adage: “Just a spoonful of sugar helps the medicine go down.”

Beyond this, it is crucial to give guardsmen a reason to care about the environment. Upper echelons of management may respond well to being informed about the legal liabilities and ramifications associated with improper environmental management. No such accountability exists for those outside of upper management. The AGTX-EV Environmental Compliance Officer, Sharon Jones, has observed: “The non-managerial-level guard personnel need to be given a reason to care. They need to have a reason to take pride in environmental initiatives and training. The training and placement of a Unit Environmental Compliance Officer at each site is the first step in a comprehensive new program to ensure compliance across locations.” Badges and patches are being developed that the Unit Environmental Compliance Officers (UECOs) will be able to sport, thus reinforcing the pride in his position and the tasks that go along with it. Although this might seem a small thing, people often respond well to such symbols of duty and responsibility. Hopefully, this will provide guard personnel with a reason to care about the environment and about AGTX-EV initiatives. If not, other options need to be explored that will effectively combat the current state of non-awareness of environmental concerns.
9.0 Information Architecture and Usability Assessment based on Benchmark of AGTX-EV Web Sites

9.1 Introduction

9.1.1 What is Information Architecture and Usability?

9.2 Information Architecture and Usability Assessment based on its Benchmark

9.3 Conclusion

9.0 INFORMATION ARCHITECTURE AND USABILITY BASED ON BENCHMARK OF AGTX-EV WEB SITES

9.1 Introduction

A usable website is very important for effective internal and external communication. Within the ‘Structural Supports’ section of the EMS Principles, the use of websites is mentioned as an effective means of disseminating environmental information. The same is true within the ‘Structural Supports’ section of the CEMP and the ‘Management Review’ section of the ISO 14001 standards. Therefore, an evaluation of the AGTX-EV website is required in order to determine whether or not this area may further improve internal and external communication. The website’s usability can be evaluated by studying its information architecture and establishing a benchmark.

9.1.1 What is Information Architecture and Usability?

Information architecture (IA) is the science and art of determining how to organize information most effectively to help users find and use the information, and then constructing a blueprint for organizing this information. For instance, how should websites be organized? What is the best way to design website navigation? How should pages be labeled and identified? (Shiple, 2001)

"To some extent, usability is a narrow concern compared to the larger issue of system acceptability, which basically is the question of whether the system is good enough to satisfy all the needs and requirements of the users and other potential stakeholders." (Nielsen, 1993) Usability may also include factors such as safety, usefulness, and cost-effectiveness. (Diamond Bullet Design Inc., 2001)

To have a good IA and sound usability, one must first determine: the goal of the website, who will be the audience of the site, what content will be on the site, and the structure of the site. Then work may begin on the visual design, which is often the most satisfying aspect of the overall design. A good website structure combined with an effective visual design enables users to construct a mental map of the site.

9.2 Information Architecture and Usability Assessment based on its Benchmark

Benchmarks are ways of measuring the degree of usability of a system. Examples of these include time to perform a task, number of errors, time to learn a system, and how a user feels after using a system. (Diamond Bullet Design Inc., 2001)

Table 1, below, presents an evaluation of the website of the Environmental Resources Management branch of the Texas Army National Guard, based on its benchmark. The twelve established criteria of the benchmarks for IA and usability are: site design, page design (page layout), web accessibility, labels, content and scalability and consistency, navigation, browse and search functions, load issue, text and links, color and backgrounds, graphics, and intranet use.
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<th>Criteria of the Benchmark for IA &amp; Usability</th>
<th>Grading</th>
<th>Evaluation</th>
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| Site Design | Middle (0.5) | 1. A “Site Map” allows the user to see all content at a glance, but the user needs to scroll down a long time to see all content.  
2. The contact information for the website exists.  
3. They did not use a bottom section (as a footer) of a page for effective information arrangement throughout all pages. | *Need to use a bottom section (as footer) of a page for effective information arrangement throughout all pages. |
| Page Design (Page layout) | Middle | 1. They put their logo at the top of the left page and put important content at the top of a page. They have a title on each page and use sufficient white space. The site also provides a layout consistently throughout the site and uses a consistent footer. However, the logo mark of the website does not let users move home as a hyperlink.  
2. There are several overlap parts between the left section and Site Map section. | *Make the logo a clear mark of the website and let the user be able to move home from a hyperlink.  
* Remove the overlap parts between the left section and the Site Map section. |
| **Web accessibility** | **Low (0)** | 1. Not accessible for everyone due to current security reasons.  
2. They did not follow the rule of Section 508 of the Rehabilitation Act, since there seems to be no aid facility for web accessibility. |  
*Follow the rule of Section 508 of the Rehabilitation Act that requires web accessibility.*  
*For a fine accessibility tool that checks compliance, use “Bobby” at the following site: [http://www.agd.state.tx.us/main/state/stateindexframe.htm](http://www.agd.state.tx.us/main/state/stateindexframe.htm)*  
*For Texas standards, see [http://www.dir.state.tx.us/standards/srrpub11-accessibility.htm](http://www.dir.state.tx.us/standards/srrpub11-accessibility.htm)* |
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<tr>
<td><strong>Labels</strong></td>
<td><strong>Good (1)</strong></td>
<td>They follow good design since they use regular text (not bold), left alignment, and have labels placed at the center of text height.</td>
<td></td>
</tr>
</tbody>
</table>
*Need to follow the 80/20 rule for effective design on the website. (Rosenfeld, 2001)*  
*Do not bombard the user with too much information at once.* |
| **Scalability & Consistency** | **Middle** | They seem to focus on scalability very well, at least more than other websites since they give users a distinct category, using a consistent, simple interface across all pages of the website. However, they have too much information at once, even though they allow simple paths to this information. |  
*The objectives, priorities, staffing, policies, and methods described in the ICRMP should be placed on the AGTX-EV website for cultural resources environmental awareness.*  
*The virtual library can be used to post policies and to maintain ICAS and ECAS reports.*  
*Create an anonymous electronic suggestion box.* |
| **Content** | **Low** | 1. Some content is useful, but a great deal of important content is missing on the website.  
2. The website’s virtual library (electronic library) is empty.  
3. There is no place for feedback such as suggestion box. |  
*The objectives, priorities, staffing, policies, and methods described in the ICRMP should be placed on the AGTX-EV website for cultural resources environmental awareness.*  
*The virtual library can be used to post policies and to maintain ICAS and ECAS reports.*  
*Create an anonymous electronic suggestion box.* |
| **Navigation** | **Middle** | They have a good approach to navigation that concentrates on the user’s need for searching in the simplest way. However, since they give too much information at once, users might feel frustrated with the site’s navigation. | *Arrange the information on the site more efficiently such that the user is not bombarded with too much at once.* |
| **Browse & Search** | **Middle** | The search function is good since it is locate in the upper left corner of the page. However, the browse function is inconvenient for user since the titles for browsing are not arranged alphabetically. | *Arrange the titles for browsing alphabetically on current browse function.* |
| **Load Issue** | **Low** | For conducting a typical search or browse session, the loading time is moderate, but when the user tries to view a sample document (such as PDF file) there is too much lag. | *Enhance the system’s ability to reduce load time.* |
| Text & Links | Middle | 1. All websites seem to have good text and links since they use at least a 12-point font and a 10-point font for text.  
2. They avoided overly decorative fonts and avoid all capital letters.  
3. They did not place text on busy backgrounds and uses headings and sub-headings for text.  
4. They do not use short paragraphs and visual cues, such as color, size, and positioning to highlight important links.  

*Use a short paragraph to show the contents clearly and use visual cues, such as color, size, and positioning to show how important links are. |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Color &amp; Backgrounds</td>
<td>Good</td>
<td>All pages use enough contrast between text and background and color is used to show relationships and differences.</td>
</tr>
<tr>
<td>Graphics</td>
<td>Good</td>
<td>All pages use graphics that are as small in file size as possible for fast loading. Graphics frequently serve as links.</td>
</tr>
</tbody>
</table>
| Intranet Use | Low | This website is not used for intranet use. Every manager and most employees do not consult with AGTX-EV websites.  

*Need to establish an Intranet (internal website) for internal communication and information exchange. |
| Total Grading Point (average: 50) | 50/100 | |

Based on the information in Table 1, the AGTX-EV website received a low grade as far as web accessibility was concerned. Web accessibility means that anyone using any kind of web browsing technology must be able to visit any site and get a full and complete understanding of the information contained there, as well as have the full and complete ability to interact with the site. (Letourneau, 1998) Section 508 of the Rehabilitation Act addresses all office-related electronic information technologies. The effective date is June 21, 2001. This standard applies to all federal agencies and entities operating under federal contract.

The web standards are built on the WAI (Web Accessibility Initiative) Guidelines found on the following site: [http://www.w3.org/TR/WCAG10-TECHS](http://www.w3.org/TR/WCAG10-TECHS). The WAI of the W3C (World-Wide Web Consortium) makes available a variety of resources on Web accessibility. The WAI Accessibility Guidelines are produced as part of the WAI Technical Activity. The goals of the WCAG WG are described in the charter.

Section 508 of the Rehabilitation Act requires that Federal departments and agencies that make use of electronic and information technology must ensure that Federal employees and members of the public with disabilities have full access to information and data. This access needs to be comparable to that of employees and members of the public without disabilities (Adjutant General's Department of Texas, Austin, 2001).

A readable set of guidelines for assisting viewers with disabilities is "Designing Accessible Web Sites (for PEOPLE who want or need information that you have taken time to create—and who may not see or hear well or at all; may not be able use a mouse; may not have the latest-browser, plugin, computer; may not have a high-speed net connection; may be using their cell phone, telephone, television, refrigerator, automobile, or PDA" ([http://www.tsbvi.edu/peso.htm](http://www.tsbvi.edu/peso.htm)). These guidelines were prepared by Jim Allan, the Webmaster of the Texas State School for the Blind and Visually Impaired. Another helpful source of information concerning computer users with disabilities is the IBM Accessibility Center ([http://www-3.ibm.com/able/](http://www-3.ibm.com/able/)), a Website with a great deal of information about accessibility to the Web, on the job and in everyday life, for people with disabilities.

Free evaluation tools for guidelines concerning web accessibility include: Bobby (by CAST; [http://www.cast.org/bobby](http://www.cast.org/bobby)), A-Prompt (by The University of Toronto; [http://aprompt.snow.utoronto.ca/](http://aprompt.snow.utoronto.ca/)), and WAVE (by Temple University). Insight & InFocus (by SSB) and Pagescreamer (by Crunchy.com) are two additional evaluation tools.

### 9.3 Conclusion

The result of comparing the AGTX-EV website to the twelve criteria of the benchmarks for IA and Usability is that we consider the website to be average. The labels, colors, backgrounds, and graphics of the website are well done, but on the aspect of web accessibility, content, load issue, and Intranet use, the AGTX-EV website received a low score. We also gave the website an average score as far as site design, page design, scalability, consistency, navigation, browsing, searching, text, and links are concerned. The AGTX-EV website needs to follow the specific recommendations to enhance the grading of each criterion of the benchmark.

The AGTX-EV website needs to follow this guideline to improve upon the low rating on the criteria of web accessibility, content, load issue, and Intranet use. The website should follow the rule of section 508 of the Rehabilitation Act for enhancing web accessibility. A lot of important content was missing from the site, including: objectives, priorities, staffing, policies, and methods described in the ICRMP. A virtual library and electronic suggestion box should be created to overcome weaknesses in content presentation. The organization also needs to develop its Intranet (internal website) as an effective route for formal and informal communications. Use of an Intranet to disseminate environmental information is mentioned in the
section entitled “Information Management, Communication, and Documentation” of the EMS Principles. CEMP Principle 3.3 “Information Management, Communication, and Documentation” discusses this, and ISO 14001 Principles 4.4.3, 4.4.4, 4.4.5, and 4.5.3 mentions this as well. Most successful corporations and companies make heavy use of their Intranet capabilities.

The way of effective communication between internal and external components of this organization thoroughly depends on a well-designed and usable website, based on sound principles of information architecture and usability. To improve the information architecture and usability of the website, it is always important to have a user-centered mindset. This mindset means that the user should not have to change his or her behavior to effectively use the website. The bottom line is that it is easier to change the website than it is to change the behavior of millions of people. Improvements in methodology can bring huge gains for a relatively small effort.
10.0 REFERENCES


APPENDIX A

ENVIRONMENTAL AUDIT QUESTIONNAIRE

1.1 PRELIMINARY QUESTIONNAIRE TO ALL PROJECT MANAGERS
1.2 TO ENVIRONMENTAL MANAGER
1.3 ADDITIONAL QUESTIONNAIRE
  1.3.1 To Training Coordinator
  1.3.2 To Environmental Quality Specialist
  1.3.3 To Natural Resources Manager
  1.3.4 To Cultural Resources Manager
  1.3.5 To Environmental Engineer
1.4 ANSWERS TO PRELIMINARY QUESTIONNAIRE
1.5 ANSWERS TO QUESTIONNAIRE TO TRAINING COORDINATOR
  1.5.1 Interview with Sharon Jones (October)
  1.5.2 Interview with Sharon Jones (November 8, 2001)
1.6 ANSWERS TO QUESTIONNAIRE TO ENVIRONMENTAL QUALITY SPECIALIST
1.7 ANSWERS TO QUESTIONNAIRE TO NATURAL RESOURCES MANAGER
1.8 ANSWERS TO QUESTIONNAIRE TO CULTURAL RESOURCES MANAGER
1.9 ANSWERS TO QUESTIONNAIRE TO ENVIRONMENTAL ENGINEER

Appendix A: Environmental Audit Questionnaire

As part of the audit of the communication infrastructure within the AGTX-EV, preliminary questionnaires were distributed and follow-up interviews were conducted with members of the management team.

1.1 Preliminary Questionnaire to all Project Managers

*Students from the Graduate School of Library and Information Science at The University of Texas at Austin are in the process of assessing the communication infrastructure of the AGTX-EV. Please answer the following questions as thoroughly as you can. Please answer questions by inserting text directly into the document. You may use as much space as is required. After you complete the questions, they will be forwarded to the graduate students as attachments via electronic mail. Your participation and honesty are greatly appreciated.*

Name:

Job Title:

Area of Responsibility:

1. What reports, recommendations, and/or suggestions (both formal and informal) do you make while performing your job duties? Please include both mandatory and voluntary aspects.

2. How often do you make these reports, recommendations, and suggestions?

3. What forms do these reports, recommendations, and suggestions take? (i.e.: manual, spreadsheet, electronic, etc.)

4. To whom do you submit these reports?

5. Where do the reports eventually end up? (i.e.: are they forwarded, archived, destroyed, etc.)
6. What reports do you receive from offices and units outside of your department as well as outside of your site?

7. What form do these reports (those that originate externally) take?

8. Do you have formal meetings? If so, how often are these meetings held? Who participates?

9. Do you “take minutes” at these meetings? If so, who receives the copies of the minutes?

1.2 To Environmental Manager

1. What are your lines of communication, for both internal and external communications?

2. Do you have an Intranet, newsletter, bulletin boards, etc? If so, which of these do you use for official communications regarding environmental impact and compliance?

3. Do you have a vehicle for processing anonymous suggestions?

4. Do you have environmental impact forms that various units are required to submit? Are these in paper or electronic format? Will you send us examples of the various forms that are used, or provide them in some other way?

5. What activities do you currently measure or keep track of, concerning environmental impact?

6. When you compile reports, what do you do with them?

7. How do you respond to inquiries from external organizations?

8. Do you respond differently to external regulatory organizations (such as the EPA) than you do to groups such as citizen’s groups?

1.3 Additional Questionnaire

The following questionnaire was used for interviewing each project manager concerning his or her area.

1.3.1 To Training Coordinator

1. What people will receive training in your training program? When are they supposed to receiving training?

2. What people make up your training team? What is their specific task?

3. Do you have specific curriculum for training programs? If so, how many kinds do you have? How do you design the curriculum?

4. How do you update your training programs? How does your training team get trained?

5. Have you ever encountered difficulties with the training budget? Has such difficulty affected the quality of training?

6. What kind of documentation do you have for your training program?

7. On your website, I found you have a project on environmental awareness. Who is responsible for operating this project? When do you conduct this project? How do you specifically perform the
project? (For example, what material do you use (including print format and electronic format) and who participates? Is this project integrated with their regular jobs? If so, how?

8. Do you have both outside training and in-house training? When do you choose outside training? When do you choose in-house training?

9. What kinds of methods do you apply to your training program? Are you trying to develop new methods?

10. How do you track the quality of your training program? Do you have refresher training? If so, what is it like?

1.3.2 To Environmental Quality Specialist

In regard to scheduled inspections:

1. Are your action plans in the form of letters or emails?

2. What is the name of the final report to NGB after you track the units by a computer program?

3. Does ECAS entail any notes or action plans?

4. Do you send action plans to NGB and document them?

In regard to unscheduled inspections:

5. What is the final report? Is it a letter with the action plan attached?

In regard to Internal Compliance:

6. If the commander of a facility and the related program managers do not reply by written letter, do they reply by emails or phone calls?

7. Do you document your electronic or hard copy letters?

8. Could you please give a short description regarding the computer program that tracks the performance of the facilities and units?

In regard to the Environmental Quality Report:

9. Do all program managers receive a copy or only the program managers directly involved?

1.3.3. To Natural Resources Manager

1. Are the reports that you mentioned, such as “Requests for Proposals,” “Statement/Scopes of Work,” “Vegetation restoration plans,” and “Other long term plans,” formal (mandatory), informal (Voluntary), or semi-formal?

2. If the reports are all informal, what reports are included in informal or semi-formal? What is the criteria of the reports that are semi formal?

3. You said you submitted the reports to other co-workers, other people with F&E, and others in the National Guard as well as Valerie Stein. At that point, what is the exact name (by job title) of other co-workers? What do you mean by F&E? What are the job titles of the people in F&E and the National Guard?
4. What is the exact format of the internal “Digital” report?

5. What is the USFWS? What are the job titles of the people in USFWS for the formal meeting?

6. You said that you take the meeting minutes. Do you have to submit those minutes? Do you take notes and type them in a digital record? If so, who receives the copies of the minutes?

7. Do you feel that your internal and external communications are difficult?

8. If so, could you give us some specific instances? Do you find internal or external communications more difficult? Why?

9. Do you (or your office) use an Environmental Management System (EMS) now? If you use it, do you share the resources with other department in the National Guard? If you don’t use it, is an EMS being developed?

1.3.4 To Cultural Resources Manager

1. Could you give more specific information about the major reports you make?

2. Is there any communication policy (written or verbal) for your area?

3. You answered that you don't have any communication input from other departments or the parent organization? If so, then how do you get information and documents (such as compliance/regulation documents) from them? Is it via inter-office mail or the website?

4. I have examined the conceptual data model for the EMS (Environmental Management System) which Ms. Stein gave us at the first meeting. In that model, cultural resources management is a major part of EMS. Care to comment?

5. Are you currently using or consulting an EMS? In establishing an EMS, do you (or will you) give it any input?

6. Through the EMS, can you share information with others?

7. Do you use the TXARNG website to get information? Are you required to give any input concerning the website?

8. Does your office have any system for the TXARNG to voluntarily make some suggestions concerning cultural resources and management? How can the TXARNG access info about cultural resources from headquarters?

1.3.5 To Environmental Engineer

1. Is there any communication policy (written or verbal) for your area?

2. In what case do you use the TXARNG website to get information?

3. What external parties do you communicate with?

4. How do you communicate with them?

5. In establishing an EMS, what input did you give the EMS developer?

For communication within the AGTX-EV, what would you suggest that would improve communications within your office?
APPENDIX B

Information Architecture/Usability Testing Questionnaire for the AGTX-EV website

1.0 ENVIRONMENTAL MANAGER
2.0 BUDGET ANALYST
3.0 ENVIRONMENTAL QUALITY SPECIALIST (RON SOLLITT)
4.0 ENVIRONMENTAL QUALITY SPECIALIST (DAVID BOUCHER)
5.0 CULTURAL RESOURCE MANAGER
6.0 NATURAL RESOURCE MANAGER
7.0 NATURAL RESOURCE SPECIALIST
8.0 ENVIRONMENTAL ENGINEER
9.0 GEOGRAPHIC INFORMATION SYSTEM (GIS) MANAGER
10.0 INTEGRATED TRAINING AREA MANAGEMENT COORDINATOR
11.0 ENVIRONMENTAL COMPLIANCE COORDINATOR

APPENDIX B: INFORMATION ARCHITECTURE/USABILITY TESTING QUESTIONNAIRE

Understanding Your Participation

Welcome and thank you for participation. You have been asked here today to participate in a usability evaluation of the AGTX-EV website, conducted by graduate students of The University of Texas at Austin. By participating in this evaluation, you will help us make this site easier to use.

Usability evaluations seek to determine if the people who use a product can do so quickly and easily to accomplish their own tasks. Usability applies to any aspect of a product that a person interacts with, such as hardware, software, menus, icons, messages, documentation, and help. Evaluations are designed to solicit feedback from a number of participants who represent a typical user, such as you. Once all evaluation sessions are completed, we will compile the feedback received from each participant, along with our notes and prepare a final analysis report. Our analysis and recommendations will provide a basis for changes to the design of the current external site and for adding an Intranet to communicate effectively.
1.0 ENVIRONMENTAL MANAGER

Part 1:

Please print or write legibly

Name: Val Stein
Your current position: Manager
Number of years in this position: 11
Age: (optional)

_______18-25
_______ 26-35
_______ 36-45
_______ 46-55
_______ 56-65
_______ 66+

Please mark on your education level:

Attended high school                    Attended college                  Undergraduate degree
Attended graduate school           x Graduate school degree       Other (please specify:__________)

Part 2:

Please check one using an underline for each question and offer any comments you wish.

1. How much experience has you had with computers and computer devices?
   1) PC: less than 6 months     6 months to 1 year   1-2 years      2-4 years      more than 4 years
   2) Mac: less than 6 months     6 months to 1 year   1-2 years      2-4 years      more than 4 years N/A
   3) Laptop: less than 6 months     6 months to 1 year   1-2 years      2-4 years      more than 4 years

2. About how many hours a week do you use a computer?
   1) At home: less than 1 hour        1-2 hours        2-4 hours          4-7 hours          more than 7 hours
   2) At work: less than 1 hour        1-2 hours        2-4 hours        4-7 hours          more than 7 hours

3. About how many hours a week do you spend on the Internet?
   1) At home: less than 1 hour        1-2 hours        2-4 hours        4-7 hours          more than 7 hours

A-6
2) At work: less than 1 hour  1-2 hours  2-4 hours  4-7 hours  more than 7 hours

4. Have you ever visited the AGTX-EV website (www.agtx-ev.pollution.org)?
   Yes:      No:

5. If you say yes on # 4, how often visit the AGTX-EV website?
   Seldom  Once a month  Once a week  Once a day  Many times a day

6. It was easy to navigate the AGTX-EV website.
   Strongly disagree  Disagree  Neutral  Agree  Strongly agree
   COMMENTS:

7. Whenever I went down a wrong path, I could recover easily and quickly.
   Strongly disagree  Disagree  Neutral  Agree  Strongly agree
   COMMENTS:

8. I was effectively able to use the search capability to find what I wanted.
   Strongly disagree  Disagree  Neutral  Agree  Strongly agree
   COMMENTS:

9. When I used the search capability, it returned relevant, pertinent results.
   Strongly disagree  Disagree  Neutral  Agree  Strongly agree
   COMMENTS:

10. When I used the search capability, it returned fast (within short time).
    Strongly disagree  Disagree  Neutral  Agree  Strongly agree
    COMMENTS:

11. The organization of information on the screens was appropriate and was not too much.
    Strongly disagree  Disagree  Neutral  Agree  Strongly agree
    COMMENTS:

12. The content, scalability, and consistency of the AGTX-EV website was good.
    Strongly disagree  Disagree  Neutral  Agree  Strongly agree
    COMMENTS:

13. The look-and-feel of the AGTX-EV website was simple and pleasing.
14. The AGTX-EV website has all the information and capabilities I expect it to have.

COMMENTS:

15. Overall, I am satisfied with how easy it is to use the AGTX-EV website.

COMMENTS:

16. Do you think it is a good way to make Intranet (Internal website) for effective internal communication?

COMMENTS:

17. Here’s what I liked most about the AGTX-EV website:

Content accessible at all hours when at work

18. Here’s what I’d like to see changed in the AGTX-EV website:

More info that is relevant to the customers in format of their liking
2.0 BUDGET ANALYST

Part 1:

Please print or write legibly

Name: Cathy Krueger
Your current position: BUDGET ANALYST
Number of years in this position: 3
Age: (optional)

_____ 18-25
_____ 26-35
_____ 36-45
_____ X___ 46-55
_____ 56-65
_____ 66+

Please mark on your education level:

Attended high school       Attended college       Undergraduate degree
Attended graduate school   Graduate school degree   Other (please specify:__________)

Part 2:

Please check one using an underline for each question and offer any comments you wish.

1. How much experience has you had with computers and computer devices?
   1) PC: less than 6 months   6 months to 1 year   1-2 years   2-4 years   more than 4 years
   2) Mac: less than 6 months   6 months to 1 year   1-2 years   2-4 years   more than 4 years
   3) Laptop: less than 6 months   6 months to 1 year   1-2 years   2-4 years   more than 4 years

2. About how many hours a week do you use a computer?
   1) At home: less than 1 hour   1-2 hours   2-4 hours   4-7 hours   more than 7 hours
   2) At work: less than 1 hour   1-2 hours   2-4 hours   4-7 hours   more than 7 hours

3. About how many hours a week do you spend on the Internet?
   1) At home: less than 1 hour   1-2 hours   2-4 hours   4-7 hours   more than 7 hours
   2) At work: less than 1 hour   1-2 hours   2-4 hours   4-7 hours   more than 7 hours
4. Have you ever visited the AGTX-EV website (www.agtx-ev.pollution.org)?
   Yes:                                     No:

5. If you say yes on # 4, how often visit the AGTX-EV website?
   Seldom      Once a month      Once a week      Once a day      Many times a day

6. It was easy to navigate the AGTX-EV website.
   Strongly disagree   Disagree   Neutral   Agree   Strongly agree

   COMMENTS:

7. Whenever I went down a wrong path, I could recover easily and quickly.
   Strongly disagree   Disagree   Neutral   Agree   Strongly agree

   COMMENTS:

8. I was effectively able to use the search capability to find what I wanted.
   Strongly disagree   Disagree   Neutral   Agree   Strongly agree

   COMMENTS:

9. When I used the search capability, it returned relevant, pertinent results.
   Strongly disagree   Disagree   Neutral   Agree   Strongly agree

   COMMENTS:

10. When I used the search capability, it returned fast (within short time).
    Strongly disagree   Disagree   Neutral   Agree   Strongly agree

    COMMENTS:

11. The organization of information on the screens was appropriate and was not too much.
    Strongly disagree   Disagree   Neutral   Agree   Strongly agree

    COMMENTS:

12. The content, scalability, and consistency of the AGTX-EV website was good.
    Strongly disagree   Disagree   Neutral   Agree   Strongly agree

    COMMENTS:

13. The look-and-feel of the AGTX-EV website was simple and pleasing.
    Strongly disagree   Disagree   Neutral   Agree   Strongly agree

    COMMENTS:
14. The AGTX-EV website has all the information and capabilities I expect it to have.

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

COMMENTS:

15. Overall, I am satisfied with how easy it is to use the AGTX-EV website.

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

COMMENTS:

16. Do you think it is a good way to make Intranet (Internal website) for effective internal communication?

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

COMMENTS:

17. Here’s what I liked most about the AGTX-EV website: SEE A FACE WITH THE VOICE AND KNOW WHAT POSITION EACH EMPLOYEE HOLDS. VAL’S AWARDS HAVE BEEN AN INTEREST.

18. Here’s what I’d like to see changed in the AGTX-EV website:
   SOME TYPE OF INDEX TO GET AROUND THE WEBSITE EASIER
3.0 ENVIRONMENTAL QUALITY SPECIALIST (Mr. Ron Sollitt)

Part 1:

Please print or write legibly

Name: Ron Sollitt
Your current position:
Number of years in this position:
Age: (optional)

    ______ 18-25
    ______ 26-35
    ______ 36-45
    ______ 46-55
    ______ 56-65
    ______ 66+

Please mark on your education level:

Attended high school  Attended college  Undergraduate degree  x
Attended graduate school  Graduate school degree  Other (please specify: __________)

Part 2:

Please check one using an underline for each question and offer any comments you wish.

1. How much experience have you had with computers and computer devices?

   1) PC: less than 6 months   6 months to 1 year   1-2 years   2-4 years   more than 4 years  x
   2) Mac: less than 6 months   6 months to 1 year   1-2 years   2-4 years   more than 4 years
   3) Laptop: less than 6 months   x   6 months to 1 year   1-2 years   2-4 years   more than 4 years

2. About how many hours a week do you use a computer?

   1) At home: less than 1 hour   1-2 hours   2-4 hours   x   4-7 hours   more than 7 hours
   2) At work: less than 1 hour   1-2 hours   2-4 hours   4-7 hours   more than 7 hours  x
3. About how many hours a week do you spend on the Internet?

1) At home: less than 1 hour  1-2 hours  2-4 hours  4-7 hours  more than 7 hours
2) At work: less than 1 hour  1-2 hours  2-4 hours  4-7 hours  more than 7 hours

4. Have you ever visited the AGTX-EV website (www.agtx-ev.pollution.org)?

   Yes:  x  No:

5. If you say yes on #4, how often visit the AGTX-EV website?

   Seldom  x   Once a month   Once a week   Once a day   Many times a day

6. It was easy to navigate the AGTX-EV website.

   Strongly disagree  Disagree  Neutral  x  Agree  Strongly agree

   COMMENTS:

7. Whenever I went down a wrong path, I could recover easily and quickly.

   Strongly disagree  Disagree  Neutral  x  Agree  Strongly agree

   COMMENTS:

8. I was effectively able to use the search capability to find what I wanted.

   Strongly disagree  Disagree  Neutral  x  Agree  Strongly agree

   COMMENTS:

9. When I used the search capability, it returned relevant, pertinent results.

   Strongly disagree  Disagree  Neutral  x  Agree  Strongly agree

   COMMENTS:

10. When I used the search capability, it returned fast (within short time).

    Strongly disagree  Disagree  Neutral  x  Agree  Strongly agree

    COMMENTS:

11. The organization of information on the screens was appropriate and was not too much.

    Strongly disagree  Disagree  Neutral  x  Agree  Strongly agree

    COMMENTS:

12. The content, scalability, and consistency of the AGTX-EV website was good.

    Strongly disagree  Disagree  Neutral  x  Agree  Strongly agree

    COMMENTS:
13. The look-and-feel of the AGTX-EV website was simple and pleasing.

<table>
<thead>
<tr>
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<th>Agree</th>
<th>Strongly agree</th>
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</table>

**COMMENTS:**

14. The AGTX-EV website has all the information and capabilities I expect it to have.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
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</thead>
</table>

**COMMENTS:**

15. Overall, I am satisfied with how easy it is to use the AGTX-EV website.

<table>
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<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

**COMMENTS:**

16. Do you think it is a good way to make Intranet (Internal website) for effective internal communication?

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

**COMMENTS:**

17. Here’s what I liked most about the AGTX-EV website:

18. Here’s what I’d like to see changed in the AGTX-EV website:
4.0 ENVIRONMENTAL QUALITY SPECIALIST (Mr. David Boucher)

Part 1:

Please print or write legibly

Name: David Boucher

Your current position: Environmental Quality Specialist (Environmental Project Officer)

Number of years in this position: 7.5 yrs

Age: (optional)

- 18-25
- 26-35
- X 36-45
- 46-55
- 56-65
- 66+

Please mark on your education level:

- Attended high school
- Attended college
- Undergraduate degree
- X - BS Geology
- Attended graduate school
- Graduate school degree
- Other (please specify: __________)

Part 2:

Please check one using an underline for each question and offer any comments you wish.

1. How much experience have you had with computers and computer devices?

1) PC: less than 6 months
2) Mac: less than 6 months
3) Laptop: less than 6 months

1-2 years
1-2 years
6 months to 1 year

2-4 years
2-4 years
6 months to 1 year

more than 4 years
more than 4 years

2. About how many hours a week do you use a computer?

1) At home: less than 1 hour
2) At work: less than 1 hour

1-2 hours
1-2 hours

2-4 hours
2-4 hours

4-7 hours
4-7 hours

more than 7 hours
more than 7 hours

3. About how many hours a week do you spend on the Internet?

1) At home: less than 1 hour

1-2 hours
2-4 hours

4-7 hours
more than 7 hours
2) At work: less than 1 hour  1-2 hours  2-4 hours  4-7 hours  more than 7 hours

4. Have you ever visited the AGTX-EV website (www.agtx-ev.pollution.org)?
   Yes:  No:

5. If you say yes on # 4, how often visit the AGTX-EV website?
   Seldom  Once a month  Once a week  Once a day  Many times a day

6. It was easy to navigate the AGTX-EV website.
   Strongly disagree  Disagree  Neutral  Agree  Strongly agree

   COMMENTS:

7. Whenever I went down a wrong path, I could recover easily and quickly.
   Strongly disagree  Disagree  Neutral  Agree  Strongly agree

   COMMENTS:

8. I was effectively able to use the search capability to find what I wanted.
   Strongly disagree  Disagree  Neutral  Agree  Strongly agree

   COMMENTS:

9. When I used the search capability, it returned relevant, pertinent results.
   Strongly disagree  Disagree  Neutral  Agree  Strongly agree

   COMMENTS:

10. When I used the search capability, it returned fast (within short time).
    Strongly disagree  Disagree  Neutral  Agree  Strongly agree

   COMMENTS:

11. The organization of information on the screens was appropriate and was not too much.
    Strongly disagree  Disagree  Neutral  Agree  Strongly agree

   COMMENTS:

12. The content, scalability, and consistency of the AGTX-EV website was good.
    Strongly disagree  Disagree  Neutral  Agree  Strongly agree

   COMMENTS:

13. The look-and-feel of the AGTX-EV website was simple and pleasing.
    Strongly disagree  Disagree  Neutral  Agree  Strongly agree
COMMENTS:

14. The AGTX-EV website has all the information and capabilities I expect it to have.

| Strongly disagree | Disagree | Neutral | Agree | Strongly agree |

COMMENTS:

15. Overall, I am satisfied with how easy it is to use the AGTX-EV website.

| Strongly disagree | Disagree | Neutral | Agree | Strongly agree |

COMMENTS:

16. Do you think it is a good way to make Intranet (Internal website) for effective internal communication?

| Strongly disagree | Disagree | Neutral | Agree | Strongly agree |

COMMENTS:

17. Here’s what I liked most about the AGTX-EV website:

18. Here’s what I’d like to see changed in the AGTX-EV website:
5.0 CULTURAL RESOURCE MANAGER

Part 1:

Please print or write legibly

Name: Shellie Prewitt
Your current position: Cultural Resources Manager
Number of years in this position: 2
Age: (optional)

[ ] 18-25
[ ] x 26-35
[ ] 36-45
[ ] 46-55
[ ] 56-65
[ ] 66+

Please mark on your education level:

Attended high school  Attended college  Undergraduate degree
Attended graduate school  x Graduate school degree  Other (please specify:__________)

Part 2:

Please check one using an underline for each question and offer any comments you wish.

1. How much experience have you had with computers and computer devices?

1) PC: less than 6 months  6 months to 1 year  1-2 years  2-4 years  more than 4 years
2) Mac: less than 6 months  6 months to 1 year  1-2 years  2-4 years  more than 4 years
3) Laptop: less than 6 months  6 months to 1 year  1-2 years  2-4 years  more than 4 years

2. About how many hours a week do you use a computer?

1) At home: less than 1 hour  1-2 hours  2-4 hours  4-7 hours  more than 7 hours
2) At work: less than 1 hour  1-2 hours  2-4 hours  4-7 hours  more than 7 hours
3. About how many hours a week do you spend on the Internet?
   1) At home: less than 1 hour  1-2 hours  2-4 hours  4-7 hours  more than 7 hours
   2) At work: less than 1 hour  1-2 hours  2-4 hours  4-7 hours  more than 7 hours

4. Have you ever visited the AGTX-EV website (www.agtx-ev.pollution.org)?
   Yes:    No:

5. If you say yes on # 4, how often visit the AGTX-EV website?
   Seldom  Once a month  Once a week  Once a day  Many times a day

6. It was easy to navigate the AGTX-EV website.
   Strongly disagree  Disagree  Neutral  Agree  Strongly agree
   COMMENTS:

7. Whenever I went down a wrong path, I could recover easily and quickly.
   Strongly disagree  Disagree  Neutral  Agree  Strongly agree
   COMMENTS:

8. I was effectively able to use the search capability to find what I wanted.
   Strongly disagree  Disagree  Neutral  Agree  Strongly agree
   COMMENTS:

9. When I used the search capability, it returned relevant, pertinent results.
   Strongly disagree  Disagree  Neutral  Agree  Strongly agree
   COMMENTS:

10. When I used the search capability, it returned fast (within short time).
    Strongly disagree  Disagree  Neutral  Agree  Strongly agree
    COMMENTS:

11. The organization of information on the screens was appropriate and was not too much.
    Strongly disagree  Disagree  Neutral  Agree  Strongly agree
    COMMENTS:

12. The content, scalability, and consistency of the AGTX-EV website was good.
    Strongly disagree  Disagree  Neutral  Agree  Strongly agree
    COMMENTS:
13. The look-and-feel of the AGTX-EV website was simple and pleasing.

**COMMENTS:**

14. The AGTX-EV website has all the information and capabilities I expect it to have.

**COMMENTS:**

15. Overall, I am satisfied with how easy it is to use the AGTX-EV website.

**COMMENTS:**

16. Do you think it is a good way to make Intranet (Internal website) for effective internal communication?

**COMMENTS:**

17. Here’s what I liked most about the AGTX-EV website:

   - Lets the folks outside of environmental see what we do.

18. Here’s what I’d like to see changed in the AGTX-EV website:

   - More publicity of the website within the guard.
6.0 NATURAL RESOURCE MANAGER

Part 1:

Please print or write legibly

Name: Dawn Johnson
Your current position: Natural Resources Manager
Number of years in this position: < 1
Age: (optional)

_____ 18-25
_____ 26-35
_____ 36-45
_____ 46-55
_____ 56-65
_____ 66+

Please mark on your education level:

Attended high school
Attended college
Undergraduate degree
Attended graduate school
X Graduate school degree
Other (please specify: __________)

Part 2:

Please check one using an underline for each question and offer any comments you wish.

1. How much experience has you had with computers and computer devices?

1) PC: less than 6 months  6 months to 1 year  1-2 years  2-4 years  more than 4 years

2) Mac: less than 6 months  6 months to 1 year  1-2 years  2-4 years  more than 4 years

3) Laptop: less than 6 months  6 months to 1 year  1-2 years  2-4 years  more than 4 years

2. About how many hours a week do you use a computer?

1) At home: less than 1 hour  1-2 hours  2-4 hours  4-7 hours  more than 7 hours

2) At work: less than 1 hour  1-2 hours  2-4 hours  4-7 hours  more than 7 hours

3. About how many hours a week do you spend on the Internet?
1) At home: less than 1 hour  1-2 hours  2-4 hours  4-7 hours  more than 7 hours
2) At work: less than 1 hour  1-2 hours  2-4 hours  4-7 hours  more than 7 hours

4. Have you ever visited the AGTX-EV website (www.agtx-ev.pollution.org)?
   Yes:  No:

5. If you say yes on # 4, how often visit the AGTX-EV website?
   Seldom  Once a month  Once a week  Once a day  Many times a day

6. It was easy to navigate the AGTX-EV website.
   Strongly disagree  Disagree  Neutral  Agree  Strongly agree
   COMMENTS:

7. Whenever I went down a wrong path, I could recover easily and quickly.
   Strongly disagree  Disagree  Neutral  Agree  Strongly agree
   COMMENTS:

8. I was effectively able to use the search capability to find what I wanted.
   Strongly disagree  Disagree  Neutral  Agree  Strongly agree
   COMMENTS:

9. When I used the search capability, it returned relevant, pertinent results.
   Strongly disagree  Disagree  Neutral  Agree  Strongly agree
   COMMENTS:

10. When I used the search capability, it returned fast (within short time).
    Strongly disagree  Disagree  Neutral  Agree  Strongly agree
    COMMENTS:

11. The organization of information on the screens was appropriate and was not too much.
    Strongly disagree  Disagree  Neutral  Agree  Strongly agree
    COMMENTS:

12. The content, scalability, and consistency of the AGTX-EV website was good.
    Strongly disagree  Disagree  Neutral  Agree  Strongly agree
    COMMENTS:

13. The look-and-feel of the AGTX-EV website was simple and pleasing.
14. The AGTX-EV website has all the information and capabilities I expect it to have. 

**COMMENTS:**

15. Overall, I am satisfied with how easy it is to use the AGTX-EV website. 

**COMMENTS:**

16. Do you think it is a good way to make Intranet (Internal website) for effective internal communication? 

**COMMENTS:**

17. Here’s what I liked most about the AGTX-EV website:

18. Here’s what I’d like to see changed in the AGTX-EV website:
7.0 NATURAL RESOURCE SPECIALIST

Part 1:
Please print or write legibly

Name: Janet
Your current position: Natural Resource Specialist
Number of years in this position: 5 months
Age: (optional)

_______18-25
_______ 26-35
_______ 36-45
_______ 46-55
_______ 56-65
_______ 66+

Please mark on your education level:

Attended high school Attended college Undergraduate degree
Attended graduate school Graduate school degree Other (please specify:__________)

Part 2:

Please check one using an underline for each question and offer any comments you wish.

1. How much experience has you had with computers and computer devices?
   1) PC: less than 6 months 6 months to 1 year 1-2 years 2-4 years more than 4 years
   2) Mac: less than 6 months 6 months to 1 year 1-2 years 2-4 years more than 4 years
   3) Laptop: less than 6 months 6 months to 1 year 1-2 years 2-4 years more than 4 years

2. About how many hours a week do you use a computer?
   1) At home: less than 1 hour 1-2 hours 2-4 hours 4-7 hours more than 7 hours
   2) At work: less than 1 hour 1-2 hours 2-4 hours 4-7 hours more than 7 hours

3. About how many hours a week do you spend on the Internet?
1) At home: less than 1 hour 1-2 hours 2-4 hours 4-7 hours more than 7 hours
2) At work: less than 1 hour 1-2 hours 2-4 hours 4-7 hours more than 7 hours

4. Have you ever visited the AGTX-EV website (www.agtx-ev.pollution.org)?

Yes: No:

5. If you say yes on #4, how often visit the AGTX-EV website?

Seldom Once a month Once a week Once a day Many times a day

6. It was easy to navigate the AGTX-EV website.

Strongly disagree Disagree Neutral Agree Strongly agree

COMMENTS:

7. Whenever I went down a wrong path, I could recover easily and quickly.

Strongly disagree Disagree Neutral Agree Strongly agree

COMMENTS:

8. I was effectively able to use the search capability to find what I wanted.

Strongly disagree Disagree Neutral Agree Strongly agree

COMMENTS:

9. When I used the search capability, it returned relevant, pertinent results.

Strongly disagree Disagree Neutral Agree Strongly agree

COMMENTS:

10. When I used the search capability, it returned fast (within short time).

Strongly disagree Disagree Neutral Agree Strongly agree

COMMENTS:

11. The organization of information on the screens was appropriate and was not too much.

Strongly disagree Disagree Neutral Agree Strongly agree

COMMENTS:

12. The content, scalability, and consistency of the AGTX-EV website was good.

Strongly disagree Disagree Neutral Agree Strongly agree

COMMENTS:

13. The look-and-feel of the AGTX-EV website was simple and pleasing.
Strongly disagree    Disagree    Neutral    Agree    Strongly agree

**COMMENTS:**

14. The AGTX-EV website has all the information and capabilities I expect it to have.

Strongly disagree    Disagree    Neutral    Agree    Strongly agree

**COMMENTS:**

15. Overall, I am satisfied with how easy it is to use the AGTX-EV website.

Strongly disagree    Disagree    Neutral    Agree    Strongly agree

**COMMENTS:**

16. Do you think it is a good way to make Intranet (Internal website) for effective internal communication?

Strongly disagree    Disagree    Neutral    Agree    Strongly agree

**COMMENTS:**

17. Here’s what I liked most about the AGTX-EV website:

Defines various programs

18. Here’s what I’d like to see changed in the AGTX-EV website:
8.0 ENVIRONMENTAL ENGINEER

Part 1:

Please print or write legibly

Name: Shakeel
Your current position: Environmental Engineer
Number of years in this position: 5
Age: (optional)

______18-25
______26-35
______36-45
______46-55
______56-65
______66+

Please mark on your education level:

Attended high school  Attended college  Undergraduate degree
Attended graduate school  Graduate school degree  Other (please specify:__________)

Part 2:

Please check one using an underline for each question and offer any comments you wish.

1. How much experience has you had with computers and computer devices?
   1) PC: less than 6 months  6 months to 1 year  1-2 years  2-4 years  more than 4 years
   2) Mac: less than 6 months  6 months to 1 year  1-2 years  2-4 years  more than 4 years
   3) Laptop: less than 6 months  6 months to 1 year  1-2 years  2-4 years  more than 4 years

2. About how many hours a week do you use a computer?
   1) At home: less than 1 hour  1-2 hours  2-4 hours  4-7 hours  more than 7 hours
   2) At work: less than 1 hour  1-2 hours  2-4 hours  4-7 hours  more than 7 hours

3. About how many hours a week do you spend on the Internet?
1) At home: less than 1 hour  1-2 hours  2-4 hours  4-7 hours  more than 7 hours
2) At work: less than 1 hour  1-2 hours  2-4 hours  4-7 hours  more than 7 hours
4. Have you ever visited the AGTX-EV website (www.agtx-ev.pollution.org)?
   Yes:  No:
5. If you say yes on # 4, how often visit the AGTX-EV website?
   Seldom  Once a month  Once a week  Once a day  Many times a day
6. It was easy to navigate the AGTX-EV website.
   Strongly disagree  Disagree  Neutral  Agree  Strongly agree
   COMMENTS:
7. Whenever I went down a wrong path, I could recover easily and quickly.
   Strongly disagree  Disagree  Neutral  Agree  Strongly agree
   COMMENTS:
8. I was effectively able to use the search capability to find what I wanted.
   Strongly disagree  Disagree  Neutral  Agree  Strongly agree
   COMMENTS:
9. When I used the search capability, it returned relevant, pertinent results.
   Strongly disagree  Disagree  Neutral  Agree  Strongly agree
   COMMENTS:
10. When I used the search capability, it returned fast (within short time).
    Strongly disagree  Disagree  Neutral  Agree  Strongly agree
    COMMENTS:
11. The organization of information on the screens was appropriate and was not too much.
    Strongly disagree  Disagree  Neutral  Agree  Strongly agree
    COMMENTS:
12. The content, scalability, and consistency of the AGTX-EV website was good.
    Strongly disagree  Disagree  Neutral  Agree  Strongly agree
    COMMENTS:
13. The look-and-feel of the AGTX-EV website was simple and pleasing.

Strongly disagree        Disagree        Neutral        Agree        Strongly agree

COMMENTS:

14. The AGTX-EV website has all the information and capabilities I expect it to have.

Strongly disagree        Disagree        Neutral        Agree        Strongly agree

COMMENTS:

15. Overall, I am satisfied with how easy it is to use the AGTX-EV website.

Strongly disagree        Disagree        Neutral        Agree        Strongly agree

COMMENTS:

16. Do you think it is a good way to make Intranet (Internal website) for effective internal communication?

Strongly disagree        Disagree        Neutral        Agree        Strongly agree

COMMENTS:

17. Here’s what I liked most about the AGTX-EV website: Clean water section is good

18. Here’s what I’d like to see changed in the AGTX-EV website: Expand the information and add details about locations.
9.0 GIS (GEOGRAPHIC INFORMATION SYSTEM) MANAGER

Part 1:

Please print or write legibly

Name: Burhan Girgin
Your current position: Systems Analyst – GIS Manager
Number of years in this position: 4
Age: (optional)

_____18-25
_____26-35
___X___ 36-45
_____46-55
_____56-65
_____66+

Please mark on your education level:

Attended high school Attended college Undergraduate degree
Attended graduate school Graduate school degree X Other (please specify:__________)

Part 2:

Please check one using an underline for each question and offer any comments you wish.

1. How much experience has you had with computers and computer devices?
   1) PC: less than 6 months 6 months to 1 year 1-2 years 2-4 years more than 4 years
   2) Mac: less than 6 months 6 months to 1 year 1-2 years 2-4 years more than 4 years
   3) Laptop: less than 6 months 6 months to 1 year 1-2 years 2-4 years more than 4 years

2. About how many hours a week do you use a computer?
   1) At home: less than 1 hour 1-2 hours 2-4 hours 4-7 hours more than 7 hours
   2) At work: less than 1 hour 1-2 hours 2-4 hours 4-7 hours more than 7 hours

3. About how many hours a week do you spend on the Internet?
   1) At home: less than 1 hour 1-2 hours 2-4 hours 4-7 hours more than 7 hours
2) At work: less than 1 hour 1-2 hours 2-4 hours 4-7 hours more than 7 hours

4. Have you ever visited the AGTX-EV website (www.agtx-ev.pollution.org)?

Yes:  No:

5. If you say yes on # 4, how often visit the AGTX-EV website?

Seldom  Once a month  Once a week  Once a day  Many times a day

6. It was easy to navigate the AGTX-EV website.

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

COMMENTS:

7. Whenever I went down a wrong path, I could recover easily and quickly.

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

COMMENTS:

8. I was effectively able to use the search capability to find what I wanted.

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

COMMENTS:

9. When I used the search capability, it returned relevant, pertinent results.

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

COMMENTS:

10. When I used the search capability, it returned fast (within short time).

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

COMMENTS:

11. The organization of information on the screens was appropriate and was not too much.

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

COMMENTS:

12. The content, scalability, and consistency of the AGTX-EV website was good.

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

COMMENTS:

13. The look-and-feel of the AGTX-EV website was simple and pleasing.

Strongly disagree  Disagree  Neutral  Agree  Strongly agree
14. The AGTX-EV website has all the information and capabilities I expect it to have.

Strongly disagree    Disagree    Neutral    Agree    Strongly agree

15. Overall, I am satisfied with how easy it is to use the AGTX-EV website.

Strongly disagree    Disagree    Neutral    Agree    Strongly agree

16. Do you think it is a good way to make Intranet (Internal website) for effective internal communication?

Strongly disagree    Disagree    Neutral    Agree    Strongly agree

17. Here’s what I liked most about the AGTX-EV website:

Data request form, Maps, Quiz

18. Here’s what I’d like to see changed in the AGTX-EV website:

More interactive maps
10.0 INTEGRATED TRAINING AREA MANAGEMENT (ITAM) COORDINATOR

Part 1:

Please print or write legibly

Name: Delbert M. Bassett
Your current position: ITAM Coordinator
Number of years in this position: 6 months
Age: (optional)

_______18-25
_______26-35
_______36-45
_______46-55
__X___56-65
_______66+

Please mark on your education level:

Attended high school  Attended college  Undergraduate degree
Attended graduate school  Graduate school degree  Other (please specify:__________)

Part 2:

Please check one using an underline for each question and offer any comments you wish.

1. How much experience has you had with computers and computer devices?

1) PC: less than 6 months  6 months to 1 year  1-2 years  2-4 years  more than 4 years
2) Mac: less than 6 months  6 months to 1 year  1-2 years  2-4 years  more than 4 years
3) Laptop: less than 6 months  6 months to 1 year  1-2 years  2-4 years  more than 4 years

2. About how many hours a week do you use a computer?

1) At home: less than 1 hour  1-2 hours  2-4 hours  4-7 hours  more than 7 hours
2) At work: less than 1 hour  1-2 hours  2-4 hours  4-7 hours  more than 7 hours
3. About how many hours a week do you spend on the Internet?

1) At home: less than 1 hour  1-2 hours  2-4 hours  4-7 hours  more than 7 hours
2) At work: less than 1 hour  1-2 hours  2-4 hours  4-7 hours  more than 7 hours

4. Have you ever visited the AGTX-EV website (www.agtx-ev.pollution.org)?
   Yes:                                     No:

5. If you say yes on #4, how often visit the AGTX-EV website?
   Seldom  Once a month  Once a week  Once a day  Many times a day

6. It was easy to navigate the AGTX-EV website.
   Strongly disagree  Disagree  Neutral  Agree  Strongly agree
   COMMENTS:

7. Whenever I went down a wrong path, I could recover easily and quickly.
   Strongly disagree  Disagree  Neutral  Agree  Strongly agree
   COMMENTS:

8. I was effectively able to use the search capability to find what I wanted.
   Strongly disagree  Disagree  Neutral  Agree  Strongly agree
   COMMENTS:

9. When I used the search capability, it returned relevant, pertinent results.
   Strongly disagree  Disagree  Neutral  Agree  Strongly agree
   COMMENTS:

10. When I used the search capability, it returned fast (within short time).
    Strongly disagree  Disagree  Neutral  Agree  Strongly agree
    COMMENTS:

11. The organization of information on the screens was appropriate and was not too much.
    Strongly disagree  Disagree  Neutral  Agree  Strongly agree
    COMMENTS:

12. The content, scalability, and consistency of the AGTX-EV website was good.
    Strongly disagree  Disagree  Neutral  Agree  Strongly agree
    COMMENTS:
13. The look-and-feel of the AGTX-EV website was simple and pleasing.

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

COMMENTS:

14. The AGTX-EV website has all the information and capabilities I expect it to have.

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

COMMENTS:

15. Overall, I am satisfied with how easy it is to use the AGTX-EV website.

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

COMMENTS:

16. Do you think it is a good way to make Intranet (Internal website) for effective internal communication?

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

COMMENTS:

17. Here’s what I liked most about the AGTX-EV website:
Nothing

18. Here’s what I’d like to see changed in the AGTX-EV website:

It’s my home page but only because I work here. Otherwise never use it as it has nothing of value that I need.
11.0 ENVIRONMENTAL COMPLIANCE COORDINATOR

Part 1:

Please print or write legibly

Name: Sharon Jones
Your current position: Compliance Coordinator
Number of years in this position: 3 months
Age: (optional)

______ 18-25
______ 26-35
______ 36-45
______ 46-55
______ 56-65
______ 66+

Please mark on your education level:

Attended high school  Attended college  Undergraduate degree  XX
Attended graduate school  Graduate school degree  Other (please specify: ________)

Part 2:

Please check one using an underline for each question and offer any comments you wish.

1. How much experience has you had with computers and computer devices?
   1) PC: less than 6 months  6 months to 1 year  1-2 years  2-4 years  more than 4 years
   2) Mac: less than 6 months  6 months to 1 year  1-2 years  2-4 years  more than 4 years
   3) Laptop: less than 6 months  6 months to 1 year  1-2 years  2-4 years  more than 4 years

2. About how many hours a week do you use a computer?
   1) At home: less than 1 hour  1-2 hours  2-4 hours  4-7 hours  more than 7 hours
   2) At work: less than 1 hour  1-2 hours  2-4 hours  4-7 hours  more than 7 hours

3. About how many hours a week do you spend on the Internet?
   1) At home: less than 1 hour  1-2 hours  2-4 hours  4-7 hours  more than 7 hours
2. At work: less than 1 hour 1-2 hours 2-4 hours 4-7 hours more than 7 hours

4. Have you ever visited the AGTX-EV website (www.agtx-ev.pollution.org)?
   Yes: No:

5. If you say yes on # 4, how often visit the AGTX-EV website?
   Seldom Once a month Once a week Once a day Many times a day

6. It was easy to navigate the AGTX-EV website.
   Strongly disagree Disagree Neutral Agree Strongly agree

   COMMENTS:

7. Whenever I went down a wrong path, I could recover easily and quickly.
   Strongly disagree Disagree Neutral Agree Strongly agree

   COMMENTS:

8. I was effectively able to use the search capability to find what I wanted.
   Strongly disagree Disagree Neutral Agree Strongly agree

   COMMENTS:

9. When I used the search capability, it returned relevant, pertinent results.
   Strongly disagree Disagree Neutral Agree Strongly agree

   COMMENTS:

10. When I used the search capability, it returned fast (within short time).
    Strongly disagree Disagree Neutral Agree Strongly agree

    COMMENTS:

11. The organization of information on the screens was appropriate and was not too much.
    Strongly disagree Disagree Neutral Agree Strongly agree

    COMMENTS:

12. The content, scalability, and consistency of the AGTX-EV website was good.
    Strongly disagree Disagree Neutral Agree Strongly agree

    COMMENTS:

13. The look-and-feel of the AGTX-EV website was simple and pleasing.
    Strongly disagree Disagree Neutral Agree Strongly agree
14. The AGTX-EV website has all the information and capabilities I expect it to have.

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

15. Overall, I am satisfied with how easy it is to use the AGTX-EV website.

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

16. Do you think it is a good way to make Intranet (Internal website) for effective internal communication?

Strongly disagree  Disagree  Neutral  Agree  Strongly agree

17. Here’s what I liked most about the AGTX-EV website: Plenty of information and resources available.

18. Here’s what I’d like to see changed in the AGTX-EV website: the basic environmental media does not properly align it. It is arranged more by Program Managers’ duties. This makes it difficult to locate specific environmental requirements. I’d like to see it made more users friendly for individuals seeking regulatory information by categories such as Clean Water, Solid Waste, Air, Pollution Prevention, etc.
APPENDIX C

COPIES OF MAJOR DOCUMENTS

1.0 AGTX-EV MISSION STATEMENT
2.0 AGTX-EV TRAINING AWARENESS PRODUCTS
   2.1 EARTH GUARD
   2.2 POSTERS
   2.3 RECYCLED MUGS
   2.4 RECYCLED PEN
   2.5 RECYCLING WHEEL
   2.6 VIDEO
3.0 TEREC DOCUMENTS
   3.1 CHECKLIST
   3.2 TEREC FORM
   3.3 COMPLETED TEREC EXAMPLE FORM
4.0 SAMPLE WORKING REPORTS
   4.1 NOISE COMPLAINT FORM
   4.2 WINCASS MANAGEMENT REPORT
   4.3 MEMORANDUM FOR THE ADJUTANT GENERAL
   4.4 REQUEST FOR TECHNICAL AND COST PROPOSALS FY 2001-2002
   4.5 SCOPE OF WORK FY 2001-2002
   4.6 TRAINING WISH LIST
APPENDIX C: COPIES OF MAJOR DOCUMENTS

1.0 AGTX-EV MISSION STATEMENT

Mission Statement
AGTX-EV Mission

To preserve, protect, restore and improve the quality of the environment while supporting the Texas Army National Guard in achieving and maintaining total readiness.

Criteria

In keeping with the Adjutant General's objectives and AGTX-EV mission statement, the following list represents criteria that AGTX-EV goals address:

- Compliance with mandated requirements.
- Meeting and exceeding customer and supplier needs.
- Streamlining processes for better resource utilization.
- Teamwork efforts to obtain effective results.
- Foster and practice environmental stewardship.

Goals

Compliance Measurement

1. Reduce repeat ECAS findings by 25% per year starting in FY02.
2. Conduct ECAS at 20% total locations per year starting in FY02.
3. Create implementation plan for BMPs in all areas in FY02.
4. Implement plans in #3 at the rate of 25% per year starting in FY02 after plan completion.

Customer Needs

1. Conduct customer needs and feedback surveys on a semi-annual basis starting in FY01.
2. Develop communication plan for interfacing with all customer and supplier segments by FY03.
3. Resolve environmental restrictions (other than regulatory) on all training lands and open them for use by 2006.
4. Complete construction of all mobile tanker truck secondary containment pads by FY01.
5. Render statewide washrooms operable by 10% per year.
6. Reduce the amount of training lands in need of environmental repair or other mitigation to only 1.0% of total acreage per location remaining by 2006.

   Environmental Training Plan

1. Develop an environmental training plan by 2002.

2. Begin implementation of the plan at the rate of 21% of outlined tasks per year starting in 2002 (100% by 2006).

3. Implement web site training on a scheduled basis as outlined in plan by FY03.

   Streamlining Processes

1. Diagram all AGTX-EV staff process flowcharts by 2005 at the rate of 30% per year starting in FY02.

2. Create a virtual library in FY01 and populate it with all past and present environmental information by FY03.

3. Create standard guidance documents in customer-friendly formats at the rate of 25% per year beginning in FY02.
2.0 AGTX-EV TRAINING AWARENESS PRODUCTS

2.1 EARTH GUARD

Guard launches counter-attack against ants

By Paul Powell, PhD
Environmental Specialist
Texas Army National Guard

The red imported fire ant staged an amphibious landing at Mobile, Ala., around 1930. The southern states were invaded over the next few decades. Texas fell in the 1950s.

The current battle front is roughly along a line from Wichita Falls to Del Rio, Abilene, San Angelo, Midland and Odessa are now occupied by advance units. The only things limiting the advance are dry conditions and seasonally frozen soils.

The red imported fire ant has devastated wildlife, livestock and electrical systems wherever it goes and costs the state more than $200 million dollars annually. It has impacted Texas Army National Guard training sites particularly hard.

Anyone who has fired from a prone position or hunkered on any of Texas Guard training sites is aware that the fire ant gets its name from its painful bites. In addition to attacks on personnel, the ants incapacitated the remote engagement target system (RETS) range at Camp Maxey soon after it was installed, and totally incapacitated pop-up targets at the pistol range at Camp Bowie, resulting in a repair cost of $35,000.

At Camp Swift in 1997, about 20 percent of the target lifters on the M-16 range and about 50 percent on the 50-cal range were damaged by fire ants.

We have a battle on our hands.

Virtually all ant species that ordinarily would hold an alien invader in check are cut-computed by the fire ant in Texas. Because fire ants here have undergone two mutations that make them even more obnoxious. Usually there is only one ant queen per mound, but Texas mounds can have a dozen or more queens — each producing hundreds of eggs a day.

Also, in most of its range, there are only a few fire ant colonies per acre since fire ants from different mounds attack each other. However, in Texas the ants have lost the ability to recognize ants from different mounds, so they crowd together in the same area.

Some animals, such as calves and fawns, are directly affected by the ants; others can be devastated indirectly by the fire ants through their effect on the food chain.

A good example is the Texas Horned Lizard, which has essentially disappeared wherever fire ants are found because they’ve driven out the red harvester ant that represents 80 percent of the lizard’s diet.

A counter-attack has been ordered and is underway. The Texas Army National Guard has contracted with the Texas Agricultural Extension Service to develop a four-pronged integrated pest management approach to control the red imported fire ant at our training sites and armories. The tactical methods being evaluated at small arms ranges include precise timing of broadcast applications of insecticides and growth regulators to reduce the costs of control.

Also, two insecticide application methods that better target the fire ant are under investigation. One is a bait canister with holes so small that larger ant species can not get access to the insecticide and another is direct application of the bait to each mound using an inverted — see ANTS, p. 2
2.2 POSTERS

2.3 RECYCLED MUGS

2.4 RECYCLED PEN
2.5 RECYCLING WHEEL

2.6 VIDEO
3.0 TEREC DOCUMENTS

3.1 CHECKLIST

**TXARNG ENVIRONMENTAL CHECKLIST**
Field Tactical Training
Battalion and Unit Commanders

**NOTICE:** Commanders will complete the following checklist prior to any field training at TXARNG training sites. If you answer "YES" to any of the following questions you are to read and initial the corresponding guidance which is attached. The completed checklist will be turned in to the training site manager and maintained for three years and be subject to inspection.

**TRAINING SITE:**

**UNIT:**

**DATE OF TRAINING:**

1. Are you aware of any off limit areas at the training site?

2. Does the training call for vehicle traffic off of established roads?

3. Does the training call for units or personnel to be near rivers beds or creek bottoms?

4. Does your training call for use of vegetation for camouflage or will your training result in the cutting down of any trees or vegetation?

5. Is there anything in your training which could cause an accidental fire (tracer/smoke grenades/stoves)?

6. Does your training call for any digging?

7. Does your training call for refueling operations?

8. Will your training include field mess operations?

9. Does your training call for any field maintenance operations?
10. Will your training create garbage?

11. Does your training plan call for the use of field latrines (cat holes/slit trenches)?

12. From past experience do you expect to encounter wildlife in the training area?

13. Are there historic sites in the training area?

14. Will your training create any hazardous waste (solvent/paint/oil)?

15. Will your unit bivouac in the field?

16. Is any CBR training scheduled?

17. Is there an area where garbage is routinely dropped or an established land fill on the training site?

18. Is your unit using any ammunition or pyrotechnics?

19. Have you completed and submitted a Training Event Record of Environmental Consideration (TEREC)?
3.2 TEREC FORM

TEXAS ARMY NATIONAL GUARD
Training Event Record of Environmental Consideration
(TEREC)

Complete the following TEREC questions. A sample completed TEREC is provided on reverse for content and format guidance. Submit all completed TEREC's to the Training Branch of the Directorate of Plans, Operations and Training (ATTN: AGTX-07T), P.O. Box 5218, Austin, Texas. Adequate time must be provided to allow for review and processing. The Environmental Resources Management Branch (ERMB) will review all TEREC's and return them to the appropriate command elements along with a report detailing any restrictions, precautions or findings of significant impact. The ERMB will also provide technical assistance in the preparation of TEREC's. Violations of this guidance could result in direct liability to the unit and superior commanders as well as non-military users of training sites. It is the ultimate responsibility of the unit commander to ensure that the TEREC has been completed before the training event occurs.

I. ORIGINATION
   a. Date
   b. Unit Designation or Name of Non-Military Organization
   c. Address:
   d. Point Of Contact and Phone Number
   e. Training Site Requested:
   f. Date(s) Needed:

II. DESCRIPTION
   1. Provide a brief, clear and concise narrative of forecasted training site use and/or activities to be conducted. Include Commander’s intent for training, number of personnel involved and site specific location of activities.
   
   2. Number and types of vehicles to be used.
   
   3. Types and quantities of pyrotechnics and munitions to be used.
   
   4. Field Sanitation Requirements/waste Disposal:
3.3 COMPLETED TEREC EXAMPLE FORM

COMPLETED TEREC EXAMPLE

02 September 1992
Co D, 9/199 AR
ADDRESS: Baldredash, STATE ZIP
1SG NAME, DSN 999-9098, COM (514) 123-4567
Camp Wombat, Thomasville, TX
December 4, 1992 — December 16, 1992

1. Co D will conduct an FTX from 4–16 Dec 1992 in training areas 3 & 4 at Camp Wombat. Approximately 78 personnel will be trained. Round robin training will be conducted on platoon level ARTEP tasks. One platoon will defend Objective Red (vic. grid 622093). A second platoon will maneuver along Route Bravo (from Pp 2, grid 621090, to Objective Red, grid 622093), and conduct a hasty assault. The remaining platoon will conduct assembly area operations. All three platoons will rotate through each lane.

2. Unit will use 11 ea M60A3 tanks, 2 ea M113 APCs, 1 ea M-534, 2 ea 2 1/2 ton trucks and 2 ea 1/3 ton trucks during this exercise.

3. Unit is allocated 141 Hoffman devices, 3,000 rds of 7.62 blanks for Coax MGs & 500 rds of 5.56 blanks for NBC training, and 3 ea read and green signaling flares will be used for command control. M60A3s will use their on-board smoke generators for obscuration during the forward passage of lines.

4. a. Each vehicle will have plastic garbage bags for collecting trash. Trash will be removed by supply truck and disposed of in the county landfill.

   b. Kitchen waste and grease will be collected per SOP and disposed of in the county landfill.

   c. Porta-Johns are located in the assembly area and latrines are located in the motor pool. In the field, soldiers will dig individual “catholes” as trained by the unit field sanitation officer.

5. a. N/A

   b. Key personnel are trained to respond to accidental spills. Shovels and empty 55 gallon drums are available through Motor SGT for containing and removing contaminated earth.

NAME
RANK, AR, TXARNG
Commanding

ECB 24 C
4.0 SAMPLE WORKING REPORTS

4.1 NOISE COMPLAINT FORM

<table>
<thead>
<tr>
<th>NOISE COMPLAINT REPORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>TO: AGTX-EV, P0 Box 5218, Austin, TX 78763</td>
</tr>
</tbody>
</table>

1. Date & Time occurrence / disturbance took place: [ ] AM / [ ] PM
   Location of occurrence / disturbance:
   Address: ___________________________
   City: ___________________________

2. Type / nature of disturbance:
   [ ] Aircraft
   [ ] Wheeled vehicle
   [ ] Training
   [ ] Maintenance
   [ ] Other (name Hwy, city/town, etc)

Specific details concerning disturbance:
Complainant: ___________________________ Phone number: ___________________________
Address: ________________________________________________
_____________________________________________________
_____________________________________________________

3. Name/rank of person documenting complaint:
   Unit: ___________________________ Position/Title: ___________________________
   Duty Phone: ( ) ext.
   Address: ___________________________
   City/Zip Code: ___________________________

4. Remarks:
   __________________________________________
   ____________________________
   ____________________________

TXARNG FORM 95R, dated AUG 93
### 4.2 WINCASS MANAGEMENT REPORT

**Issue Reference**

<table>
<thead>
<tr>
<th>Protocol</th>
<th>Other Environmental Issues - Program Management</th>
</tr>
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<tbody>
<tr>
<td>URC</td>
<td>05.002.03.AIRNG 03</td>
</tr>
<tr>
<td>Reference Number</td>
<td>U005</td>
</tr>
</tbody>
</table>

**Summary Condition Statement**

The facility has gone above and beyond statutory and regulatory requirements. (Positive)

**Regulatory Citation**

(MP/IF) [Added December 1997].

**Regulatory Requirement**

Installations should go above and beyond statutory and regulatory compliance.

**Type of Issue**

Positive Performance

---

**Facility/Condition Information**

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>Saginaw</th>
</tr>
</thead>
<tbody>
<tr>
<td>FISP Number/Installation Number</td>
<td>48417</td>
</tr>
<tr>
<td>Date Assessed</td>
<td>03/22/2000</td>
</tr>
</tbody>
</table>

**Facility Type**

CSMS 1

---

**Miscellaneous Information:**

- Tenant Organization: No
- Has Finding Been Addressed Before? No
- Previous NOV? No
- Attempt to Correct? No
MEMORANDUM FOR THE ADJUTANT GENERAL

AGTX-EV (200) 21 SEP 00

MEMORANDUM FOR The Adjutant General, ATTN: ACTX-AV (COL Looney), P.O. Box 5218, Austin, Texas 78763-5218

SUBJECT: Seasonal Flight Restrictions/Wallisville Lake

1. Ref: Memorandum from Galveston District, Corps of Engineers, to ACTX-E dated 19 Sep 2000 regarding hunting season at Wallisville Lake Project (enclosed).

2. License No. DACW64-3-00-63 as amended requires flight restrictions during waterfowl hunting season at the Wallisville Training Site.


4. Request AGTX-AV communicate the above flight restrictions to units using the site.

FOR THE COMMANDER:

Encl

JOHN A. WELLS, JR.
COL, GS, TXARNG
Director, Facilities & Engineering
REQUEST FOR TECHNICAL AND COST PROPOSALS FY2001-2002

SELECTIVE APPLICATION OF CHEMICAL BAITS FOR THE MANAGEMENT OF SOLENOPSIS INVICTA AT TXARNG TRAINING SITES

General:
The Texas Army National Guard is soliciting technical and cost proposals for the management of red imported fire ant (RIFA), Solenopsis invicta, at Texas Army National Guard training sites (Camps Swift, Bowie, Maxey, and Fort Wolters) using RIFA specific baiting techniques. A comprehensive survey for ants using pitfall traps should be undertaken for each base. Arthropods other than ants that are caught incidentally in the pitfall traps should also be identified. Infestation level of RIFAs at targeted treatment sites should be monitored before, during and after treatment. Treatment should consist of RIFA-specific baiting technique that minimizes damage to native ants. Treatment should be undertaken at target sites and at firing ranges of Camp Swift and Camp Bowie. Follow up surveys should be conducted that evaluate the effect of the baiting on infestation level of RIFAs and on the biodiversity of native ants and other insects in the treatment areas.

Deliverables:
Quarterly letter reports to TXARNG reporting progress and problems of each phase of the project and stating plans for the next quarter are required. An annual report to TXARNG containing survey results, location of conservation sites, effectiveness of baits, and overall effects on terrestrial invertebrate biodiversity. Products and services will generally include those from previous year’s contract.

Work on this contract must be substantially begun prior to 15 September 2001. The Performing Agency shall provide final products on or before 30 September 2002.

Additional Conditions:
Additional or substitute contractor-initiated activities may be included in the proposal.

Cost Proposal:
Cost proposals should reflect the total work effort but need not include budget detail. Invoices will indicate the % of the project completed during a billing period and be supported by information in Quarterly Reports.
**4.5 SCOPE OF WORK FY 2001-2002**

**SCOPE OF WORK FY 2001-2002**

SELECTIVE APPLICATION OF CHEMICAL BAITS FOR THE MANAGEMENT OF *SOLENOPSIS INVICTA* AT TXARNG TRAINING SITES

Task 1: Survey native ants (and other arthropods) at TXARNG sites

Task 2: Survey level of infestation of *S. invicta* at treatment sites

Task 3: Treat *S. invicta* colonies at treatment sites

Task 4: Evaluate impacts on imported fire ant and native ant populations

Task 5: Control of *S. invicta* at firing ranges at Camp Swift and Camp Bowie

**Deliverables:**

Four quarterly status reports.

Final annual summary report.

**Termination Date:** 30 Sept 2002

**4.6 TRAINING WISH LIST**

**YOUR WISH LIST FOR THE YEAR**

If you would like to attend a specific training please fill out the following form and submit it back to us.
# APPENDIX D: ACRONYMS

## 1.0 ACRONYM TABLE

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>CX</td>
<td>Categorical Exclusion</td>
</tr>
<tr>
<td>EA</td>
<td>Environmental Assessment</td>
</tr>
<tr>
<td>EIS</td>
<td>Environmental Impact Statement</td>
</tr>
<tr>
<td>FNSI</td>
<td>Finding of No Significant Impact</td>
</tr>
<tr>
<td>FTX</td>
<td>Field Training Exercise</td>
</tr>
<tr>
<td>NEPA</td>
<td>National Environmental Policy Act</td>
</tr>
<tr>
<td>NOI</td>
<td>Notice of Intent</td>
</tr>
<tr>
<td>REC And Check</td>
<td>Record of Environmental Consideration and Environmental Checklist</td>
</tr>
<tr>
<td>ROD</td>
<td>Record of Decision</td>
</tr>
<tr>
<td>TEREC</td>
<td>Training Event Record of Environmental Consideration</td>
</tr>
</tbody>
</table>