



## APIMS: A Complete Air Compliance Information Solution for Fort Hood

Gathering and recording data, running calculations and generating monthly compliance reports for all permit-related air sources at a facility the size of a city is a daunting task.

That is the situation that the Fort Hood Environmental Air Program is faced with everyday, and they use the Air Program Information Management System (APIMS) to meet those challenges.

Fort Hood is an Army installation in Central Texas that boasts of being the largest active duty armored post in the United States. With 217,000 acres of training land and Cantonment area, Fort Hood is home to the III Corps Headquarters and two full armored divisions (the 4<sup>th</sup> Infantry Division and the 1<sup>st</sup> Cavalry Division).

Fort Hood is also home to the 3<sup>rd</sup> Armored Cavalry Regiment, the 13th Sustainment Command (Expeditionary) and many other units.

APIMS was implemented at Fort Hood in 2001 in order to better track compliance data

for over 1,200 air sources, including more than 500 boilers, 433 parts washers, generators, test cells, paint booths, and many others.

Prior to implementing APIMS, emissions information from source operators was tracked in Access databases and Excel spreadsheets. All of this information

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Graphic courtesy of US Army.

### Upcoming Events

- APIMS Beginner/ Refresher Training – July 21-23, 2009. Held at Northrop Grumman, Clearfield, Utah.
- 102nd Annual A&WMA Conference – June 16-19, 2009. Held in Detroit, MI. For more information go to <http://www.awma.org/ACE2009/>



Jim Ryckman – APIMS FUG Lead

This APIMS Newsletter is a communiqué by the APIMS Functional Users Group (FUG), with content by the members for the members. There are many actions under-

way and accomplishments we wish to share with the APIMS community. This issue highlights APIMS implementation as a solution to Ft. Hood's Air Quality Management Program as reported by Bobby Poff. The Eglin AFB and Tinker AFB staffers are showcasing their recent successes in using APIMS to generate and calculate "mobile emissions" using existing functionality in APIMS. These are outstanding accomplishments; thanks for leading the way. These initiatives enhance the standard calculations capability of the APIMS default algorithms and emissions

### APIMS FUG News



factors. In this issue, Brent Allred (APIMS Project Manager) highlights the value of proactively building and maintaining authoritative emission factors and algorithms and using them in a consistent way in support of base inventories (stationary & mobile), while also addressing increasing GHG reporting needs. Brent Allred is also this issue's featured Member of the APIMS Community.

Update: As we celebrate the many APIMS accomplishments, significant progress has been made in finding a new home for APIMS. Today it provides air program information management

services and utilities to nearly 80 bases, far beyond the initial AFMC (AFLC and AFSC) community it started out to serve back in the early 1990's. The AF CE IT Council recently decided that the program has indeed matured and consistent with the AF's transformational vision, the responsibilities for the APIMS Program Management Office (PMO) can now be transferred from AFMC to the new AFCEE – a real milestone. The current management structure was defined nearly a decade ago when the Air Force designated APIMS as The Air Quality System – "best of breed" –

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## APIMS: A Complete Air Compliance Information Solution for Fort Hood

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was then gathered by the Air Program and kept on file. The implementation of APIMS provided a single repository for emissions and other compliance data.

In 2005 the Air Program Manager, Robert Kennedy, initiated an effort to deploy APIMS to the shops that routinely report emission information for permit compliance purposes such as paint booths, carpenter shops and composite repair. The shops were trained by Northrop Grumman (and are supported by Fort Hood Air program) on how to enter their usage data accurately into APIMS on a daily

basis to ensure compliance with permits.

Deploying APIMS to the shop floor further streamlined the data management process and increased data accuracy by lifting the burden of dual data entry. Air Program staff can now focus their efforts on actively managing compliance rather than chasing, gathering, compiling, and entering data into APIMS.

The shops also benefit from this approach because it increases their awareness of permit requirements and fosters ownership of compliance monitoring.

In late 2007 the APIMS ap-

plication was upgraded to Oracle 10g, which essentially web-enabled the system. This upgrade made deploying the application to the shop floor much easier by alleviating the need to open ports, install and configure the software on each user's computer. "The 10g version makes it much easier for us to get APIMS to our shop users, and we plan on getting it to more of our source operators to use," stated Mr. Kennedy.

Dave Faucher, the Team Lead and Environmental Compliance Officer of the Training Support Services (TSC) Devices Fabrication Section, has been using APIMS since it was introduced to the shops. His shop consists of a small paint booth, a carpenter shop, a welding shop, and a graphics section. Mr. Faucher diligently records his paint booth material usage on a daily basis.

He agrees with Mr. Kennedy saying, "I like APIMS because it not only gives me an easy central point to record my usages, but it also gives me easy access to track my inventory by giving me another method to cross reference my usage with shelf stock. I can do things easier in APIMS, and it gives me more time to spend supporting the Army

mission."

Fort Hood has also implemented the inspection checklist functionality of APIMS. When Air Program staff conducts compliance inspections of permitted facilities, they access the Regulatory Compliance module of APIMS, recording the answers from each checklist into APIMS and thereby preserving a permanent record of the assessment.

From the first steps of implementation, to training, to maintaining the database and helping to run calculations and reports when needed, members of the Northrop Grumman APIMS technical support team are always ready and willing to assist Fort Hood in any way possible.

Mr. Kennedy sums it up stating, "APIMS is a comprehensive database with an abundance of features to help us meet our regulatory requirements. We used to have separate tools and databases for permitting and emissions inventory. APIMS streamlined those processes and put it all in one place."

By: Bobby Poff – Fort Hood



A shop user and Environmental Compliance Officer, Dave Faucher, enters usage data directly into APIMS at Fort Hood.

## DID YOU KNOW?

The Air Force Center for Engineering and the Environment (AFCEE) is currently updating the mobile and stationary source guides for Air Force air emission inventories. The new guides will offer newly regulatory-developed and adopted emission types and standards, as well as updated estimation methodologies in an easier-to-read format.

The comment period will be completed in June and AFCEE hopes to have the guidance published as soon as mid-July.

The guides are accessible through the web or by contacting Mr. Frank Castaneda (email - frank.castaneda@brooks.af.mil, com 210-536-6417, DSN 240-6417) or Mr. Jari Ulmer (email - jari.ulmer@brooks.af.mil, com 210-536-4788, DSN 240-4788). The guides can be found on the Air Force Knowledge Now (AFKN) and Community of Practice (CoP) at <https://afkm.wpafb.af.mil/airquality>.

By: Frank Castaneda – AFCEE/Air Quality SME

## HMMS Interface with APIMS

An interface between an older version of the Hazardous Materials Management System (HMMS) and APIMS has existed for a number of years but has not been well-maintained due to lack of use, since most APIMS users who require HMMS data to be imported into APIMS have established some form of a locally interface that relies on ODBC or SQL connections to APIMS via Port 1521.

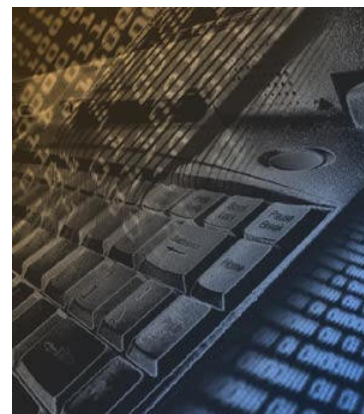
Air Force and Department of Defense (DoD) security requirements are continually evolving. While it is still possible for users to gain access to the APIMS database via port 1521, it is becoming increas-

ingly difficult to obtain approval for this type of access. As system security requirements increase, there is a high probability that access to that port may not be allowed or will otherwise become unviable as a solution for moving HMMS data to APIMS. For this reason the APIMS Program Office (PMO) is working to reestablish a viable centrally hosted interface between HMMS and APIMS as part of the effort underway to move the APIMS to DISA. This interface will move material and consumption data to APIMS in a manner similar to the existing EESOH-MIS to APIMS interface.

While requirements and design efforts were still in work at the time this article was published, the preliminary vision is that the interface will be one-way from HMMS to APIMS. HMMS will publish the necessary tables on a nightly basis, perhaps leveraging web services, and APIMS will subscribe to that dataset from the DISA platform. APIMS users will have the option of executing the APIMS side of the interface manually when it is needed, or be able to configure the APIMS side of the interface to run each night in a batch mode. APIMS users who

are consumers of HMMS data will be invited to participate in requirements and design reviews as the interface takes shape over the next few months.

By: Brent Allred — Northrop Grumman



## GHG Mandatory Reporting

The FY 2008 Consolidated Appropriation Act provided for the development of a rule related to the mandatory reporting of greenhouse gas (GHG) emissions for sectors of the economy that exceed certain thresholds. Proposed requirements affect 40 CFR Parts 86, 87, 89, 90, 94, and 98.

The draft rule was released 10 March 2009, with the final rule expected to be promulgated in the Fall of 2009. The

draft rule requires annual monitoring and recordkeeping to begin 1 January 2010 and will require annual reporting for most direct GHG emissions. The initial GHG emission inventory report from regulated facilities will be due to the EPA by 31 March 2011 and will require reporting of GHG emissions for calendar year 2010.

This proposed GHG Mandatory Reporting Rule (MRR) is generally applicable to any

facility with direct emissions greater than or equal to 25,000 metric tons per year of carbon dioxide equivalence (CO<sub>2</sub>e) from stationary combustion plus listed source types.

Generally speaking the applicability of this rule to Air Force installations is primarily limited to stationary combustion and electricity generation. Other sources may be reportable but are not likely to be significant contributors. Although facility-level data are adequate for determining applicability, unit-specific data is required for reporting. The draft EPA rule will allow self-certification of the inventory. However, recordkeeping will be required and affected installations will have to demonstrate compliance with this regulation.

The draft rule states that electronic submittals of GHG inventories will be required. EPA has not published spe-

cific formats and tools that will be required for reporting of GHG emissions. APIMS provides facilities subject to this rule a valuable tool for tracking data and generating emissions results necessary to meet the requirements of this rule. In fact, many facilities within the DoD have already been calculating GHG emissions results within APIMS for many years.

Additional details related to this proposed rule, including copies of the MRR, preamble, and fact sheets are available at <http://www.epa.gov/climatechange/emissions/ghgrulemaking.html>. For additional information regarding the use of APIMS in generating GHG emission reports, contact the APIMS Help Desk at (800) 274-4406 or sign up for and attend an upcoming APIMS training event.

By: Howard Saxion, Ph.D, QEP — CH2M Hill & Brent Allred — Northrop Grumman Corporation



## Meet a Member of the APIMS Community: Brent Allred – APIMS Program Manager

Brent Allred has been the APIMS Program Manager for the past five years. While at the helm as Program Manager, the program has seen many changes during his tenure including the Oracle operating system upgrade to 10g. Brent successfully presided over process improvement changes that resulted in successfully maintaining of the ISO-2000:9001 certification, but also obtaining a Level 5 CMMI Certification for the software lifecycle processes.

In 1995 Brent received his Bachelor of Science degree in Public Health from Utah State University.

Brent has served in a variety of positions in the professional environmental arena. From 1996-1999 Brent was employed by Computer Science Corporation (CSC) as a member of the Air Quality staff

at Edwards Air Force Base. Brent was an integral member of the staff and was responsible for generating several compliance reports including the Annual Air Emissions Inventory. In 1999 he joined the Hazardous Materials Management program at Hill Air Force Base. At Hill Brent spearheaded process improvement efforts for both material authorizations and data quality assurance.

In 2001 Brent joined the staff of CH2M Hill and worked on the APIMS Implementation team as the lead engineer for the implementation of APIMS at Langley AFB, Luke AFB, Offutt AFB, Seymour Johnson AFB, Tyndall AFB, Beale AFB, Davis-Monthan AFB, Beale AFB, Gordon AFB, Shaw AFB, McPherson AFB, Eielson AFB, Elmendorf AFB, and Fort Stewart. Brent also assisted with the implementation of Eglin

and Kirtland AFB.

In 2003 Brent joined the Northrop Grumman Corporation as the Implementation Team Lead where he managed the implementation of APIMS at many other DoD installations. Brent was promoted to the APIMS Project Manager in 2004.

Brent is married, has three children and currently resides in Ogden, Utah. Brent leads an active lifestyle and is an avid outdoorsman. He has a great interest in hiking, camping and archery.

When asked what his largest challenge is when presiding over the APIMS program, Brent replied, "Implementing and sustaining a single database to meet a wide range of requirements for Air Quality is the greatest challenge. This variety is not only due to the

local air regulations and the variations in the size of installations, but also the ever-more stringent regulations." Brent continued, "I think APIMS is a program that successfully addresses the requirements for all levels of users, and I look forward to keeping up with this challenge in the years to come".

By: Pamela Rockwell – Northrop Grumman



Brent Allred – APIMS Program Manager

## Standard Calculation Data Updates

One of the value-added services provided by the APIMS Program Office is the deployment of regular updates to the APIMS standard data set, particularly updates to standard algorithm and emission factor sets.

The Program Office proactively monitors authoritative calculation methodology sources (e.g., AP-42, Fire, Climate Action Registry, AF-CEE AEI guidance, etc.) that commonly publish widely accepted calculation methodologies, in an attempt to identify new calculation standards which may be useful to APIMS users.

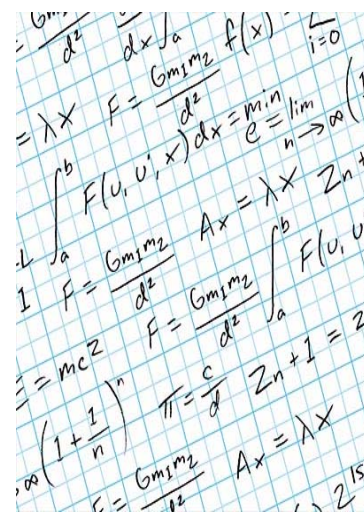
Although APIMS offers powerful and flexible algorithm builder functionality that is commonly leveraged by its users as discussed in various articles in this edition of the newsletter, individual users of APIMS are encouraged to submit useful new algorithms or factors through the APIMS Help Desk for consideration as standards.

Building and maintaining a robust standard data set within APIMS helps drive consistency in calculation methodologies, facilitates data rollup and drives efficiency in generating emis-

sions inventories.

With consideration to increasing GHG reporting requirements at both Federal and State levels as well as an increasing interest in developing mobile source emissions inventories within APIMS, the program office is in the process of preparing what will likely become one of the largest data standards updates in recent history. This update is planned for release to production by the end of CY 2009.

By: Brent Allred – Northrop Grumman Corporation



*"The APIMS PMO provides regular updates to standard calculation data."*

## APIMS to Find a New Home at DISA

Since its inception over a decade ago, APIMS has been a module of the Command Core System (CCS). With the discontinuation of CCS at the end of CY 2009, the platform on which it is currently being hosted at the Surgeon General (SG) office at Hill AFB will no longer be available. As a result, the Air Force has made the decision to move APIMS to the Defense Information Security Agency (DISA), where it will be hosted for the foreseeable future.

As of June 2009, 95 of the 107 sites using the industrial hygiene and occupational health components of

CCS had been migrated to the new Defense Occupational and Environmental Health Readiness System (DOEHRS). This migration to DOEHRS is expected to be complete by year end, at which time full responsibility for the CCS/APIMS platform and associated costs are expected to be transferred from the AF Surgeon General to the AF Civil Engineer organization.

Detailed planning for this shift in responsibility began over two years ago, at which time it was determined that the air quality compliance functionality of CCS would continue to be required by

the Air Force and other DoD users for the foreseeable future. After examining several alternate hosting options, DISA was ultimately selected as the new host site.

The move to DISA is planned to occur by the end of CY 2009 but could occur as late as March 2010, depending on how quickly DISA is able to establish the required hardware and security infrastructure required to host APIMS.

Moderate configuration changes to APIMS are expected as part of this effort in order to address security constraints and other con-

figuration requirements of the DISA host site. Most of these configuration changes will not be readily visible to system users. Most visible to users will be the removal of functionality not required for air quality compliance, such as functionality related to the existing Industrial Hygiene, Occupational Health and Hazardous Waste modules of CCS. The expected result of this effort will be a more streamlined Air Quality compliance system that provides a much less cluttered and more user-friendly look and feel.

By: Brent Allred — Northrop Grumman Corporation

## The History of DISA

DISA is responsible for planning, engineering, acquiring, fielding, and supporting global net-centric solutions to serve the needs of the president, vice president, the secretary of defense, combatant commanders, and other DoD components, under all conditions of peace and war.

The Defense Information Systems Agency (DISA) was established in Washington, D.C., as the Defense Communications Agency (DCA) on May 12, 1960 with 212 employees. Its mission was to manage the Defense Communications System (DCS), a consolidation of the independent long-haul communications functions of the Army, Navy, and Air Force.

In the 1960s DCA moves to Arlington, Va., and takes on several major organizations.

The Air Force Office of Commercial Communications Management (now the Defense Information Technology Contracting Organization), the White House Signal Agency (now the White House Communications Agency) and the Department of Defense (DoD) Damage Assessment Center (now the Joint Staff Support Center) — all become a part of DCA. DCA also establishes six Regional Communications Control Centers and two area centers for operational control of the DCS.

In the 1970s DCA picks up the Minimum Essential Emergency Communications Network and the Military Satellite Communications Systems Office. It also becomes responsible for engineering and operating the Worldwide Military Command and Control

System.

In the 1980s DCA absorbs the Joint Tactical Command, Control, and Communications Agency, improving its ability to manage and enhance the interoperability of command, control, and communications systems. The Joint Interoperability Test Command is formed within DCA to provide interoperability compliance testing and certification.

On June 25, 1991, DCA is renamed DISA to reflect its role in providing total information systems management for DoD. DISA implements several Defense Management Report Decisions (DMRD), most notably DMRD 918, which created the Defense Information Infrastructure, now known as the Global Information Grid. DISA consolidates military service



information processing centers into 16 defense megacenters and, within a few years, consolidates them further into five mainframe computer processing centers. The Joint Spectrum Center also becomes part of DISA. Employment peaks at over 12,000 military and civilian members.

Today DISA continues to offer DoD information systems support, taking data services to the forward deployed war fighter.

Courtesy of DISA

## Eglin AFB calculates mobile emissions in APIMS



Off-road vehicle emissions were calculated by creating a base-specific algorithm under the VEHE source category.

*“Incorporating mobile emission calculations into APIMS eliminates the need for multiple emission calculation programs.”*

For reporting year 2008, Eglin AFB streamlined its approach to calculating air emissions associated with mobile sources by loading operational usage data along with appropriate emission factors and formulas into the Air Program Information Management System (APIMS), which was then used to calculate emissions. Mobile sources at the installation include highway and non-road vehicle operations (VEHI), aerospace ground equipment (AGE), and aircraft operations (AOPS). The methodology used for calculating emissions from these sources is described below.

Eglin maintains a fleet of over 1,200 government-owned vehicles, including both highway and non-road vehicles. In addition, traffic survey data indicates that an additional 24,000 privately-owned vehicles (POVs) traverse Eglin roads daily. To simplify the emission calculations, highway vehicles were grouped into six EPA-recognized vehicle classes: *Light Duty Gas Vehicle, Light Duty Gas Truck, Heavy Duty Gas Vehicle, Light Duty Diesel Vehicle, Light Duty Diesel Truck, and Heavy Duty Diesel Vehicle.*

Specific information on the composition of the POV fleet was not available, so vehicle population percentages were assigned to each of the six POV vehicle classes using Air Force guidance. USEPA emissions factors are based on model year; therefore, an average model year for each vehicle class was calculated. The same average model year for government-owned vehicles was applied to each POV vehicle class. A base-specific algorithm (VEHI-50) was created in APIMS using the algorithm builder for each vehicle class, which included the owning organization. Pollutant emissions were then calculated by multiplying the appro-

priate emission factor (obtained from USEPA AP 42, Volume II: Mobile Sources) for each vehicle class by the total annual vehicle miles traveled (VMT) for that class.

Non-road vehicles at Eglin include construction and support equipment. As in the case of highway vehicles, the USEPA has developed emission factors for non-road vehicle classes. Non-road vehicles at Eglin were grouped into one of the following classes: crane, excavator, off-highway trucks/vacuums, tug/forklift, scraper/bulldozer, tractor, trencher, and roller. In addition to pollutant emission factors, emission calculations for non-road vehicles require the average engine power (in horsepower) for each class, the activity level, i.e. hours of operation, and load factor, i.e. percent of maximum power. A base-specific algorithm (VEHI-51) was created in APIMS for each type of non-road vehicle and its owning organization. Emissions were calculated by multiplying the appropriate emission factor for each vehicle type with total operating hours for the type, horsepower rating and load factor.

All diesel-powered, government-owned highway and non-road vehicles at Eglin exclusively employ biodiesel, which is distributed throughout the installation's refueling stations. In the analyses, USEPA emission factors for all diesel-powered vehicles were adjusted to reflect the use of biodiesel in government vehicles.

AGE comprises a wide variety of aircraft ground support equipment, including air conditioners, generators, heaters, air compressors, light carts, and blowers, which are powered by gas turbines (GTs) or industrial reciprocating engines (IREs).

The Air Quality Program collects data on AGE operations from equipment owners on a monthly basis, which includes the quantity and type of fuel (diesel, gasoline or JP-8) that each equipment type uses (reciprocating or turbine). For AGE, the APIMS algorithm (AGE-50) includes the organization and engine type. Corresponding emissions are calculated by multiplying the quantity of fuel consumed in each AGE unit by an emission factor, which is based on pollutant emitted per volume of fuel consumed.

Numerous organizations conduct aircraft operations from airfields in and around Eglin AFB. For emission calculations, the operation of interest is the landing and takeoff (LTO) cycle. The LTO is characterized by five modes of operation: approach, taxi in, taxi out, takeoff, and climbout. For each mode of operation during an LTO cycle, an aircraft engine operates at a specified power setting and for a specific period (time-in-mode). Air Force- or USEPA-derived emission factors incorporate this information for each aircraft engine type and type of maneuver, i.e. sortie or touch-and-go. In APIMS, the aircraft emissions algorithm (AOPS-50) includes organization, aircraft type, engine type, number of engines per aircraft, and maneuver type. Emissions are estimated by multiplying the total number of maneuvers per aircraft by the number of engines and the appropriate emission factor.

Incorporating mobile emission calculations into APIMS eliminates the need for multiple emission calculation programs. It also allows APIMS to serve as the sole repository/inventory for emission sources equipment and processes and as the means of calculating emissions associated with these sources.

By: Eglin AFB Air Quality Staff



Members of the Eglin Air Quality Team that conducted the mobile emission inventory. From left to right: Ms. Cathy Halprin, Mr. Harry Fortenberry and Mr. Kevin Newman. Not pictured Mr. Luis Diaz.

## APIMS: The Proven Solution for Compliance Assessments



*APIMS can help you deal with the mountain of paperwork involved in maintaining and retaining compliance checklists and records.*

All regulated facilities face the challenge of scheduling, completing, documenting and retaining records of required compliance assessments. This coordination requires vigilant supervision to ensure all inspections are completed and any findings are resolved or reported in a timely manner. APIMS allows a facility the ability to maintain checklists and schedule inspections.

APIMS also provides a workbook where a user can see current inspection tasks that they are responsible to complete. It also provides an electronic workflow to optionally route the inspections through a review cycle for completion. This issue highlights the large components of the APIMS inspection module.

### **Checklists**

APIMS offers the ability to maintain compliance checklists for use during a compli-

ance inspection. A hardcopy checklist can be used to complete the inspection in the field.

These checklists are created using a catalog of inspection questions. The system tracks the appropriate response and regulatory standards to each question.

The system assists in the maintenance of checklist by allowing a user to modify a question and subsequently update the appropriate (all or a subset of all) checklists associated to the question.

The system tracks all modifications to checklists by maintaining a history of each checklist.

### **Schedule & Record Inspections**

APIMS allows tracking of routine compliance inspections that occur at regular intervals. The routine inspec-

tions are created in the system and can be tasked to the appropriate individuals to perform. The inspections are given one of three results: 'no findings', 'findings', or 'reportable findings'.

APIMS optionally allows for follow-up inspections to be performed if an inappropriate response is entered for an inspection question.

### **Workbook**

APIMS allows a user to view a workbook that organizes the inspection tasks they should perform. The user can click on the inspection and log it into the system. A user can view their personal inspection statistics. Users can also proxy out their tasks during periods of extended leave.

### **Record Non-Periodic Inspections**

APIMS tracks checklists for non-periodic inspections such as ECAMP assessments. These inspections are not required to be logged at periodic intervals.

### **Routing Inspections for Approval**

Once an inspection is performed, APIMS allows for the electronic routing of the inspection prior to completion. The system allows customized workflows to be used with conditional route steps based on specific inspection criteria.

### **Statistics**

The general wellness of the inspection program can be ascertained by viewing the many statistics that are provided by the system. The sys-

tem displays those that are past due, incomplete, not performed and how many are completed within each of the results categories.

### **Notifications**

APIMS provides crucial notifications to inform users of inspection results and past-due inspections. These notifications can be received within a user's workbook or can be sent via email.

### **Record Retention**

APIMS provides the option of storing an electronic copy of the inspection record. This electronic repository eliminates the need to verify that records are physically stored—records once lost cannot be replaced.

### **Batch Processing**

APIMS reduces the processing burden by providing the ability to process multiple inspections in a single database command. APIMS allows a user to log exceptions before processing using the default answers to questions.

### **Regulatory Documents**

APIMS enables the user to maintain a library of regulatory documents and corresponding source requirements. These documents include any type of document that contains a regulatory standard including permits, federal regulations, Air Force Instructions, or any other local regulatory document.

The corresponding requirements can be referenced to sources and compliance checklists.

By: Pamela Rockwell — Northrop Grumman



The Proven Solution for Air Quality

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## APIMS generates a Mobile Emission Inventory at Tinker Air Force Base

Tinker AFB recently completed a Mobile Emission Inventory for Criteria Pollutants, Hazardous Pollutants and Greenhouse Gases. Using the existing APIMS functionality, a straight-forward approach for calculating Aircraft Operations (AOPS) emissions was found.

The methodology utilized existing APIMS functionality found in the Jet Engine Testing (JET) form. Time-in-mode (TIM) data was entered as time-specific profiles and sortie counts were entered as number of tests. An additional parameter indicating the number of engines per aircraft was created along with the creation of several non-standard algorithms. Finally, because time spent in each mode is dependent upon the sortie type, each option (landing, take-off, touch and go, etc.) was given a unique record by utilizing the existing issue number feature.

The new methodology streamlined the standard algorithm approach by enabling TIM profiles to be entered only once, and allowed total fuel usage to be stored in the consumption table. With total fuel usage stored the consumption table instead of number of sorties, SOX emission calculations, as well as the calculations necessary to evaluate greenhouse gases, were easily calculated without the need of separate processes for each of these pollutants.

Additionally of interest are the customized input files for MOBILE 6.2 and OFROAD Tinker created using APIMS and Access. These input files pulled data from the APIMS process parameters and output them in the text file format needed for the EPA software. Emission factors from the EPA software programs were then loaded back into APIMS, and emissions were calculated there.

By: Michelle York — Tinker AFB

## APIMS FUG News (cont.)

(continued from page 1)

and also designated AFMC to manage the program and its budget, which we have been doing in collaboration with Steve Rasmussen, the APIMS PMO Chief. A transitional work plan was developed and is being executed by representatives from AFMC and AFCEE which include: Jim Ryckman, Frank Castaneda, Steve Rasmussen, Brent Allred, and others at AFCEE, Air Staff, and DISA. This transition should be seamless to the users in the field. Current funding for APIMS is "fair shared" by the MAJCOMs and the APIMS users. In 2010, AFCEE/TDN will plan their budget and will bill users for sustainment funding as necessary. By FY 12, AFCEE will have planned cost within their budget and will no longer solicit "fair share" funding from the MAJCOMs. In the last APIMS Newsletter we introduced Frank Castaneda as the new Air Quality Subject Matter Expert (SME) at AFCEE. He is now currently serving as our Co-Chair

to the APIMS FUG. As we work the APIMS transition plan, I expect to exchange Chairs with Frank as he becomes the FUG/FWG Chair in the 2010 timeframe. This will take place in direct linkage as the responsibilities of the APIMS PMO are fully transferred from AFMC's books to AFCEE/TDNQ's. Over the summer, the FUG members will jointly review the backlog of requirements and re-prioritize in collaboration with AFCEE, ensuring a smooth transition over the longer term. We plan to compare current "bare bones" projected funding against the reprioritized needs to prepare for the 2010 scheduled software release and to act accordingly.

**News flash:** The AF CE IT Council also approved the re-platforming of APIMS from its legacy Command Core System over to The Defense Information Security Agency (DISA). This decision was a couple years in the making. In an article by Brent Allred, he highlights APIMS actions focused on making the re-host to DISA a success. It is expected that the move to DISA will provide needed stability and more flexibility in data exportation techniques than currently available. A

Discoverer user layer is being developed so all air required tables can be accessed in the future. See Brent's article: "APIMS to Find a New Home at DISA". The PMO's focus now is on decoupling from Command Core and on ensuring that the EESOH and HMMS interfaces are working. Eglin AFB is selected as the "test base" to facilitate and verify data exporting with HMMS. See the article on "HMMS Interface with APIMS".

Further hot topic articles are also included on "APIMS: The Proven Solution" and on the EPA's draft "GHG Mandatory Reporting Rule".

The next APIMS FUG meeting is planned in conjunction the 3<sup>rd</sup> Combined Air Force Air Quality Managers' and the 20<sup>th</sup> AFMC Air Quality Managers' Meeting, preceding the 102<sup>nd</sup> A&WMA Annual Meeting & Exhibition set for Detroit, MI, 15-19 June 09. Hope to see you there, and keep contributing your articles! Thank you.

By: Jim Ryckman, PE, QEP, APIMS FUG Chair, and HQ AFMC/A7AI