



Operating Experience Summary









Special Issue:
GOOD PRACTICES

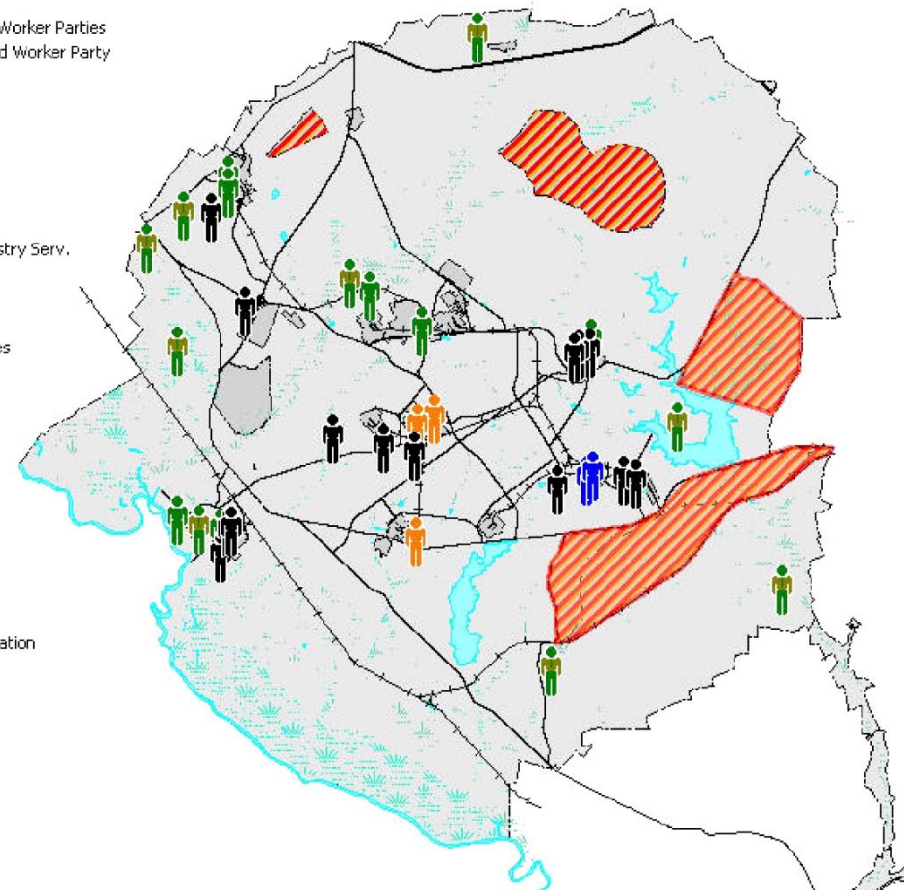
U.S. Department of Energy
Office of Environment, Safety and Health

OE Summary 2006-01
January 20, 2006

Good Practices

- *Office of Science: Enhanced safety culture begins with top management* 1
- *Pegasus: A web-based management system* ... 3
- *Remote Field Worker Tool: An integrated system to track remote worker activities* 8

- Remote Field Worker Parties
- Tardy Field Worker Party
- 
- EM&A
- 
- U.S. Forestry Serv.
- 
- Site Utilities
- 
- SRSOC
- 
- SGCP
- 
- Transportation
- 
- Other
- 





Good Practice: DOE's Office of Science Drives Safety Performance Improvements

1

In 2003, Dr. Raymond Orbach, Director of DOE's Office of Science (SC), challenged each of the 10 national laboratories that SC oversees to improve their safety performance to "best in class." The national laboratories, long recognized as world-class science and computing centers, should, he reasoned, seek a similar level of excellence in safety.

SC measures safety performance by comparing injury and illness rate data with the Department of Labor's data for Standard Industrial Classification (SIC) code 873 (Research and Development) organizations consisting of 1,000 or more employees. Using these data, safety performance can be quantified by comparing the Total Reportable Case (TRC) and the Days Away, Restricted, or Transferred (DART) case rates to comparable private industry companies.

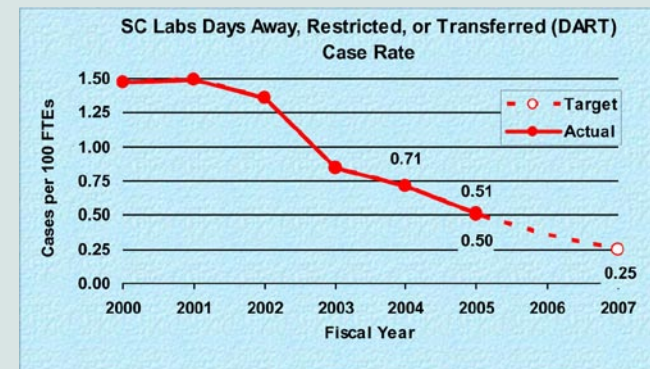
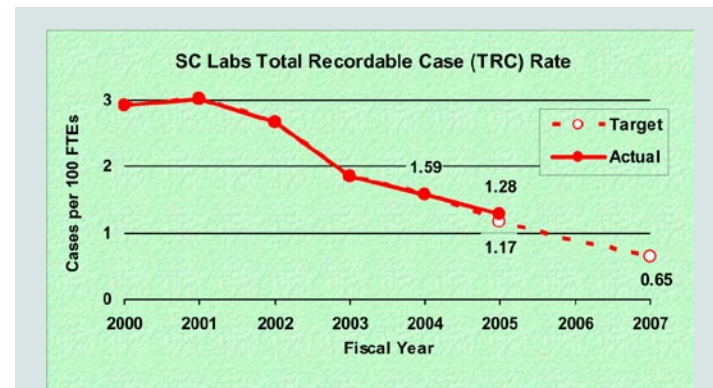
After receiving input from the Science complex of Federal and contractor establishments, Dr. Orbach decided that the Department's world-class laboratories would represent best-in-class safety performance by placing in the top 10 percent for TRC and DART case rates of comparable industrial research and development companies in fiscal year 2007. The interim goal for the laboratories was to rank in the top 25 percent in fiscal year 2005.

If our laboratories are to exhibit "Best in Class" in safety, these targets seem reasonable to me.

— Dr. Raymond Orbach

Each laboratory receives a quarterly progress report from Dr. Orbach that reflects its TRC and DART case rates and benchmarks them to SC's goals. Laboratory directors are held accountable for improving safety by consistent follow-up and focus on goals and peer performance.

The charts in Figures 1-1a and 1-1b were taken from a November 2005 progress briefing. They illustrate the TRC and DART case rate reductions for all SC laboratories since fiscal year 2000.



Figures 1-1a and 1-1b. Office of Science TRC and DART case rates from 2000 through 2005



The charts show that the SC laboratories have significantly reduced their TRC and DART case rates and have nearly achieved the top 25th percentile rankings. This improved safety posture illustrates the value of a strong safety culture that starts with top management.

What is safety culture? A safety culture is the collective values and behaviors of an organization where its leadership sets the patterns and goals that are adopted and supported by its members. A positive safety culture, which requires input and involvement from all levels of an organization, emphasizes safety as an important core value. Attributes of a positive safety culture include the following:

- performance metrics for continuously improving safety,
- hazard analyses commensurate with the nature of the work being done,
- open communication between workers and management, particularly in addressing safety concerns,
- zero tolerance for willful noncompliance with safety guidance,
- demonstrable management commitment to safety, including allocation of resources to improving safety,
- identification and analysis of operating experience and lessons learned to prevent future adverse events, and
- development, implementation, and evaluation of effective corrective actions.

Leaders create safety culture. It is their responsibility to change it. They are responsible for the success or failures of an organization.

The Office of Environment, Safety and Health applauds the efforts of the Office of Science to help its laboratories develop a positive safety culture. Leaders create culture, but it should be everyone's mindset to support a safety-conscious work environment. For additional information on the SC goals, see <http://www.sc.doe.gov/safety>.

KEYWORDS: *Safety, safety culture, safety performance*

ISM CORE FUNCTIONS: *Analyze the Hazards, Develop and Implement Hazard Controls, Perform Work within Controls, Provide Feedback and Improvement*



Good Practice: Site Management/Information Sharing Systems

2

The widespread use of computer technology in today's working world has made it possible for most, if not all, companies and business entities to develop management and information systems that enable employees at all levels of an organization to manage workflow and track action items.

The Office of Environment, Safety and Health would like to share the success of one such system: the Pegasus web-based management system in use at the National Nuclear Security Administration (NNSA) Y-12 Site Office (YSO). Originally developed to replace an earlier action-tracking database, Pegasus consists of a Structured Query Language (SQL) Server 2000 database that is accessed through an ASP.NET web application.

Pegasus was launched in July 2004. YSO uses it to identify, prioritize, communicate, track, trend, and manage safety, quality, and security issues and vulnerabilities. Unlike the earlier system, Pegasus has been integrated sitewide, enabling NNSA personnel to seamlessly communicate with, and transmit information and documents to, their contractor counterparts.

In addition to the lack of site integration, the older system had shortcomings that are likely common at other DOE sites. Examples of these shortcomings include the following:

- data required manual input and updating (continuous cutting and pasting),

- system did not enforce existing processes,
- process standardization was lacking, and
- system was not intuitive.

Obviously, initial issues must be entered into the database manually, but Pegasus automatically routes issues as milestones are achieved. For example, at YSO, a facility representative typically has assessments scheduled from which issues and actions are identified. As the status of the assessment changes from upcoming to completed, the database record includes fields for entering issues, actions, and lessons learned. Any attachments can also be entered in the record for later retrieval. One user stated that Pegasus helps him write certain types of reports by providing an outline of what those reports must contain. A history page shows all users who have viewed or edited a particular record and includes the date and type of action performed.

The Pegasus newspaper contains all information pertinent to a given user or organization. Figure 2-1 shows part of a page that displays actions due in the next 30 days, which is a valuable tool that helps both managers and workers budget their time and resources. Figure 2-2 is a screenshot from Pegasus that illustrates what the newspaper looks like. Users can see, at a glance, all records in the system that require action on the user's part (e.g., validating corrective action plans, verifying issue closure, performing assessments).

All data entry screens contain drop-down lists that allow for standardization of data and effective trending. Figure 2-3 shows a portion of a trending report.

Pegasus interfaces with the contractor's corrective action planning system in real time. When a contractor enters a



https://nnsacaps.y12.doe.gov - Your Pegasus Newspaper Details - Microsoft Internet Explorer

My Actions Due in the Next 30 Days

(Clicking the tracking number will redirect the main Pegasus screen, behind this screen, to the specified record)

Action #	Subject	Deliverable	Due Date	Assigned To / Resp. Person	Organization	Priority
ACT-SS-1/12/2006-93987	Send to KCSO (John Cowan) the functions and signatures required for BWXT's proxy application	Email to John with signatures	1/20/2006	Howerton, Travis/Howerton, Travis	Safeguards & Security (SS)	Normal
ACT-SS-12/15/2005-39030	Add capability to archive old users	Archives	1/20/2006	Howerton, Travis/McCarten, Diane	Manager (MO)	Normal
ACT-SS-12/15/2005-40304	Add capability to archive old MAP elements	Archives	1/25/2006	Howerton, Travis/McCarten, Diane	Manager (MO)	Normal
ACT-AB-9/6/2005-35698	Allow SERs to show in the reports awaiting direct submission line on the newspaper	Updated newspaper	10/25/2005I (5 changes) 1/31/2006R	Howerton, Travis/McCarten, Diane	Manager (MO)	Normal
ACT-SS-1/2/2006-	Add field time to the	Field time	1/6/2006I	Howerton,	Manager	Normal

Done Internet

Figure 2-1. Upcoming actions




Welcome to Pegasus! - Microsoft Internet Explorer

YSO Information Management System Version 01.01.001

PEGASUS


This site was designed to be viewed at a screen resolution of at least 1024 X 768.

[Newspaper](#) | [New](#) | [View/Edit](#) | [Reports](#) | [Search](#) | [Find](#) | [Calendars](#) | [Profile](#) | [Help](#)



PEGASUS
News Update

Today's Headlines



USER INFORMATION

User: **Travis Howerton**
 # People Logged In: **82**
 # Records Accessed Today: **0**

Safeguards & Security (SS)	Travis Howerton
Action Status	
<p>9 Overdue Actions. 47 Actions Due in the Next 30 Days. 69 Open Actions Total.</p>	<p>1 Overdue Action. 12 Actions Due in the Next 30 Days. 23 Open Actions Total.</p>
Assessment Status	
<p>10 of 39 Assessments Completed for this Month. 6 Overdue Assessments. 35 Assessments Due in Next 30 Days. 1 Overdue Assessment Report. 0 Reports Awaiting Direct Submission.</p>	<p>0 Overdue Assessments. 4 Assessments Due in Next 30 Days. 0 Overdue Assessment Reports. 0 On-Schedule Non-Final Reports.</p>
Issue Status	
<p>36 Weaknesses Need Follow-Up. 63 Open Deficiencies. 7 Issues Pending Our Verification. 1 Issue Overdue for Verification.</p>	<p>2 Weaknesses Need Follow-Up. 5 Open Deficiencies. 0 Issues Pending My Verification. 0 Issues Overdue for Verification.</p>
Corrective Action Plan Status	
CAPs We Are Writing	CAPs I Am Writing
<p>0 Overdue CAPs (not yet submitted). 0 CAPs Due in the Next 30 Days.</p>	<p>0 Overdue CAPs (not yet submitted). 0 CAPs Due in the Next 30 Days.</p>
CAPs Owed to Us	CAPs Owed to Me
<p>6 Overdue CAPs (not yet received). 3 CAPs Due in the Next 30 Days. 15 CAPs Pending Our Validation.</p>	<p>0 Overdue CAPs (not yet received). 0 CAPs Due in the Next 30 Days. 2 CAPs Pending My Validation.</p>

Done Internet

Figure 2-2. News Update page

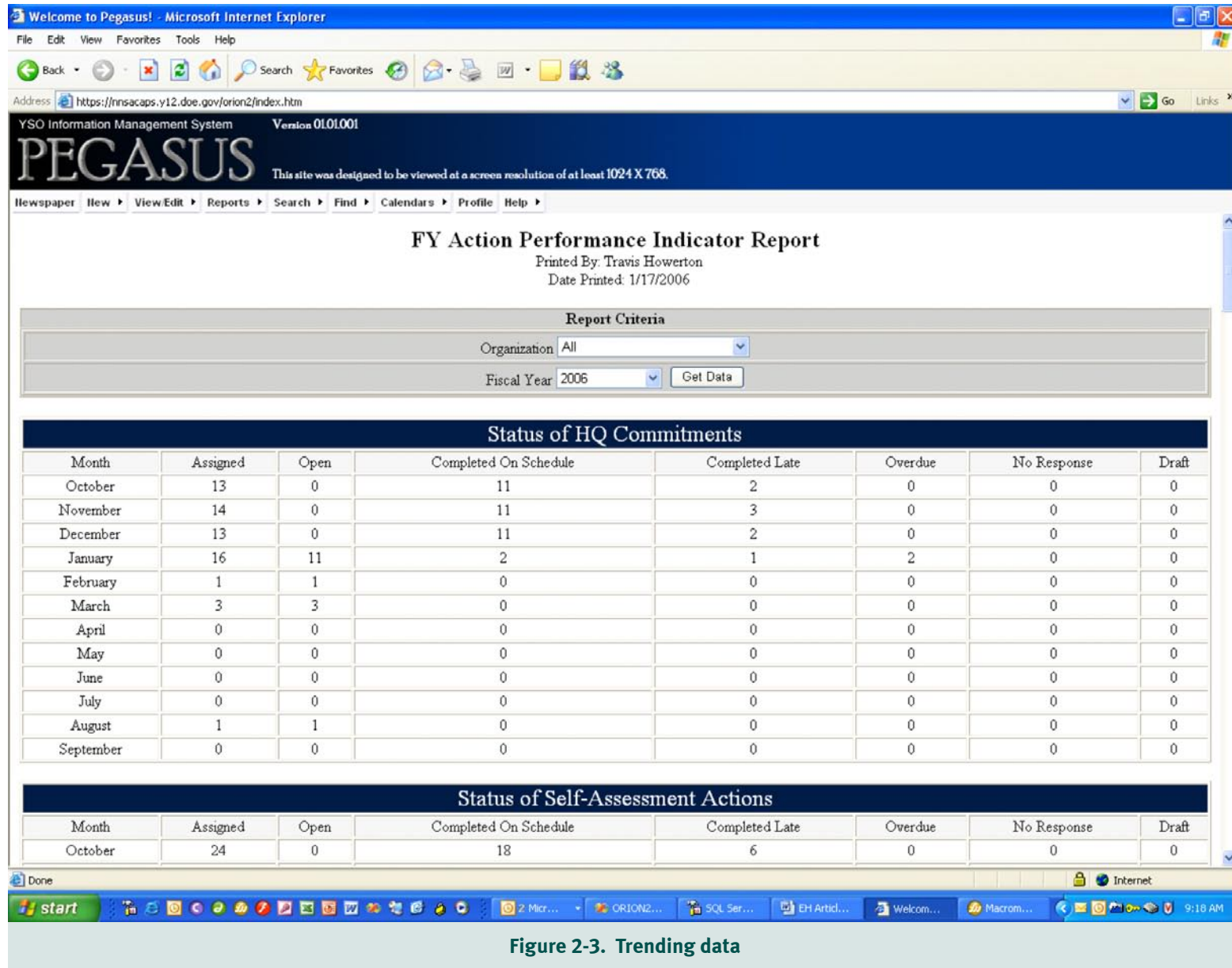


Figure 2-3. Trending data



corrective action plan into their system, Pegasus receives the information, updates its records, and prompts the appropriate NNSA user to review and validate the plan so that it can be closed out. All corrective action plan validation, issue verification, and data submissions are now fully electronic at YSO, which significantly reduces the amount of paper and cut-and-paste operations required.

Pegasus also tracks incoming and outgoing correspondence while automatically processing documents for records retention. Future enhancements include document management, electronic signatures, and a letter- and memo-writing module.

Idaho National Laboratory and the Kansas City Plant are testing the Pegasus system. Idaho is in the process of deploying Pegasus, with a pilot version up and running. Most adaptations of Pegasus to reflect Idaho site-specific processes have been completed. Training is scheduled in February and site deployment in March. The Idaho Operations Office views Pegasus as a significant milestone in its pursuit of International Organization for Standardization (ISO) 9001:2000 registration. Kansas City plans to have Pegasus fully deployed and in use sitewide in May.

Some Headquarters elements and other sites have expressed interest in Pegasus as well. The Pegasus software is government-owned and available to any interested party at no cost.

For more information on Pegasus and a demonstration of its capabilities, please contact Travis Howerton, Information Technology Specialist, at 865-241-6940 (howertonjt@yso.doe.gov), or Jeff Cravens, Lead Operations Engineer, at 865-576-3148 (cravensjk@yso.doe.gov).



Good Practice: Integrating Site Remote Worker Programs

3

Just what, exactly, is a remote worker? Simply defined, it is a worker who is within site boundaries but outside the range of site safety alarm systems. A remotely located worker presents distinct emergency management challenges, including the following:

- remote workers cannot hear safety alarms or evacuation signals,
- remote workers must have a viable method for summoning help if needed,
- remote workers may not be able to accurately describe their location when emergency response personnel are called to the scene, and
- site personnel responsible for oversight of remote workers (particularly subcontractors) may not know exactly where the workers are or when they are expected to complete a task.

Savannah River Site (SRS), like others across the DOE complex, consists of many buildings occupying a large piece of land. Of the 310 square miles encompassing SRS, buildings occupy only about 10 percent, and some of the buildings have been abandoned in place.

Following the July 26, 2004, fatality of a remotely located driver at Savannah River, site management realized that it needed to better integrate its remote worker program. (ORPS Report EM-SR--WSRC-CMD-2004-0003)

Site Operations Center personnel worked with the Environmental and Geographic Information Systems (GIS) group to develop a GIS tool for SRS remote workers. Figure 3-1 shows a screen shot of the data entry screen for the Remote Field Worker Tool. This tool enables all remote worker activities to be integrated into one system rather than using multiple, organization-owned systems, as had been done before.

Users enter the number of remote workers, their location, the responsible organization, and the length of time the workers are expected to be remote. The map then updates to display an icon that represents the workers in their location. If the expected return time has passed without the workers' return, the Operations Center is notified.

In the event of an emergency, the dispatcher can identify the workers' location and give explicit instructions to the responding unit. Dispatchers are also notified if remote workers will be working in a restricted area (for example, where live-fire training exercises, deer hunts, or prescribed burns will be taking place), so that workers can be redirected away from these hazards. Figure 3-2 illustrates the graphical user interface map with color-coded remote workers logged in.

The Remote Field Worker Tool is loaded on several computers within the SRS Operations Center, as well as on dispatch computers owned by the site utilities department, U.S. Forestry Service, Savannah River Ecology Laboratory, the site soil and

Remote Worker — Any worker within site boundaries who is beyond the range of an installed safety alarm system. This does not include people in transit via site roadways or workers performing assignments in routinely occupied buildings.



Remote Field Worker Tool - Edit Party Information

New Field Worker Information

Organization: Location:

Contact Name: Communications:

Party Member Count: Vehicle Count:

Alternate Contact Name: Communications:

Logged Date/Time: Est. Return Date/Time:

Specify Location:

Navigation

SRS Area:

EOC Grid:

Show EOC Grid

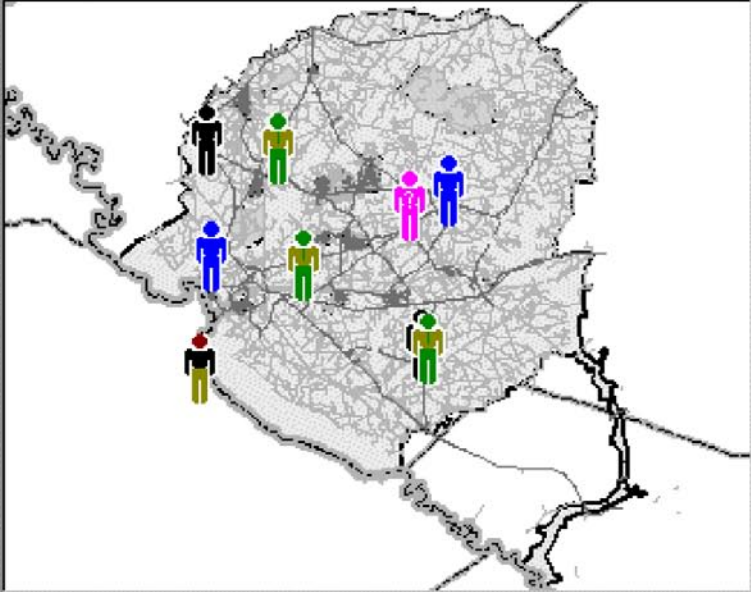


Figure 3-1. Data entry interface

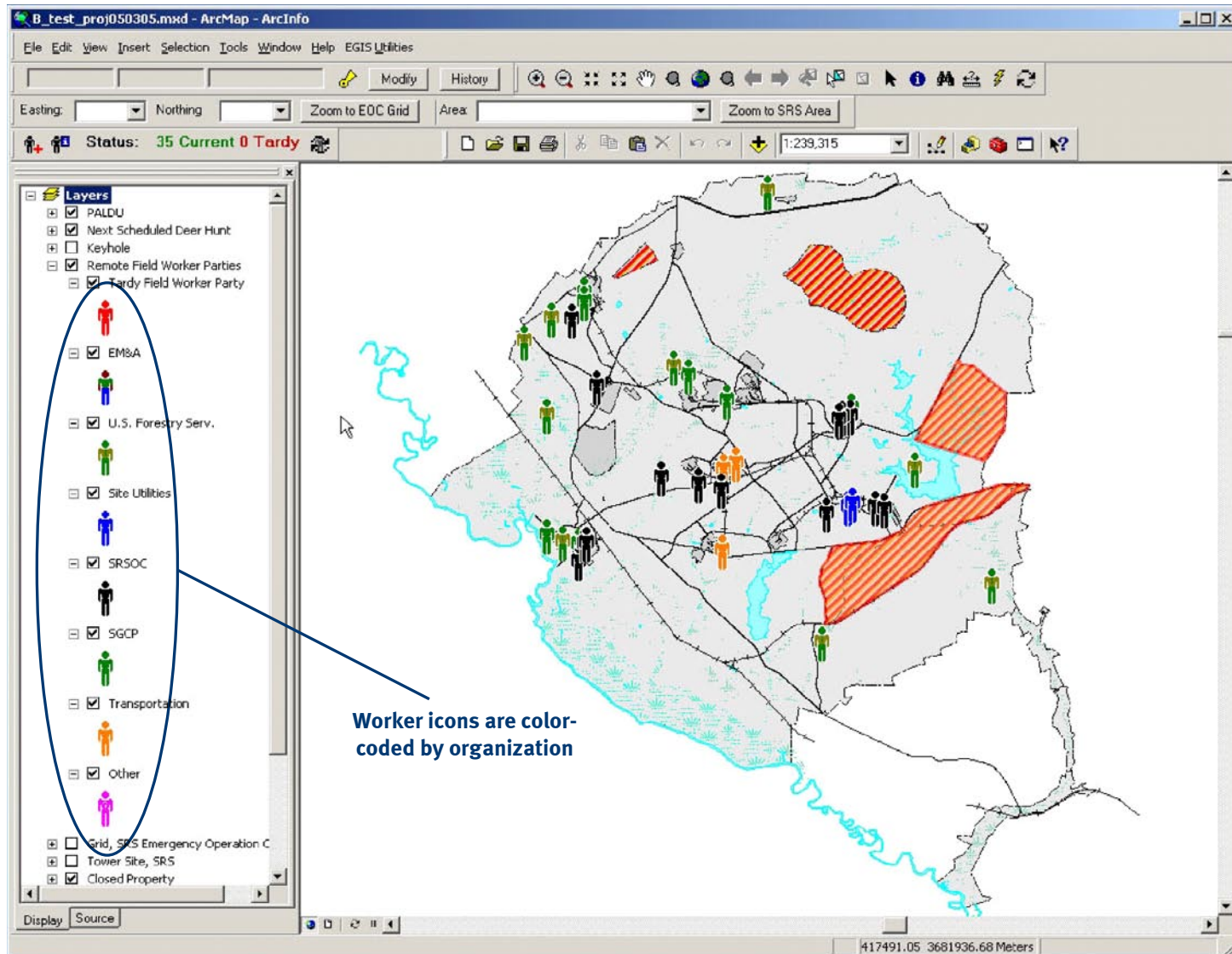


Figure 3-2. Remote Field Worker Tool display



groundwater organization, and the transportation organization. Although the workers are dispatched by multiple organizations, the SRS Operations Center monitors them for emergency response.

The Remote Field Worker Tool currently operates on a server with Microsoft Windows XP, Visual Basic 6, Structured Query Language (SQL) Server 2000, ArcGIS software (version 8.3 or later), and the underlying geographic data from the site. Future plans at SRS include developing a web-based system that users can operate using a single software program.

The tool can easily be modified for use at other sites as well. For information on implementing this tool, the contacts at SRS are Matt Maryak (803-952-6846, matthew.maryak@srs.gov) or Frank Campbell (803-952-6853, frank.campbell@srs.gov).

Remote worker programs are important tools in helping keep all site workers safe. Site management should ensure that their emergency management programs contain an integrated remote worker program that multiple organizations can use to manage those who work for them in remote locations.

Sites are encouraged to share their own Best Practices on managing remote workers with the Office of Environment, Safety and Health so that others may also benefit from their experience.

KEYWORDS: *Emergency management, remote worker*

ISM CORE FUNCTIONS: *Develop and Implement Hazard Controls, Provide Feedback and Improvement*



OPERATING EXPERIENCE SUMMARY

The Office of Environment, Safety and Health, Office of Corporate Performance Assessment publishes the Operating Experience Summary to promote safety throughout the Department of Energy complex by encouraging the exchange of lessons-learned information among DOE facilities.

To issue the Summary in a timely manner, EH relies on preliminary information such as daily operations reports, notification reports, and conversations with cognizant facility or DOE field office staff. If you have additional pertinent information or identify inaccurate statements in the Summary, please bring this to the attention of Frank Tooper, (301) 903-8008, or Internet address Frank.Tooper@eh.doe.gov, so we may issue a correction. If you have difficulty accessing the Summary on the Web (URL <http://www.eh.doe.gov/paa>), please contact the ES&H Information Center, (800) 473-4375, for assistance. We would like to hear from you regarding how we can make our products better and more useful. Please forward any comments to Frank.Tooper@eh.doe.gov.

The process for receiving e-mail notification when a new edition of the OE Summary is published is simple and fast. New subscribers can sign up at the following URL: <http://www.eh.doe.gov/paa/oesummary/subscribe.html>. If you have any questions or problems signing up for the e-mail notification, please contact Richard Lasky at (301) 903-2916, or e-mail address Richard.Lasky@eh.doe.gov.