Air Force leaders have long known that the demands of contingency operations around the globe may well be damaging unit readiness. Now they are trying to figure out exactly where their worst personnel and operations tempo problems are—and what the affected units think should be done about them.

Officials of the Air Force Studies and Analyses Agency (AFSAA) conducted a two-year look at the problem. The resulting “Stressed Systems Study” examined a wide range of hard-pressed squadrons and systems, from F-16s at Aviano AB, Italy, to the E-8 Joint Surveillance and Target Attack Radar System crews at Robins AFB, Ga.

The report concluded that Air Force personnel are more than willing to step up and fulfill mission obligations in the name of national security, but the pace of those obligations is taking a serious toll.

“Everyone understood why they were in the Air Force, and they were eager to do what they are called upon to do,” said Maj. Robert A. Nuanes, study analyst at AFSAA. “What bothered them was doing things they didn’t see any value in.”

Officials hope that the Stressed Systems Study’s personnel tempo (perstempo) and operations tempo (optempo) research will at least send hard-pressed airmen the message that someone is aware of their predicament. Said Nuanes, “What we’re trying to do is show that we know pain is out there and that we’re trying to do something about it.”

The causes of optempo and perstempo pain are well documented. Ever since the fall of the Berlin Wall in late 1989, the number of contingency operations has skyrocketed. In 1988–89, the Air Force averaged 3,500 personnel deployed temporarily for Military Operations Other Than War. During 1995–96, the figure was 13,500, as actions in Bosnia-Hercegovina and southwest Asia kept service taskings high.

Meanwhile, Air Force end strength has declined by a little more than one-third since 1986. Forward-based forces have been slashed by two-thirds since 1989.

The Overworked Five

As a result, Air Force officials have not succeeded in meeting their self-set goal of no more than 120 days of annual temporary duty (TDY) for every
service member and weapon system. According to data compiled by the Stressed Systems researchers, four weapons and one career field exceeded this threshold in Fiscal 1996:
- RC-135J (151 days of TDY)
- U-2 (149 days)
- HC-130 (144 days)
- A/OA-10 (133 days)
- Combat Control Teams (160 days)

In addition, researchers identified several career fields that were significantly stressed yet still were operating within guidelines. These fields included special operations, airlift support, and linguists.

By some measures, the TDY record has been improving. In Fiscal 1994, 13 weapon systems surpassed the 120-day TDY optempo limit, as opposed to the current four.

However, other measures hint at a continuing problem. The number of systems exceeding 100 days TDY is up by 50 percent over the last two years.

Air Force officials have already taken a number of steps intended to head off the adverse effects on morale caused by long periods of high operations rates. Two years ago, an Air Combat Command scheduling conference produced a global plan that now helps the service spread the burden of deployments among as many units as possible.

Assistance from outside the Air Force has also helped ease the workload. Reserve units, such as EA-6Bs, and NATO Airborne Warning and Control System (AWACS) aircraft have all substituted for high-demand Air Force units in recent months.

Yet in some cases, the only possible solution was turning down the requested deployments. The Air Force has asked for—and received—such relief for some of its E-3 AWACS and RC-135 Rivet Joint crews, as well as Airborne Battlefield Command and Control Center teams.

“All had their taskings reduced to allow them to recapture training lost due to contingency operations,” according to one unclassified Air Force paper on optempo issues.

Air Force officials have begun collecting more detailed individual TDY information in an attempt to better understand the complex stresses and strains produced by continual contingency operations. A new TDY History File system, which collects data directly from travel vouchers, began operation on January 1. The goal of the new approach: provide commanders a more comprehensive look at unit health and well-being.

Disturbing Data


Consider the report’s analysis of the Rivet Joint force structure. Before Operation Desert Storm, the typical mission requirement for these crucial electronic surveillance aircraft was 2,200 crew days per year. With 19 mission-ready crews (out of an authorized 22 crew slots), perstempo for the Air Force’s 10 Rivet Joints was typically 116 days per year.

In other words, the tempo was high but within service guidelines.

However, since Desert Storm, the demand for RC-135 capabilities has
skyrocketed. For 1995, their mission requirement was 3,097 crew days. Crew manning, however, stayed the same, resulting in a perstempo rate of 163 days TDY per year in 1995. The Air Force would have had to stand up 26 full, mission-ready crews to have enough on hand to reduce the system’s perstempo to the 120-day Air Force target.

It would be a mistake to automatically equate these high perstempo rates with exhausted personnel ready to bolt for the private sector. Work load effects are more complicated than that, according to Air Force researchers. “High operations tempo is not necessarily a bad thing,” observed Nuanes. “People want a certain level of optempo.”

Most USAF personnel are mission-oriented, after all. High requirement levels allow them to spend lots of time doing what they train to do, as opposed to sitting around in garrison, waiting and running exercises in an attempt to keep their edge.

The big problems really begin when excessive work loads continue over a long period of time. “Where perstempo begins to wear out the carpet is after three or four years in a row,” said Nuanes. “Eventually, that turns into a conversation around the kitchen table.”

One proof of this is that the Stressed Systems Study found little direct correlation between high operations rates and separation from the service. Instead, the rate of resignations spikes some years farther down the road.

“What we’ve been finding is that separation rates are a lagging indicator of stress,” said Nuanes.

Phase II of the Stressed Systems Study began in February 1996 and was finished early this year. This phase examined 22 more Air Force weapons and programs, including the A/OA-10, the HC-130, the unmanned aerial vehicle, and Ground Tactical Air Control Systems. Researchers visited units around the world (at least one for each system) and gathered commander assessments of 33 key indicators of personnel stress and 11 indicators of equipment stress.

The 50th Airlift Squadron, located at Little Rock AFB, Ark., presents a good case study of the Stressed Systems Study findings. Their C-130Hs are relatively new, and thus their equipment stress ratings were low. Personnel ratings were somewhat worse—and indicative of what researchers found throughout the Air Force.

**Yellow Light, Red Light**

With 14 assigned aircraft and 405 authorized personnel, the 50th AS has a full two crews for each available plane. The average workweek for operations personnel was thus 48.5 hours in 1996, according to report data. That counts as a “yellow-light” indicator—neither as good as the target 40- to 45-hour “green” level nor as bad as the 55-hours-plus level that qualifies as a “red” light.

However, work hours do not necessarily reflect the real rate of TDY—and the average number of days on TDY for 50th AS operations members was 136 days, well past service guidelines and into the Stressed Systems red zone.

Some operations specialties had rates well above the average. Unit navigators, for instance, averaged 140 days of TDY last year. Undermanning was one likely culprit for overworked specialists. The 50th AS had only 82
percent of the navigators it needed last year, for instance. Loadmasters were manned at 86 percent of requirement.

Major exercises contributed greatly to the squadron’s personnel stress. Air Force personnel officials judged that taking part in two to three such exercises annually would rate “green” as far as the Stressed Systems Study was concerned. The 50th AS, however, participated in more than nine. Training was not necessarily enhanced by this pace of operations, either. Seven percent of the unit’s aircrew personnel were issued training waivers in 1996, earning the squadron a red rating for this stress category.

Not all indicators for the 50th AS showed up poorly. The average experience level for both officers and enlisted personnel remained good, for example. Separation rates remained low, with only two percent of officers and nine percent of enlisted personnel leaving the Air Force in 1996. No father had to travel more if they had more resources. "What we’re trying to emphasize is that we’re very interested in the high level of optempo and per-stempo that’s out there in the field. The world is changing, and we’re trying to get smarter on managing resources.”

Stressed Out

In the context of the Stressed Systems Study, the Little Rock airlift unit was about average. Others showed a much higher level of personnel problems. The 30th Intelligence Squadron, based at Langley AFB, Va., was the most stressed “non-trigger-puller” unit. Its members focus on linkage work with U-2s, which are themselves hard-used systems. For “shooters,” the most stressed unit was the 81st Fighter Squadron at Spangdahlem AB, Germany. The 81st is an A-10 unit, and its aircraft played key roles in a number of 1996 contingency operations.

Other highly stressed units included the 23d Fighter Squadron from Spangdahlem and the 34th FS from Hill AFB, Utah, both flying F-16s.

For more typical units, problems mirrored the 50th AS experience. Almost every unit surveyed had some operations specialists who exceeded the 120-day TDY benchmark in 1996. Many frequently had to work on Thanksgiving or Christmas. The average duty week for operational crews seldom earned a green rating.

Unsurprisingly, considering the structure and work load of today’s Air Force, “optempo and TDY rates have gone up for the majority” of units, said Nuanes.

Stressed Systems Study researchers also surveyed units for their proposed solutions to stress problems. Some of the input they received might fall under the category of “unlikely to happen.” These include such solutions as increases in aircraft and crews.

Even so, officials thought this part of their exercise was useful. If nothing else, it indicated that the Air Force is at least thinking about ways it might ease personnel stress problems. And some of the top-rated solutions were eminently sensible, such as “fill critical specialties,” “balance taskings with holidays, training, and maintenance requirements,” and “establish a 30-day TDY freeze for new fathers.”

Stressed Systems Study researchers generally believe that the best strategy for reducing stress would be to combine three approaches: limit taskings as much as possible, provide more internal resources, and provide new quality-of-life programs.

Ironically, boosting the number of crews and aircraft for some units might not actually lower optempo, according to study findings. Some units would have to travel more if they had more strength.

Researchers are hoping for a third phase of the Stressed Systems Study that would build on their research with more detailed evaluations, such as TDY rates by Air Force Specialty Code. “We don’t want to spread the word that optempo is a bad thing,” said Nuanes. “What we’re trying to emphasize is that we’re very interested in the high level of optempo and per-stempo that’s out there in the field. The world is changing, and we’re trying to get smarter on managing resources.”