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THESIS

TELECOMMUTING IN THE FEDERAL WORKFORCE

by

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TELECOMMUTING IN THE FEDERAL WORKFORCE

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Submitted in partial fulfillment of the
requirements for the degree of

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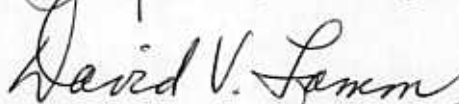
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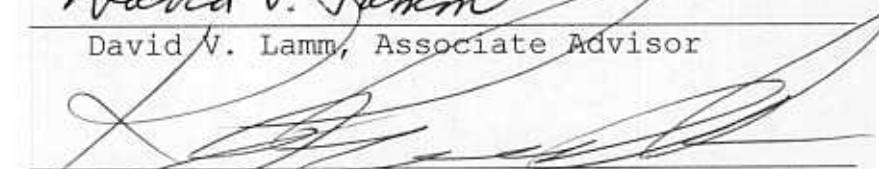
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ABSTRACT

One of President Clinton's family-friendly initiatives includes PL 106-346, which requires Executive agencies and departments to aggressively develop, implement, and encourage telecommuting arrangements for civilian employees. Telecommuting goals include the ability to attract and retain the highest caliber employees, increase employee morale, and enable employees to obtain a better balance between work and family.

This research determines if the successes realized and lessons learned in other organizations (GSA, DCAA, and AT&T) can be applied to Southwest Division Naval Facilities Engineering Command (SWDIV) to develop an implementation strategy for flexible workplace arrangements at SWDIV. To determine if SWDIV should implement telecommuting, this study reviews existing research, analyzes laws and regulations, and analyzes cases of governmental and private organizations that have flexible workplace arrangements.

The research data applied to SWDIV indicates that SWDIV should implement a Flexiplace program. SWDIV can reasonably expect to see benefits in employee retention, increased productivity, reduced absenteeism, and better space utilization.

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I - INTRODUCTION

A. OVERVIEW

Since its establishment over 150 years ago, San Diego, California, has been a city of increasing growth - both in terms of population and geographic area. The Naval Facilities Engineering Command, Southwest Division (SWDIV) is located in the heart of San Diego's downtown. Over the last two decades, SWDIV's employment rolls have increased roughly 30 to 50 percent; however, its physical space has not.

In its attempt to streamline and better utilize the limited physical space on the SWDIV compound, SWDIV has redesigned and remodeled the office spaces numerous times. Originally offices consisted of large bays housing multiple employees who were provided metal desks, credenzas, file cabinets, and bookshelves. As the workload of SWDIV grew, the personnel rolls grew as well. The physical space wherein new employees could be located rapidly was in short supply.

The physical space of individual offices was redesigned using modular constructs approximately six years ago. During the remodeling process, each employee was allocated square footage based on the employee's rank and responsibilities within the command. Because the physical properties of the buildings, such as exterior walls, load bearing walls, and columns could not be significantly altered, placing modular furniture and appurtenances inside the buildings resulted in lost utilization of space due to limitations of modular devices. The resulting office

spaces were smaller than previous and lacked adequate storage capacity for many departments. Additionally conferencing areas were reduced both in size and quantity. Finding available conference rooms has become an increasingly difficult task. Consequently, making arrangements for meetings or working groups is all the more difficult.

As the organization continues to change, the cycle of redesigning the modular offices to better accommodate teams, employees, and storage needs continues to be an on-going process. In addition to redesigning the office space available on the SWDIV compound, SWDIV has been forced to lease commercial office space to accommodate all personnel. To meet the increasing demand for office space within limited (and shrinking) financial resources, alternatives must be pursued. While the command will undoubtedly continue its efforts to redesign conventional office spaces in its attempts to solve its space quandary, it is conceivable, and most probably inevitable, that a new definition of "office" will have to be adopted for the SWDIV organization to better manage its human, physical, and financial resources.

Advances in technology, particularly the Internet and increases in personal computer capabilities, greatly facilitate alternate work locations. A look at other organizations, governmental and commercial, reveals that telecommuting has been adopted successfully across the country in both large and small organizations. Further examination reveals that the application of flexible workplace arrangements (Flexiplace) is not limited to certain career fields or types of individuals, rather it is afforded the widest application in order to maximize the

benefits gained from the implementation of such programs. While each organization's goals and objectives vary, one key element to success is common throughout - the efficient management of limited resources (human, physical, and financial).

B. PURPOSE OF STUDY

This research determines whether flexible workplace arrangements would alleviate SWDIV's increasing space utilization problems. Additionally, preliminary research indicates the introduction of telecommuting practices within an organization yields great benefits in terms of improved employee morale, increased productivity, and a reduction in employee absenteeism. Consequently, a secondary objective of this research is to determine if SWDIV will realize these benefits. If telecommuting will improve morale, increase productivity, decrease absenteeism, and allow SWDIV to more efficiently utilize space on the SWDIV complex vice leasing office space, then this study will recommend an implementation strategy for flexible workplace arrangements at SWDIV.

C. RESEARCH QUESTIONS

The primary question this thesis seeks to answer is:

- Would the implementation of flexible workplace arrangements (Flexiplace) benefit Southwest Division, Naval Facilities Engineering Command (SWDIV) in terms of improved employee morale, increased productivity, and better space utilization on the SWDIV complex?

The following subsidiary questions will also be addressed:

- If policies, procedures, and other personnel regulations require modification in order to implement a Flexiplace program, how should they be changed and at what level?
- How can lessons learned and best practices implemented by other organizations that have successful flexible workplace arrangements be applied to SWDIV?
- If the benefits outweigh the limitations and possible negative effects of Flexiplace, what additional barriers (cultural, technical, etc.) exist that would impede a successful Flexiplace program at SWDIV?
- What tools should be developed to monitor the success of Flexiplace and how should they be administered?

D. SCOPE AND LIMITATIONS OF STUDY

The concept of Flexiplace, otherwise known as telecommuting or telework, is of considerable breadth. It is not the intent of this study to address all aspects of telecommuting. Rather this research will focus on those areas that can be used to determine if telecommuting practices should be adopted by SWDIV.

To address the research questions, this thesis will focus on organizations such as the General Services Administration, Defense Contract Audit Agency, and others and analyze their obstacles encountered and overcome, benefits experienced, and their methods for implementing

Flexiplace. Lessons learned and best practices from these organization will be analyzed and applied to the current SWDIV organizational environment.

This thesis will also identify the advantages and disadvantages of telecommuting in general terms. It will identify areas where SWDIV can reasonably expect to receive benefits such as better physical space utilization, increased productivity, improved employee morale, retention of highly qualified personnel, and reduction in employee absenteeism. It will also address how SWDIV can mitigate some of the potential negative affects of telecommuting such as communication concerns, management's fear of losing control of its employees, teleworker isolation, resentment from non-telecommuting co-workers, and promotion or recognition concerns.

This study will determine if, and to what extent, Flexiplace is appropriate and feasible for SWDIV given its unique organizational environment, management philosophies, and employee concerns. If Flexiplace proves to be a viable solution to SWDIV's physical constraints and personnel issues, I will make recommendations to SWDIV management regarding what steps SWDIV should take to implement a Flexiplace program.

Additionally, this thesis will briefly identify the office equipment such as telephones, Internet connections, computers and related peripherals that are key to successful Flexiplace participation. Security and access issues will be assessed so that if Flexiplace is determined to be viable for SWDIV, these concerns can be adequately addressed in any management implementation strategies regarding Flexiplace.

This study will also review current personnel regulations and legislation with regard to how they address telecommuting. Public Law 106-346 requires each executive agency to establish policies under which eligible employees may participate in telecommuting to the maximum extent possible [Ref. 1]. Currently SWDIV has no telework employees. This research will focus on SWDIV personnel policies and determine what, if any, changes need to be made to comply with current legislation. Other laws, guidance, and regulations regarding telecommuting policies and procedures will also be analyzed relative to the SWDIV environment.

E. RESEARCH METHODOLOGY

The data collection methods used for this thesis are of two types: literature review and personal interview. The following steps will be used to collect and analyze data:

1. Data Collection

- Literature Review - Industry publications, library resources, Internet articles, trade journals, and informal industry reports will be reviewed for relevant data.

- Personal Interviews - Approximately 20 telephone and e-mail interviews with participants of Flexiplace programs from various organizations (General Services Administration, Defense Contract Audit Agency, etc.) will be conducted in order to assess real life experiences with

telecommuting. Interviews will be conducted with Flexiplace participants, managers, and non-flexiplace employees. Interviews are intended to supplement the literature review and round out information from informal industry reports.

2. Data Analysis

The analysis of the data will focus on development of a case profile for the General Services Administration, the Defense Contract Audit Agency, and AT&T. Data will be analyzed to determine the level of similarity between the organizations studied and SWDIV in terms of organizational structure, mission, and management philosophies. I will then determine the "before" and "after" Flexiplace environments for each of the various organizations and correlate this data to the present SWDIV environment and projected SWDIV environment under Flexiplace.

Structured personnel interviews will be used to supplement the literature review and supplant out-dated material with current, "real life" data. Interviews will be targeted to the managers and participants of existing Flexiplace programs in the organizations studied as well as managers and employees within SWDIV where episodic Flexiplace arrangements were authorized. Interviews will focus on expectations and actual experiences regarding Flexiplace.

The data will be analyzed and correlated to the current expectations of managers and employees at SWDIV to determine the reasonableness of SWDIV expectations based on actual field findings. Through the literature review and personal interviews the study will determine how

Flexiplace implementation obstacles were addressed in other organizations. This information will be analyzed to determine if the strategies used at other organizations can be used at SWDIV when SWDIV is faced with the same or similar obstacles.

Additionally, key personnel regulations and legislation regarding telecommuting in the Federal Government will be reviewed to determine the extent of SWDIV compliance.

F. ORGANIZATION OF STUDY

This thesis consists of six chapters. The content of the remaining five chapters is described below:

Chapter II - Literature Review

Chapter II defines various Flexiplace concepts from its origin, evolution, and current place in the Federal workforce to a general discussion of the advantages and disadvantages associated with telecommuting.

Chapter III - Regulations / Current Policies

This chapter addresses telecommuting policies at various Federal levels from Congress to SWDIV. It will identify various agency's policies, procedures, and guidance concerning Flexiplace. Agencies to be reviewed include the Office of Personnel Management, Department of Labor, the Occupational Safety and Health Administration, the Naval Facilities Engineering Command Headquarters, and Southwest Division NAVFACENGCOM.

Chapter IV - Case Analyses

This chapter analyzes various Federal and private organizations such as the General Services Administration, Defense Contract Audit Agency, AT&T, and others relative to their organizational structures and rationale and implementation strategies that led to successful Flexiplace programs within their respective organizations.

Chapter V - Application of Flexiplace Data to SWDIV

Chapter V contains a description of the current SWDIV organizational structure and analyzes the data gathered relative to the feasibility of implementing a Flexiplace program at SWDIV. Data from case analyses with respect to key characteristics of successful Flexiplace programs will be correlated to the jobs, personnel, and management philosophies of SWDIV. Through the analysis I will determine if sufficient correlative data exists to warrant consideration of a pilot Flexiplace program at SWDIV.

Chapter VI - Conclusion and Recommendations

This chapter summarizes the results of the analyses in previous chapters and recaps the answers to the research questions. If Flexiplace is determined to be feasible for SWDIV, this chapter will recommend a strategy that SWDIV management should consider when implementing a pilot Flexiplace program.

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II - LITERATURE REVIEW

A. OVERVIEW

Telecommuting has been used in private industry, in one form or another, for the last several decades. It has only recently been implemented in the public sector. The Government initiated its investigation into flexible workplace arrangements (Flexiplace) in the late 1980's and directed the Office of Personnel Management and the General Services Administration to construct a mechanism and implement a pilot Flexiplace program so that the President could evaluate the extent to which Flexiplace would benefit the Government [Ref. 2].

This chapter examines several important telecommuting topic areas found in public and private sector entities through an extensive review of available literature. The topic of telecommuting is immense; there have been literally thousands of websites, periodicals, and news articles published on the subject in the last 15 years. However, not all of the information is germane to the scope of this thesis. Therefore, I have limited my literature review to the following topic areas that appear to be most consistently of concern to managers and participants:

- Flexiplace Definition,
- Telecommuting Trends,
- Why Telecommute?,
- Cost/Benefit Analysis,
- Productivity,

- Telecommuting Drawbacks,
- Management Concerns,
- Employee Concerns,
- Management of Teleworkers, and
- Keys to Successful Telecommuting Programs.

Within many sections of the literature review there are contrary positions and opinions. It is not my intent to reconcile opposing views or suggest that some have more merit than others do. This literature review simply exposes the reader to the information themes commonly found throughout telecommuting research.

B. FLEXIPLACE DEFINITION

OPM has defined telecommuting as "any arrangement in which an employee regularly performs officially assigned duties at home or other work site geographically convenient to the residence of the employee" [Ref. 3]. Toffler defines telecommuting as any work arrangement that enables employees to do productive work away from the traditional office [Ref. 4].

C. TELECOMMUTING TRENDS

The International Telecommuting Association and Council (ITAC) reported that there is a large gap between the number of workers who desire telecommuting arrangements and the number to whom it is actually available. However, their research indicates that telecommuting is growing rapidly [Ref. 5]. ITAC and Toffler found that telecommuting is growing at a brisk pace - from 3.4 million

teleworkers in 1990 to 23.6 million in 2000 [Refs. 4 and 5]. That represents a 594% increase in the last ten years.

In its 2000 survey, ITAC found that telecommuting in the United States increased by 20.6% over 1999 figures or by approximately 2.8 million teleworkers [Ref. 5]. Toffler estimates that approximately 10% of the United States workforce telecommute and that the number of telecommuters will continue to rise due to Internet growth, technological advances, and a social push for work/family balance [Ref. 4].

In contrast to the growth reported by ITAC and Toffler, Cole-Gomolski reports that while telecommuting is very popular among information technology (IT) professionals, the trend is slowing due in part to the growth of outsourcing IT functions [Ref. 6].

Regarding the Federal agencies telecommuting arrangements, Vega and Brennan found that as of October 1998, the majority of Government teleworkers were GS-12 and above, provided their own equipment, and performed work that was independent of the work of others [Ref. 7, pg. 12]. Vega and Brennan found the highest proportion of Federal teleworkers in the Department of the Treasury with 44% of their workforce telecommuting at least part-time. The Department of Defense followed with 13.5% of its workforce under formal telecommuting arrangements [Ref. 7, pg. 10].

D. WHY TELECOMMUTE?

Telecommuting has been in use for 20 years by private industry, mostly as a work-at-home option. For many, if not most, private organizations telecommuting arrangements were implemented because of the associated benefits. In

the public sector, telecommuting may have been used in limited episodic instances, but formal telecommuting arrangements did not come about until the President directed it in 1989 [Ref. 2]. Additionally, under Public Law 106-356, Federal agencies are encouraged to implement telecommuting programs designed to help the Government improve energy conservation, air quality, traffic congestion and safety [Ref. 8].

Table 2.1 summarizes Deloitte, Touche, Baig, Vega, Brennan, Toffler, and Nilles common reasons why an organization may wish to consider telecommuting arrangements [Refs. 4, 7, 9, 10, and 11]. Baig also states that larger companies may need to implement telecommuting arrangements to comply with Clean Air Act provisions aimed at reducing traffic and related pollutants [Ref. 9].

<u>Employer</u>	<u>Employee</u>	<u>Society</u>
Attract and retain skilled workers	Reduce commuting time	Reduced traffic congestion
Increase employee satisfaction	Reduce stress	Reduced air pollution
Increase employee morale	Reduce job-related costs	Improve accommodation for disabled Promote 'family-friendly' work environments
Reduce absenteeism	Provide better work environment	
Reduce office space	Increase ability to manage work/life responsibilities	
Reduce overhead costs		

Table 2.1 Telecommuting Benefits

Vega, Bennan, and Nilles add that agencies should consider telecommuting because it also increases worker productivity, improves customer service, conserves energy, and reduces traffic congestion and safety issues [Ref. 7, pg. 12, and 11]. Nilles also contends that telecommuting can cut operating costs, increase organizational flexibility, enhance employee loyalty, and improve the corporate bottom line. Deloitte & Touche further add that telecommuting facilitates and optimizes services to remote customers, and enables organizations to expand their talent pools beyond the immediate surrounding communities [Ref. 10].

E. COST/BENEFIT ANALYSIS

Numerous articles cite telecommuting benefits to individuals, organizations, society, and the environment. However, to adequately address telecommuting benefits, an organization should perform a thorough and accurate cost/benefit analysis. This section reviews benefits identified and cost/benefit analysis information found as a result of the literature review.

ETO, Duffy, and the ITAC found the areas that reflected the most benefit to an organization that were directly attributable to telecommuting programs include productivity improvements, personnel retention/recruitment, and cost savings associated with reduced office space requirements [Refs. 5, 12, and 13]. Although they provide no concrete data to support their claims, Nilles, Goff, and ETO add improved employee motivation, organization flexibility, greater employee loyalty, enhanced customer service, and reduced absenteeism among the benefits to employers [Ref. 12 and 14].

Duffy reported that AT&T and Cisco experienced significant cost savings (\$30 to \$35 per square foot) due to reducing their office space requirements by 20% - 30% [Ref. 13]. Toffler and Nilles calculate that office space savings can be considerable for firms that have 40% - 60% of their staff under telecommuting arrangements [Refs. 4 and 11]. According to Toffler and Nilles, assuming 50 teleworkers share office space and work from home two days per week, an organization can save 100 square feet at roughly \$3 per square foot per teleworker or roughly \$12,000 monthly as a direct result of telecommuting [Refs. 4 and 11].

Concerning the cost/benefits associated with employee retention, the Department of Labor reports that it costs one-third of an employee's salary to replace and train an employee [Ref. 15]. Pratt contends that employers avoid costs of replacing employees when they offer telecommuting options [Ref. 15]. Considering an ITAC survey, which reported 39% of workers who do not currently telecommute are interested in doing so and 13% of those workers would consider the ability to telework an important factor influencing their decision to accept a new job, the accrued employee retention benefits associated with telecommuting could be significant [Ref. 5].

Regarding the cost/benefits associated with reductions in employee absenteeism, Telework America found the most common reasons an employee missed work were personal or medical reasons [Ref. 15]. Toffler and Pratt report that companies can save in excess of \$10,000 annually per teleworker as a result of reduced employee absenteeism because personal and medical errands are typically geographically proximal to the employee's home, thereby

enabling the teleworker to use a portion of a day's leave rather than an entire day's leave [Refs. 4 and 16].

The Evaluation, Audit, and Review Group (EARG) conducted cost/benefit analyses of organizational spending and teleworkers' personal expenditures and found that, overall, the cost burden of telework was not substantial [Ref. 12]. The EARG found that 92% of supervisors felt that increased productivity, reduced absenteeism, and savings on office rent more than compensated for costs incurred [Ref. 12].

However, according to Grensing-Pophal many companies have not experienced the office space reduction cost savings that were expected [Ref. 16]. The reason for the lack of savings was due in part to the number (or lack thereof) of telecommuters within an organization. Grensing-Pophal states that unless an organization can reduce its office space requirements by at least 10%, it will not see appreciable savings [Ref. 16].

Gordon recommends that managers link benefit analysis to the goals that the organization sought to accomplish with telecommuting programs, such as reduced absenteeism or increased sales. Further, he hypothesizes that the outcome of analysis may be flawed if an organization cannot accurately differentiate between outcomes that would have arisen irrespective of telecommuting and outcomes that were directly attributable to telecommuting [Ref. 17].

F. PRODUCTIVITY

Telecommuting productivity studies have produced findings that include both positive and negative results. Productivity is typically defined as the quantity of output produced over a given period of time, usually an eight-hour

workday. Gordon and Christensen found, however, that a direct correlation does not exist between productivity and telecommuting hours in white-collar professional jobs [Refs. 17 and 18]. They indicated that additional telecommuting does not necessarily increase productivity.

Martino, Wirth, and Dubrin suggested that telecommuting arrangements have a positive affect on participants by enhancing individual productivity [Refs. 19 and 20]. In a study conducted by Hughson and Goodman, forty-eight of the fifty largest employers in the Pittsburgh, Pennsylvania, area were surveyed. They found that productivity increased with telecommuting due to fewer distractions and increased use of computer technology [Ref. 21]. Higa, Sheng, Shin, and Figueredo found that effective adoption of a general-purpose communication medium such as e-mail gave teleworkers an information-rich tool that enhanced their work productivity [Ref. 22]. None of these studies, however, provided concrete examples or empirical data to support their claims.

The Massachusetts Division of Energy Resources and the Massachusetts Highway Department conducted a study of their pilot telecommuting programs and found that 83 - 87% of all telecommuters reported increased productivity, while 97 - 100% of their supervisors reported that productivity had increased [Ref. 23]. Baig and Nilles reported that productivity increases among teleworkers averages 5 - 20% when telecommuting only one to two days per week [Refs. 9 and 11]. Moskowitz states reasons telecommuters experience productivity increases from 10 - 20% is due to the establishment of clear goals and priorities, the development of action plans, and carefully chosen telework assignments [Ref. 24].

AT&T conducted a study of the social impacts associated with telecommuting and found that 63% of managers said they saw worker productivity increase and telecommuters themselves reported an average productivity increase of 21% due to the ability to concentrate with fewer interruptions [Ref. 25]. MCI WorldCom reported that 55% of its busy professionals telecommute an average of 4.6 days per month and reported 31% increase in productivity [Ref. 26]. ITAC found that self-reported teleworker productivity increased 15%, while telework center productivity increased 30% [Ref. 5].

ETO found that productivity increases of up to 40% have been reported, though a range of 10% to 40% is more typical across large scale programs [Ref. 12]. ETO found that both managers and participants consistently reported significant productivity gains. ETO stated that productivity gains are due in large measure to the inherent flexibility within telecommuting arrangements because individuals can work according to their own "rhythm" as opposed to the structured 9-5 in the office [Ref. 12]. Their findings, however, did not identify whether the reported productivity gains were based on empirical data or self-reported perceptual gains.

Hughson and Goodman cautioned that productivity increases may be linked to unreported overtime hours worked [Ref. 21]. A study conducted by Duxbury, Higgins, and Mills similarly found that employees routinely worked longer hours under telecommuting arrangements in order to report increased productivity [Ref. 27]. Likewise, Vega and Brennan found that teleworkers frequently worked uncompensated overtime [Ref. 7, pg. 18].

According to Westfall, most studies merely quoted anecdotal program reports or referenced nominal discussions based on hearsay without mentioning methodological details [Ref. 28]. He contends that studies citing increased productivity are flawed because they depend primarily on bias-prone self reports.

Westfall documents 15 rival hypotheses relative to reported productivity gains associated with telecommuting [Ref. 30]. His hypotheses range from overstated productivity increases due to the Hawthorne effect¹ to increases in the productivity due to more efficient management of teleworkers.

Grensing-Pophal stated that managers and teleworkers need to develop a "deliverables" mentality as a means of measuring productivity through assignments and projects, rather than hours spent in the office [Ref. 16]. Gordon recommends that managers not only measure quantity of output produced, but also quality, timeliness, an individual's ability to manage multiple projects, and the interrelationship between these factors [Ref. 17]. He further recommends that these metrics be applied to in-office staff and teleworkers and that such metrics be evaluated for a period of time prior to implementation of teleworking arrangements to form a measurement baseline [Ref. 17].

Regarding evaluation of productivity, Gordon states that many managers are reluctant to administer rigorous evaluation metrics (quality, quantity, timeliness, multi-tasking) to telecommuters and in-office staff because they feel it will result in the identification of one group as

¹ The Hawthorne effect states that individuals will improve performance or behavior when they know they are being monitored.

'failures' and the other group as 'better'. This, he implies, may not be a valid means of assessment: "If the telecommuters are shown to be undeniably more effective, does that mean that your otherwise hard-working office workers now look like they're slacking off?" [Ref. 17].

G. TELECOMMUTING DRAWBACKS

ETO recognized that telecommuting is not a panacea. It cited several drawbacks to telecommuting arrangements including inappropriate participant selection (poorly motivated employees, employees without drive and self-discipline), poor working environments at an employee's home (small apartments, children underfoot, noisy neighbors), management that lacks adequate supervisor skills to properly and effectively manage distant workers, and inappropriate tasks being performed offsite (brainstorming, creative teaming, clerical support functions) [Ref. 12]. ETO stated that none of these considerations is necessarily a barrier to telework, just that they illustrate how things can go wrong if a telework program is not adequately thought through.

Reingold cites several potential drawbacks to telecommuting. She states that when an employee is in the office, no one questions whether that employee is working. The same does not hold true for teleworkers. She states that some managers actually up the productivity quota for teleworkers above that required of in-office employees [Ref. 30].

Although not common, Toffler, Hughson, Goodman, Duxbury, Higgins, and Mills indicate that teleworkers feel obligated to "complete projects" regardless of the number of hours required to do so [Refs. 4, 21, and 27]. They

contend that employees are reluctant to apply for overtime compensation and routinely work long hours or late in to the evening to appear more productive. Betts contends that teleworkers are typically "turbo-charged" individuals that work too much and run afoul of overtime compensation rules [Ref. 31]. Likewise, Rotter states that some telecommuters fear that their supervisor will be unable to fairly evaluate their performance based on results alone and so they compensate by working additional hours "off the record" [Ref. 32].

Toffler, Betts and Gordon emphasize that it is quite easy for the lines between work and family to become blurred under work-at-home arrangements [Refs. 4, 31, and 33]. Reingold contends that unless teleworkers can draw clear boundaries between work and home, every day becomes a workday and all time becomes work time [Ref. 30]. Thus, job and family related stress for these individuals increase. I theorize that as job and family related stress increase, employee morale and productivity would tend to decline.

In addition to uncompensated overtime, management must be aware of the social ramifications associated with telecommuting arrangements. Vega and Brennan found that because teleworkers were not in the central office as frequently as their office-bound colleagues, they were not able to pick up on social cues, the long-term effect of which weakens the social structure of the team and degrades the team's shared culture [Ref. 7, pg. 19]. Betts contends that telecommuting may be detrimental to an employee's career because he/she is not in the office and therefore not able to "play the politics" often required for promotions, bonus, and other recognition [Ref. 31]. Additionally, Harris postulates that telecommuting may be

detrimental to employees because they are not in the central office enough to be taken seriously for promotions and bonuses [Ref. 34].

Vega and Brennan found that jealousy of teleworkers was common among non-teleworkers, even among those who were able but chose not to telecommute [Ref. 7, pg. 12]. Baig reports that in-office staff may become resentful of teleworkers if they feel their workload is increasing due to telecommuting arrangements [Ref. 9]. Likewise, Allen reports that there is a potential for office-bound workers to resent teleworkers especially if they perceive teleworkers are receiving "favored treatment" [Ref. 35]. This is especially true, she says, when there are rival groups or departments within the organization and some are allowed to telecommute and others are not. Allen states that resentment may be compounded by the fact that typically only the highest performers are selected as participants [Ref. 35].

Deloitte and Touche indentify several additional potential risks and liabilities associated with telecommuting arrangements including insurance requirements, security of sensitive and confidential material, remote access to company servers and databases, and recouping company equipment in the hands of terminated employees [Ref. 10]. They stated that with proper planning, formal policies, and written telecommuting agreements, many companies reported the rewards associated with telecommuting "far outweighed any risks" [Ref. 10].

H. MANAGEMENT CONCERNS

GAO conducted a study of potential telecommuting barriers faced by employers and found that managers were

concerned about data security, costs, Fair Labor Standards Act (FLSA) and Occupational Safety and Health Act (OSHA) requirements, and ramifications associated with participant selection or non-selection [Ref. 36]. The literature reviewed, however, identified four primary areas of management concern: general lack of interest in telecommuting, lack of control, lack of trust, and participant selection.

Vega and Brennan found that a large percentage of Federal managers were not interested in telecommuting arrangements for the following reasons [Ref. 7, pg. 16]:

- Telecommuting is another passing fad that will be forgotten when the next initiative is on the horizon.
- Managers do not perceive rewards, tangible or otherwise, for supporting telework.
- Managers have a grave suspicion that telework means additional work for them.
- Managers have the "If I can't see them, how do I know they're working?" syndrome.
- Managers are frustrated because they lack the ability to adequately describe work requirements.

According to SVTG, Gordon, and Allen, resistance to telecommuting comes primarily from middle management because managers perceive that supervision and coordination of remote workers will become more difficult, their workloads will increase, and they feel a loss of control over teleworkers [Refs. 17, 35, and 37]. Not only are managers fearful of losing control over telecommuters, Grensing-Pophal states that managers often feel like they

lose control of their status in the organization [Ref. 39]. Grensing-Pophal, Vega and Brennan contend that middle managers fear they will become nonessential and less valued by the organization and lose supervisory control when they manage telecommuters [Refs. 7, pg. 17; and 38].

The most common question asked by managers is, "If I can't see them, how do I know they're working?" However, Gordon found that many managers will often ask politically correct questions such as "What are the long-term benefits to my department/customers/etc.?" or "What is the expected return on investment" as a means to disguise their reluctance to outwardly express their lack of trust for employees [Ref. 17].

Barker and Grensing-Pophal stated that managers often feel great consternation about telecommuting due to an inherent lack of faith in teleworkers [Refs. 38 and 39]. However, ITAC states that managers have a common misconception about the work ethics of teleworkers [Ref. 13]. ITAC maintains that teleworkers are not low-commitment employees, rather they are often ambitious and believe that productivity and exceeding objections are very important [Ref. 5].

Nilles contends that managers lack faith in their employees because they are simply ill-equipped to manage remote workers [Ref. 11]. He defends telecommuting by stating that it forces managers to hone their supervisory and managerial skills, which in turn benefit in-office staff, teleworkers, and the organization as a whole [Ref. 11]. According to Barker, the key to building trust is to write down expectations, discuss expectations with the telecommuter, and communicate frequently [Ref. 39].

Managers are also frequently concerned with participant selection issues. Deloitte and Touche state that it is reasonable for managers to insist that telecommuting be limited to people who can work well independently, are organized, and do not need the stimulation and socialization of office life [Ref. 10]. SVTG supports the idea that only high-performers are approved for telecommuting arrangements and states that a declaration of this nature may in fact motivate other employees to improve weak areas [Ref. 37].

I. EMPLOYEE CONCERNS

Chadwick, Baig, Vega and Brennan found that most teleworkers were concerned about autonomy, meeting family needs, loneliness/isolation, lack of social interaction, and being "out of the loop" for promotions, bonuses, and office gossip [Refs. 7, pp. 16-17; 9, and 40]. However, Rognes believes that isolation and lack of disruptions are positive aspects of telecommuting [Ref. 41].

Toffler contends that telecommuters' concerns about being out of the loop and ignored for future promotions were based on perceptions more than on reality [Ref. 4]. In fact, Pratt surveyed 17,000 teleworkers and found most of them reported they received a higher proportion of promotions than office-bound colleagues [Ref. 4].

Baig further stated that teleworkers feared that if the organization downsized, they would be the first to be cut from the organization [Ref. 9].

Reingold, Vega and Brennan found latent dangers of working from home, which included telecommuters' anxiety due to an inability to place appropriate boundaries around the workday [Refs. 7, pg. 12; and 30]. At the same time,

these telecommuters realize the need for those boundaries more than ever before [Ref. 30]. Conversely, Baig found that nearly 75% of teleworkers responding to an AT&T survey were more satisfied with their personal and family lives as a result of telecommuting [Ref. 9].

On the positive side, AT&T conducted a study of the social impacts associated with telecommuting and found in addition to significant productivity increases, 61% of teleworkers reported decreased work related stress, over 50% reported increased quality of life, and 73% reported more time for family activities [Ref. 25]. Based on a survey of teleworkers (methodology and quantity of survey respondents undisclosed), Toffler found that 60% of teleworkers reported that telecommuting had positively affected their careers, while only 3% reported negative career impacts [Ref. 4]. He continued by stating that most teleworkers reported they gained greater responsibilities and recognition for their work.

ETO identified reduced travel time and related costs, improved work opportunities, less disruption to family life, better balance of work and family, participation in the local community, and flexible hours among the benefits to teleworkers [Ref. 12]. Vega and Brennan added that most teleworkers heartily endorsed telecommuting as a non-financial benefit and believed they were more productive due to fewer interruptions and distractions at the alternate worksite [Ref. 7, pp. 16-17].

J. MANAGEMENT OF TELEWORKERS

Kimberly, Evanisko, Aldrich, and Pfeffer report that management is the one force that can drive structural inertia and direct resources toward or away from

telecommuting implementation efforts [Refs. 42 and 43]. OPM commissioned a study on several instances of successful telecommuting arrangements and found three elements that appeared to be key to successful telework experiences: (1) managers with a willingness to experiment, (2) motivated, self-starting employees, and (3) clearly defined expectations [Ref. 44]. Vega and Brennan reported that the most successful agencies are those that were the most creative with telecommuting policies [Ref. 7, pg. 10].

Sandlund and Abreu recommend that managers start their telecommuting programs slowly and set clear expectations and establish realistic short and long-term goals [Refs. 45 and 46]. He recommends that managers write down expectations, directions, and assignments to avoid misunderstandings with teleworkers. Toffler advises managers to expect a 30 - 90 day period of adjustment to new telework arrangements [Ref. 4]. The adjustment is required for managers to get used to managing by results as well as for telecommuters to adapt to working at home.

Citing a study by Merrimack College in Andover, Massachusetts, the *GovExec* reports that when supervising teleworkers, managers must take risks, trust employees to be productive outside of their immediate supervision, and manage by results [Ref. 47]. SVTG and Harmony recommend that when setting objectives managers encourage employee participation, be specific, and identify potential problem areas right away [Refs. 37 and 48]. SVTG cautions managers to avoid over measuring and states that not every task can be evaluated in quantitative terms [Ref. 37]. In some cases this may mean dividing objectives into smaller parts and reviewing them more frequently.

Harmony discusses several strategies that will help organizations manage teleworkers [Ref. 48]. They include:

- Have a team charter that identifies goals, objectives and responsibilities of every member of the team.
- Develop a company Internet site, publish telecommuting information, policies, and guidance, and create team web pages so teleworkers can communicate with others, turn in work assignments, and catch up on "water cooler" gossip.
- Identify several ways that managers, co-workers, and teleworkers plan to make themselves accessible.
- Hold regularly scheduled face-to-face team meetings.
- Recognize managers' and teleworkers' needs and interpersonal styles.

Table 2.2, developed by Vega and Brennan, illustrates examples of performance monitoring techniques that might be applied to teleworkers and in-office staff [Ref. 7, pg. 18]:

In addition to the strategies identified above, Rotter states that managers receive and rely on indirect sources of information such as complaints and praise regarding an employee's performance more than on direct observation [Ref. 32]. He contends that managers read reports or documents produced by the employee and make inferences regarding the quality and timeliness of work produced. He

believes indirect measures such as these are more accurate than "over the shoulder" observations [Ref. 32].

Performance

Monitoring

Technique	General Example	Specific Example
Use of traditional standards, adjusted for unique circumstances encountered when telecommuting	Results-oriented in terms of quantity and quality of output	Specified number of claims processed without error within a specified time period
Use of periodic progress reports by telecommuters to compare with existing expectations	Reporting progress on specified steps of an ongoing project in which a reasonable time frame, based on past experience, has been established for each step	Completing and reporting the steps involved in a research project
Use of expectations developed and refined through systematic reporting by the telecommuter allied with other available information	Because of rarity or novelty of task, the supervisor does not know how long a task should take and must rely on reports of sufficient detail and breadth from the telecommuter and other sources to develop expectations	Developing a new systems architecture for the agency
Use of face-to-face meetings with telecommuter to review progress and/or conformance to standards/expectations	Any of the above	Any of the above
Other methods, such as feedback and intelligence from on-site colleagues, are used by managers on an informal basis	In some cases, telework speeds up processing, and in other cases, slows it down; sometimes telework makes more work for on-site workers, while sometimes it diminishes on-site work requirements	Writing reports relevant to a specific distant location

Table 2.2 Performance Monitoring Techniques

K. KEYS TO SUCCESSFUL TELECOMMUTING PROGRAMS

Premkumar, Ramamurthy, and Nilakanta, suggest that the nature of organizational motivations for telework may hold a key for the success of a telework program within a given organization [Ref. 49]. They suggest that a telework program that fits into current organizational cultures, procedures, and value systems may have a higher chance of success than one that does not. Ruppel and Harrington echo these sentiments and further state that telework may be less successful in an organization characterized by low job specialization or professionalism, high centralization in decision making, and less formalized rules regarding performance evaluation systems [Ref. 51].

According to ETO, benefits only accrue from successful telework programs that are well thought out and include well defined parameters for participant selection, suitability of remote work location, types of work suitable for telecommuting arrangements, and management with a high degree of faith in its employees [Ref. 12]. Betts advises that telecommuting does not succeed automatically; it requires deliberate planning with an emphasis on information flows [Ref. 33]. Narsu found the most critical components of successful telework programs are ease of use and reliable remote access technologies such as e-mail, groupware, and other software applications that enable telecommuters to connect to the central office [Ref. 51].

Vega and Brennan insist that to ensure teleworkers are successful, instead of demanding greater effort from teleworkers, managers are responsible for designing telework programs that will ensure each teleworker's

success by being actively involved in telecommuter activities without micromanaging [Ref. 7, pg. 20]. Grensing-Pophal adds that a key aspect of telecommuting arrangements is to look at how individuals interact and communicate [Ref. 38]. Duffy found that managers frequently jumped in to telecommuting arrangements without first dealing with employee concerns and the effect proposed changes would have on workplace dynamics [Ref. 13].

Under successful telework arrangements, Goff states that there must be trust between teleworkers and managers and that it is best to measure success or productivity in terms of short-term deliverables [Ref. 14]. Grensing-Pophal states that the transition from managing time to managing projects is critical and will determine the success of an organization's telecommuting program [Ref. 38].

According to Business Week successful teleworkers 1) find out what management concerns are before working at home, agree on performance standards, and meet goals; 2) create definite work hours, attend meetings, communicate regularly with supervisors and co-workers, and visit the main office regularly; 3) establish a clear workspace at home; and 4) let the family know when the teleworker cannot be disturbed and arrange for childcare during working hours [Ref. 52]. To show themselves as successful, Baig recommends that teleworkers go the extra mile to establish their credibility as star performers [Ref. 9].

Merril Lynch cites a key to the success of its telecommuting programs as joint sessions wherein employees and managers discuss work objectives, expectations, telecommuting arrangements, and communication issues [Ref. 38]. It suggests that these sessions are actually

negotiation and planning sessions. Duffy also recommends that organizations do not follow a one-size-fits-all approach to telecommuting; rather each department should employ methods that best suit the requirements of that group of individuals.

Finally, a key aspect of successful telecommuting programs is training. O'Hara and Haubold found that lack of proper training was often a barrier to effective implementation of telecommuting arrangements [Ref. 53]. Grensing-Pophal stated that even when organizations provide training, they often focus on the wrong aspects of telecommuting [Ref. 16]. The most common mistake, according to Grensing-Pophal, is that organizations train on technology but not on the basic experience-type or coordination-type training that would enable teleworkers and managers to be more successful. Additionally, Vega and Brennan recommend that training be refreshed on regular intervals and found that even agencies that exhibit exemplary practices in other areas fail to provide ongoing telework training [Ref. 7, pg. 19].

I. SUMMARY

Telecommuting, roughly defined as working in a location other than the traditional office, is growing rapidly in the United States. The literature revealed several reasons why an organization might consider implementing telecommuting arrangements including benefits to the organization, managers, participants, society, and the environment. Although not discussed in detail in this chapter, some of the societal and environmental benefits are altruistic and not necessarily the intended consequences of organizations that implement telecommuting

programs. More likely, an organization will focus on benefits that directly impact the organization such as increased productivity, reduced facilities costs, and retention of skilled workers.

Several of the cited studies addressed cost/benefit information in support of telecommuting. Studies have indicated that the costs and associated benefits have significant impact to the organization when a large percentage of personnel telecommute (over 20%) and facilities space can be reduced by at least 10%. For organizations with less extensive telecommuting programs, the cost savings may be minimal, but the benefits to employees and managers may still warrant consideration of telecommuting programs.

Productivity, defined as the level of output for a period of time, is often cited in studies and articles that address telecommuting. Typically those in favor of telecommuting state that productivity increases anywhere from 5% to 40% as a direct result of telecommuting arrangements. The basis for these figures, however, is usually self-reported perceptions of participants and managers. For this reason, others who do not favor telecommuting, fault increased productivity reports as anecdotal or hearsay.

Recognizing that telecommuting is not a panacea, the literature revealed several drawbacks to telecommuting such as the consequences of programs that are not well thought out, unreported overtime by teleworkers, and difficulty for teleworkers to draw distinct boundaries between the home office and the family. The literature also addressed social and cultural drawbacks of telecommuting such as non-participant resentment or jealousy of teleworkers and

teleworkers' feelings of isolation and detachment from the central office.

The literature revealed that managers were most frequently concerned about participant selection, a general lack of faith in teleworkers, their lack of control over teleworkers, and their fears about their value to the organization as a manager of teleworkers. Employees were typically concerned about autonomy, lack of social interaction, and being left out of the loop for promotions, bonuses, and office gossip. They were also concerned about how working from home would impact their family lives.

The keys to managing a successful telecommuting program include organizational and managerial motivation and support, managers who are well trained in results-oriented management, and employees that are committed high performers. Additionally, the telecommuting program that an organization adopts needs to be tailored to suit the organization's culture, group/department dynamics, and individual requirements.

Chapter III explores the laws and regulations that affect telecommuting arrangements in the Federal Government. Additionally, the policies, procedures, instructions, and guidance from the Office of Personnel Management (OPM), the Department of Labor (DOL), the Occupational Safety and Health Administration (OSHA), and the General Services Administration are reviewed. Policy data from the Department of the Navy (DON), the Naval Facilities Engineering Command Headquarters (NAVFAC HQ), and Southwest Division, Naval Facilities Engineering Command (SWDIV) are reviewed for compliance with the foregoing laws, regulations, policies, instructions, and guidance.

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III - REGULATIONS / CURRENT POLICIES

A. OVERVIEW

The history of Federal telework reflects the evolution of one of the most significant and progressive changes in work conditions for Federal employees. Since the 1990's, the flexible workplace arrangements (Flexiplace) movement has focused on the impact that significant commuting time to work has had on family, environment, and general quality of life. This movement also served as one of the most important barometers of the transition from the industrial age to the information age in terms of human resources and workplace management.

The growing number of telecommuters poses unique management issues for many organizations. While telecommuters are increasing in record numbers, the fundamental laws and regulations about employment have only just begun to address remote work. Basic employment laws still define work as being performed in managed locations by groups of employees who can be directly supervised for all or a large part of their work time. The situation worsens when management allows employees to telecommute without creating the proper organizational structure to manage and direct that work.

Over the last decade, many regulatory agencies have begun issuing policies and guidance regarding the implementation of Flexiplace programs within Federal agencies. This chapter addresses the policies and regulations set forth by Congress, the Office of Personnel Management, the Department of Labor, the Occupational

Safety and Health Administration, and reviews Flexiplace implementation guidance published by the General Services Administration. Current SWDIV personnel regulations are reviewed to determine the level of compliance with laws, regulations, and guidance. Also, areas of non-conformance are identified.

B. CONGRESS

Under the Bush administration, in March 1989, the President's Council on Management Improvement established an interagency task force to design and implement a Federal telecommuting program. The task force consisted of the Office of Personnel Management (OPM), the General Services Administration (GSA), and representatives from 14 Federal Agencies, including the Department of Defense [Ref. 2]. In November 1990, Congress passed Public Law (PL) 101-509 which allowed participating agencies to use appropriated funds to provide telephone, other equipment, and related services in support of Flexiplace participants [Ref 54].

In 1994, President Clinton issued a memorandum that directed the head of each executive department to establish a program that would create and foster flexible, family-friendly work arrangements [Ref 55]. His memo stated:

The head of each executive department or agency... is hereby directed to establish a program to encourage and support the expansion of flexible family-friendly work arrangements, including: job sharing; career part-time employment; alternative work schedules; telecommuting and satellite work locations. Such a program shall include:

- identifying agency positions that are suitable for flexible work arrangements;

- adopting appropriate policies to increase the opportunities for employees in suitable positions to participate in such flexible work arrangements;
- providing appropriate training and support necessary to implement flexible work arrangements; and
- identifying barriers to implementing this directive and providing recommendations for addressing such barriers to the President's Management Council.

OPM and GSA were directed to review and revise regulations that posed barriers to flexible work arrangements. The President believed that this initiative would have profound benefits for the Government in areas such as recruitment and retention of the highest quality workers, increased employee effectiveness, increased job satisfaction, and reductions in absenteeism.

In 1996, the President reiterated his 1994 directive adding that agencies needed to review their personnel practices and develop action plans to utilize and expand the flexible policies already in place. With regard to telecommuting, the President's Management Council established a goal of 60,000 telecommuters by 1998 [Ref 56]. This included employees working from their homes as well as those working in satellite work centers.

Vice President Gore examined the status of Federal agencies' compliance with the President's directive regarding family-friendly work arrangements and found that the Federal Government had made significant progress in policies concerning flexible work schedules; however, with respect to telecommuting policies, little progress had been made. Gore stated,

We must intensify our efforts to make telecommuting more readily available to our workers, not just in times of personal or medical emergency, but as an important management strategy. [Ref. 57]

In 1999, Congress made appropriated funds available to each Executive agency to encourage each agency to create or expand its Flexiplace work telecommuting programs [Ref. 58]. In July 2000, President Clinton directed agencies to establish policies that would promote and encourage the use of telecommuting for disabled employees. He believed that promoting telecommuting for the disabled would greatly increase the Government's ability to maximize the contribution potential of disabled persons in Federal Service [Ref. 59]. Most recently, Congress passed PL 106-346 which addresses telecommuting requirements in the Federal workplace as follows:

Each executive agency shall establish a policy under which eligible employees of the agency may participate in telecommuting to the maximum extent possible without diminished employee performance. Not later than 6 months after the date of the enactment of this Act, the Director of the Office of Personnel Management shall provide that the requirements of this section are applied to 25 percent of the Federal workforce, and to an additional 25 percent of such workforce each year thereafter [Ref. 1]

C. OFFICE OF PERSONNEL MANAGEMENT (OPM)

OPM interpreted PL 106-346 to mean that each agency shall develop criteria to be used in implementing telecommuting policies and shall ensure that managerial, logistical, organizational, or other barriers to full implementation and successful functioning of the policy are removed. Each agency was directed to provide adequate

administrative, human resources, technical, and logistical support for carrying out the policy. OPM defined telecommuting as "any arrangement in which an employee regularly performs officially assigned duties at home or other work site geographically convenient to the residence of the employee" [Ref. 60].

OPM's Office of Work/Life Programs has issued the following basic guidelines for telecommuting [Ref. 61].

When establishing a telework program, agencies should keep in mind the basic guidelines listed below.

- Teleworking is a management option rather than an employee benefit and does not change the terms and conditions of appointment.
- Telework should not adversely affect the performance of the employee who is telecommuting or his or her coworkers.
- Supervisors must properly certify time and attendance.
- The employee must have a safe and adequate place to work off-site that is free from interruptions and that provides the necessary level of security and protection for Government property.
- Although telework will give some employees more time for their family responsibilities, they may not use duty time for providing dependent care or any purpose other than official duties.
- The Government may place Government owned computers and telecommunication equipment in employee homes ... but the Government retains ownership and control of hardware, software, and data. Such equipment is for official use only, and its repair and maintenance are the responsibility of the agency.

OPM has reviewed the telecommuting policies of various Federal agencies and found that although some agencies had telecommuting policies, they were not necessarily in compliance with PL 106-346. OPM directed agencies to take a fresh look at and remove barriers to telecommuting participation. While OPM recognized that all positions are not suitable for telecommuting, it required agencies to identify suitable positions, eligible employees, and directed that "employees who meet [eligibility criteria] and want to participate must be allowed that opportunity if they are satisfactory performers" [Ref. 62].

According to OPM's human resource handbook [Ref. 63]:

- Telecommuters should have work assignments that require minimum personal interface with co-workers and customers. The work should be measurable in terms of results and outcomes.
- The employees' current performance standards will be used to govern all telecommuting assignments.
- All Government records and documents should be readily transferable from the Federal office to the alternate work site without impact to Federal office operations.
- Telecommuting agreements should specify the work to be completed, the time frame work is to be completed, and the method and frequency of communication between the alternate work site and the Federal office.
- Employees who telecommute on a regular basis should be scheduled to come in to the office at least one day per week.
- Supervisors should consider the effect of telecommuting on all employees under their

cognizance when implementing telecommuting arrangements.

- Employees authorized to telecommute must have a work space that is free from personal distractions and safety hazards.
- Telecommuters working from home must have a specific room or area of a room designated to perform their official duties.
- In the event a telecommuting agreement is terminated by the supervisor or employee, the employee should be given one full pay period to transition back to the Federal office.
- Employees who telecommute are governed by the same policies regarding work schedules, leave, and premium pay as apply to those working in the current traditional Federal office.

Supervisors are responsible for ensuring that telecommuters work overtime only on duties for which the supervisor intends to make overtime payment. Non-exempt employees must be paid overtime (or compensatory time) when overtime hours are ordered and approved in advance by the supervisor. If a telecommuter works unauthorized overtime on a recurring basis, the supervisor may terminate the telecommuting work agreement.

OPM also identified job characteristics and personnel positions that were best suited for participation in telecommuting programs. Jobs that are well suited for telecommuting include those that involve:

- Thinking and writing
- Data analysis
- Writing decisions, reports, business clearances, etc.

- Telephone intensive tasks
- Computer-oriented tasks (data entry, web page design, word processing, programming, engineering, etc.)
- Payroll transaction processing
- Analysis type work (investigative, program analysts, financial analysts, etc.)
- Developing engineering work packages and scopes of work
- Developing architectural plans and drawings
- Research

Jobs that were identified as not suitable for telecommuting included:

- Jobs that require frequent or routine face-to-face interaction
- Positions that use Privacy-Act protected data
- Frequent access to material that cannot be moved from the Federal office
- Involvement with Top Secret documents
- Site specific occupations
- Trainee and entry-level positions
- Positions dealing with classified material.

OPM has issued guidance for approving telecommuting requests. Supervisors have the authority to approve, disapprove, or discontinue telecommuting arrangements for their employees on a case-by-case basis. The supervisor is responsible for determining which positions and employees are suitable for telecommuting arrangements; however, OPM

cautions that employees with less than fully satisfactory performance should not be considered for telecommuting.

D. DEPARTMENT OF LABOR (DOL)

The Department of Labor (DOL) strongly supports telecommuting and recognizes that the telecommuting movement has tremendous implications on the way we work and live. DOL has conducted and compiled a series of studies on telecommuting and has negotiated a permanent Flexiplace agreement with its union, the National Council of Field Labor Locals.

DOL has defined four types of Flexiplace arrangements: Home-based telecommuting, community-based telecenters, mobile/virtual offices, and U.S. General Store. Home-based telecommuting is when an employee works from his or her home. Community-based telecenters are similar to what the General Services Administration defines as telework centers. These small, remote, satellite offices are geographically proximal to multiple employees and are maintained and operated by the organization. Mobile/Virtual Offices involve employees who work at multiple locations such as contractor locations, military installations, hotels, cars, or at home. This concept supports field representatives, mobile managers, technical support personnel, quality assurance personnel, and inspectors. The U.S. General Store is a fairly new concept. The General Store is a Government office which houses several different Government agencies (IRS, Post Office, Social Security Administration, etc.) in geographic locations that are convenient to numerous employees and customers. The store front provides one-stop access for services. For purposes of this thesis, the first two

telecommuting arrangements, home-based telecommuting and telework centers, are considered most applicable for analysis of the SWDIV environment.

DOL recognizes that telecommuting is not suitable for every individual, supervisor, or situation and stresses that participation in a formal or informal Flexiplace program is not an employee entitlement or right, but rather a consideration when it can be demonstrated that both the organization and the participant will benefit from Flexiplace arrangements. In order to be effective, the telecommuter's work has to be portable and compatible with the organizations mission and needs. In its Regional Flexiplace Handbook, DOL issues the following procedural guidelines [Ref. 64]:

Supervisors shall consider:

- Whether the work can be performed at the proposed site and whether the arrangement would be consistent with the mission of the agency;
- Cost of such arrangements;
- Existing performance, conduct, or leave restriction situations;
- Technology requirements; and
- Office coverage, access to the customer, team involvement, and access to the supervisor.

Active team membership does not preclude participation in the Flexiplace program. Participants who are team members will be expected to participate in all team activities.

Employees participating in Flexiplace programs must be accessible and available for recall to

their regular offices for a variety of reasons. Employees may be called back for emergencies or new work assignments. A recall is not a termination of the Flexiplace arrangement.

Employees may voluntarily terminate participation in flexiplace arrangements at any time.

Supervisors may terminate agreements whenever:

- The arrangement no longer supports the mission;
- Performance standards are not being met or conduct is unacceptable;
- Normal production and quality of work are not being maintained;
- Costs of the agreement become impractical;
- Technology changes require return to the regular office;
- Reassignment causes a change of work; or
- Employees do not conform with the terms of their agreements.

DOL also established guidance relating to time and attendance, hours of duty, and the alternate work schedule. Essentially, the same procedural regulations that govern an employee in the office govern the employee when working at an alternate location. Work schedules need to be established which identify the official work hours each day, days in the central office, and days at the alternate work location. The schedules can be tailored as needed to accommodate the needs of both the organization and the participant. DOL encourages flexibility in establishing work schedules to "achieve optimal scheduling to suit employee and organizational requirements" [Ref. 64, p. 5].

Concerning overtime and night-time differential pay, DOL's policy as defined in the Fair Labor Standards Act (FLSA) is unchanged with respect to Flexiplace. Overtime pay and night-time differential pay are not authorized unless prior arrangement and approval of the supervisor are received by the participant. DOL states that "it is the responsibility of management to exercise appropriate supervision to ensure that only work for which it intends to make payment is performed [Ref. 64, p. 6]."

With respect to leave administration, DOL's policy is straight forward: "The work schedule, not the worksite, controls leave. For a regular schedule at home, regular leave rules apply [Ref. 64, p. 6]." DOL recommends that supervisors make frequent and periodic telephone calls to the employee's alternate work location and occasionally make personal visits to the site during times when the employee is scheduled to be on duty. If the supervisor determines that the employee is not at his or her alternate worksite during these "inspections", leave may be charged against the employee or the Flexiplace agreement may be terminated.

Existing regulations regarding employee compensation and benefits that apply to all private and public employees also apply to employees who telecommute. The Federal Employees Compensation Act, Fair Labor Standards Act, Military Personnel and Civilian Employees Claims Act of 1964, Federal Tort Claims Act, and other related regulations remain in full force and effect regardless of the physical location where the employee performs official duties or conducts official business. As the purpose of this chapter is to identify and analyze regulations, policies, and guidance specifically relating to

telecommuting, the content of these existing regulations will not be enumerated. It is generally accepted that SWDIV is in compliance with these existing regulations.

E. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)

The purpose of the Occupational Safety and Health Act of 1970 is to assure workers have safe and healthful working conditions. The Act applies to a private employer who has any employees doing work in a workplace within the United States. It requires employers to provide employment conditions that are free from recognized, serious hazards, and to comply with OSHA standards and regulations.

Under conventional office structures, OSHA requires inspections to ensure that the work environment is free from all real and potential hazards: the work area has sufficient ingress and egress, all fire codes are met, personal protective equipment is made available to workers, emergency medical assistance services and first aid kits are readily available, and workers are trained in proper safety and health procedures relative to their specific work environment. OSHA's initial position regarding teleworkers was that the home office must meet the same criteria as the conventional office.

OSHA required employers to inspect an employee's home and determine that it complied with OSHA standards relative to a "safe and healthful workplace" prior to authorizing an employee to work from home. Employers were required to correct any hazards encountered during the home inspection and were held liable for accidents or injuries that resulted from the employer's failure to correct potential hazards [Ref. 65].

Curiously, OSHA stated that according to the Fourth Amendment, before an inspection could be conducted, OSHA (or the employer) was required to obtain either consent to inspect or a judicially-issued warrant [Ref. 65]. As a result of numerous inquiries and complaints, OSHA withdrew this direction in January 2000.

Effective February 2000, OSHA issued Directive CPL 2-0.125 which set forth instructions relative to home-based worksites. The instruction provided guidance that addressed inspection policies and procedures concerning worksites in an employee's home. OSHA defined a home-based worksite as "the area of an employee's personal residence where the employee performs work of the employer" [Ref. 66]. Current OSHA instructions include:

- OSHA will not conduct inspections of employees' home offices.
- OSHA will not hold employers liable for employees' home offices, and does not expect employers to inspect the home office of their employees.
- OSHA will only conduct inspections of home-based worksites when OSHA receives a complaint or referral that indicates a violation of a safety or health standard exists that threatens physical harm, or that an imminent danger exists, including reports of a work-related fatality.
- The scope of the inspection in an employee's home will be limited to the employee's work activities. The OSH Act does not apply to an employee's house or furnishings.
- Employers are responsible in home worksites for hazards caused by materials, equipment, or work processes which the employer

provides or requires to be used in an employee's home.

- Employers must maintain records of work-related injuries and illnesses, and will continue to be responsible for keeping such records, regardless of whether the injuries occur in the [conventional office], in a home office, or elsewhere, as long as they are work-related and meet OSHA requirements.
- Other than clarifying the policy on inspections and procedures concerning home-based worksites, this instruction does not alter or change employers' obligations to employees.

In an effort to mitigate liability associated with OSHA requirements and home-based worksites, OPM requires that an employee's telecommuting agreement contain a self-inspection safety checklist [Appendix 1].

F. GENERAL SERVICES ADMINISTRATION (GSA)

In 1990 under the direction of the President's Council on Management Improvement (PCMI), OPM and GSA were tasked with coordinating and evaluating Flexiplace arrangements in the Federal workforce. Since 1993, GSA has become one of the lead agencies on the collection and dissemination of Government-wide telecommuting initiatives and guidance. The policies and guidance published by GSA focus on telework centers but may be tailored to home-based teleworkers.

Between 1993 and 1996, Congress appropriated \$11 million for GSA to establish Flexiplace telecommuting centers in the areas surrounding Washington, D.C. [Ref. 67]. These funds were provided for the acquisition, lease,

construction, and equipping of telework centers for use by Federal employees who traveled long distances from their homes to their Federal offices. The GSA telework centers are not limited to GSA employees; rather GSA encouraged any Federal agency's use of the telework centers. In fiscal year 1997, GSA was authorized to make telework centers available to non-Federal employees provided that the centers were not fully utilized by Federal employees.

Currently, GSA telework centers are used by over 40 organizations in 17 Executive Branch departments and agencies. GSA has established procedures for use of its telework centers including prospective participant requirements, using agency requirements, and reimbursement for use of the GSA facilities. Prospective telecenter users are required to contact the telework center, discuss workstation requirements, coordinate dial-up procedures and access requirements between the telework center and the user's office, and coordinate scheduled use periods with the center director. Agencies are required to complete a Telecommuting Facility Reimbursement Information Sheet for each user and agree to pay an established amount per month per workstation and pay for any long distant phone calls made by the participant.

The agency is responsible for selecting which of its employees will utilize the telework center. GSA stresses that supervision of telecommuting employees, time and attendance verification, and other personnel management activities remains the responsibility of the participant's agency [Ref. 68]. GSA also requires that participants and agency supervisors attend telecommuting related training prior to utilizing the telework center.

Additionally, both the participant and the supervisor must agree to participate in GSA studies by agreeing to formal and informal interviews regarding the impact, effect, expectations, and experiences of using the GSA telework centers and telecommuting experiences in general [Ref. 68]. Study material was required in order to provide reports to Congress on the success of GSA telework centers during the pilot project period.

GSA recommends that agencies consider the following guidance when initiating telecommuting programs [Ref. 69]:

- Participant selection should focus on employees that are familiar with the organization. Telecommuting may not be suitable for new employees.
- Supervisor support is critical. Supervisors should consider the
 - Suitability of the work to be performed;
 - Arrangement's impact on other staff; and
 - Participant's characteristics and work history.
- Agencies are required to determine if the telecommuting center will be an adequate facility for successful job performance by the participant.
- Agencies are encouraged to seek union views about selection criteria and procedures for participants and negotiate appropriate union agreements for telecommuting arrangements.
- To facilitate successful functioning of telecommuting programs, GSA recommends that telecommuters, their supervisors, and others

with project responsibilities receive training geared toward telecommuting, managing telecommuting employees, and virtual teaming.

In establishing work performance metrics for telecommuting employees, GSA recommends that the metrics mirror those in the central office. GSA suggests that supervisors consider the agency's existing performance standards for employees in the central office and use the timeliness, quantity, and quality of work products produced from employees in the central office as a baseline for evaluating telecommuting employees.

GSA advises agencies to establish methods for evaluating work performed at the alternate worksite that include periodic progress reports, procedures to facilitate employee-supervisor communication, clearly defined work assignments and expectations, and result-oriented standards that provide a reasonable basis for evaluating job performance.

The supervisor and telecommuter should agree on the days and times that the employee will work in each location (central office and alternate work location). Typically work schedules should parallel those in the central office. The process of establishing work schedules should be sufficiently flexible to permit period adjustments, if any, to achieve an optimal schedule suiting employee and organizational requirements.

Agencies are responsible for certifying time and attendance. In accordance with standards set by the U. S. General Accounting Office (GAO) in its Policy and Procedures Manual for the Guidance of Federal Agencies (Title 6), supervisors shall provide reasonable assurance

that employees working at remote locations are working when scheduled to work. Verification can be accomplished by telephone calls or visits to the alternate work location during the employee's scheduled work hours. Leave administration is not changed as a result of telecommuting arrangements. The location of an employee's worksite has no impact on leave administration rules; these rules depend on the work schedule.

GSA telework centers will provide varying levels of equipment and services. Agencies, however, may place additional Government-owned equipment and software in telework centers. Each agency must maintain full control over these items as accountable personal property. GSA assumes no responsibility for the operation and maintenance of agency-owned equipment.

G. DEPARTMENT OF THE NAVY (DON)

In a 1995 memorandum, the Secretary of the Navy stated that he fully supported President Clinton's direction to encourage and support the expansion of flexible, family-friendly work arrangements, including telecommuting and satellite work locations. He believed that a work environment that enhanced the quality of life for all of the Department's employees would have a positive impact on morale, productivity, and work force diversity. [Ref. 70]

The Navy touts its commitment to enhancing the quality of work/life for military and civilian personnel by "forging a more dynamic and complementary link between [employees'] home life and their work life" [Ref. 71]. In order to be considered competitive in the employment marketplace, and recruit and retain the highest qualified personnel, DON is committed to develop policies that foster

family-friendly work arrangements including job sharing, alternate work schedules, and telecommuting. DON has tasked its Quality of Work/Life Division (QWL) with consolidating and marketing policies and guidance on these initiatives.

Currently DON has limited information and guidance pertaining to telecommuting or Flexiplace programs. It has no published policies on the subject; however, on its web page entitled Telecommuting Programs, DON identifies very basic telecommuting guidance and answers numerous questions that are typical of management's concerns relative to initiating a Flexiplace program. The following is a summary of relevant information contained on the web page [Ref. 72].

- Flexiplace does not alter the terms and conditions of employment.
- Participation in a Flexiplace program is strictly voluntary on the part of participants and managers. "In order for telecommuting to be successful, supervisors must volunteer and be proponents of the program."
- Employees who work under Flexiplace arrangements should sign a Flexiplace agreement with the command
- Training, evaluation, and focus group sessions are required of participants and management. Orientation and training should include:
 - Legal and administrative requirements of the Flexiplace Program;
 - Management and employee expectations;

- Information incorporated into the agreement between the employee and management;
- Design and certification of the Home Workstation; and
- Results-oriented management processes.

H. NAVAL FACILITIES ENGINEERING COMMAND HEADQUARTERS

NAVFAC has not issued any formal guidance or policies relating to telecommuting; however, in its draft guidance, it lays out the basic parameters of an alternate workplace arrangement [Ref. 73]. NAVFAC's policies relative to telecommuting mirror policies issued by OPM, GSA, and others described above.

NAVFAC describes Flexiplace as a management tool that provides employees the opportunity to perform their official duties at alternate worksites during an agreed-upon portion of the week on a regular basis. It identifies two types of telecommuting arrangements: home-based telecommuting and telework centers. In its draft guidance NAVFAC states its policy on telecommuting as follows:

It is the policy of NAVFACENGCOM HQ to provide alternate worksites and flexible workplace environments for its employees through the Alternative Workplace Program. To generate improved productivity and positive changes in employee morale, motivation and job satisfaction; to accommodate employees who are recuperating from health problems and are able and want to work; to increase flexibility in coordinating work schedules with personnel and family priorities; to reduce air pollution and conserve transportation fuels. [Ref. 73]

NAVFAC managers are encouraged to select Flexiplace participants who have an acceptable performance record,

demonstrated track record of personal motivation, ability to establish priorities, ability to manage time wisely, and are reliable and responsible workers.

Job characteristics are a key component of participant selection. In its draft guidance, NAVFAC states that the most suitable candidate is one who demonstrates a strong work ethic and whose job characteristics can easily be performed away from the office. Work that requires blocks of uninterrupted time, such as creating plans, specifications, contract documents, or evaluating proposals, reviewing cases, drafting correspondence, making changes to technical manuals, doing analysis, research, or data entry were identified as ideally suited for telecommuting arrangements [Ref. 73]. Work that requires a high degree of face-to-face communication with the central office or with customers is not suitable for Flexiplace. Additionally, work that requires access to competition sensitive or classified information is not authorized under Flexiplace arrangements.

The draft guidance also provides supervisors with performance standards to assist them in managing telecommuting employees. Supervisors are required to have results-oriented standards which are used as a basis for reasonably measuring employee performance from a qualitative and quantitative perspective. However, the guidance does not define the metrics to be used nor does it provide examples for managers to follow. Supervisors are expected to establish explicit and objective performance expectations regarding the quantity and quality of work at an alternate work location for given projects over a given period of time.

Regarding work schedules and time and attendance reporting, the draft guidance requires managers and employees to identify the specific days and times the employee will work at the alternate location. The work schedule should be established such that it parallels the normal working hours of the central office so that communication between the telecommuter and those in the central office is easy and convenient for all. Employees are authorized to work under alternate work schedules or compressed work schedules provided that they receive concurrence from their supervisors. Employees are also required to report to the central office a minimum of two to three days per week.

Time and attendance will be verified by managers by reviewing the quantity and quality of work produced by the telecommuting employee during periods away from the central office. The supervisor is also encouraged to make periodic visits to the alternate work location to ensure that the employee is working during scheduled work hours. As for leave accounting, the work location has no impact on existing leave policies. If the employee requires time away from the duty station, whether that is the employee's home, a telecenter, or the central office, the employee is required to take appropriate leave.

Regarding the "Home Office", NAVFAC requires that "an area in a room or a separate room" be dedicated to official work. The employee is required to get approval from his or her supervisor regarding the "proposed" work accommodations. The employee is required to have a telephone to facilitate communication with the supervisor and colleagues. For work that requires telecommunication with the official duty station, such as connection to the

Local Area Network (LAN) or the organization's Intranet/Internet sites, NAVFAC recommends that the employee have a dedicated phone line for "official use only." The guidance was silent on funding and maintenance of the phone line and appurtenant equipment. However, under the Omnibus Appropriation Act for fiscal year 1999, Congress authorized each Executive agency to expend up to \$50,000 annually in support of Flexiplace arrangements [Ref. 58]. Additionally, Public Laws 101-509 and 104-52 allow agencies to use funds to install telephone lines in private residences of those authorized to telecommute and to pay monthly phone charges for those lines [Refs. 54 and 74].

Additionally, supervisors are required to assess the Information Technology (IT) requirements of the telecommuter. Office equipment such as a personal computer, printer, fax machine, scanner, etc. may be required for the employee to properly and efficiently perform his or her official duties away from the central office. The supervisor is required to determine if an employee's owned equipment is sufficient to support agency needs, or if the agency should consider providing the required equipment (funds permitting). NAVFAC states that it bears no liability or responsibility for the operation, maintenance, and network compatibility requirements of employee owned equipment. Equipment provided by NAVFAC will be owned and maintained by NAVFAC, and when the Flexiplace arrangement is terminated, the equipment must be returned to the central office.

Although telework was designed to be a "family-friendly" work arrangement, NAVFAC uses very strong

language to make clear that telework should not be used to simplify child-care problems. It states:

Work-at-home arrangements are not to be used as a solution to the child or dependent care dilemma. Employees who volunteer solely for this reason should be screened out and required to submit a plan detailing how work will be done and what arrangements will be made for care or assistance.

NAVFAC requires employees and supervisors to complete a telecommuting agreement, including a self-certified safety inspection performed by the Flexiplace participant. The employee is required to conduct a detailed inspection of the home work environment and ergonomic conditions of the workstation. Supervisors are required to review the terms and conditions of the agreement at least annually and any time there is a major change to the job, employee, or supervisor characteristics. For example if either the participant or the supervisor is reassigned, promoted, or otherwise receives a major change to their job, the telecommuting agreement must be reviewed.

I. SWDIV

According to SWDIV's Standard Organization and Regulations Manual, supervisors and team leaders have the following responsibilities [Ref. 76]:

Supervisors

Supervisors have only one primary role, which is personnel management for their group. The duty of hiring, directing, and evaluating employees falls on the supervisors. Supervisors determine appropriate staffing requirements, ensure the right people are in the right jobs, and develop [performance evaluation] work plan elements that include command goals and objectives, review employee performance against the work plan, and

take appropriate action to encourage individual employees to be successful in achieving their work plan goals. If performance is not satisfactory for the particular tasks assigned the supervisor either reassigns individuals or takes other appropriate action with the guidance of the HRO. Supervisors have the responsibility of assisting employees with their development plans and growth within their careers.

Team Leads

Team leader positions are non-supervisory and have been established for work groups where the span of control or diversity of expertise exceeds the supervisor's capacity. Team leaders perform three functions in their role; 1) assist the supervisor in workload assignments, distribution, management, monitoring of workload, and feedback on individual performance, 2) provide specific expertise and technical mentoring of the team members, and 3) oversee the execution of projects. Team leaders are responsible to maintain management reports that they provide to their management and program oversight chain.

Nothing in the current SWDIV procedures permit or prohibit the use of telecommuting arrangements. However, currently SWDIV has no written procedures, policies, or guidance relevant to telecommuting. Interviews with various SWDIV employees revealed that on a case-by-case basis some supervisors have allowed individuals to work from home during periods of dependant care illnesses or non-major injuries that do not preclude the individual from performing work related tasks yet prohibit him/her from coming to the office. However, neither the employee nor the supervisor maintained any documentation relative to episodic telecommuting arrangements. In fact, the employees were instructed not to publicize their authorization to work from home so that it did not create

problems for supervisors who denied such arrangements to other employees. Consequently, the interviewees identities are withheld from this study.

When SWDIV's Command Evaluation Officer was questioned about the command's formalization of telecommuting policies to comply with PL 106-346, the SWDIV Executive Officer stated that SWDIV had no such policy, nor did it have any intention to put such a policy in place until it received direction to do so from the Department of the Navy through NAVFAC Headquarters [Ref. 76]. The absence of specific SWDIV policies on telecommuting does not in and of itself violate PL 106-346 or OPM regulations because the regulations are aimed at Executive departments and agencies. SWDIV is a component of the Naval Facilities Engineering Command, which in turn is a component of the Department of the Navy. All that is required to be compliant with current legislation is that the Department of the Navy has policies and procedures in place so that 25% of its workforce telecommutes at least one day per week.

J. SUMMARY

Telecommuting is one of the Government's initiatives to foster family-friendly work environments for Federal employees. Under the Clinton administration, Executive agencies and departments were directed to develop telecommuting policies and implement telecommuting programs within their respective organizations. Further, agencies were directed to identify and remove barriers to successful Flexiplace implementation.

The policies, procedures, regulations, and guidance from the various organizations described in this chapter

are essentially the same. Telecommuting is defined as an arrangement whereby an employee, with the approval of his or her supervisor, works at least one day a week at a location other than the central office that is geographically proximal to the employee's residence. Two types of telecommuting arrangements discussed in this chapter include the use of telework centers and home-based telecommuting.

Telecommuting is a voluntary arrangement that requires management commitment and support. Telecommuting is not an employee right or entitlement; rather it is a personnel management tool that organizations can use to decrease facility costs, increase productivity and morale, and better accommodate handicapped employees.

Telecommuting arrangements are not limited to specific job classifications or positions. Work that requires thinking, writing, research, analysis, or is highly computer-oriented is well suited for telecommuting. While most jobs may be suited to telecommuting to one degree or another, work that requires a high degree of face-to-face interaction with co-workers or customers, requires frequent access to classified material or material that cannot be removed from the office, or is site specific is not suitable for telecommuting arrangements.

Like the type of work that is or is not suitable for telecommuting, personnel have characteristics that can be used to determine if they are suitable candidates for telecommuting arrangements. Participants in telecommuting should be motivated, self-starters who require little supervision and have a demonstrated track record of timely delivery of high quality products. Participants should be well familiar with their organization's mission, goals,

rules, and regulations. Consequently, new employees or employees in a trainee position that requires a high level of supervisor interaction do not make the best candidates for telecommuting arrangements.

Organizations are advised to establish formal telecommuting policies and procedures when implementing a Flexiplace program within their organization. The policies should outline and document the organization's goals and expectations of its Flexiplace program, identify job and personnel criteria used for participant selection, contain a Flexiplace Agreement that supervisors and participants execute jointly, and identify training requirements for managers, supervisors, and participants. The Flexiplace Agreement is a formal contract between the supervisor and the participant that, at a minimum, details the work schedule in and away from the office, the specific work assignments to be completed, the time frame within which the work is to be completed, the frequency and type of communication between the participant and the supervisor, and the result-oriented metrics that will be used to evaluate the participant.

The normal regulations pertaining to employee compensation, benefits, leave administration, worker compensation, etc. are just as applicable for telecommuting employees as they are for employees who work in the Federal office. Supervisors are responsible to ensure that time and attendance records are properly certified for Flexiplace participants regardless of where they are physically located.

Organizations are also advised to have prospective telecommuting employees complete a self-certification regarding the safety conditions of their alternate

worksite. While the central office is not required to conduct inspections, it should take reasonable steps to ensure that employees' work environments are suitable for the type of work that will be performed away from the central office.

SWDIV currently has no official Flexiplace policies in place. However, both the Department of the Navy and the Naval Facilities Engineering Command Headquarters are working to develop policies and guidance that will facilitate Flexiplace programs in Navy organizations.

IV - CASE ANALYSES

A. OVERVIEW

This chapter profiles public and private organizations that have implemented telecommuting arrangements and determines if there are common themes running through each organization regarding telecommuting practices, experiences, barriers to implementation, etc. This information will provide critical data required to answer two of this thesis's subsidiary research questions, namely:

- How can lessons learned and best practices implemented by other organizations that have successful flexible workplace arrangements be applied to SWDIV? and
- If the benefits outweigh the limitations and possible negative effects of Flexiplace, what additional barriers (cultural, technical, etc.) exist that would impede a successful Flexiplace program at SWDIV?

Three organizations that have implemented telecommuting programs are studied: the General Services Administration (GSA), the Defense Contract Audit Agency (DCAA), and American Telephone & Telegraph (AT&T). In order to determine any commonality between the organizations, each case profile addresses the following areas:

- Mission of the organization
- Organizational structure before and after implementation of telecommuting arrangements

- Implementation obstacles
- Management/Participant concerns and expectations
- Benefits experienced by managers and participants
- Disadvantages experienced by managers and participants
- Lessons learned

Preliminary research for each case profile yielded substantially positive information on the implementation of telecommuting within these organizations. In an effort to achieve a balanced perspective relative to telecommuting, each agency was researched and queried for negative experiences, difficulties, and problems encountered in its telecommuting practices.

Each organization was chosen for a unique set of reasons. GSA was studied because it was the first Federal agency *required* by the President's Council on Management Improvement (PCMI) to develop and implement flexible workplace arrangements for its employees. The PCMI required GSA to establish a one-year pilot program so the effects of telecommuting could be studied and broad application to the entire Federal workforce could be evaluated in terms of potential benefits, cost, increase to the employees' quality of life, and barriers to successful implementation. In concert with the Office of Personnel Management, GSA developed the initial Flexiplace guidelines and established a pilot program for two types of Flexiplace arrangements: work-at-home and telework centers. Each type of Flexiplace arrangements is studied in this chapter.

I chose to profile DCAA because of its similarity to SWDIV. While the exact tasks are not the same, the nature

of the work performed by DCAA is similar to the types of work performed by SWDIV personnel. Both organizations collect, review, and analyze data, and develop written products as a result of their analyses.

Additionally, several managers at SWDIV as well as other organizations for whom I have worked in San Diego, have argued that San Diego is not large enough to warrant telecommuting. These managers have attempted to argue that there would be little gained by offering telecommuting to employees. Although DCAA has numerous telecommuting offices across the country, I selected the San Diego office to determine the validity of these management objections to telecommuting. I studied DCAA's implementation strategies, roadblocks, and lessons learned.

Telecommuting is not a Government phenomenon. It has been practiced in private industry for decades. AT&T was studied to give insight into private industry practices related to telecommuting arrangements and to determine if private industry experiences parallel Government experiences relative to telecommuting.

B. METHODOLOGY

The case study research methodology was selected because, along with historical data, it answers "how" and "why" research questions. A case study focuses on data where there is no control by the researcher over the behavior of the people involved in the case, thereby eliminating researcher bias. It also provides the researcher with the advantages of being able to conduct interviews, gather data by direct observation, and compare this information to historical data. [Ref. 77].

In order to collect the data necessary to put together a solid case profile on each organization, I reviewed published material and conducted interviews with managers and participants of Flexiplace programs. Prior to the interview, I e-mailed the interviewee a list of questions that I intended to ask during the interview. The questions, provided in Appendix 2, were not the only ones asked during the interview; rather interview questions were designed to give the interviewee the general feel for the type of information I was attempting to gather and prompt discussion for rounding out research areas. In each interview, I took meticulous notes that I later referenced when compiling the case profiles.

For the GSA case profile, I conducted telephone interviews with the director of Government-wide policy, the Flexiplace Director, and two telecommuting participants. For the DCAA case profile, I conducted face-to-face interviews with one manager and two participants. Additionally, I conducted telephone interviews with one manager and four participants.

Participants in DCAA's Flexiplace program were advised not to publicize that they were working from their home. As a result, some participants were reluctant to officially participate in interviews or surveys regarding their experiences, expectations, etc. with regard to their telecommuting arrangements. They agreed to speak with me "off the record" as long as I withheld their names from this document. Consequently, although the data presented in the case profile references interviews with only two DCAA personnel, interviews were conducted with six participants and two supervisors. The information received

from the anonymous sources mirrored and validated information from the named interviewees.

I chose to interview participants and their managers/supervisors because they have direct real-life experiences with telecommuting arrangements. I was particularly interested to learn about their respective fears, concerns, and expectations regarding the initial movement to implement telecommuting within their organization. I interviewed the person most directly involved with influencing telecommuting policy, usually the telecommuting director at each organization, because this person had key information relative to implementation barriers (if any) and the means used to address them.

DCAA was the only organization that did not have a specific individual named as the telecommuting coordinator/director. DCAA established its telecommuting policies and implementation strategy by forming a board comprised of managers and prospective participants. I was able to interview three people who were on the initial Flexiplace board, one supervisor and two participants.

I attempted to contact the AT&T telecommuting coordinator and other individuals who were identified on AT&T's Internet website as points of contact to no avail. I e-mailed the list of questions regarding my telecommuting research and requested points of contacts for managers, supervisors, and participants with whom I could speak regarding their telecommuting experiences. I received two e-mail replies, both of which directed me to the AT&T Internet telecommuting website. As I was unable to personally interview anyone within AT&T, the information contained in the AT&T case profile was compiled from various AT&T Internet web pages. Consequently, the data

contained in the AT&T case profile has not been field verified or validated in any form.

The information contained on the website was biased toward the positive aspects of telecommuting because AT&T uses this site for two purposes: 1) to inform the general public about telecommuting best practices within AT&T, and 2) as a platform from which organizations can use AT&T resources and services to facilitate the implementation of telecommuting arrangements within their respective organizations. Therefore, the AT&T case profile is provided as antidotal information regarding a telecommuting leader in private industry and its inclusion in this thesis is not intended to be reflective of the total telecommuting experiences throughout private industry.

Each case profile was developed independently, i.e., without regard to information gathered for the other case profiles. After all case profiles were developed, they were reviewed for similarities, trends, and distinctions. The summary at the end of this chapter provides the results of that analysis.

C. GENENERAL SERVICES ADMINISTRATION (GSA)

The General Services Administration (GSA) was established on July 1, 1949 by Section 101 of the Federal Property and Administrative Services Act under the Truman Administration. The Hoover Administration recommended examining ways to improve the administrative services of the Federal Government by consolidating four smaller organizations into one centralized organization. The consolidation was done in an effort to avoid duplication, excess cost, and confusion in handling supplies. Since that time, GSA has been instrumental in housing and

providing products and services to support the Federal workforce throughout the country.

In its early years GSA was responsible for disposal of war surplus materials, management and storage of the Government's records, emergency preparedness, and stocking strategic materials that would otherwise be in short supply in wartime. Many of its early functions were subsequently transferred to other organizations. Emergency management functions were transferred to the Federal Emergency Management Agency in 1979; record keeping was transferred to the National Archives Center in 1985; and the strategic stockpiling of materials and supplies was transferred to the Defense Department in 1988 [Ref 78].

The current mission of GSA is to "provide policy leadership and expert solutions in services, space, and products, at the best value, to enable Federal employees to accomplish their missions [Ref 79]." GSA expands its mission statement stating:

GSA supports Federal employees wherever they work; whether in an office building, a warehouse, a national forest, or a government car GSA is there. In support of this mission, GSA provides workspace, security, furniture, equipment, supplies, tools, computers, and telephones. GSA also provides travel and transportation services, manages the Federal motor vehicle fleet, oversees telecommuting centers and Federal child care centers, preserves historic buildings, manages a fine arts program, and develops, advocates, and evaluates government-wide policy. [Ref 79]
[emphasis added]

Today, GSA encompasses the Public Building Service, the Federal Supply Service, the Federal Technology Service, and the Office of Government-wide Policy [Ref. 80]. Since

the creation of the Office of Government-wide Policy, GSA has enhanced its policy-making role.

1. Background

In 1989, President Bush established the President's Council on Management Improvement (PCMI). The direction given to the council was to establish a telecommuting task force to develop, monitor, and evaluate a one-year pilot telecommuting program. The overall goal of the PCMI was to gain the experience and information necessary to recommend policies and procedures for general implementation and operation of Federal flexible work arrangements. The PCMI Flexiplace task force identified and researched telecommuting issues and developed draft operating guidelines. The draft guidelines were submitted to and approved by the PCMI Human Resources Committee with legal concurrence.

GSA was an instrumental part of this task force and the key component for many of the policies and procedures that are currently framing telecommuting practices in the Federal Government.

Prior to the implementation of its Flexiplace programs, GSA's organizational structure was a hierarchy of departments and branches that consisted of white-collar employees. While the organizational matrix has not changed significantly as a result of Flexiplace implementation, the location and geographic dispersion of employees for a given team or department has changed.

2. Flexiplace Implementation

Flexiplace, which was implemented in January 1990, was established to improve the Government's ability to recruit

and retain the highest caliber employees, to improve employee quality of life, and to reduce Federal operating costs.

GSA formed a Flexiplace Management Team (FMT) to direct the Government-wide implementation and operation of the pilot program. The FMT was instrumental in on-going evaluation of the pilot program and making recommendations for improving Flexiplace for Government-wide application. In order to keep abreast of emerging telecommuting trends across the country and abroad, the FMT exchanged information with Japan, Finland, England, Australia, Canada, and other countries that had existing telecommuting practices. Additionally, the FMT began active participation in the Telecommuting Advisory Council, an international network of telecommuting managers, experts, and consultants that was organized to collect and promote telecommuting research, education, and provide technical assistance.

During its review of the laws, regulations, and Office of Personnel Management policies, GSA found that telecommuting could be framed to work under existing procedures and no new legislation was required to implement the Federal Flexiplace pilot project. GSA also found that there was sufficient flexibility in existing laws and regulations such that actual operating instructions and procedures could be tailored to a specific organization without breaching existing laws.

GSA met with major union representatives to secure union involvement and support; clarify roles and expectations; and respond to union concerns. Union officials had the following general concerns [Ref. 81].

- The union's continued ability to effectively represent telecommuters who are not in the principal workplace;
- Equity issues with respect to selection for telecommuting opportunities (i.e., rank, performance ratings, residence, etc.) and the level of support (e.g., sophistication of equipment, clerical assistance, etc.);
- Return of micro-management procedures and piecework assignment techniques;
- Maintenance of Fair Labor Standards Act provisions (e.g., overtime and premium pay matters) in remote, unsupervised locations;
- Home inspections, electronic monitoring and other means of invading the worker's privacy; and
- Unwarranted efforts to convert career employees to contract personnel.

After researching various union related issues, GSA developed its draft operating procedures. Specific information related to how GSA addressed union concerns was not available. However, research indicates that GSA met with union officials periodically to ensure that union concerns were addressed to the unions' satisfaction. While taking a guarded approach to telecommuting, the unions were not resistant to establishing a pilot telecommuting program [Ref. 2]. Chapter III contains GSA's telecommuting policies.

GSA established three types of Flexiplace programs:

- Work-At-Home: employees in suitable positions with acceptable performance ratings and the approval of their supervisors are authorized to perform official duties from their home;

- Telework Centers: geographically convenient multi-agency satellite work centers that serve as alternate worksites for designated Federal employees; and
- Accommodations for the disabled: available to disabled Federal employees in Workers' Compensation or Disability Retirement programs.

The third type of Flexiplace was essentially the same as the previous two; however, it included provisions for necessary office equipment for a handicapped or disabled individual to be able to perform official duties from his/her home or satellite office. Therefore, this thesis does not address GSA's telecommuting program for the disabled as the information, policies, and guidance are largely redundant with the other two types of telecommuting arrangements.

When initially implementing the one year pilot Flexiplace program, GSA focused first on the work at home component because it required fewer resources, was less complex, and required reduced logistical support than would be required in establishing telework centers.

3. Work-at-home

The focus of the work at home program is simplicity, ease, and flexibility. The specific nature of participation in the work-at-home program is tailored to the needs and convenience of the organization and its participating employees.

Because Flexiplace is a voluntary program, the various GSA organizations must decide whether they will participate in the program. According to the director of GSA policy

division, this was the most challenging step toward development of the work at home Flexiplace program [Ref. 82]. Once organization buy-in was accomplished, participants were selected based on the following criteria:

- Performance rating of 'Fully Successful' or better;
- Supervisor approval;
- A reasonable level of experience in the position and in the organization (as defined by participant supervisors);
- Portability of work assignments

Participants were selected from various occupational career fields and grade levels. However, junior employees (those in lower pay grades), interns, and trainees were not selected due to their lack of experience in the job classification and/or lack of understanding relative to organizational goals and objectives.

After participants were selected, GSA recommended that each organization send participants, their supervisors, and any others in the organization interested in the pilot Flexiplace program to a one-day training seminar conducted by the Office of Personnel Management. OPM also provided a "train-the-trainer" video for individuals who were unable to attend the seminar. Training sessions were designed to assist supervisors, participants, union officials, and organizational leaders in their understanding and implementation of Flexiplace programs. After completing the Flexiplace training, participants and their supervisors signed formal Flexiplace work agreements that detailed program parameters and supervisor/participant expectations.

Appendix 3 provides a sample GSA telework agreement for the work-at-home program.

GSA developed and administered surveys to develop a baseline against which the pilot project could be evaluated. GSA developed separate survey questionnaires for Flexiplace participants, their supervisors, the non-participating control group of employees, customers and clients of the participants. Questionnaires were administered prior to Flexiplace implementation, six months after implementation, and at the end of the one-year pilot implementation period. Data gathered in the three periodic surveys were combined in this report to eliminate redundancy and clarify the findings. The nucleus of the supervisor and participant questionnaires are provided in Appendices 4 and 5 respectively. Specific questionnaires for the non-participant control group, customers, and clients were not available.

Questionnaires were designed to determine the extent to which, on a consistent basis during the evaluation period, various factors met generally applied standards in the organization's office or met the expectations of those surveyed [Ref. 83]. Supervisors, customers, and clients were required to complete a survey questionnaire for each participant and control group non-participant. Participants and those in the non-participant control group were required to complete survey questionnaires with respect to demographic and personal information as well as their views and opinions of the working relationships with their supervisors, customers, and clients. The questionnaires focused on the following areas:

- Job performance: The previous year's performance evaluation and the most recent performance evaluation were collected from supervisors. Additionally, customers and clients were asked to assess the employee's overall job performance. I assume that customer and client ratings for an employee's job performance were a measure of their level of satisfaction with the individual's performance.
- Quality: Supervisors, customers, and clients were asked to evaluate the quality of work products produced by employees. Although not found in the research, I assume that quality is linked to the frequency and magnitude of errors that caused problems for users of products produced by the employee.
- Quantity: Supervisors, customers, and clients were asked to evaluate the quantity of products produced by an employee relative to the output expected over a given period of time.
- Timeliness: Supervisors, customers, and clients were asked to evaluate whether required products were produced within the time frames required. Participants and non-participants were asked to evaluate the time

it took to receive required inputs from the various departments with which they worked as well as the turn-around time required by managers, supervisors, customers, and clients to provide feedback and review comments on work products.

- Interpersonal disposition: All surveyed were asked to evaluate the extent to which an employee, supervisor, customer, or client was pleasant and cooperative to work with.
- Independence: Supervisors were asked to evaluate the employee's ability to manage work assignments with little or no direct supervision given the employee's work experience, assignments, and work environment.
- Currency of Knowledge, Skills, and Abilities (KSAs): Supervisors and employees were asked to determine the extent to which the KSAs were up-to-date.
- Availability/Accessibility: All surveyed were asked to evaluate the extent to which others were available and accessible for the timely conduct of business.

Surveys contained the following response scales for the evaluation factors:

<u>Job Performance</u>	<u>All Other Eval. Factors</u>
1 = Unsatisfactory	A = Decline
2 = Less than Satisfactory	B = Slight Decline
3 = Satisfactory	C = No Change
4 = Above Satisfactory	D = Slight Improvement
5 = Excellent	E = Improvement

At the time of the Flexiplace pilot program, 700 GSA employees participated in the work at home program. GSA surveyed each of these employees, their supervisors, customers, and clients. Additionally, an undisclosed number of non-participating employees in the control group were surveyed. GSA received the following survey responses [Ref. 83]:

- 522 participants
- 224 supervisors
- 40 non-participant control group members
- 30 customers/clients

The data did not indicate how many supervisors, customers, clients, and non-participants failed to return surveys. GSA stipulated, however, that the low response rates from customers/clients and non-participant control group members rendered statistical analysis of those survey groups questionable. Although the small sample sizes of those groups did not yield statistically verifiable results, the data that was returned was consistent with the findings from the supervisor and participant groups. The majority of data in GSA's report reflects information gathered from participants and their supervisors. I assume that given the large difference between the number of

participants and the number of supervisors, that each supervisor returned surveys for multiple participants and non-participants.

Based on the personal and demographic information contained in the participant surveys, GSA found that:

- 72% of participants were married and/or living in families.
- 47% had children under the age of 18 living at home.
- 70% had received pre-Flexiplace job performance ratings of 'Exceeds Fully Successful' or 'Outstanding'.
- 84% worked in urban downtown areas.
- 84% had more than 11 years experience in their current career field.

A particularly important finding was that 43% of participants reported that their most productive hours were other than normal working hours (after 6:00 P.M. and before 7:00 A.M.). This finding has both positive and negative ramifications. On the positive side, if an organization is flexible in its "official work hours," it can maximize employee productivity by allowing the employee to work during times when he/she is at optimal or peak performance. Conversely, if the majority of the individual's productive hours do not correspond to normal business hours, it may be difficult for those in the central office to coordinate work requirements and product deliverables. Another area for potential concern relates to overtime compensation and nighttime differential pay for employees who believe they are most productive late in the evening.

Regarding job performance, GSA found that 90% of supervisors and 95% of participants judged that Flexiplace job performance was either unchanged or improved relative to pre-Flexiplace performance levels. When considering the "unchanged" ratings, it is important to recall that 70% of the participants had pre-Flexiplace performance evaluations of 'Exceeds Fully Successful' or 'Outstanding'. This figure rose to 84% after one year in the Flexiplace work at home program [Ref. 83]. This indicates that participants were able to achieve and maintain very high levels of performance during the Flexiplace program.

Relative to other aspects of the surveys, GSA found:

- Interpersonal communications was unchanged or improved;
- The quantity and quality of work products improved;
- Availability/accessibility declined slightly for all surveyed;
- Participants reported that Flexiplace had a positive impact on their quality of personal life relative to reduced commuting requirements and their ability to spend more time with their families; and
- Supervisors reported a reduction in sick leave used by participants compared to pre-Flexiplace usage.

Interestingly, participants reported that job-related office equipment used in their homes and access to work related materials via modem or Internet connections was less adequate than equipment in their conventional office.

GSA contends that this finding may be due to low initial funding allocations for the pilot program and procedural difficulties associated with new programs within organizations.

Regarding the cost to implement a work at home program, 70% of participants reported reductions in job-related transportation and miscellaneous costs. Approximately one-third of participants reported increases in household expenses such as utility and home maintenance expenses. Participants also indicated that there was no change to dependant care expenses. This finding is significant because GSA stipulated in its Flexiplace policies that work at home arrangements are not to be used as a substitute for childcare. It appears that participants adhered to the policy and did not change their childcare arrangements as a result of being authorized to work from home.

In addition to the surveys implemented by the FMT, GSA required each agency to form a focus group that consisted of participants and their supervisors. The purpose of the focus group was to provide support and assistance to participants as well as to serve as spontaneous sources of evaluation information. Typically, these groups met monthly during the initial stages of Flexiplace implementation. After the first six months of Flexiplace implementation, focus groups met on an as-needed basis. GSA required the focus groups to compile written reports summarizing the group's discussions and forward the reports to the FMT. The FMT used the reports to determine the organization's Flexiplace program health, identify areas for improvement, and assess if trends existed across all organizations. Additionally, the FMT suspects that

positive feedback received during the evaluation period from supervisors and employees who volunteered for the Flexiplace work at home program may have been biased because these individuals may have had positive expectations of the program and may have been motivated to see the program succeed.

The FMT also stipulated that its findings might not be representative of Flexiplace application in every Government organization because participants were not selected at random. Although the GSA telecommuting policies required employee performance ratings of 'Fully Satisfactory' or above, many GSA organizations required employees to have performance ratings of 'Exceeds Fully Successful' or 'Outstanding' in order to participate in the program [Ref. 82]. Additionally, only employees with more than three years of experience in their position were selected to participate in the pilot program. The FMT stated that junior employees, trainees, interns, and lower graded employees were typically not selected even if they had satisfactory performance evaluations because they were not tenured in the organization or sufficiently knowledgeable about all aspects of their work requirements [Ref. 84]. As such, the FMT believed that these individuals would require more supervision, mentoring, and training than the more senior participants selected.

4. Telework Centers

Unlike work at home Flexiplace arrangements, which focused on GSA employees from various GSA organizations, telework centers were established by GSA to broaden the telecommuting base of the Federal Government and support all Federal agencies. Telework centers are geographically

convenient satellite offices shared by several agencies. 'Geographically convenient' refers to being established in locations close to the residences of potential Federal users. Telework centers serve the needs of those employees who want or need a reduced commute but who require the structure, social environment, technology, and other resources that are typically not available in a home setting.

Between fiscal years 1993 and 1996, Congress appropriated \$11 million for GSA to establish and equip telework centers in the outlying metropolitan areas of Washington, D.C. The appropriations authorized GSA to lease, purchase, or construct telework centers and equip them with all required office equipment and supplies. GSA was able to secure ten facilities with the appropriated funds, which offered a total of 240 fully equipped workstations. Over 400 Federal employees currently use these centers. Sixty-five percent of Federal employees utilizing the work centers are employees of the Department of Defense, the Department of Transportation, and GSA [Ref. 85]. Additionally, in 1997, Congress authorized GSA to open its Telework centers to non-government organizations. Currently there are over 400 non-government individuals utilizing GSA Telework centers.

The objective of GSA telework centers was to assist in supporting and promoting telecommuting arrangements for all Federal employees as part of the President's family-friendly work initiatives. The PCMI directed GSA to establish and monitor Pilot Project Telecenters as economically attractive alternatives for Federal employees to perform their official duty functions at a site closer to their homes. The PCMI believed that telework centers

would provide the Government with significantly lower facility costs, reduced demands and wear on Government infrastructure, and improve the quality of life for Federal employees. Additionally, the PCMI anticipated that managers would be less resistant to allowing employees to work from telework centers because the managers would be assured that employees were working in an office setting. [Ref 86].

GSA telework centers provided workstations and conferencing facilities to users. Workstations were typically three-sided cubicles, some of which had windows. Additionally, GSA offered semi-private and private offices. The telework centers were equipped with high-speed personal computers and modems, voice and data telephone lines, and related office equipment and supplies. Also available to users were fax machines, laser printers, copiers, and interactive video teleconferencing equipment. Most telework centers also included kitchen/break room areas with refrigerators, microwaves, and coffee machines. Additionally, on-site technical support personnel were available to assist users. Telecenters were accessible 24 hours a day, seven days a week. [Ref. 86]

In addition to GSA acquired facilities, GSA has entered into partnerships with other private and public entities to broaden its ability to establish community-based telework centers that support a wide range of Federal and private organizations. One example in the Washington D.C. area is a "general store" of Federal services. GSA shares office space with the Internal Revenue Service, the U. S. Postal Service, the Social Security Administration, and various private firms. GSA believes that these arrangements not only benefit the telecommuting employees,

but also enhance mobility for private citizens by offering "one stop shopping" and eliminating lengthy commutes into metropolitan Washington D.C. when citizens need to handle personal government business.

When GSA opened its telework centers in 1993, it encouraged Federal agencies to utilize GSA telework centers by charging nominal fees ranging from \$25 to \$100 per month per work station depending on usage (number of days per week). In 1997, however, when GSA was authorized to open its telework centers to private organizations, Congress amended the Federal Property and Administrative Services Act to require:

User fees for use of telecenters be charged and that such fees 'approximate commercial charges for comparable space and services except that in no instance shall such fee be less than that necessary to pay the cost of establishing and operating the center, including the reasonable cost of renovation and replacement of furniture, fixtures, and equipment.' [Ref. 87]

GSA was required to recoup costs associated with establishing and operating telework centers such that each center was financially self sufficient.

According to a 1998 Ernst & Young report, the estimated monthly operating cost per workstation ranged from \$250 - \$630 [Ref. 86]. The variance in this cost range was due to the type of workstation, i.e. three-walled cubicle or fully enclosed private office, the design and appurtenances of each workstation, and the geographic location and associated lease expenses of the various telecenters. GSA established standard rates for each telecenter and type of workstation. Fees included unlimited use of all office support equipment with the exception of long-distance telephone charges. Several of

the telework centers also charge fees for use of conference and training facilities at the rate of \$50 - \$100 per hour with four to eight hour minimum requirements.

Another factor that had a direct bearing on the financial sufficiency of a given telework center was the utilization rate. Centers with low utilization rates (below 50%) were not able to recover all associated operating cost. These centers would have had to charge \$1,710 per workstation per month for full time usage in order to recoup all telecenter operating costs. Even telecenters with the highest utilization rates (86%) would need to charge \$730 per month to cover operating expenses [Ref. 86]. These rates would be too high to be supported by the marketplace. Currently, for its Washington D.C. telework centers, GSA charges, on average, \$500 per workstation per month for full-time usage [Ref. 88].

Because GSA telework centers were open to all Federal agencies, and later to private industry, participant selection was determined by each organization's policies and procedures. GSA made suggestions relative to selection criteria. Essentially, GSA recommended that participants have satisfactory performance ratings, are self-starters, work well independently, and had work that was suitable for alternate work locations.

All Federal telework center participants and their supervisors received OPM provided training on effective management of telecommuting arrangements. GSA also highly recommended that private sector telecommuters and their respective organizations conduct similar training sessions. Additionally, all participants, public and private, were requested to complete a baseline user survey. The survey

compiled demographic information on telework center users and revealed [Ref. 81]:

- The average round-trip commute to the central office is 102 miles daily and typically consumes over two hours and a half hours;
- Participants come to telework centers an average of 1.5 days per week;
- The average age of telework center users is 50 years;
- 81% of users are married, 38% have children living at home under the age of 13 years;
- 56% are female;
- 27% are minorities;
- 76% are employees with 13 years of Government service or more;
- Less than 6% of telework center users are supervisors;
- 67.2% are in position ranging from grades 12 to 14;
- 84.2% report annual performance evaluation ratings of "Outstanding" or "Exceeds Fully Successful"

Relative to job categories and types of work assignments, GSA found:

- Management and program analysis tasks comprised 27.9% of telework center participants
- Budget and financial management jobs, 17.7%
- Information technology functions, 16.8%
- Procurement-related positions, 6.5%

- Personnel related activities, 6.4%

Other demographic information contained in the surveys indicated that 89% of telework center participants reported stress associated with preparing for and/or traveling to work. Only 29% of those surveyed used public transportation to their primary office in conjunction with personal vehicle usage. Fifty-nine percent of managers and supervisors that supported telecommuting arrangements stated that they lacked the requisite authority and funds to authorize telecommuting for their employees.

5. Emergency Telework Centers

GSA has also been instrumental in coordinating and establishing emergency telework centers for areas hit by natural or other disasters. Within weeks after an earthquake devastated Los Angeles, California, in 1994, GSA established three emergency telework centers to facilitate continued Federal operations in the area. These facilities were funded by special authority of the Federal Building Fund. The centers were established north and west of Los Angeles so that Federal employees could avoid what for many had become a six-hour round trip daily commute.

GSA quickly located, leased, and equipped each of these facilities with 30 fully-equipped workstations, conferencing areas, break rooms, related support equipment, and administrative resources. Even though GSA found that management was resistant to telecommuting arrangements, utilization of the telework centers ranged from 63% to 87%. By December 1994, well after the emergency had been eliminated, one of the telework centers continued to function at 65% utilization [Ref. 81]. Due to the high

rental costs and relatively low utilization rates, the other two telework centers closed by the end of 1994.

Due to recent terrorist attacks which devastated much of metropolitan New York City, New York, and Washington D.C., OPM reports that Federal employees in the affected areas are experiencing extensive delays commuting to their offices due to road closures and security checks. Consequently, OPM is encouraging Federal agencies to authorize affected employees to telecommute either from their homes or from telework centers [Refs. 89 and 90]. GSA is currently in the process of securing facilities to support displaced workers in New York. GSA estimates that several facilities will be required at various strategic locations around metropolitan Manhattan to accommodate potentially thousands of displaced workers from numerous organizations. GSA is also actively advertising its Washington D.C. telework centers as alternate worksites for affected workers. GSA telework centers are open to Federal and non-Federal employees alike.

6. Implementation Obstacles

GSA found three significant obstacles to Flexiplace implementation: 1) management reluctance to participate in the program, 2) lack of information distribution, and 3) organizational adjustments required for Flexiplace implementation.

GSA observed that the greatest barrier to successful implementation of the Flexiplace program was overcoming management reluctance to participate in the program. Reasons cited for management reluctance included loss of control, implementation issues, budget constraints, employee characteristics, and various anxieties regarding

changed procedures [Ref. 83 and 92]. Since GSA was the first Federal agency to fully implement telecommuting, managers were not willing to be the test case for this new program, especially in light of the fact that many managers did not perceive direct benefits to their departments. By including managers in the Flexiplace focus groups, GSA was able to address management concerns successfully. After managers learned that Flexiplace was not a mandate, but rather an alternative work arrangement, and their authority over participants would not be diminished, most managers were less resistant to the idea.

Another barrier to implementation of Flexiplace programs was the inadequate distribution of telecommuting information. GSA found that although it had published Flexiplace guidelines and disseminated the information to GSA organizations, it was not being distributed to managers, supervisors, or prospective participants. Organizational directors were reluctant to distribute Flexiplace information because, aside from not fully supporting the initiative, they had experience with other initiatives that were short lived.

Initiatives such as Total Quality Management, Quality Circles, Empowerment, and the like were touted as reform initiatives with longevity; however, most organizations expended significant resources in training, planning, and quasi-implementation only to realize that the wave had passed and a newer, better, more reformative initiative was on the horizon. Another factor that had a bearing on the lack of information dissemination was the fear that telecommuting arrangements would cause problems in and for the organization. "Not on my watch" was a common sentiment heard by GSA Flexiplace directors [Ref. 83].

Public Law 106-346, which required agencies to make telecommuting available to its employees, removed many of the organizational directors' feelings of responsibility for the program. PL 106-346 made Congress responsible for the success, or failure, of the program. Once the law required agencies to inform its employees about telecommuting options, information flowed more freely.

The third barrier that GSA discovered was organizational adjustments required to implement Flexiplace. There is a psychological pattern that people and organizations go through when confronted with change. The four stages of change are denial, resistance, exploration, and commitment [Ref. 91]. Denial is characterized by focusing on the past and traditional performance methods. Denial is sometimes accompanied by refusal to accept that the change is directly applicable to an individual or group. Resistance is typically described with emotional attributes such as anger, frustration, anxiety, and withdrawal. It is often a time of confusion due to lack of preparation and inadequate training. Exploration is the first positive stage of change. In this stage, individuals begin to accept and prepare for the change. Individuals tend to have a lot of energy but lack a clear sense of direction and purpose. Commitment is the culmination of the change process wherein individuals begin to work together. Cooperative teams are formed, common goals are established by and within groups of individuals, and implementation of the change begins to take shape [Ref 91, pp. 17-18].

GSA found that it typically took an organization three to four months to work through the change cycle to get to stage three - exploration. Once organizational directors

and managers were willing to explore the possibility of implementing telecommuting arrangements in their organization, they were open to learning and understanding the potential benefits and implementation strategies associated with Flexiplace programs.

7. Management and Participant Expectations/Concerns

Supervisors, who wished to modify their organization's Flexiplace policies, wanted more supervisory control over participant selection, more guidance on technological issues, more flexibility in agency specified procedures, and increased agency funding for the program. The data suggests that 90% of supervisors were satisfied with the Flexiplace program and considered it a success. The rationale behind statements in support of Flexiplace include that organizational objectives were met, productivity increased, and the Flexiplace program did not require significant financial resources from the organization. The apparent conflict between supervisor statements regarding funding requirements may indicate that some organizations invested little in the program whereas others may have needed funding to make the program more viable. An example of the latter could be accommodations for the disabled, which typically require more funding than do accommodations for non-disabled employees.

Participants expressed an initial concern that their supervisors were too anxious, rigid, and controlling and that, in some cases, supervisors expected increases in participant job performance on their Flexiplace workdays [Ref. 92 and 93]. Many participants felt it was necessary to work longer hours on Flexiplace days in order to satisfy supervisor productivity concerns [Ref. 84]. This practice

violates the Fair Labor Standards Act and in some cases created a hardship for Flexiplace employees who, instead of having more time with their families on Flexiplace days, actually had less time with their families due to working longer hours.

To overcome this mounting problem, supervisors and participants met on a regular basis (usually weekly) to discuss mutual expectations and job assignments. Once a pattern of open communication and clearly defined expectations was established, participants and supervisors were more satisfied with the work-at-home program and work products delivered by employees. Typically Flexiplace issues were resolved within two to three months of initial implementation.

8. Benefits Experienced by Management/Participants

Supervisors and participants reported up to 45% reductions in sick leave used under Flexiplace arrangements. Significant sick leave usage reductions directly reduced GSA organizations' operating expenses and simultaneously increased workflow continuity because employees had fewer work stoppages due to illnesses. An additional benefit related to the reduced sick leave used by Flexiplace participants is the impact and spread of contagious diseases (or lack thereof). A Flexiplace participant, primarily one working from his/her home, may feel well enough to work even when infected with a contagious disease, but by not coming in to a central office, the disease is not spread to others in the office, thereby further reducing the amount of sick leave used by participants and non-participants.

More than three-fourths of participants in both telecommuting arrangements reported that they spent considerably less time in rush-hour traffic and experienced significant savings in transportation related expenses. Participants reported expense reductions in gasoline, parking, automotive insurance, and vehicle maintenance. GSA also believes that telecommuting related vehicle usage reductions could have profound and significant impacts on national efforts to reduce air pollution, traffic congestion, and energy usage.

Participants stated that they were able to concentrate more effectively from their homes or telework centers because there were fewer distractions and fewer interruptions than they had experienced in their conventional offices. They also stated that they were more relaxed and felt less stress in the telecommuting environments than they had been in formal office settings. Due to participants' perceptions relative to increased ability to concentrate and working in a more relaxed atmosphere, it is not surprising that 90% of participants reported increases in productivity, morale, and overall job satisfaction.

A primary advantage sought by GSA was retention and recruitment of the highest caliber employees. GSA found that there was a beneficial link between an employee's enthusiasm for the telecommuting program and productivity, recruitment, and retention. Although no concrete data was found to support his claim, GSA's policy director believes that higher retention rates meant that there were fewer situations where productivity was lost due to personnel turnover, hiring, training, and adjustment of new employees [Ref. 82]. Additionally, GSA was able to broaden its

employment base beyond the commuting radius of a given organization and successfully increase its ability to higher the best and the brightest from anywhere in the nation. In fact, when information about GSA's Flexiplace pilot program was first disseminated, GSA was flooded with resumes, phone calls, and written requests seeking Flexiplace employment [Ref. 82]. Many of these requests came from the private sector where Flexiplace was perceived as a benefit above and beyond what private industry was offering at the time. GSA also received numerous requests from disabled individuals as well as advocacy groups for the disabled.

9. Disadvantages Experienced

One of the most reported disadvantages experienced by participants was poor access to central office data. Participants stated that modem connections were too slow or often too busy to adequately transfer required data. Additionally, participants indicated that home office equipment was not as good as the equipment in the conventional office. Many participants suggested their organizations should provide dedicated laptop computers to all employees to facilitate data transfer and software compatibility. There were also telecommunication problems associated with a lack of long distance calling cards, dedicated telephone lines, answering machines, and the like. A few complaints focused on the need for procedures/support to facilitate the transportation of large volumes of work related material to and from the central office [Ref. 84].

Of particular concern to managers were the reactions of non-participating coworkers. Employees that did not

participate in telecommuting arrangements were initially reluctant to phone telecommuters' homes. They were less reluctant to phone employees who worked at telework centers. In some instances this resulted in lost productivity due to lack of communication essential to complete a project. In order to reduce communication problems, non-participants were encouraged to attend Flexiplace training sessions and focus group meetings. This provided non-participants with a more thorough understanding of the logistics and parameters associated with Flexiplace and helped to eliminate the common misunderstanding among non-participants that telecommuters were "not to be disturbed" if they were not in the central office [Ref. 84].

Additionally, although not frequent, GSA reported that some non-participants were overly sensitive and resentful of their telecommuting counterparts [Ref. 82]. Most often, these sentiments diminished without management intervention. Supervisors responded to non-participant concerns by providing them with detailed information about the Flexiplace programs, explaining how and why participants were selected, and explaining the prospects and specifics of eventual expansion of the program.

A few of the GSA supervisors and participants expressed dissatisfaction with rigid Flexiplace policies and agency-specific operating procedures imposed by their organizations. The most common concerns related to the lack of flexibility for work schedules and participant selection. Supervisors wanted the freedom to tailor the Flexiplace program to specific participants or to their department in order to maximize employee productivity and better accommodate disabled employees.

10. Lessons Learned

During the Flexiplace pilot program, GSA and OPM began publishing a monthly newsletter entitled, "Flexiplace Focus" [Ref. 81]. The *Flexiplace Focus* covered a broad array of topics and contained articles written by various Federal agencies. Articles were written from the perspectives of policy makers, supervisors, organizational leaders, union representatives, and participants. The newsletter informed Federal agencies about current policies, procedures, lessons learned, pitfalls to avoid, benefits experienced, etc. GSA found the newsletter to be a very powerful marketing tool that served to alleviate the fears of many "fence walking" organizations, and facilitate the dissemination of Flexiplace information to a broad audience, even to those not interested in implementing telecommuting arrangements within their organizations.

GSA found that investment of resources in preparing the operating guidelines very worthwhile. The guidelines provided a central reference point to assist and even influence organizational participation in Flexiplace programs. Additional Flexiplace material available to public and private organizations includes:

- A guide for Flexiplace coordinators,
- Flexiplace training materials,
- A participant's manual,
- A guide for focus groups, and
- A document which compiled the most frequently asked questions and answers regarding telecommuting issues.

A key GSA finding was that the Flexiplace coordinator was the single most significant factor in an organization's Flexiplace implementation strategy. The success or lack thereof of an organization's Flexiplace program was directly attributable to the capability and motivation of the individual designated to be the agency coordinator.

Proper planning is the cornerstone of a solid Flexiplace program. An organization should not launch telecommuting arrangements until the proper planning has been completed at all levels. Each aspect of telecommuting arrangements should be addressed: communication, selection of participants, schedules, expectations (of both participants and supervisors), limitation as to frequency and duration of telecommuting arrangements (number of days per week, etc.), travel, training, and impact on non-telecommuting personnel. Additionally, formal policies and operating procedures need to be in place. Formal telecommuting agreements should be required between each participant and his/her supervisor.

Training is a fundamental step in a successful telecommuting program. GSA recommends that agency telecommuting coordinators, supervisors, prospective participants, non-participants, and union representatives receive formal training related to telecommuting policies and implementation strategies. Without training, unnecessary problems could arise which may put an undue strain on the organization and threaten the successful operation of its telecommuting program.

GSA learned a lesson regarding allowing problem employees to participate in telecommuting arrangements. Simply stated, problem employees are problem employees regardless of their work location. Allowing problem

employees to participate in telecommuting programs could jeopardize the success of the program for the organization and other participants.

With respect to GSA's telework centers, GSA learned that early and thorough market analysis is crucial to the financial success of a given telework center. Initially, GSA opened telework centers in areas where it believed there to be a large population of potential Federal employees who would utilize the facility. However, GSA did not poll the Federal agencies in the area to gather demographic information regarding employees who could potentially use the facilities. Additionally, several of the telework centers were located within 20 miles of another telework center. Consequently, each center was pulling from the same population of potential teleworkers such that no single facility had sufficient utilization to warrant the continued existence of the center.

GSA discovered that a key factor bearing on the utilization rate of telework centers was the degree and focus of GSA marketing of the telework centers. Aggressive marketing strategies early in the developmental and planning stages of a new telework center were critical to the success and utilization of the center. GSA marketing strategies included announcements in the *Flexiplace Focus*, advertisements on the GSA electronic bulletin board, direct mailing advertisement to private and public organizations within the commuting radius of the telework center, and an Internet site devoted to GSA telecommuting programs (<http://www.telework.gov>). Prior to aggressively marketing the telework centers, GSA utilization rates were too low to maintain financial solvency at most of the telework centers. Broadening its customer base and disseminating

information frequently resulted in utilization rates that provided financial viability of telework centers.

Finally, GSA recommends that agencies should avoid coercing unwilling managers to allow their subordinates to participate in Flexiplace arrangements because it may lead to serious problems with employee/supervisor relationships. Additionally, negative management reactions, which stifle and/or endanger the program, will inevitably create a hostile environment for the telecommuting employee. Fortunately, GSA found that management objections were quelled with education about the benefits, policies, and procedures associated with a formal Flexiplace arrangements.

D. DEFENSE CONTRACT AUDIT AGENCY (DCAA)

The mission of DCAA is to provide "timely and responsive audits, reports, and financial advisory services to Department of Defense contracting officers and other customers" [Ref 94]. DCAA provides a variety of preaward and postaward contract audit services including audits of contractor price proposals, preaward surveys, forward pricing rate agreements, overhead rates, Cost Accounting Standards compliance and adequacy, and contractor claims. DCAA also audits contractor internal control systems (accounting, estimating, purchasing, billing, material management, labor, etc.). In addition to performing formal audit activities, DCAA also provides negotiation and fact-finding assistance when requested by contracting officers.

1. Background

DCAA in San Diego consists of two branch offices: the San Diego Branch and the North County Branch. The San Diego branch office consists of 42 staff members [Ref. 95]:

- One branch manager (GM-14),
- Four team supervisors (GM-13),
- 30 auditors and interns (GS-05 to GS-12),
- Three technical specialists (GS-13), and
- Four administrative personnel (GS-05 to GS-07)

The North County branch office was similarly staffed with a total of 35 individuals. Initially these two offices were geographically separated. Due to budget reductions, DCAA was forced to reduce costs and expenditures in its operations without sacrificing service to its clients. As a result of the budget reduction, both DCAA offices considered relocating to a single, less costly facility.

2. Flexiplace Implementation

In his memorandum dated February 1994, DCAA Director Reed confirmed the use of Flexiplace as "a viable alternative to assist in achieving [DCAA] cost reduction goals" [Ref. 96]. In order to implement a Flexiplace program within an individual DCAA office, the office was required to demonstrate that Flexiplace would meet one of the following three requirements [Ref 96]:

- Reduced cost.
- Improve productivity.

- Accommodate a unique circumstance such as emergency conditions of a temporary nature or special needs of handicapped employees.

In response to Director Reed's memorandum, the San Diego Branch office drafted a proposal that recommended a pilot Flexiplace program on an individual employee basis. The proposal was based on the Flexiplace programs implemented in the Seattle and Oxnard DCAA offices. However, the proposal was never formalized and forwarded to management for consideration because the two San Diego offices were informed they would be relocating to other facilities. Due to the pending relocation, further consideration on the Flexiplace proposal was tabled until the new office environments could be evaluated. [Ref. 97].

During the relocation process, the two DCAA branch offices formed a joint Flexiplace committee to determine if Flexiplace could save DCAA money by reducing the amount of leased office space required. The committee consisted of one supervisor and four to five auditors from each branch. Prior to Flexiplace, each individual had his or her own cubicle. The committee examined the possibility of having shared offices. Two individuals would share one physical office with each employee working in the office and from home half time.

Prior to formalizing a Flexiplace proposal, surveys were distributed to determine if adequate participant interest and management support existed. Two separate survey questionnaires were developed: one for supervisors [Appendix 7] and one for participants [Appendix 8].

The supervisor survey focused on views and beliefs relative to telecommuting in general. Listed below is a representative sample of supervisor survey questions [Ref.

98]. Each question had response options of Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree, and Not Applicable. No numerical ratings were assigned to the adjectival response options. Those taking the surveys were instructed to circle the adjective that most appropriately reflected their opinion for each question.

I have sufficient influence on who was chosen to telecommute.

When working away from the central office my staff will be able to concentrate more on work.

Having employees work in a remote location will be troublesome for me.

Because of telecommuting, communications in my work group will become more difficult.

I think some people will take advantage of telecommuting to slack off on their work.

The survey results were not summarized into a report available for review and analysis, nor was I given access to the individual surveys in order to develop conclusive summary data myself. Consequently, I was unable to assess the specific responses to survey questions.

Supervisors were also required to complete a Job Performance sheet for each employee approved to participate in Flexiplace [Appendix 7, Section C]. The Job Performance sheet identified employee characteristics and performance metrics relative to productivity, interpersonal skills, dependability, and communication skills prior to Flexiplace. This information was intended to be used as a performance measurement baseline for the purpose of evaluating an employee's performance of official work requirements away from the office [Ref. 97]. The Job Performance sheet also identified the frequency and method

of required communication and access to resources located only at the central office.

The participant survey focused on the applicant's office equipment requirements, feelings about telecommuting, stress related aspects of the job, and travel/commute factors. Applicants were required to rate themselves in the areas of productivity, interpersonal skills, dependability, communication skills, ability to work independently, and overall performance. Concerning travel/commute factors, applicants were required to identify normal commute related errands such as shopping, child care arrangements, and additional commute days to the central office from school, recreational areas, and medical appointments.

Due to the relatively small offices, the Flexiplace coordinator at each branch location coordinated with branch personnel and had approximately 75 out of 77 surveys returned [Ref. 97]. Results of the survey indicated a high level of interests in Flexiplace. The following percentages represented the level of interest and support by employee category as documented in the Flexiplace proposal to the DCAA Regional Director [Ref. 98]. I believe that survey results in the Strongly Agree and Agree categories were used to develop the percentages listed below.

Management in favor of Flexiplace	39%
Auditors interested in participating	59%
Administrative staff interested in participating	31%

The data indicates that auditors were more interested in participating in the pilot program than either

management or administrative personnel. No information was available to determine if the managers that were in favor and would support Flexiplace were the supervisors of the auditors that were interested in participating in the program.

Based on the survey results, the Flexiplace committee developed a Flexiplace proposal, which recommended that 20 auditors participate in a limited Flexiplace program. The committee deferred any recommendation of participation by supervisors, managers, and administrative staff until the results of the Flexiplace program with the auditors could be fully evaluated.

DCAA was required to demonstrate cost savings associated with its Flexiplace program. Consequently, auditors whose primary work location was at an in-plant contractor facility were not considered for Flexiplace participation because DCAA could not demonstrate that allowing these auditors to work from their homes would result in a cost savings to DCAA because DCAA did not pay for space used in contractor facilities. Twenty auditors, ten from each branch office, were selected to participate in the initial Flexiplace program. Auditors were selected based on their interest in telecommuting, years of experience, satisfactory job performance, and primary work location. Data gathered from the participant survey and job performance sheet, as well as supervisor discretion, were used to select participants. Auditors were selected in pairs working for the same supervisor. Each pair of auditors shared a common workspace and was authorized to work from an alternate worksite a maximum of two days per week. This restriction was imposed at the directorate level and not questioned by the regional offices. Additionally,

since the DCAA Flexiplace program was a pilot initiative for the San Diego area, San Diego management did not feel comfortable authorizing employees to work from their homes more than two days per week. Management wanted "face time" with employees on a regular and frequent basis in order to gauge employee progress on work assignments and coordinate additional requirements with telecommuters and in-house staff.

Before DCAA could implement a Flexiplace program, it was required, under Director Reed's memorandum, to demonstrate that implementation of Flexiplace would result in reduced costs, improved productivity, or better accommodation of handicapped personnel. In compliance with Director Reed's memorandum, the committee's proposal documented projected savings of \$1,000 per telecommuting auditor per year as a direct result of reduced leased office space required [Ref. 98].

Square feet per workstation (GSA standard)	130
Market lease rate per sf per year	x \$15.38
Annual lease costs per workstation	<u>\$2,000</u>

Flexiplace participants per workstation	<u>÷ 2</u>
Annual savings per flexiplace participant	<u>\$1,000</u>

The overall savings per DCAA branch office was \$10,000 per year (\$1,000 savings x 10 auditors per branch office participating in Flexiplace).

DCAA provides a laptop computer, portable printer, wheeled 2-drawer locking file cabinet, calculator, and Government calling card to each of its auditors and technical specialists regardless of whether they work in the central office or in a field office. Because of the equipment already provided to auditors, DCAA did not

believe that it would incur any additional expenses related to Flexiplace.

In its proposal to the Regional Director, DCAA emphasized that the implementation of a Flexiplace program would not create any real barriers to, or detract from, the overriding mission of DCAA. DCAA was confident that Flexiplace would enhance, rather than impede, the goals and objectives of the organization. The final proposal was submitted to the Region Director in July 1996 and approved in September 1996 [Ref. 99].

In its Flexiplace policy, DCAA describes Flexiplace as "a work alternative, rather than a reward" and states that it is "intended to enhance employee productivity, creativity, and job satisfaction" [Ref. 100]. DCAA's Flexiplace policy is very similar to the policies described in Chapter III. However, DCAA adds that employees are required to use DCAA provided laptop computers and peripherals in the central office as well as in the employee's home office. Employees are prohibited from using their own personal computers for official DCAA work. The reasoning behind this requirement was to minimize the risk of computer associated viruses being transferred from a home computer to the central office and spread throughout the central office network. Additionally, as a condition of Flexiplace participation, employees must consent to participate in surveys designed to evaluate the usefulness of the Flexiplace program.

One interesting criterion in the Flexiplace policy was the requirement that Flexiplace must remain invisible to DCAA customers and contractors. Participants were advised by the Flexiplace committee and their supervisors not to "announce" that they were working from their homes. The

rationale behind "invisible Flexiplace" was to maintain customer and contractor confidence in DCAA. DCAA management feared that if customers and contractors knew auditors were working from home, customers and contractors would be uncomfortable with their personal data leaving the sanctity of the DCAA central office. Although DCAA Flexiplace personnel were given strict instructions regarding the transportation and handling of sensitive or proprietary data, management believed advertising or openly discussing working from home with customers and contractors would create unnecessary problems, ill-will, and potentially jeopardize open communication and access to data and records at contractor and customer locations. Curiously, however, DCAA management never queried its customers and clients to determine what were customer/client attitudes and concerns about Flexiplace. Consequently, DCAA management never determined if their fears were legitimate.

In order to facilitate the transparency of Flexiplace, DCAA established individual phone lines for each employee and required that the telecommuting employee forward all calls from the office to the employee's home and answer the phone just as if he or she were sitting in the central office. Additionally, DCAA invested in an auto-voicemail call back system so that missed phone calls would automatically be relayed to a message system, and then the employee's home phone would ring from the message service indicating that there were messages to be picked up.

3. Implementation Obstacles

The most difficult obstacle to overcome in DCAA's Flexiplace implementation was management resistance and

their vocal objections to the program. Many managers believed that employees working from their homes would not put in the full 40 hours per week or accomplish the same quantity and quality of work as those employees who worked full time in the central office. The most common management objection was "how do I know the employee is really working the hours that they are scheduled to be working if I can't go around and look at them in their cubicles?" To address management's concerns, the Flexiplace committee held regular meetings with prospective participants and their supervisors so that they could openly discuss each other's expectations, concerns, and fears. These meetings were extremely successful in developing a rapport and a level of trust between the supervisor and prospective participants. The level of trust established between the parties proved to be the single most valuable component of the Flexiplace program.

Since the Flexiplace program was designed as a one-year pilot program, and because managers could terminate telecommuting agreements if the participants' performance did not meet management's expectations, managers were willing to allow employees to participate on a limited basis. Participants were able to alleviate management's fears regarding their performance by (1) demonstrating that their work products were equal to or above the quality and quantity produced in the central office, and (2) keeping communication lines open and contacting their supervisors frequently by telephone and e-mail.

DCAA's Flexiplace program has been in place since December 1996. DCAA experienced problems with management support and buy-in initially, but now contends that managers of telecommuting employees are more comfortable

with telecommuting arrangements and other managers are less vocal about their objections and reservations regarding Flexiplace. Since its initial implementation of 10 auditors from each DCAA branch, it has not expanded beyond the 20 auditor participants because DCAA cannot demonstrate additional savings associated with increased number of telecommuters. The current fixed office space and associated lease costs would remain unchanged if additional personnel were authorized to participate in the Flexiplace program.

No other implementation obstacles were identified for the DCAA Flexiplace program.

4. Management and Participant Expectations/Concerns

The majority of management concerns were previously addressed. Therefore, this section focuses primarily on expectations and concerns of participants.

Participants feared the unknown. They were uncertain how telecommuting would really impact their jobs and career development. The organization was going to be restructured and participants feared they would not be considered as highly as their in-office counterparts when given work assignments and positions within the "new" organization. The two DCAA offices, however, did not undergo a formal reorganization and the fears of Flexiplace participants were not realized. One supervisor speculated that even if DCAA had been reorganized, Flexiplace participants would not have been treated any differently from the in-office auditors. The only consideration would have been the amount of physical office space allocated to telecommuting employees [Ref. 99].

Participants were concerned about how their peers and other supervisors would perceive them if they were not in the central office all the time. They feared that supervisors and non-telecommuting staff would treat them differently or as "substandard employees" if they worked from their home. Many participants also feared being isolated and less promotable than their in-office counterparts. They feared that if they were not in the office, standard office information would not be distributed to them. Essentially they thought they would be left out of the loop and forgotten.

Because management only authorized these auditors to telecommute a maximum of two days per week and were in the office at least two days a week, the concerns they addressed did not materialize. Additionally, the high frequency of communications with in-office staff members via telephone and e-mail mitigated any potential negative out-of-office consequences.

Some auditors were initially concerned about the ease of communication with technical auditors and supervisors. They were concerned that these individuals would not be as accessible if the participant was working from home. This concern stemmed from the fact that many of the auditors and supervisors "roam" the office area and work in mini teams with other auditors and thus are not always in their cubicles. When working in the office, a telecommuter could track down the person with whom he or she needed to consult and arrange time to discuss issues. What telecommuters found when working from home was that the in-office staff were very responsive to their voice mail messages and, as a result, in-office staff usually made themselves more accessible to telecommuting employees by scheduling

definitive meeting times rather than the in-office custom of "catching" each other "on the fly" to discuss issues.

5. Benefits Experienced by Management/Participants

Five out of six Flexiplace participants interviewed report they believe they are more productive working from home due to fewer interruptions than in the central office. Additionally, 83% of participants indicated they were able to concentrate more on their tasks when working from home because the environment was quiet and more conducive to uninterrupted thought. Due to the quantity and quality of work products produced from telecommuting employees, supervisors were confident that the level of productivity did not decrease as a result of telecommuting. Supervisors were not, however, able to make definitive statements that productivity increased due to an employee's participation in the Flexiplace program.

Participants also appreciated the additional time spent with their families in the evenings due to reduced commuting requirements. Stress normally attributed to daily commutes decreased under telecommuting arrangements. These telecommuters reported that they felt more relaxed working in the comfort of their homes and avoiding traffic congestion, smog, and "mad drivers". Additionally, telecommuters stated that even on days when they were required to commute to the central office, they were able to tolerate traffic related stress better than they had prior to telecommuting because they could look forward to the days when they would not have to deal with traffic problems.

When I asked if participants and supervisors felt employee morale had increased, I received mixed results.

Most participants interviewed indicated that their morale was unchanged; it was neither higher nor lower than before implementation of Flexiplace. Also, Employees were generally satisfied with and liked their jobs. They stated that telecommuting did not influence their opinions about their jobs one way or the other. Participants also reported a reduction in office related stress. They stated that they felt more at ease in the office due to their ability to work from home two days a week. Interestingly, they did not consider that reduced job related stress had any bearing on the level of their job satisfaction because work requirements remained unchanged.

As demonstrated in its proposal to the DCAA Regional Director, DCAA San Diego branches realized actual cost savings as a direct result of allowing 10 auditors from each branch to participate in the Flexiplace program. The proposal identified three ranges of cost savings: conservative, moderate, and maximum, based on the cost of leased space in the area and associated overhead expenses. In its proposal to the Regional Director, DCAA used the conservative cost savings estimate so that the report would not appear to be biased or inflated.

Since its approval to implement Flexiplace, DCAA has not conducted additional analysis to determine the actual savings realized over the life of the Flexiplace program. However, management believes that the cost savings has increased as a result of the increased cost of leased office space.

6. Disadvantages Experienced

In the early years of Flexiplace implementation, auditors experienced resource access problems. When

working from their homes, many auditors found that they required resources that were physically located in the central office. These auditors would either go in to the office to pick up the required materials or work on other assignments to the degree that they were able until they returned to the central office. The current environment, however, negates that problem. Currently all DCAA data, reports, documents, and other required resources are stored electronically in DCAA's computer network. Auditors are able to access the data just as easily from home as from the central office.

Another difficulty experienced in the program's early years was access to the DCAA central computer network. From 1996 to - 1997 dial up modems were extremely slow. The delays experienced when telecommuters attempted to log in to the central office often resulted in frustration and "down-time". Participants also experienced problems accessing e-mail from home due to inadequate software programs, slow modem connections, and the fact that DCAA only had one dial-in phone line that all telecommuters were required to share. Within the last few years DCAA installed Microsoft Outlook and web-based connectivity software that telecommuters use with ease. DCAA has also increased the number of dial-in lines to accommodate multiple log-ins from numerous telecommuters and field personnel simultaneously. Additionally, a two of the six participants interviewed indicated that they use a digital cable Internet service rather than a dial-up modem that is considerably faster and facilitate log-ins and downloads.

One problem that DCAA experiences with its Flexiplace program is "clash time" when both employees who shared a single office space are required to be in the central

office at the same time. Telecommuters are required to coordinate their schedules to avoid clash time; however, inevitably there are instances when both employees are required to be in the central office for a variety of reasons (meetings, briefings, training, etc.). To alleviate this problem, DCAA established "temporary work stations" for displaced employees. The temporary workstations are not full sized cubicles. They are small counter areas, usually located in aisle ways, where a displaced employee can setup his or her laptop computer and access their personal storage cabinet. While not ideal, DCAA believes this arrangement satisfactorily accommodates displaced employees on the rare occasion when the problem occurs [Ref. 99].

7. Lessons Learned

DCAA considers its telecommuting program a success. Two critical factors were identified as keys to successful implementation:

- Frequent and open communication between the telecommuting employee and the central office; and
- The supervisors' willingness to trust telecommuting employees and vice versa.

Once trust and communication were established between the parties, expectations were clearly identified, and formal telecommuting arrangements were in place, both supervisors and participants realized that the perceived barriers to successful Flexiplace implementation were largely artificial. Another factor contributing to the

success of the DCAA Flexiplace program was that both employees and managers were committed to seeing the program succeed. Consequently, they addressed telecommuting problems openly and considered innovative approaches to overcome obstacles. Participants applaud management for taking this stance and say that without management's commitment to the success of the program, the Flexiplace program may have lasted only one year - the initial period for the pilot program [Ref. 98]. The rationale behind this statement stems from DCAA's history of implementing Directorate and Federally mandated initiatives such as Total Quality Management, Empowerment, Quality Circles, etc., only to have the implementation efforts wane after the fanfare died down.

The distinction between the Flexiplace pilot program and initiatives, such as total quality management, empowerment, quality circles, etc., is the origin of its impetus. Historically DCAA field offices, such as those in San Diego, were directed by their Regional office to comply with and implement the latest initiative regardless of field office personnel's views or opinions about the initiative or the method under which it should be implemented. It is not surprising, therefore, that the implementation efforts associated with those initiatives died soon after the rhetoric waned.

Flexiplace, on the other hand, was a voluntary program that had to be initiated by each field office. The field office was required to develop a proposal to the Regional Director and demonstrate how implementation of Flexiplace would benefit DCAA. Consequently, the program had the support of managers and staff personnel. Buy-in from those

involved in the development of the proposal cemented the field office's commitment to the program's success.

DCAA attempted to measure the productivity of telecommuting employees relative to central office employees. Information gathered during the formulation of the Flexiplace agreement was to be used as a baseline to measure productivity. Additionally, specific tasks were allocated a fixed amount of time for completion. Employees who met or completed tasks under the allotted time were considered to be satisfactorily productive whether they worked in the central office or from a remote location. However, DCAA soon realized that to measure the amount of increased productivity experienced by telecommuters was inordinately difficult. Tracking all of the work products, differentiating the various levels of complexity associated with individual work assignments, and comparing this data to similar data of central office workers was extremely time consuming. To compound the difficulty associated with assessing increased productivity of teleworkers, evaluations were typically subjective in nature. The lack of objective metrics made assigning a "value" to any given work product nearly impossible. Consequently, DCAA abandoned its pursuit as too costly and highly inaccurate.

E. AMERICAN TELEPHONE AND TELEGRAPH (AT&T)

Founded by Alexander Graham Bell, the American Telephone and Telegraph Company was established in March 1875. AT&T's charter was to build and operate the original long distance telephone network in the United States. From 1875 to 1984, AT&T was a monopoly that focused on local telephone exchanges, long distance telephone service, manufacturing, research and development. In 1984, the

United States Department of Justice deregulated telephone service and instituted competition. At this point, AT&T divested and formed separate corporations that independently owned and operated its various ventures. The new AT&T organization evolved from a long distance company to an integrated voice and data communications company. AT&T's chairman, C. Michael Armstrong, defined the company's mission in his 1998 Annual Report as follows:

We are transforming AT&T from a long distance company to an 'any distance' company. From a company that handles mostly voice calls to a company that connects you to information in any form that is useful to you - voice, data, and video. From a primarily domestic company to a truly global company. [Ref. 101]

1. Background

In response to Title 1 of the 1990 Clean Air Act, AT&T started a pilot telecommuting program in Los Angeles, California, in 1989 and another in Phoenix, Arizona, in 1990 with a handful of employees at each location. Due to the success of these pilot programs, AT&T broadened the telecommuting program to all business areas in 1992. In 1995, AT&T was a founding member of Telecommute America and initiated the AT&T School of Business and Technology. Through Telecommute America and AT&T's School of Business Technology, the organization provided consulting and education services regarding telecommuting and virtual offices [Ref. 102].

Currently, AT&T reports in excess of 45,000 teleworkers. Over half of AT&T managers commute one day per month, 27% telecommute one day per week, and 11% telecommute on a full-time basis [Ref. 103, pg 1].

AT&T has found that the larger the number of teleworkers, the more successful the telecommuting program. AT&T research indicates that as the number of telecommuters increase, the problems and challenges associated with telecommuting arrangements decrease. Additionally, the benefits associated with telecommuting increase as the pool of teleworkers increases.

The focus of AT&T's telework policies is to make the location of the work independent from the work itself. This allows alternate work arrangements to be made at a local level vice a corporate level. One of the interesting facets to AT&T's telework programs is that the employee, with the agreement of his/her supervisor, has the authority to determine where and under what conditions work will be accomplished.

AT&T has five types of telecommuting arrangements available to its employees, supervisors, and managers. They are:

- Telecommuting: Working from home one or more days a week during normal business hours.
- Virtual/mobile office: Using communications tools and technology to perform job duties from anywhere, not just the home - customer location, airport, hotel, etc.
- Hoteling: Sharing office space in a company location designed for use on a drop-in basis by employees. Employees either reserve space in advance or drop-in to use a cubicle equipped with standard office technology - phones, PCs, faxes, printers, copiers, e-mail, Internet access, etc. - on an as needed basis.

- Satellite Office: A fully-equipped office location established by the company, normally in suburban locations, where employees can reserve space and work one or more days a week closer to their homes.
- Telework Center: Similar to a satellite office, but space is shared by employees from numerous public and private employers. Normally operated independently, employers are charged for the space and services utilized by each employee per day. These centers are located closer to employees' homes than their regular company locations. [Ref. 104]

2. Telework Implementation

When implementing its telework program, AT&T designated a telework coordinator to plan and implement the program as well as develop training sessions. AT&T policy regarding employee eligibility qualifications for telecommuting arrangements are similar to the qualification requirements of GSA and DCAA [Ref. 105]:

- The employee should be well-organized, self-disciplined, self-motivated, able to establish priorities, and able to manage time effectively to ensure organization/department goals and objectives are met.
- The employee's job needs to be suitable to alternate work location arrangements.
- The employee's supervisor should be supportive of telecommuting arrangements.
- The employee has a positive attitude toward telecommuting and toward his/her work and supervisor, is results-oriented, with strong communication skills.

- The employee should require minimal direct supervision, have a strong knowledge of the job, the organization, and telework requirements.
- The employee should be successful in the central office before telecommuting arrangements are agreed upon.
- The employee must have a suitable office environment within the home from which official work requirements will be performed.

AT&T's telecommuting program is delegated to the supervisor level thus enabling the supervisor and employee to work out arrangements that are uniquely tailored to their specific requirements. The supervisor and employee fill out a telework agreement that details work assignments, terms of telecommuting arrangements, and other related details.

AT&T does not have formal selection criteria for participants in its telecommuting arrangements. Rather, AT&T believes that the key factor in the success of telecommuting arrangements is trust:

If the manager trusts the employee to be getting work done even when she or he can't be seen, and if the employee trusts the manager to take her or his needs into account even when they aren't right outside the office door, then obviously there's a greater pool of 'eligible' teleworkers. If there's a lack of trust in either of these dimensions, then the eligible pool shrinks accordingly. [Ref. 103, pg. 3]

AT&T recognizes that telecommuting arrangements are not for everyone. It recommends that employees complete a self-assessment to determine whether they would be successful in an alternate work environment [Appendix 9].

After completing the personal screener, AT&T recommends that employees develop a business case that thoroughly details the telecommuting arrangements requested, identifies stakeholder impacts, contains a cost/benefit analysis, and demonstrates how the telecommuting arrangement will add value to the organization or team.

For home office telecommuting arrangements, AT&T's main criteria are comfort, function, safety, accessibility, and privacy for disturbance-free professionalism [Ref. 106]. AT&T also provides instructions to work-at-home employees regarding lighting, ventilation, equipment requirements, and office set up. AT&T recommends that employees coordinate with the central office Information Technology staff regarding computer configuration requirements and connections to the central office network. Additionally, AT&T suggests that new home teleworkers talk to established home teleworkers to get an idea of their lessons learned and best practices.

AT&T recommends that managers also participate in telecommuting arrangements so that they are more familiar with the dynamics associated with telecommuting. Further, AT&T suggests that managers and supervisors can actually sharpen their own managerial skills by supervising teleworkers. Supervisors must learn to manage by objectives and gauge progress by results rather than direct observation. Communication with the teleworker is a vital component to the success of a telework arrangement, and the supervisor should touch base with the teleworker daily. That is not to say that the supervisor should perform "curfew checks" or call hourly to check status on projects. Lastly, AT&T cautions managers to set attainable goals and not expect perfection from teleworkers. [Ref. 107]

In its sample Telework Policy, AT&T outlines the roles and responsibilities of the participant, supervisor, organization, and the human resource office. The policy also establishes safety procedures for the home office and delineates responsible parties. Further the policy addresses compensation, benefits, hours of work, commuting requirements to the central office, computer equipment and security requirements [Ref. 108]. The Sample Teleworker's Agreement outlines participant and supervisor expectations, work assignments, location and description of the home office, schedule and duration of telecommuting arrangements [Ref. 109].

Similar to the employee self-assessment, AT&T recommends that managers assess organizational readiness relative to telecommuting prior to implementation of a pilot or formal telecommuting program. Appendix 10 contains the recommended assessment and associated evaluation rating scale.

3. Implementation Obstacles

A primary obstacle encountered by AT&T that hindered successful implementation of telecommuting arrangements was management style. Managers who measured employee performance based on the amount of time the employee was at his/her desk and appeared to be busy had a difficult time transitioning to managing telecommuting employees. AT&T found that training those managers and supervisors in the practice of management by objectives was essential to overcome this barrier.

Another obstacle encountered by AT&T was the cultural resistance to change within the organization relative to telecommuting practices. As described in the GSA segment,

the psychology of change evolves through various stages before successful implementation of the change can occur. AT&T found that continual awareness and internal marketing of telecommuting arrangements was necessary in order combat the negative cycles of the change process. AT&T telework coordinators frequently distributed information repeating the benefits of telecommuting arrangements and outlining managerial and participant guidelines for telecommuting programs.

Initially, the lack of broadband communications lines into an employee's home was a barrier for participants. Many employees who would otherwise consider telecommuting declined to do so due to the lack of broadband access to the central office. Traditional telephone modems and dial up lines were too slow to allow ready access to data that was required to perform work tasks. Recent advances in technology such as cable modems, ISDN lines, T1 lines, etc., have eliminated this barrier for AT&T employees.

4. Management and Participant Expectations/Concerns

One comment heard typically from managers is a concern regarding employee behavior when the employee is out of the supervisor's sight. AT&T reported that many managers were already working with teams and individuals in a "virtual" environment. These individuals may have been located in another building on the same compound, an office in another city, or some other location beyond the line of sight of the managers. Rarely were employees working in a direct line of sight of their supervisors. AT&T believes that this distributed office construct is ideal to telecommuting arrangements because the virtuality of the work environment

is unchanged whether the employee works in a physical office or from a home office or telework center.

Another area of concern to managers was employee productivity. AT&T found a direct correlation between a supervisor's ability to manage the in-office employee and his/her ability to manage a teleworker. AT&T managers who practiced "management by objectives" were much more successful with making the transition to managing teleworkers than were managers who equated the employee's time at his/her desk to employee productivity. The latter typically perceived that an employee was productive if it appeared the employee was busy at his/her desk. In this situation, the manager usually did not measure output as a factor of productivity. Management by objective, on the other hand, equates productivity with the content, quantity, and quality of the output produced by the employee regardless of where the employee physically performs the work.

AT&T recommends that managers and employees review potential productivity metrics together in a brain storming session and suggests several potential productivity metrics that could be used depending on the employee's work assignments. An excerpt from its list of productivity metrics follows [Ref. 110]:

- Number of sales calls or new contacts made per week
- Number of account plans completed per week/month
- Time spent with customers
- Number of customer complaints/compliments per month
- Number of account plans done on time
- Number of customer telephone calls handled
- Number of orders/articles written

- Percent internal deadlines met
- Average time spent per deliverable
- Projects completed per quarter
- Percent work requiring rework/revisions

Participants were concerned with adjusting to their new work arrangements and were often lost on their first day working in their homes. Many found that making all the different components (personal computer, software, network, etc.) work together and actually accessing the central office was more difficult than they had anticipated. To combat the anxiety associated with problems experience by teleworkers in their homes, AT&T established an Intranet telework portal that streamlined the employees' process of working from home. The Intranet site guided the teleworker through such processes as installing voice and data lines, accessing various AT&T web pages, standard hardware installation and configuration, and downloading software. Since building the website, AT&T has realized, through its annual surveys, a dramatic reduction in employee related telework anxieties.

Some teleworkers were concerned about and experienced isolation when telecommuting, particularly at the beginning of implementing telecommuting arrangements. However, as communication skills developed and regular contact with office co-workers increased, these feelings subsided. AT&T ensured that teleworkers were included in office networks and came in to the central office periodically for regular meetings with co-workers, supervisors, and staff members. To combat feelings of isolation, AT&T also recommends that teleworking employees join associations or attend classes

on their own time thereby giving the teleworker contact with "the outside world."

Employees feared that if they worked from their homes, their career advancement opportunities would decline. They were concerned that reduced face-to-face interaction with their supervisors or managers would result in an out of sight, out of mind condition that would ultimately hinder promotion possibilities. AT&T conducted research regarding this particular employee concern and found that, compared to their office-bound peers, full-time teleworkers were more likely to be rated by their managers as top performers and receive more recognition, promotions, and awards than their in-office counterparts. AT&T attributes its findings to increased productivity and continual communication links via e-mail and telephone between the home office and the central office.

5. Benefits Experienced by Management/Participants

In his testimony before Congress, AT&T's Vice President of Environment, Health and Safety stated:

In evaluating telework advantages, 'balancing work and family life' and 'improved productivity' were most frequently cited as major advantages. Six major advantages were cited by a majority of teleworkers:

- 84% Better balancing work and family life
- 80% Improved productivity
- 78% Showing the company cares about people
- 77% Helping the company keep and attract the best people
- 71% Gives employees more personal time by reducing their commuting time and
- 70% Making employees feel trusted [Ref 103,pg 7]

Although no data was found to support productivity perceptions, AT&T found that productivity increased as a result of telecommuting. Teleworkers perceive they are more productive working from home due to lack of interruptions and a greater ability to concentrate on work assignments. Teleworkers perceived that they are productive during periods that would otherwise be spent on lengthy commutes to the central office and typically work at least one hour more per day than they had worked in the central office [Ref. 104]. AT&T found that in-office workers reported 6.2 productive hours in an 8-hour workday, whereas teleworkers reported 7.5 productive hours in an 8-hour workday [Ref. 103, pg 6].

Regarding perceived productivity, AT&T's annual survey revealed that 77% of teleworkers reported increased productivity when working at home whereas only 6% reported productivity increases when working in the central office. Seventy-two percent of managers who telecommute on a regular basis reported increased productivity when working from home whereas only 5% reported productivity increases associated with working in the central office. AT&T calculates that productivity increases of this magnitude translate to \$100 million yearly. [Ref. 103]

Recruitment and retention of the highest caliber employees are other benefits realized by AT&T that are directly attributable to its telecommuting programs. Because of the enhanced quality of life and personal freedom associated with telecommuting, AT&T is better able to retain valued employees, even when flattening organizational hierarchies that result in limited promotion potential. Sixty-seven percent of AT&T teleworkers that

had been offered other jobs reported that they were not willing to give up telecommuting arrangements [Ref. 104].

Regarding job satisfaction, AT&T discovered that 77% of teleworkers working from their homes reported much greater job satisfaction and 84% reported increases in the quality of their personal/family lives [Ref. 103, pg 7]. Additionally, 81% of family members surveyed reported that they were pleased with the telecommuting arrangements and the impact it had on the family environment. Only 3% of family members reported negative feelings associated with telecommuting arrangements. Negative reports could be due to employees working hours in the evening or on weekends that detracts from time spent with the family.

AT&T also experienced significant reductions in absenteeism due to dependant care related illnesses. AT&T found that 63% of teleworkers reported they were able to work one-half day after attending to the needs of family member's illnesses [Ref. 104]. Without telecommuting, these employees would have been required to take an entire day off and the company would have lost an entire day's productivity.

According to a news release by Keep America Beautiful, Inc., AT&T's telework program has had significant environmental benefits. During 2000, AT&T telework employees avoided driving approximately 110 million miles to the office. Keep America Beautiful Inc., translates the commute reduction into environmental savings as follows [Ref. 111]:

- Reduction in gasoline used: 5.1 million gals.
- Reduction to carbon dioxide: 50,000 tons
- Reduction to carbon monoxide: 1.7 million tons
- Reduction to hydrocarbons: 220,000 tons

- Reduction to nitrous oxide: 110,000 tons

The U. S. Environmental Protection Agency awarded AT&T the 2000 EPA Climate Protection Award for the environmental benefits associated with its telework programs [Ref. 112]. The EPA cited the same statistical data as was reported by Keep America Beautiful, Inc.

Additionally, AT&T estimates that it saves \$25 million annually in real estate expenses through its telecommuting programs [Ref. 103, pg. 6].

6. Disadvantages Experienced

In its annual surveys from 1999 and 2000, AT&T learned that participants experienced the following disadvantages associated with their telecommuting experiences [Ref. 103, p 4]:

<u>1999</u>	<u>2000</u>	<u>Disadvantage</u>
27%	16%	Reduced visibility for the employee
28%	15%	Loss of camaraderie or a sense of being part of the team
23%	15%	Isolation of the telecommuter
13%	7%	Loneliness for the telecommuter

Statistical information was gathered from 1238 managers regarding their telework employees. What AT&T learned from its annual reports is that new teleworkers typically respond as above; however, the longer the teleworker is in the program, and the higher the total number of teleworkers, fewer negative findings are reported. The two year data above appears to validate AT&T's conclusion. The negative findings for 2000 were significantly lower than the negative findings reported in 1999.

Many of the disadvantages identified have already been discussed under the Management/Participant Expectation and Concerns section of this case profile. AT&T believes that there is a period of adjustment for participants and managers within which each must "find their groove" to succeed in any changed environment, including telecommuting arrangements. The period of adjustment varies by individual, but usually averages between four to six months.

7. Lessons Learned

AT&T has learned that telework is not a separate and distinct area of its business. Rather, telework is an integral part of AT&T business lines, and the various business lines work harmoniously to accomplish telecommuting objectives. For example, AT&T's Real Estate division takes telework into account when designing space; Security takes remote work into account when implementing new policies, processes, and procedures; Information Technology Services takes telework into account when it builds out the AT&T employee Intranet. By integrating telework conditions into its business practices, AT&T ensures that it has a sustainable management system for telework and teleworkers.

AT&T discovered that it is important to evaluate the organization's telecommuting program on a regular basis, either annually or bi-annually. Telework participants, supervisors, managers, and telecommuting coordinators complete the evaluation worksheet [Appendix 11]. The compiled results of the evaluation worksheets identify areas that require improvement, that work well, and that have perceptual differences between the parties (i.e. a

participant's views vice his/her supervisor's views of the program).

AT&T found that many supervisors needed to learn new skills or further develop existing skills to effectively manage teleworkers. One of the most difficult transitions for many supervisors was moving from measuring productivity by direct observation to measuring productivity by results. Managerial (and participant) communication skills also required development and honing. When supervisors and teleworkers established regular means of communication, work expectations were clarified, work related problems were resolved, due dates were met on a more consistent basis, and teleworkers were informed on central office issues.

Additionally, AT&T found that some managers set higher goals and standards for teleworkers than for in-office workers (or vice versa), thus frustrating the teleworker, in-office employees, and the manager. AT&T insists that setting realistic goals for all employees, regardless of the physical location the work is performed, is key to ensuring that all employees are treated fairly. Supervisors must take care to ensure that teleworkers and non-teleworkers are treated the same with respect to workload, types of projects, recognition, assistance, promotion opportunities, etc. AT&T claims that consistent management of all employees will breed trust in the working relationships of all team/department members. Further, trust is the key ingredient to the success of a telework program.

F. SUMMARY

This chapter examined GSA's, DCAA's, and AT&T's telecommuting implementation experiences. It identifies barriers to implementation, management and participant expectations and concerns, advantages, disadvantages, and lessons learned within each organization.

Each organization implemented telecommuting arrangements for different reasons. GSA implemented Flexiplace because it was directed to do so by the President's Council on Management Improvement. DCAA found Flexiplace to be economically desirable because the two San Diego area branch offices relocated to smaller facilities and telecommuting arrangements facilitated more efficient use of physical office spaces. AT&T implemented telecommuting in order to comply with the Clean Air Act of 1990.

Although the implementation strategies of the three organizations studied varied, all recommended that telecommuting policies and procedures should be formalized and that proper planning, prior to implementation, is critical to the success of telework arrangements. Further, each organization established formal telecommuting agreements between supervisors and participants that detailed specific expectations of each party, and outlined terms and conditions of the telework arrangement. Lastly, GSA and AT&T designated a Flexiplace/Telework Coordinator to serve as the central point of contact for information, policy, guidance, etc. DCAA established a Flexiplace Board for this purpose.

1. Implementation Obstacles

The most common implementation obstacle reported in all organizations was overcoming management objections. Training managers and supervisors on the structure and benefits of telecommuting was found to be the single most effective path toward overcoming management objections. Another implementation barrier was the time required for an individual or organization to cycle through the various stages of change. As organizations worked with Flexiplace arrangements, adapted, and finally accepted Flexiplace principles, it was able to successfully monitor and evaluate the program objectively and adjust as required to ensure the success of the program.

2. Management and Participant Expectations/Concerns

Managers most commonly feared that employees who worked outside of a direct line of sight would not be as productive as those that remained in the central office. Participants feared that if they were not within sight of their supervisors, they would be forgotten and miss out on promotion opportunities and other vital information. What the studied organizations found was that open and frequent communication dispelled the fears of both managers and participants and led to better communication habits than either party had when the participant was located in the central office only.

Productivity was another area of concern to managers and participants. Managers were concerned that participants' productivity would diminish as a result of telecommuting, whereas participants expressed concern that their managers would *require* increased productivity to remain in telecommuting arrangements. OPM recommends that

managers move to management by objective and become result-oriented vice visually-oriented when evaluating an employee's performance. Additionally, organizations learned that they must maintain the same evaluation standards for telecommuting employees as for non-telecommuting employees to ensure equitable and fair treatment throughout the entire organization and eliminate the potential for discrimination complaints.

3. Flexiplace Benefits Identified

Productivity increases were touted as one of the major benefits of telecommuting. GSA reported that up to 80% of telework participants and supervisors experienced productivity increases. DCAA, while unable to directly measure and quantify productivity increases, reported that its auditors believed they were more productive working from home due to a reduction in distractions and interruptions. AT&T participants and managers similarly reported productivity increases.

Teleworkers commonly cited savings in transportation expenses as a major benefit to telecommuting. Additionally, because of their telework arrangements participants reported that they felt less stress about their job and their commutes, even on days when they were required to commute to the central office.

The organizations studied also referenced several other benefits associated with telecommuting: reduced sick leave usage, improved employee morale, improved employee job satisfaction, higher retention levels of the most qualified employees, and better working relationships between managers and employees.

4. Flexiplace Disadvantages Experienced

Slow data connectivity was a common complaint in the early stages of Flexiplace implementation at all three organizations. As technology improved and the "bugs" of data transfer were worked out, this disadvantage was overcome.

GSA and DCAA reported that initially the lack of Government long distance calling cards was a disadvantage to telework. Participants were not able to conduct official business that required long distance phone calls because organizations were prohibited from paying for those expenses. Under Public Laws 101-509 and 104-52, however, agencies can now provide and pay for required telephone equipment, monthly charges, and telephone calling cards.

Another aspect, and potential disadvantage, that organizations must consider when implementing telecommuting arrangements is the impact Flexiplace may have on central office employees. Organizations must ensure that fairness and equity pervade Flexiplace policies such that participant selection and evaluation are consistent throughout the organization.

5. Lessons Learned

Thorough advanced planning was the cornerstone in the success of telecommuting arrangement at all three studied organizations. The establishment of a Flexiplace/Telework coordinator was a critical component of their programs. Additionally, each organization found that formal written policies and procedures that delineated selection criteria, telecommuting parameters, and requirements were vital to the systematic and consistent application of a telecommuting implementation strategy.

The most frequently cited lesson learned was that trust and open communication between supervisors and telecommuting participants are mandatory, and each is a two-way street. Managers must trust participants and participants must trust managers. Each party must be responsible for and held accountable for continual, open, and frequent communication and exchanges of information.

Finally, every organization experienced problems during their initial implementation arrangements. The ability to identify roadblocks, successfully navigate through or around them, and be flexible and modify program guidelines and parameters to ensure success were vital components of each organization's implementation strategy. More likely than not, this process was iterative, but once all the details were worked out, each organization was able to implement a successful Flexiplace program and realize benefits for its organization, supervisors, and participants.

It is important that organizations study and learn from others that have blazed trails ahead of them so that they can more readily identify and avoid pitfalls as well as take advantage of the best practices of front running organizations. The next chapter will apply the material gathered through the GSA, DCAA, and AT&T case profiles to the SWDIV organization. The information will be tailored and filtered to the specific needs and requirements of SWDIV.

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V – APPLICATION OF FLEXIPLACE DATA TO SWDIV

A. OVERVIEW

This chapter describes the current organizational structure of SWDIV and applies to SWDIV the laws, regulations, policies, and procedures described in Chapter III; the GSA, DCAA, and AT&T case profiles from Chapter IV; and the research discussed in the literature review. The categories below were drawn from the research questions and are analyzed relative to the research data and current conditions at SWDIV.

- Applicable laws and personnel regulations
- Lessons learned from GSA, DCAA, and AT&T
- Employee morale
- Productivity and metrics
- Flexiplace benefits
- Space utilization
- Limitations of Flexiplace implementation at SWDIV
- Barriers to implementation

B. CURRENT ORGANIZATIONAL STRUCTURE OF SWDIV

Southwest Division, Naval Facilities Engineering Command provides installation and engineering procurement services for Navy and Marine Corps activities in nine western states: Alaska, Arizona, California, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming. SWDIV is organized into Integrated Product Teams (IPTs) and Area Focus Teams (AFTs) that focus on specific clients or groups of clients (military activities) and provide specialized

services designed to meet the clients' needs. Since SWDIV's geographic area of responsibility is vast, and consequently, outlying offices are disbursed throughout its geographic footprint, this thesis focuses on the San Diego county area offices and specifically the SWDIV Headquarters office located in downtown San Diego, California. Therefore, for this thesis, the term SWDIV shall refer only to the SWDIV Headquarters office and other San Diego resident field offices.

SWDIV employs approximately 1500 full time civilians in various disciplines: automated data processing, engineering, contracting, accounting, environmental, architect/engineering, planning, real estate, clerical, etc. Grade levels range from GS-03 to GS-15 with the majority of personnel in the GS-9 to GS-12 range.

According to SWDIV's organizational chart, SWDIV is divided into the following major divisions: Command Staff (military personnel), Counsel, Comptroller Department, Acquisition Department, Strategic Business Department, Infrastructure Acquisitions, Operations, and Base Realignment and Closure (BRAC) [Ref. 1]. Each of these top level departments is composed of numerous component departments. Figure 5.1 is a representative sample of SWDIV's organizational structure.

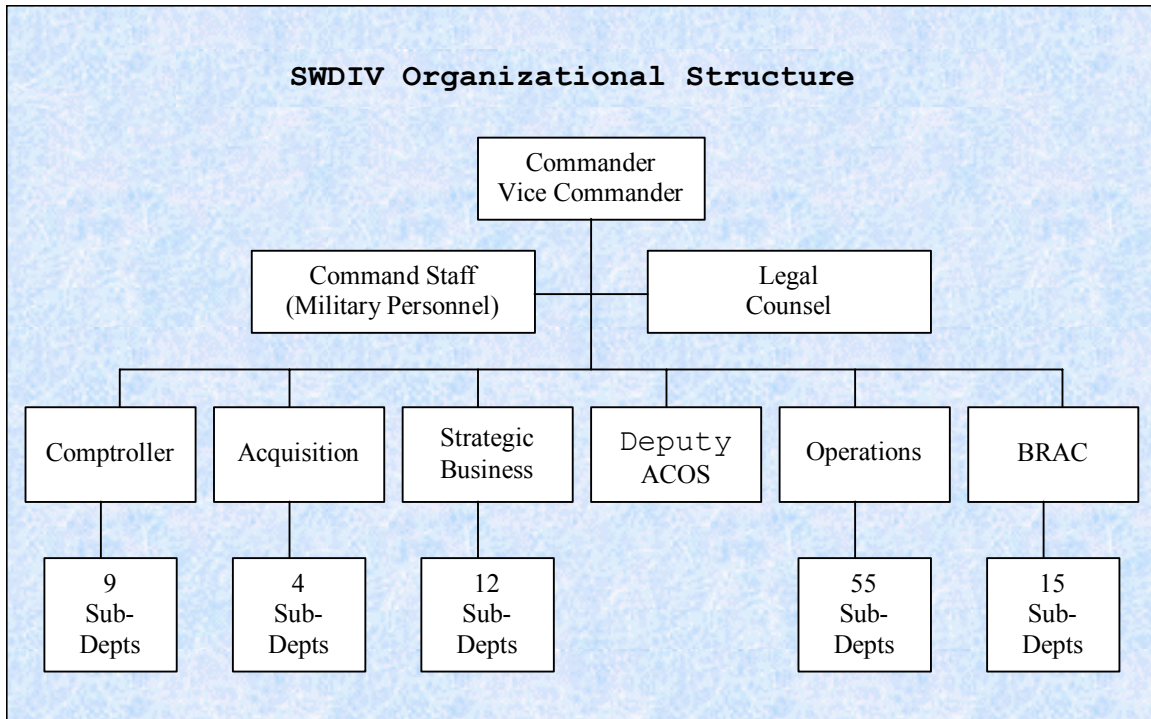


Figure 5.1 SWDIV Organizational Structure

C. APPLICABLE LAWS/PERSONNEL REGULATIONS

As indicated previously, Public Law 106-346 requires Executive agencies and departments to ensure that 25% of their employees are working under formal telecommuting arrangements by November 20, 2001, with an additional 25% each year for the next three fiscal years [Ref. 1]. Neither NAVFAC HQ nor SWDIV currently have formal telecommuting policies. Additionally, SWDIV does not have any employees under formal telecommuting arrangements. This fact in and of itself does not render SWDIV in violation of PL 106-346 because all the law requires is that the Department of Defense ensure 25% of its workforce is under telecommuting arrangements by the date required.

However, as of October 22, 2001, the Under Secretary of Defense (USD) issued a memorandum that requires all DoD

component activities to implement the requirements of PL 106-346. USD's interpretation of the law varied slightly from that of OPM and GSA. USD requires that each DoD organization offer 25% of its *eligible workforce* a telecommuting option. OPM and GSA, however, interpreted the law to require agencies to establish telecommuting programs and actively *encourage* participation to the maximum extent possible with a minimum of 25% of the workforce under telecommuting arrangements by required dates. Additionally, USD defined "regular telecommuting" as one day per biweekly pay period rather than the OPM minimum requirement of one day per week. [Ref. 113].

The USD memorandum includes a copy of the Department of Defense Telework Policy, which is consistent with most of the policies described in Chapter III, but additionally prescribes [Ref. 113, Attachment 1, pp. 3 - 4]:

- Telework agreements must address ... Government access to the alternate worksite;
- No classified documents (hard copy or electronic) may be taken by teleworkers to alternative worksite;
- Teleworkers are authorized to use personal computers in lieu of Government furnished computer equipment for sensitive unclassified work provided that the teleworker verify in writing that all files are deleted from the PC;
- Personal computers may not access DoD systems or networks remotely;

Specifically applicable to SWDIV, the DoD Telework Policy states that the heads of DoD component activities shall [Ref. 113, Attachment 1, pg. 7]:

- Administer a telework program in accordance with public law, [DoD Telework Policy], and any relevant DoD regulations;
- Designate a Component Telework Coordinator to administer and oversee implementation of the telework program in the Component; and
- Develop any Component specific guidelines on telework necessary to implement this policy within their organizations.

Although SWDIV currently has no policies supporting or prohibiting telecommuting, in September 2001 the head of SWDIV's Strategic Business Department sought to establish a cadre of individuals to investigate telecommuting arrangements at SWDIV. The team was chartered to review existing legislation and policy and make recommendations regarding Flexiplace implementation. Because the team was only recently established, it has not had sufficient time to conduct research and develop policy guidance or recommendations relative to Flexiplace implementation at SWDIV.

The fact that SWDIV started to investigate telecommuting arrangements independent of the USD memorandum indicates openness to the possibility of implementing Flexiplace at SWDIV. Given the USD directive that all DoD organizations comply with PL 106-346, and given the DON and NAVFAC favorable positions on Flexiplace (as described in Chapter III), SWDIV is wise to continue its investigation efforts and draft implementation policies of its own that are in line with those of OPM, USD, DON, and NAVFAC.

D. LESSONS LEARNED

1. Planning

The research indicated that a component vital to the success of any telecommuting arrangement is thorough and well thought out planning of Flexiplace implementation strategies [Refs. 2, 12, and 33]. Therefore, it is critical that organizations invest the time and resources (personnel and financial) to adequately plan all elements of the telecommuting program from participant selection, suitable work, suitability of alternate work location, communication flows, and technological requirements.

SWDIV has only recently formed a team to delve into telecommuting issues and the potential implications for SWDIV. Currently there is no data regarding SWDIV telecommuting implementation strategies. However, given the recent USD mandate, SWDIV needs to carefully consider the research data provided in this thesis and use the data to develop plans that will facilitate successful implementation strategies and avoid or minimize potential implementation obstacles.

2. Participant Selection

The research indicated that participant selection was another critical component to successful telecommuting programs [Refs. 12 and 82]. Participants that work well in telecommuting environments are highly motivated, disciplined, organized, have a thorough understanding of the organization and its mission, work well independently, and have high performance ratings [Refs. 2, 44, 52, 63, 69, 73, 82, 84, 105, and 113].

I did not attempt to gather specific information relative to employee characteristics within SWDIV.

However, based on my experience working with various departments and individuals, I believe that there are numerous employees who would satisfy the qualifications identified in the research. There are also individuals who would not make suitable telecommuting candidates. A determination relative to specific participant selection is beyond the scope of this thesis and should more appropriately be made at the department supervisor and team lead levels.

3. Supervisor Selection

Supervisor selection is another important factor relating to the success of telecommuting programs. GSA found that if a manager who did not support telecommuting arrangements was forced to implement telecommuting for his/her staff, the manager was more likely to look for failures in the program rather than facilitate the program's success [Ref. 82]. GAO found that in successful telecommuting programs supervisors supported telecommuting arrangements, were willing to take risks, and trusted their employees [Ref. 36]. Additionally, successful telework supervisors were able to effectively manage personnel based on results and had good communication skills.

I discussed telecommuting concepts with several SWDIV team leads and supervisors to gauge their receptiveness to Flexiplace in general and their perceptions relative to Flexiplace implementation in their respective teams. Most supervisors were hesitant to discuss telecommuting arrangements with me for reasons unknown. Among supervisors and leads that did discuss their opinions, their concerns mirrored those found in the research, namely uncertainty regarding employee work ethics if they could

not visually observe employees, productivity and mechanisms to measure productivity effectively, time and attendance reporting, and reactions of personnel that wanted to but were not allowed to work from home.

The research indicated that management concerns needed to be addressed, but they were not insurmountable barriers to Flexiplace implementation [Refs. 7, 10, 12, 36, and 37]. Perhaps Nilles is correct in asserting that management concerns stem from the possibility that many managers are simply ill equipped to manage remote workers [Ref. 11]. The research indicates that supervising teleworkers forces managers to hone their managerial and communication skills and in essence become better managers [Refs. 5, 11, 17, 91 and 102]. With proper training relative to managing teleworkers, SWDIV managers could improve their overall managerial skills, and thus be better able to manage teleworkers effectively.

4. Type of Work Suitable for Flexiplace

The research examined the types of work that are well suited for telecommuting. Work that requires thinking, writing, research, analysis, or is highly computer-oriented was found to be very conducive to telecommuting arrangements [Refs. 63, 69, 73, and 113]. Work not suited for telecommuting includes assignments that require a high degree of face-to-face interaction with others, access to classified material, or work that is site specific [Refs. 63 and 113].

The majority of work products produced by SWDIV consist of written documents such as contracts, engineering estimates, scopes of work, reports, etc. The associated tasks of research, analysis, and writing are largely

computer-oriented and very conducive to telecommuting arrangements. Therefore, SWDIV could implement Flexiplace arrangements for these work functions.

Other functions within SWDIV which do not produce paper products such as clerical, administrative, and information technologies support do not fit the telework profile found in the research data. These functions require a high degree of personal interface with others in the organization and are not performed independent of the worksite. Consequently, SWDIV should not consider Flexiplace arrangements for these jobs.

5. Trust and Communication

The literature and case profiles revealed that the most significant factors affecting telecommuting programs were communication and trust between managers and participants [Refs. 12, 17, 38, 39, 44, 46, 47, 82, 97, 99, and 103]. These sources contend that both managers and participants need to develop communication skills so that they can freely and openly exchange information about problems, concerns, expectations, and areas that require alteration. However, before free and open communication can occur, the parties need to trust each other.

Managers need to trust that employees are working on assigned tasks and that employees will identify issues in a timely manner that need management attention. Employees need to trust that managers will not forget about them if they are not in the central office. The research suggests that in successful Flexiplace programs, communication between managers and participants improves because of the lack of face-to-face contact [Refs. 12, 38, 47, 97, and 103].

Reactions varied about communication and trust between managers and employees at SWDIV. I spoke informally with supervisors, team leads, and employees regarding communication and the level of trust they had in their working relationships. I also asked employees about communication and trust within their departments and with their colleagues.

Most managers and team leads stated that they had employees they trusted to get work done without having to micromanage them; yet there were other employees that needed more "hands on" attention. Surprisingly, many employees in the "hands on" category were not necessarily junior or trainee employees.

Employees typically stated that they trusted their team leads and perceived there was good communication within that relationship because they interacted with the team lead on a daily or continual basis. However, employees stated they had little (if any) direct interaction with their supervisor and could not make definitive statements regarding trust. Communication between employees and supervisors is minimal because most of the personnel, mentoring, and workload management issues are handled at the team lead level and not at the supervisory level. Supervisors are usually only approached when the team lead requires higher management input on issues.

Relative to their relationships with colleagues, most employees stated that they trusted their co-workers and had frequent and open discussions with them on work and non-work related issues.

It appears that trust and communication in interpersonal relationships between employees, their team

leads, and colleagues are conducive to alternate work arrangements. However, for telecommuting arrangements to work effectively at the supervisory level, communication and trust between the employee and the supervisor must improve. Additionally, SWDIV team leads must work jointly with supervisors in the development and administration of telework arrangements.

E. FLEXIPLACE BENEFITS

1. Ability to Attract and Retain Personnel

One primary objective sought under the Government's Flexiplace program was the ability to attract and retain the highest caliber employees [Refs. 2, 5, 8, 9, 45, 55, 56, 57, and 58]. The research indicates that organizations that offer telecommuting arrangements retain, on average, 39% of employees who would otherwise have taken jobs elsewhere [Refs. 5 and 82]. The Department of Labor reported that the average cost to replace and train an employee is one-third of the employee's annual salary [Ref. 15].

SWDIV has an estimated turnover rate of 15% per year. According to the SWDIV Associate Survey Report, the statement "I rarely consider leaving this organization to go to work for another company" received one of the lowest levels of agreement from survey participants [Ref. 113]. The low level of agreement with the survey statement indicates that a high percentage of SWDIV employees frequently consider leaving the organization.

People leave for various reasons. Some leave for promotions, while many leave because they desire better working conditions, more challenging work environments, or other personal reasons. Additionally, SWDIV is facing an

increasing number of retirement eligible employees (specific number unknown). Research on attrition and retirement rates indicate that up to 50% of the Federal workforce will be eligible to retire by 2005 [Ref. 115].

The research indicates that if SWDIV implemented telecommuting arrangements it would be able to attract new highly qualified employees, retain approximately 39% more of its current employees who would otherwise leave the organization, and save significant financial resources (one-third of an employee's salary) in hiring and training expenses. Additionally, retirement eligible employees may postpone retirement plans if telecommuting options were available thereby allowing SWDIV to keep a greater portion of its corporate knowledge base.

2. Reduced Absenteeism

Another key benefit of telecommuting to organizations was reductions in employee absenteeism, particularly reductions in sick leave usage. Federal employees use sick leave for employee illnesses, dependent care, medical and dental appointments, stress, fatigue, and general mental health. GSA reports a 45% reduction in sick leave used by telecommuting employees because employees were able to accomplish errands or appointments that were geographically proximal to their homes and thus take a few hours leave rather than an entire day's leave [Ref. 2, 5, and 82]. Another factor that contributes to the reduction in employee absenteeism is the fact that many employees report less stress and fatigue when working from home and consequently require less time off for stress, fatigue, and mental health [Refs. 7, 9, and 11]. Several organizations reported that the cost savings associated with reduced

employee absenteeism exceeded \$10,000 annually per teleworker [Refs. 4, 12, 14, and 15].

Most SWDIV managers are sensitive to employee leave requests whether the requests are for annual or sick leave. Unless there are cases of abuse of sick leave, managers usually do not question employee leave requests. I have found that SWDIV managers are very supportive of an employee's personal requirements be they family, medical, or other.

Since the research revealed that employee absenteeism can be reduced by up to 45% under telecommuting arrangements, SWDIV could realistically assume that it would achieve similar reductions if it were to implement a telecommuting program. SWDIV could reduce operating expenses and simultaneously increase workflow continuity under Flexiplace because employees would be taking less sick leave. According to the research, leave savings resulted primarily from employees taking fewer sick days. Consequently, especially for employees under the Federal Employee's Retirement System (FERS), any sick leave reduction achieved through telecommuting arrangements directly relates to cost savings for the organization.

Annual leave will most likely not be largely affected under telecommuting arrangements because employees with use or lose annual leave balances must take the leave regardless of the work arrangement they chose. However, employees who substitute sick leave in place of annual leave for "mental health" days would probably be less likely to do so under telecommuting than non-telecommuting arrangements.

3. Commuter Benefits

The research indicated that telecommuters reported they spent less time in traffic-congested commutes and were better able to use the time productively working from home [Refs. 5, 9, 11, 12, 21, 23, and 97]. Additionally, vehicle related expenses such as gasoline, parking, wear and tear, and maintenance cost savings were noted advantages to telecommuters.

It is estimated that San Diego is growing at the rate of 50,000 new residents per year [Ref. 116]. Traffic related problems are growing commensurate with the increase in the area's population growth. SWDIV is located in downtown San Diego, and traffic getting into and leaving the downtown area is growing constantly worse. Within the last two years, I have noticed that my 35 mile one-way commute has increased from 45 minutes to nearly an hour and a half during peak commute periods. In speaking with other SWDIV employees, they have experienced similar increases in commute time frames due to increased freeway and surface street congestion. KTLA, a San Diego news station, reported that the average commuter spends between two to three hours in traffic every workday [Ref. 116].

By allowing employees to work from their homes for a portion of the workweek, SWDIV could effectively convert time lost in daily commutes to productive work time. At the same time, employee traffic related stress would decrease. Research indicates that as commute related stress decreases, employee job satisfaction, morale, and productivity tend to increase [Refs. 2, 4, 5, 16, 18, 91, and 96]. There is no reason to assume that SWDIV could not achieve similar benefits under telecommuting arrangements.

F. SPACE UTILIZATION

Many studies cited stated that organizations could save significant real estate expenses and dramatically reduce operating expenses as a direct result of implementing telecommuting arrangements [Refs. 4, 5, 7, 9, 10, 11, 12, and 13]. DCAA, AT&T, Cisco, and other organizations found that office space requirements could be reduced by allowing telecommuting employees to share a single office space rather than maintain a dedicated workspace in the central office [Refs. 9, 11, 12, 97, and 101]. Typically teleworkers under this scenario, called 'hotelling', worked from home two or more days per week.

Other research, however, indicates that for an organization to realize and amass the savings generated from reduced facility costs, the organization must have at least 10% of its staff under telecommuting arrangements [Ref. 16].

SWDIV headquarters is located in downtown San Diego, a prime real estate location. The San Diego Port Authority and the City of San Diego desire this property for the redevelopment of downtown San Diego. The contract for the lease of this property by SWDIV from the Port Authority was for a base period of 50 years plus a 50 year option. Although SWDIV has exercised its option, the Port Authority is attempting to contest the contract. Currently in litigation, the results of the Port Authorities claim may not be resolved for several years. Since the lease expenses on this property are minimal, SWDIV will continue to occupy the property until the litigation is resolved.

SWDIV personnel are disbursed throughout several locations including the main SWDIV compound, shared space with the Fleet and Industrial Supply Center (FISC),

resident field offices at military installations, and leased office space in downtown San Diego. In order to accommodate its personnel, SWDIV continuously seeks additional office space and reconfigures its current office spaces.

In addition to inadequate office space, conferencing facilities are limited. Conference rooms have been reduced both in size and quantity. In October 2001, SWDIV converted one of its primary conference rooms to office spaces. With several hundred people competing for the same conferencing areas, finding available conference rooms is increasingly difficult. During periods of peak execution schedules, if conference rooms are not available on the SWDIV compound, work either has to be rescheduled or conferencing space must be leased from outside the organization. Sometimes, employees are forced to seek out any space that can serve as a makeshift conference room.

Under telecommuting arrangements, SWDIV could improve space utilization by allowing telecommuters to share office space. If the quantity of teleworkers was sufficiently large, SWDIV could terminate its commercial office leases, reconfigure office spaces on the main compound to accommodate those coming in from commercial office space, and increase the number and size of conferencing areas. This plan, however, would require that SWDIV restructure the organization so that at least 10 to 15% of its staff were working from home two or more days per week.

If SWDIV had at least 10% of its civilian workforce (approximately 150 employees) working from home at least two days per week, it could reduce the required office spaces by up to 75 offices. The average cubicle is approximately 80 square feet. Therefore, a reduction of 75

cubicles would free up 6,000 square feet of office space. The available space could then be used to reduce or eliminate leased commercial office space and design additional conference rooms.

DCAA found that to effectively share office space, each teleworker required one personal locking file cabinet and a dedicated phone number that could be forwarded to the employee's home during work-at-home periods. These arrangements would have minimal impact or cost to SWDIV.

G. EMPLOYEE MORALE

GSA and AT&T reported that employee morale increased as a direct result of telecommuting primarily because employees were more relaxed working in their homes, experienced significantly less traffic or office related stress, and were better able to balance work and family priorities. DCAA indicated that employee morale was unchanged because employees were generally satisfied with and liked their jobs even prior to Flexiplace.

The literature reviewed frequently cited increased employee morale among the benefits of telecommuting, but morale is very subjective and difficult to quantify. Consequently no empirical data to support claims of improved employee morale were provided in any of the research. GSA contends that as long as the teleworker believes that his/her morale has improved as a result of telecommuting arrangements, no additional metric or measurement is required to verify or quantify the increase in morale [Ref. 82].

I used the results of the 1999 Command Climate Survey and the 2000 Associate Survey to assess employee morale at SWDIV [Refs. 114 and 117]. These are the only reports that

have assessments relative to employee morale at SWDIV done in the last several years.

According to the Associate Survey, only four respondents out of 759 stated, "The Command seems to recognize that good associate morale is a key ingredient to the accomplishment of Command missions" [Ref. 114, pg 9]. The same report indicated that "a significant percentage" of survey participants felt there were not enough questions regarding employee morale. The Associate Survey Report did not quantify or make a determination relative to the overall level of employee morale.

A review of the Command Climate Survey found that a large, but undisclosed, percentage of employees were dissatisfied with working conditions and particularly promotion selections. Due to perceived inequity and unfairness in promotion selections, the report stated that "morale is so bad that people don't trust the management..." [Ref. 117, pg. 9]. The report also indicates that many employees perceive that favoritism and "the good old boy syndrome" exist within SWDIV, thus contributing to low employee morale.

My experience at SWDIV indicates that morale is also directly correlated to the team an individual works on. Teams that are riddled with strife and division have very low team morale. Teams that work as a cohesive unit and communicate openly tend to have fairly high team morale. However, an individual's morale on any team may differ from overall team morale.

Because morale is difficult to measure, there is little data to affirmatively state that implementing Flexiplace at SWDIV would improve overall employee morale. Generally, if employees are content with their jobs and

happy in their teams or departments, morale is likely to remain the same or improve. For teams where there is a high degree of discontent, telecommuting arrangements may increase morale for teleworkers but may further exasperate discontinuity and resentment among other team members.

H. PRODUCTIVITY AND METRICS

The data in this area was largely contradictory. Numerous reports indicated that productivity could be expected to improve by 10 - 40% through telecommuting arrangements [Refs. 9, 11, 12, 24, 25, and 26]. Although GSA and DCAA attempted to measure productivity changes resulting from Flexiplace arrangements, they found it was inordinately difficult to do so. Structured measurement baselines were not developed against which productivity could be measured in terms of concrete evidence [Refs. 82 and 97]. However, most telecommuters and their supervisors perceived significant increases in productivity due to fewer interruptions and distractions in the home office and an increase in the employee's ability to concentrate on tasks [5, 19, 20, 21, 22, 23, 82, and 97].

In any event, no reports indicate productivity decreases as a result of telecommuting, even those reports or studies that state that productivity increases cannot be verified.

I spoke with managers at SWDIV and asked them how they gauge productivity. Most managers gauge an employee's productivity by observed activity, the number of hours the employee is physically in the office, and by whether an employee meets execution dates/commitments. Managers also rely on input from customers and team leads regarding an employee's performance. Customers feedback is probably the

most akin to true productivity measurements because customers are focused only on results.

Productivity discussions between employees and their supervisors typically do not occur unless the employee is failing to meet project deadlines. And even then, those discussions typically result in finger pointing and blaming others for failures.

Researchers suggest that managers shift from measuring an employee's productivity and effectiveness by visual observation of perceived activity to measurement by results regardless of the physical location the employee performs work functions [Refs. 7, 16, 17, 29, 32, 47, and 107]. Westfall contends that measuring employees' performance based on visual observation is often flawed because individuals will likely increase the level of activity when they know they are being observed [Ref. 29]. He further states that increased activity does not necessarily translate to increased productivity.

AT&T suggested that quantity of output produced could be used as an evaluation metric if the process of creating that output was consistent and routine. Many researchers recommend managers involve employees in the development of expectations, timeliness, and other factors relative to telecommuting arrangements, thereby avoiding potential misunderstandings [Refs. 37, 48, 107 and 110].

Other researchers recommend that managers provide teleworkers with written directions that clarify objectives and expectations [Refs. 4, 45, and 46]. However, managers are cautioned that not every task can be evaluated in quantitative terms [Ref. 37]. In some cases, work assignments may need to be broken into several component work elements for evaluation purposes.

Vega and Brennan identify possible performance monitoring techniques that include adjusting traditional standards to telework arrangements, conducting periodic face-to-face meetings to go over teleworker performance, and teleworker submission of periodic progress reports [Ref. 7].

Productivity metrics per se do not exist at SWDIV. However, SWDIV Instruction 12430.1D and the Procurement Operations Manual set forth the command's performance appraisal system [Refs. 118 and 119]. The annual appraisal period is from July 1 through June 30. The appraisal system requires supervisors to establish Performance Plans and Work Plans for each employee prior to each evaluation period.

The work plan is a set of specific work objectives to be accomplished by an employee during the appraisal year. The objectives directly relate to the employee's job requirements and organizational goals. Specific objectives are set that reflect standards of quality, anticipated output, and resources to be used. The objectives on the work plan are established mutually between the employee and his/her supervisor.

Under the current performance appraisal system, employees are rated on a met/not met basis for each performance element. A rating of "not met" in any element results in an overall evaluation of "unacceptable" [Ref. 119]. The command recognizes that "it is critical that the work plan be a dynamic tool and adjusted as necessary to be realistic and responsive to organizational needs and changes" [Ref. 118, pg. 2].

Typical performance plan elements for non-supervisory personnel are [Ref. 119, pp. 4 - 6]:

ORGANIZATIONAL SUPPORT AND COMMUNICATION - The employee has a basic understanding of organizational goals and priorities and fully complies with administrative policies, regulations, and procedures when performing job operations. Communicates orally and/or in writing when needed to coordinate work and keep supervisor and co-workers informed of work-related issues, their developments, and their status.

EXECUTION OF DUTIES - In performing the work of the unit, the employee accepts the work to be accomplished, properly follows instructions, uses the technical knowledge and applies the skill(s) needed to complete tasks assigned. The service or work product produced is of good quality, timely, and responsive to the supervisor and the organization's priorities and requirements.

The non-supervisory Work Plan consists of the following critical elements [Ref. 119, pg. 6]:

Enter accurate data on planned and accomplished actions into all command and local databases as the actions occur.

Execute [assignments] in accordance with the appropriate laws, regulations, and policy and demonstrate sound business judgement in decision making. Establish and maintain official files.

Schedule assigned work to provide timely performance of all assigned tasks. Review the schedule with the supervisor to gain concurrence and establish workload expectations.

Execute all assigned duties as a positive member of the team.

The Performance Plan for supervisors contains all critical elements identified for non-supervisors and adds [Ref. 119, pp. 16 - 17]:

PERSONNEL LEADERSHIP - Serves as coach of and mentor to employees and facilitate[s] the

achievement of their Work Plan objectives by continuously providing effective communications and motivation.

EQUAL EMPLOYMENT OPPORTUNITY - Proactive in the achievement of EEO goals and objectives. ...

The supervisor Work Plan consists of the following critical elements [Ref. 119, pg. 13]:

Establish work plans and expectations for each employee.

Develop and maintain a Quality Management Plan (QMP). Establish efficient workflow processes that are in consonance with the QMP.

Ensure that accurate data on planned and accomplished actions is entered into all command and local databases as the actions occur.

Ensure that all employees have appropriate training and mentoring to allow them to perform their assigned duties with efficiency, accuracy, and execute actions in accordance with appropriate laws, regulations, and policy while exercising sound business judgement.

Ensure that each employee has scheduled their work assignments to allow efficient and timely performance of all assigned duties. Prioritize work...without overloading the employee. Review as often as necessary to accommodate changing priorities.

Ensure employees perform as positive members of the team.

Although the process is well defined, in actuality employees and supervisors rarely tailor the work plan objectives to relate to specific assignments or goals. Usually, employees and supervisors sign off the boilerplate appraisal form without revision or much discussion.

There were few performance metrics established in the research data. Notwithstanding, an analysis of SWDIV's current performance appraisal system appears to be very conducive to telework arrangements without much (if any) alteration. However, managers, team leads, and employees must use the appraisal system as the dynamic tool it was intended to be rather than view it as an annual nuisance.

Rather than annual appraisal events that provide little value to employees or supervisors, SWDIV should consider actually following the intent and requirements of the performance system by updating the performance and work plans periodically as work requirements change and circumstances dictate. The annual performance evaluation then would reflect the entire year's accomplishments as measured in the periodic reviews.

I. FLEXIPLACE LIMITATIONS

Research reports few actual limitations relative to an organization's ability to implement successful telecommuting programs. Objections raised by managers in and of themselves do not qualify as implementation limitations [Refs. 11 and 82]. Implementation limitations are defined as those obstacles that prohibit Flexiplace arrangements or severely reduce the likelihood that telecommuting will benefit an organization.

The most frequently cited implementation limitations were telecommunication hardware, software, and inadequate access to central office computer networks/databases from remote locations [Refs 5, 6, 22, 24, 33, 36, 49, 84, and 97]. Many of the individuals interviewed for the case profiles stated that, at least initially, connecting to central office computer networks, servers, and databases

via dial-up modems was difficult due to inadequate telecommunication equipment. Data modems were often too slow to allow for efficient retrieval of data, and access to information was often restricted to in-office personnel for "security reasons."

Recent technological advancements in terms of equipment, software, and security have minimized these concerns for many organizations. However, the most recent DoD policy on telecommuting explicitly prohibits remote access to central office computer networks, servers, or databases [Ref. 113]. The reason for this prohibition is unknown. SWDIV employees are currently only able to access e-mail from remote locations. This also appears to be a violation of the DoD directive since e-mail resides on SWDIV network servers.

Many of SWDIV's work products interface with network databases such as the Facilities Information System, Standard Procurement System, and numerous legacy systems that are inaccessible from remote locations. Unless DoD changes its direction concerning remote access to these applications, telework will be limited to those tasks that can be performed on stand-alone computers.

DoD's direction appears to give conflicting signals relative to telecommuting. On one hand it mandates that organizations establish and maximize telecommuting programs, and on the other hand it restricts an organization's ability to implement telecommuting strategies though effective use of network databases and computer applications required to perform most official work functions.

SWDIV will have to address the DoD telework policy, and specifically the prohibition relative to remote access

to central network systems, when it attempts to comply with the direction and develop telecommuting implementation plans. How SWDIV chooses to address this issue will determine the extent to which telecommuting arrangements will become viable work options for SWDIV employees.

J. BARRIERS TO IMPLEMENTATION

The literature review revealed that organizational culture has a bearing on the success of telecommuting programs. If the organization simply "boilerplates" the implementation strategies, policies, and procedures of other organizations, the program is more likely to fail than if the organization had tailored other successful programs to its own cultures and values [Ref. 49]. Additionally, organizations with high centralization in decision making and less formalized rules regarding performance evaluations may have difficulty implementing telecommuting arrangements successfully [Ref. 50].

The most frequently cited barrier to Flexiplace implementation was management resistance [Refs. 5, 7, 11, 17, 35, 36, 37, 38, 39, 46, 52, 82, 83, 90, 91, 97, and 98]. Typically resistance came from middle managers who feared losing control of their employees, lacked trust that employees would work if out of their sight, and worried about their value to the organization if they supervised teleworkers [Refs. 17, 35, 37, and 38]. The research also indicated that managers' resistance to Flexiplace stemmed from the fact that most managers were ill equipped to monitor teleworkers because they measured performance by perceived activity rather than by results [Refs. 17, 35, 37, 38, 52, and 83].

SWDIV does not differ from organizations described in the research. Most middle managers and team leads that I spoke with are concerned about whether employees would actually work if allowed to telecommute. They have the same fears and concerns described in the research data: productivity measurements, time and attendance, employee work ethics, etc. Additionally, since SWDIV does not currently have a telecommuting policy, many managers were not willing to formally authorize telecommuting arrangements for their employees on a regular and recurring basis. A few supervisors have authorized episodic telecommuting arrangements on an informal case-by-case basis.

One manager, who wished to remain anonymous, told me that she trusted her employees. Occasionally she allowed a few of her employees to work from home when they had to care for sick children or had other requirements where working from home appeared to be in the best interest of the team. However, when running errands one afternoon, the supervisor spotted one of her employees getting her nails done when she was suppose to be working from home.

This supervisor was concerned with the appearance of impropriety and did not determine the circumstances surrounding the incident or whether work assignments were completed properly and timely. The level of trust the supervisor had in that particular individual declined dramatically. Additionally, the supervisor's level of trust for all employees in the department was tainted as a result of this breach of confidence.

In speaking with this supervisor, I asked her if she would consider allowing her employees to work from home again. She indicated that she did not feel comfortable

with telecommuting arrangements any longer and stated that work-at-home arrangements would be inappropriate. However, she stated that if her management authorized employees to work from home, she would not hinder them from doing so.

There have also been positive experiences of episodic telecommuting arrangements at SWDIV. Another manager indicated to me that he knew which employees he could trust and which he could not. He stated that those employees that he allowed to work from home were very productive and conscientious about their work. They produced good work products within established time frames and the telecommuting arrangement was a "win-win" for the employee and the team. He also stated that he did not advertise that some of his employees were authorized to work from home on an as-needed basis. In fact, he instructed those employees not to mention the telecommuting arrangements to their colleagues so that he would not have to justify why others who wanted to telecommute were not given the same opportunities.

Management support of telecommuting arrangements within SWDIV varies by individual supervisor. In speaking with several managers, I could not establish a single, uniform trend either for or against telecommuting. SWDIV has managers on both sides of this fence. However, nearly every manager I spoke with indicated that they were unwilling to establish formal work-at-home arrangements for their employees until higher level management supported Flexiplace for the entire command.

K. SUMMARY

The research and case profile data contained in earlier chapters were analyzed relative to the current

SWDIV environment to facilitate answering the primary and subsidiary research questions posed in Chapter I.

Public Law 106-346, enacted in October 2000, directed Executive departments and agencies to implement aggressive telecommuting programs. The law did not directly affect SWDIV until the Under Secretary of Defense issued his October 2001 memorandum which flowed the requirements down to all DoD component activities.

Faced with the requirement to implement telecommuting arrangements at SWDIV, a study of other public and private organizations revealed several key areas that directly affect the success of an organization's telecommuting program. First, organizations must invest time and resources into thorough planning. Second, manager and participant selection is a critical component of the success of the program. Third, the type of work that is well suited for telecommuting involves writing, research, and/or analysis. Finally, trust and communication between the teleworker and others in the organization, particularly the supervisor is crucial to telecommuting success.

The research identified several benefits that accrue to organizations with successful telecommuting programs: improved employee morale; increased productivity; the ability to retain approximately 39% of an organization's workforce that would otherwise seek employment elsewhere; up to a 45% reduction in employee absenteeism; and optimization of facility space utilization. An analysis of SWDIV relative to the research data revealed that SWDIV could realistically expect to achieve similar benefits.

Relative to Flexiplace limitations and barriers, most reports indicated that there are actually very few. Technological advances have all but eliminated the most

frequently cited Flexiplace limitations namely, telecommunication hardware, software, and access to central office network computer data. Thorough planning and training were shown to mitigate the most common barrier to effective Flexiplace implementation, management resistance.

SWDIV, however, needs to address the recent DoD telecommuting policy relative to the prohibition against remote access to central DoD computer networks. This restriction might limit the extent to which telecommuting is implemented at SWDIV. Management resistance within SWDIV varied and could be mitigated on an individual basis with proper training about telecommuting principles.

The data found in the research and case profiles was analyzed in this chapter relative to various components of the primary and subsidiary research questions. The questions are posed and answered in the following chapter.

VI - CONCLUSIONS AND RECOMMENDATIONS

A. OVERVIEW

This thesis reviewed the available research and literature on telecommuting; examined the laws, regulations, policies, and procedures of numerous organizations engaged in telecommuting; and profiled the General Services Administration's, the Defense Contract Audit Agency's, and American Telephone & Telegraph's telecommuting programs. The intent of this research was to gather data that would facilitate answering the primary and subsidiary research questions.

B. PRIMARY RESEACH QUESTION

- Would the implementation of flexible workplace arrangements (Flexiplace) benefit Southwest Division, Naval Facilities Engineering Command (SWDIV) in terms of improved employee morale, increased productivity, and better space utilization on the SWDIV complex?

Employee morale is highly subjective and difficult to measure. The research indicates that increased morale is one benefit to telecommuting arrangements; however, it provides no equivocal data to support this claim. Consequently, relative to SWDIV, no definitive statement or determination can be made relative to the affect telecommuting arrangements will have on individual, team, or organizational morale.

Productivity reports found in the research data indicate that productivity can increase significantly under

telecommuting arrangements. However, no concrete data was found to support this claim. Management interviewed at GSA and DCAA stated that although they had no measurement to support their claims, employees were consistently more productive or at least as productive under telecommuting arrangements compared to when they were working in the central office. With thorough planning and careful participant selection, SWDIV can realistically expect teleworker's productivity to increase or at least remain unchanged.

The area where SWDIV could expect to see the most quantifiable benefit of implementing telecommuting arrangements would be in the area of space utilization. By allowing telecommuting employees to share common office space, team space allocation could be reduced. If SWDIV had at least 10% of its workforce (approximately 150 employees) working from home at least two days per week, it could reduce the required office spaces by up to 75 offices. The average cubicle is approximately 80 square feet. Therefore a reduction of 75 cubicles would free up 6,000 square feet of office space that could be used to reduce or eliminate leased commercial office space and design additional conference rooms.

C. SUBSIDIARY RESEARCH QUESTIONS

1. If policies, procedures, and other personnel regulations require modification in order to implement a Flexiplace program, how should they be changed and at what level?

PL 106-346, which required Executive departments and agencies to implement telecommuting arrangements, satisfied any legislative measures that may have concerned SWDIV.

However, GSA found that even prior to PL 106-346, no new laws or regulations were required to implement telecommuting arrangements. Furthermore, GSA contends that existing OPM regulation are sufficiently flexible so that an organization can tailor telecommuting program policies within OPM personnel requirements. Currently, OPM has several procedural instructions to help organizations like SWDIV develop their own telecommuting policies.

The recent USD directive related to telecommuting contained one area that may need to be addressed. The DoD telecommuting policy prohibits remote access to DoD computer networks. Since much of the work performed by SWDIV and other DoD components is uploaded into central databases, the prohibition against access to these databases may limit the extent to which DoD organization could implement telecommuting arrangements.

Although SWDIV does not currently have telecommuting policies, it can easily adapt the policies and guidance issued by OPM, GSA, DoD, DoN, and NAVFAC HQ (draft) to implement a Flexiplace program at SWDIV. SWDIV will have to consider how it will interpret or implement the DoD telecommuting policy, particularly as it relates to the prohibition against remote access to central office computer networks.

Relative to PL 106-346 interpretation differences between the USD, OPM, GSA, and the PMCI, those differences need to be raised either by department heads, GSA, or OPM to ensure that all agencies are working under a common interpretation of the requirement. Perhaps the President should draft a memorandum that addresses the intent of the law and how it should be interpreted by those required to implement it.

2. How can lessons learned and best practices implemented by other organizations that have successful flexible workplace arrangements be applied to SWDIV?

Lessons learned that can be directly applied to SWDIV include participant selection, suitable work assignments, communication issues, management of teleworkers, and evaluation of telework arrangements.

Participants selected for telecommuting arrangements should be high performers, organized, disciplined, good communicators, and able to work independent of others. Work that is most suitable for telecommuting includes writing, research, and analysis. SWDIV has personnel that would be good candidates for telecommuting arrangements and many of the work products produced by SWDIV are suitable for telecommuting as well.

Communication is a key aspect of telecommuting arrangements that must be addressed by SWDIV. Nearly all of the research data indicates that the more freely information is shared, both positive and negative, the more successful are the telecommuting arrangements. Some researchers recommend that the entire team meet to discuss the affect telecommuting arrangements will have on the team as a whole, the affect they will have on customers, the roles and responsibilities of each team member, and the concerns and expectations of each team member. SWDIV needs to address these issues and develop communication pathways before implementing telecommuting arrangements to ensure that problems that may occur are not unforeseen.

Management and evaluation of teleworkers was discussed in the literature review and case profiles. Nearly all

research data recommend that managers shift from management by observed activity to management by results. This change may be difficult for some managers, particularly if there is a lack of trust in employees. This required management change, though, is not unique to SWDIV.

Organizations studied in the research solved this problem by training managers and participants to define expectations, milestone requirements, schedules, etc. in specific, unambiguous terms. OPM provides a seminar specifically for this purpose. OPM also has a train-the-trainer video program designed to help organizations adapt successfully to telecommuting arrangements.

Lastly, the literature review indicated that problems are inevitable, at least initially, and they should be expected. SWDIV management, telecommuters, and others within the organization should prepare action plans in advance of anticipated problems so that the success of the telework program is not jeopardized.

3. If the benefits outweigh the limitations and possible negative effects of Flexiplace, what additional barriers (cultural, technical, etc.) exist that would impede a successful Flexiplace program at SWDIV?

The benefits that SWDIV could realistically expect to receive as a result of implementing Flexiplace include hiring and retaining high caliber employees, better space utilization, reduced leased office expenses, reductions in employee absenteeism, and the previously mentioned potential increases in employee productivity and morale. The research indicates that hiring and training employees costs, on average, one-third an individual's annual salary.

Therefore, each employee SWDIV is able to retain through Flexiplace results in direct cost savings to the organization. The research also indicated that organizations typically save in excess of \$10,000 annually in reduced absenteeism for each teleworker. Although I do not know the amount SWDIV spends on leased office space, 100% of those expenses could be saved if Flexiplace were implemented so that all employees could be located in SWDIV office spaces.

Employee/participant benefits include reduced traffic and work related stress, the ability to better balance work and family priorities, improved morale, and possibly improved job satisfaction and loyalty. There are no direct cost measures that can be applied to these benefits, but it is logical to assert that these benefits would correlate directly to employee retention and reduced absenteeism.

The primary barrier that would impede full implementation of Flexiplace at SWDIV is USD's policy prohibiting remote access to central office computer networks. This limitation restricts the type of work that could be performed at remote locations to work that can be performed on stand alone computer equipment.

4. What tools should be developed to monitor the success of Flexiplace and how should they be administered?

The current SWDIV performance evaluation system is adequate for monitoring telecommuting arrangements. No new tools need to be developed. However, rather than conduct annual reviews, SWDIV managers, team leads, and employees should update the performance and work plans periodically as work changes and other circumstances dictate.

D. CONCLUSIONS

Even without the recent USD direction that mandates all DoD component activities to implement telecommuting arrangements, the weight of data found during this research applied to the current SWDIV environment indicates that SWDIV should implement a Flexiplace program tailored to the needs of individuals and teams. The majority of work products produced by SWDIV and the caliber of personnel at SWDIV are conducive to successful telecommuting arrangements. Furthermore, the potential benefits significantly outweigh the costs associated with establishing a Flexiplace program; therefore, SWDIV would be wise to implement Flexiplace.

E. RECOMMENDATIONS

The following recommendations are made relative to actions that SWDIV should take in its Flexiplace implementation strategy.

- Establish a Telecommuting Coordinator to develop SWDIV telecommuting policies and procedures, coordinate with local union officials, and serve as the primary point of contact for questions, issues, and complaints related to SWDIV's telecommuting program.
- Survey the SWDIV workforce to determine the degree of participation desired, level of management support, training requirements, and hardware and software requirements. Surveys could be tailored after those of GSA, DCAA, and AT&T.

- Develop a pre-Flexiplace baseline by monitoring employee projects, tracking milestone achievements, and identifying performance obstacles. The baseline measurement period should be the six month period prior to Flexiplace implementation.
- Establish policies and procedures consistent with direction and guidance provided by OPM, DoD, DoN, and NAVFAC HQ. Policies and procedures should clearly identify participant selection criteria, suitable work assignments, and the terms and conditions applicable to telework arrangements.
- Implement a pilot program and assess the program at six-month intervals into the pilot period and immediately after the pilot period.
- Identify areas for improvement and expansion of the Flexiplace program.

APPENDIX 1: OPM SELF-INSPECTION SAFETY CHECKLIST

OPM recommends that agencies have prospective home-based teleworkers complete the following checklist so that the agency can assess the overall safety of the alternative worksite. Supervisors are encouraged to review and discuss the completed checklist with employees and identify areas of concern. According to OPM, a safety certification, signed by the employee and the supervisor, should be part of the employees personnel record of telecommuting arrangements.

Name:

Organization:

Address:

City/State:

Business Telephone:

Telecommuting Coordinator:

Alternative Worksite Location:

(Describe the designated work area in the alternative worksite.)

A. Workplace Environment

1. Are temperature, noise, ventilation and lighting levels adequate for maintaining your normal level of job performance? Yes [] No []
2. Are all stairs with four or more steps equipped with handrails? Yes [] No []
3. Are all circuit breakers and/or fuses in the electrical panel labeled as to intended service? Yes [] No []
4. Do circuit breakers clearly indicate if they are in the open or closed position? Yes [] No []

5. Is all electrical equipment free of recognized hazards that would cause physical harm (frayed wires, bare conductors, loose wires, flexible wires running through walls, exposed wires to the ceiling)? Yes [] No []
6. Will the building's electrical system permit the grounding of electrical equipment? Yes [] No []
7. Are aisles, doorways, and corners free of obstructions to permit visibility and movement? Yes [] No []
8. Are file cabinets and storage closets arranged so drawers and doors do not open into walkways?
Yes [] No []
9. Do chairs have any loose casters (wheels) and are the rungs and legs of the chairs sturdy? Yes [] No []
10. Are the phone lines, electrical cords, and extension wires secured under a desk or alongside a baseboard?
Yes [] No []
11. Is the office space neat, clean, and free of excessive amounts of combustibles? Yes [] No []
12. Are floor surfaces clean, dry, level, and free of worn or frayed seams? Yes [] No []
13. Are carpets well secured to the floor and free of frayed or worn seams? Yes [] No []
14. Is there enough light for reading? Yes [] No []

B. Computer Workstation (if applicable)

15. Is your chair adjustable? Yes [] No []
16. Do you know how to adjust your chair? Yes [] No []
17. Is your back adequately supported by a backrest?
Yes [] No []
18. Are your feet on the floor or fully supported by a footrest? Yes [] No []

19. Are you satisfied with the placement of your monitor and keyboard? Yes [] No []

20. Is it easy to read the text on your screen?
Yes [] No []

21. Do you need a document holder? Yes [] No []

22. Do you have enough leg room at your desk?
Yes [] No []

23. Is the screen free from noticeable glare?
Yes [] No []

24. Is the top of the screen eye level? Yes [] No []

25. Is there space to rest the arms while not keying?
Yes [] No []

26. When keying, are your forearms close to parallel with the floor? Yes [] No []

27. Are your wrists fairly straight when keying?
Yes [] No []

Employee's Signature and Date:

Immediate Supervisor's Signature and Date:

Approved [] Disapproved []

Please return a copy of this form to your telecommuting program coordinator.

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APPENDIX 2: INTERVIEW QUESTIONS FOR CASE PROFILES

1. Provide a brief description of your organizational structure and mission.
2. Describe your organization prior to the implementation of flexible workplace arrangements or telecommuting.
3. What was the impetus behind your organization's telecommuting implementation?
4. When did your organization implement telecommuting?
5. Who recommended that your organization consider flexible workplace arrangements?
6. What obstacles (managerial, technological, resistance to change, etc.) were there when your organization first attempted to initiate flexible workplace arrangements?
7. How were the obstacles to implementation addressed or overcome and at what level within the organization?
8. Did your organization initiate a pilot program?
9. Did your organization conduct any studies on the affects of its telecommuting programs?
10. What were the respective fears, expectations, and concerns of managers, supervisors, union officials, participants, and non-participants?
11. How were the fears, expectations, and concerns of managers, supervisors, union officials, participants, and non-participants addressed and at what level in the organization?
12. Were the fears, expectations, and concerns of managers, supervisors, union officials, participants, and non-participants realized, and if so, to what degree (high, moderate, low)?
13. Does your organization have formal written policies and procedures for its telecommuting program?

14. Briefly describe your organization subsequent to implementation of flexible workplace arrangements.
15. How many employees within your organization participate in telecommuting arrangements?
16. What is the grade level and job classification of telecommuting participants within your organization?
17. What is the average telecommuting time for participants in your organization? (number of hours per day or number of days per week)
18. What type of work do participants do from the alternate worksite?
19. Is the alternate worksite an employee's home, telework center, or other (please describe)?
20. What do you consider to be the most advantageous and beneficial aspects of telecommuting for yourself personally and for your organization or department?
21. What do you consider to be the most detrimental aspects of telecommuting for yourself personally and for your organization or department?
22. What affect, if any, has telecommuting arrangements had on managers, supervisors, participants, and non-participants within your organization or department?
23. What is the attitude of non-participants relative to telecommuting arrangements, telecommuting participants, and management?
24. Have telecommuting employees experienced any problems with isolation, communication, promotion visibility, etc?
25. Do you feel that as a direct result of telecommuting you have experienced any change in productivity, morale, or other related area? Please describe.
26. Did your organization or department establish any metrics to measure the effectiveness of telecommuting arrangements, particularly productivity, morale, etc.? Please describe.

APPENDIX 3: GSA SAMPLE TELECOMMUTING AGREEMENTS

This appendix contains two examples of telecommuting agreements used by GSA to involve employees in the Telecommuting Pilot Project. It also contains a Flexiplace Application Form.

EXAMPLE 1:

Sample Agreement Between Agency and Employee Approved for Telecommuting on a Continuing Basis

The supervisor and the employee should each keep a copy of this agreement for reference.

(Agency) _____

(Employee) _____

Voluntary Participation

Employee voluntarily agrees to work at the agency-approved alternative workplace indicated below and to follow all applicable policies and procedures. Employee recognizes that the flexiplace arrangement is not an employee benefit but an additional method the agency may approve to accomplish work.

Trial Period

Employee and agency agree to try out the arrangement for at least [specify number] months unless unforeseeable difficulties require earlier cancellation.

Salary and Benefits

Agency agrees that a telecommuting arrangement is not a basis for changing the employee's salary or benefits.

Duty Station and Alternative Workplace

Agency and employee agree that the employee's official duty station is: [indicate duty station for main office] and that the employee's approved alternative workplace: [specify street and number, city, and State]

Note: All pay, leave and travel entitlements are based on the official duty station.

Official Duties

Unless otherwise instructed, employee agrees to perform official duties only at the main office or agency-approved alternative workplace. Employee agrees not to conduct personal business while in official duty status at the alternative workplace, for example, caring for dependents or making home repairs.

Work Schedule and Tour of Duty

Agency and employee agree the employee's official tour of duty will be: [specify days, hours, and location, i.e., the main office or the alternative workplace].

Time and Attendance

Agency agrees to make sure the telecommuting employee's timekeeper has a copy of the employee's work schedule. The supervisor agrees to certify biweekly the time and attendance for hours worked at the main office and the alternative workplace. (Note: agency may require employee to complete self certification form.)

Leave

Employee agrees to follow established office procedures for requesting and obtaining approval of leave.

Overtime

Employee agrees to work overtime only when ordered and approved by the supervisor in advance and understands that working overtime without such approval may result in termination of the flexiplace privilege and/or other appropriate action.

Equipment\Supplies

Employee agrees to protect any Government-owned equipment and to use the equipment only for official purposes. The agency agrees to install, service and maintain any Government-owned equipment issued to the telecommuting employee. The employee agrees to install, service, and maintain any personal equipment used. The agency agrees to provide the employee with all necessary office supplies and also reimburse the employee for business-related long distance telephone calls.

Security

If the Government provides computer equipment for the alternative workplace, employee agrees to the following security provisions: [insert agency-specific language] worksite.

Cancellation

Agency agrees to let the employee resume his or her regular schedule at the main office after notice to the supervisor. Employee understands that the agency may cancel the telecommuting arrangement and instruct the employee to resume working at the main office. The agency agrees to follow any applicable administrative or negotiated procedures.

Other Action

Nothing in this agreement precludes the agency from taking any appropriate disciplinary or adverse action against an employee who fails to comply with the provisions of this agreement.

(Employee's Signature and Date)

(Supervisor's Signature and Date)

EXAMPLE 2:

Telecommuting (Flexiplace) Pilot Program Work Agreement

Type of Telecommuting (Flexiplace) Request:

Medical ____ Non-Medical ____

The following constitutes an agreement between:

Name of Organization

and
Employee's Name (print)

Terms and conditions of the Telecommuting (Flexiplace) program.

1. Employee agrees to participate in this program on a voluntary basis and to adhere to the applicable guidelines and policies.

2. The agreement is made for a specified period of time not to exceed 6 months. The employee may work at the alternate duty station a maximum of 1 day per week during the agreement period. Employee agrees to participate in this program for the period of time:

beginning: (month/day/year) _____

and ending: (month/day/year) _____

3. Employee's official duty station is:

Complete Address

4. Employee is allowed to participate in any type of work schedule authorized for use by his/her immediate organization. Normal rules and procedures apply for authorizing, approving, earning, and using of leave, overtime, credit hours, compensatory time, etc. Failure to obtain prior approval for overtime work or earning of credit hours may result in the employee's removal from the Flexiplace program or other appropriate action. Management reserves the right to alter the employee's established work schedule to accommodate work demands or for any other official purpose.

5. Employee's time and attendance will be recorded as performing official duties at the official duty station. The normal duty day must be accounted for by hours worked, some form of authorized leave, or any combination thereof. All leave and travel entitlement will be based on the employee's official duty station.

6. Employee will meet the supervisor or others as necessary, appropriate, or requested in order to perform assigned duties or to fulfill organizational requirements. This includes such activities as attending required training programs, receiving assignments, reviewing completed work, attending meetings, providing progress reports etc.

7. If the employee requires Government property at the alternate duty station, the employee may request a loan of such items. The loan, use, security, and protection of Government property must be in accordance with established policies and procedures. The employee is responsible for immediately notifying his/her supervisor if Government-owned property fails to operate properly or is damaged. Employee-owned property, computer equipment, software, etc. is the sole responsibility of the employee. Government-owned computer equipment and software will be serviced and maintained by the Government at a location of its choosing. The employee agrees to follow the terms of computer software license and copyright agreements, as well as computer virus and protection procedures.

The agreement may be renewed or extended at the end of the originally agreed upon period.

Supervisor's Signature: _____
Date: _____

Employee's Signature: _____
Date: _____

Approving Official's Signature: _____
Date: _____

FLEXIPLACE APPLICATION FORM

Bargaining Unit _____ or Non-Bargaining Unit _____

Please complete, sign, and return this form to your supervisor by _____.

If you fail to return this form by the requested date, we will assume that you do not wish to participate in the Telecommuting Program. If you choose not to participate in this program, you will continue to work at your official workstation.

1. Mark your choice: I wish to work at
home _____ satellite facility _____

2. Place the number "1" next to the day you would most like to work at home as your first choice. Next, place the number "2" next to the day you would like to work at home as your second choice.

HOME: Mon ____ Tue ____ Wed ____ Thu ____ Fri ____

3. Place the number "1" next to the day you would most like to work at the satellite facility or telecommuting center as your first choice. Next, place the number "2" next to the day you would like to work at the satellite facility or telecommuting center as your second choice.

CENTER: Mon ____ Tue ____ Wed ____ Thu ____ Fri ____

4. For your information only, attached is a list of available satellite facilities or telecommuting centers. Select the one that you are most interested in and list it here. DO NOT contact the center yourself.

I am interested in working at the _____ facility.

EMPLOYEE'S NAME/DATE

ORGANIZATION

APPENDIX 4: GSA SUPERVISOR/EMPLOYEE QUESTIONNAIRE

GSA requires its organizational supervisors to complete the following survey regarding their experiences with various telecommuting arrangements. Supervisors were asked to complete a separate survey for each telework participant or control group member they directly supervised. The evaluation sheets were provided with the standard "bubble" answer sheets. Managers were required to complete demographic information in addition to the questions identified herein. Evaluations were completed for the six months prior to telework implementation and six months and one year after telework implementation.

USE A SEPARATE ANSWER SHEET FOR EACH PARTICIPATING SUBORDINATE.

EMPLOYEE PERFORMANCE QUESTIONNAIRE

USE THE FOLLOWING SCALE TO RATE THE FW OR CONTROL EMPLOYEE ON THE FACTORS DESCRIBED BELOW:

- A = Unsatisfactory
- B = Somewhat Less than Satisfactory
- C = Satisfactory
- D = Somewhat More than Satisfactory
- E = Excellent

1. Quality

The extent to which, on a consistent basis during the evaluation period, the quality of the employee's work met the generally applied standards in your office or reasonable expectations.

2. Quantity
The extent to which, on a consistent basis during the evaluation period, the quantity of the employee's work met the generally applied standards in your office or reasonable expectations.
3. Timeliness
The extent to which, on a consistent basis during the evaluation period, the timeliness of the employee's work met the generally applied standards in your office or reasonable expectations.
4. Interpersonal Disposition
The extent to which, on a consistent basis during the evaluation period, the employee was pleasant and cooperative to work with.
5. Independence
The extent to which, on a consistent basis during the evaluation period, the employee handled work assignments with the independence generally expected for the employee's experience, work assignments, and conditions in your office.
6. Currency of KSA's
The extent to which, during the evaluation period, the employee's knowledge, skills, and abilities were up-to-date.
7. Availability/Accessibility
The extent to which, on a consistent basis during the evaluation period, the employee was available and accessible for the timely conduct of business.
8. Overall
The overall job performance during this evaluation period.
9. The quality of this employee's relationships with co-workers
10. The quality of your relationship with this employee
11. The effectiveness of communication between you and this employee

12. The effectiveness of communication between this employee and co-workers

13. Indicate the length of time you have supervised this employee. (Select the response category closest to your intended answer)

- | | |
|-------------------|--------------------|
| A. 1 to 3 months | F. 4 years |
| B. 4 to 6 months | G. 5 years |
| C. 7 to 12 months | H. 6 years |
| D. 2 years | I. 7 years |
| E. 3 years | J. 8 or more years |

*** If the work performed by the employee can be routinely measured by numbers of work products completed in a given time period and the resulting numbers are fair and accurate measures of employee performance, please provide a summary of these numbers on the form typically used.

ITEMS 14-25 REFER TO THE PRECEDING RATING FACTORS. FOR EACH OF THESE FACTORS, INDICATE WHETHER, DURING THE RATING PERIOD UNDER CONSIDERATION, THERE HAS BEEN IMPROVEMENT/DECLINE IN THE EMPLOYEE'S PERFORMANCE RELATIVE TO THE EMPLOYEE'S PERFORMANCE DURING THE WORK YEAR PRIOR TO THE FW PROJECT. USE THE FOLLOWING SCALE FOR YOUR RATINGS:

A	B	C	D	E
Decline	Slight Decline	No Change	Slight Improvement	Improvement

14. Quality

15. Quantity

16. Timeliness

17. Interpersonal Disposition

18. Independence

19. Currency

20. Availability/Accessibility

21. Overall

- 22. Quality of relationship with co-workers
- 23. Quality of relationship with you
- 24. Effectiveness of communication between you and this employee
- 25. Effectiveness of communication between this employee and co-workers
- 26. Comparing this employee's sick leave usage during the past six months with that of the same period during the previous year, which one of the following is true (exclude catastrophic long-term illness or pregnancy)?
 - A. Recent use of sick leave was generally higher than in the previous year
 - B. Recent use of sick leave was generally lower than in the previous year
 - C. Recent use of sick leave was generally the same as in the previous year
 - D. Cannot make a determination

APPENDIX 5: GSA TELECOMMUTER EVALUATION

GSA requires its telecommuters to complete the following survey regarding their work experiences with various telecommuting arrangements. The evaluation sheets were provided with the standard "bubble" answer sheets. Participants were required to complete demographic information in addition to the questions identified herein. Evaluations were completed six months and one year after telework implementation.

FOR ITEMS 1-63, COMPARE THE LISTED FACTORS OF YOUR EXPERIENCE DURING THE MOST RECENT EVALUATION PERIOD WITH YOUR EXPERIENCE DURING THE WORK YEAR PRIOR TO YOUR PARTICIPATION IN THIS PROJECT.

Use the following scale for your responses:

A	B	C	D	E
Decline/ Decrease	Slight Decline/ Decrease	No Change	Slight Improvement/ Increase	Improvement/ Increase

NOTE: WE ARE INTERESTED PRIMARILY IN THE IMPACT OF YOUR TELECOMMUTING EXPERIENCE. IF YOU HAVE NOT EXPERIENCED A CHANGE FOR ANY GIVEN FACTOR, INDICATE 'NO CHANGE'; ALSO INDICATE 'NO CHANGE' FOR ANY FACTOR FOR WHICH YOU HAVE EXPERIENCED A CHANGE **BUT YOU CONSIDER THE CHANGE UNRELATED TO YOUR TELECOMMUTING PARTICIPATION.**

1. Quality of your work
2. Quantity of your work
3. Timeliness of your completion of work assignments
4. Your efficiency (amount of time required to accomplish a given amount of work)
5. Your ability to concentrate while working

6. Your overall motivation toward your work
7. Ability to attend and participate in meetings
8. Ability to work effectively as a team member
9. Ability to provide service to clients

COMMUNICATION

10. Effectiveness of your communication with your supervisor
11. Convenience of your communication with your supervisor
12. Effectiveness of work-related communication with fellow employees in your organizational unit
13. Convenience of work-related communication with fellow employees in your organizational unit
14. Effectiveness of work-related communication with individuals from other organizations
15. Convenience of work-related communication with individuals from other organizations

INTERPERSONAL

16. On-the-job opportunity for making acquaintances which enhance your professional or personal development
17. Your sense of belonging to your organization
18. Effectiveness of your organization in conveying memos, messages, mail, announcements, etc. to you in a timely/convenient fashion
19. Convenience of making work-related long distance telephone calls
20. Ability to fulfill your needs to socialize with your colleagues

21. Ability to achieve the privacy necessary to do your work
22. Ability to stay informed regarding your job/profession
23. The comfort and satisfaction of your **social** interaction with **other workers at the center.**
24. Your ability to work comfortably along with the other workers at the center.

PERSONAL LIFE

25. Quantity of time available for family/personal life
26. Quantity of time available for social/recreational activity
27. Flexibility of dependent care options
28. Quality of your interpersonal relationships with your family and friends
29. Your satisfaction with your access to quality care for your dependents

HEALTH

31. Your physical health
32. Your mental health
33. Amount of stress you feel while preparing to travel and/or while traveling to/from work
34. Amount of stress you feel while working
35. Overall amount of work-related stress you feel for any reason
36. Degree to which you feel rested and positive when you report to work
37. Level of fatigue you feel when you arrive home from work

- 38. Amount of exercise you get on workdays
- 39. Nutrition level of your breakfast
- 40. Nutrition level of your lunch
- 41. Nutrition level of your dinner
- 42. Degree to which you feel rushed when eating meals

WORKSITE

- 43. Adequacy of work-related equipment including telecommunications and computer equipment
- 44. Adequacy of work-related furnishings
- 45. Adequacy of work-related space
- 46. Comfort of your work station
- 47. Freedom from distraction at your work station
- 48. Health-related quality of your work environment
- 49. Adequacy of lighting in your work environment
- 50. Adequacy of ventilation and fresh air
- 51. Adequacy of space
- 52. Adequacy of natural light
- 53. Adequacy/comfort of temperature in your work environment
- 54. Timely and convenient access to materials needed in your work
- 55. Timely and convenient access to equipment needed in your work
- 56. Timely and convenient access to services needed in your work

57. Convenience of access to stores, places to eat, businesses, etc. which you patronize

YOUR INDIVIDUAL COSTS

58. Job-related transportation costs (day-to-day)
59. Other Job-related costs (day-to-day)
60. Dependent care costs

WORK SCHEDULE

61. Convenience of your schedule of work hours relative to meeting work-related requirements
62. Convenience of your schedule of work hours relative to meeting your personal life requirements and interests
63. The degree to which your schedule of work hours takes advantage of the time of day when you are most energetic and likely to be most productive
64. Is your current schedule of work hours an alternative work schedule which permits you to take certain week days off as a result of working extra hours on other days?
- A. Yes
- B. No
65. During the past six months, have you been planning to look for or actively seeking a new job outside of your current organization?
- A. Yes
- B. No
66. Does the possibility of working continuously at the telecommuting center make you more or less likely to seek a new job outside of your current organization?
- A. No, it has no effect on this decision
- B. Yes, it makes me less likely
- C. Yes, it makes me more likely

FOR ITEMS 67 THROUGH 80, INDICATE HOW MUCH YOU TEND TO PERFORM EACH OF THE SPECIFIED GENERAL ACTIVITIES AT THE TELECOMMUTING CENTER OR ON DAYS WHICH YOU ARE ASSIGNED TO THE TELECOMMUTING CENTER. USE THE FOLLOWING SCALE FOR YOUR RESPONSES

A = A lot
B = Some
C = Very little/none

- 67. Conceptualizing/planning/designing
- 68. Reading/studying/reviewing/examining/editing documents
- 69. Writing/composing
- 70. Processing/entering/analyzing data and/or computer programming
- 71. Coordinating (projects and/or people); managing projects/organizations
- 72. Supervising employees
- 73. Administrative activities (Xeroxing, mailing, filing, completing forms, etc.)
- 74. Site/field visits
- 75. Researching (libraries/files/personal interviews/other sources)
- 76. Meeting with one or more people to conduct teamwork/discussions
- 77. Attending group meetings for informational purposes (staff meetings, presentations, etc.)
- 78. Attending meetings via audio/videoconference
- 79. Talking on the telephone (individual conversations)
- 80. Communicating via modem, E-mail, etc.

82. List stress-producing conditions, if any, in your work environment at the center
83. List stress-related or office environment related symptoms (headaches, itchy eyes, fatigue, etc.), if any, you experience at the center

LEAVE

84. During the past six months, how many hours of sick leave did you use for illnesses caused by work-related stress _____.
85. How many hours of sick leave did you use during the past 6 months (exclude catastrophic long term illness, pregnancy, and leave taken while being hospitalized)? _____
86. How many hours of annual leave devoted to running errands or taking care of personal business did you use during the past 6 months? _____

COMMUNITY IMPACT

Please keep a diary for a couple of weeks and prepare a list of all the vendors of goods, foods, services, etc. that you patronize **because they are conveniently accessible from your worksite**. Indicate below the average monthly total amount of money you spend at these vendors (include both public and private sector vendors; include all such expenses, regardless of the time of day or day of the week you make these expenditures):

Goods _____

Food _____

Services _____

Other _____

Include a copy of your list with your questionnaire responses.

Please keep your copy of the list. After six months of working at the satellite center, we will ask you to indicate changes in average amount spent at these vendors and/or which ones you have replaced with vendors located near the center.

Note to keep track of sick leave, leave, spending etc.

Prepare a list of community activities (PTA, neighborhood groups, volunteer groups, business groups, etc.) in which you are involved and the average amount of time per month you devote to each activity. Include a copy of this list with your questionnaire responses. Please keep your copy of this list; after six months, we will ask you about changes you have made.

87. Do you do Christmas shopping or shopping for other special event shopping in dc area on workdays during the day (lunch) and/or after work before you go home?

88. Considering only transportation/travel issues, how desirable for you is your telecommuting center arrangement?

- A. With some modification, very desirable
- B. Very desirable as is
- C. With some modification, desirable
- D. Desirable as is
- E. Neutral (neither desirable nor undesirable)
- F. Undesirable
- G. Don't know

Comment _____

89. Considering only personal cost issues, how desirable for you is your telecommuting center arrangement?

- A. With some modification, very desirable
- B. Very desirable as is
- C. With some modification, desirable
- D. Desirable as is
- E. Neutral (neither desirable nor undesirable)
- F. Undesirable
- G. Don't know

Comment _____

90. Considering only job performance and job satisfaction issues, how desirable for you is your telecommuting center arrangement?

- A. With some modification, very desirable
- B. Very desirable as is
- C. With some modification, desirable
- D. Desirable as is
- E. Neutral (neither desirable nor undesirable)
- F. Undesirable
- G. Don't know

Comment _____

91. Considering only personal life issues in general, how desirable, for you, is your telecommuting center arrangement?

- A. With some modification, very desirable
- B. Very desirable as is
- C. With some modification, desirable
- D. Desirable as is
- E. Neutral (neither desirable nor undesirable)
- F. Undesirable
- G. Don't know

Comment _____

92. Considering all issues, how desirable for you is your telecommuting center arrangement?

- A. With some modification, very desirable
- B. Very desirable as is
- C. With some modification, desirable
- D. Desirable as is
- E. Neutral (neither desirable nor undesirable)
- F. Undesirable
- G. Don't know

Comment _____

93. Given your choice, how many days per week would you prefer to work at the center_____

APPENDIX 6: GSA UNIT PERFORMANCE QUESTIONNAIRE

GSA requires its organizational managers that directly supervise teleworkers to complete the following survey regarding their experiences with various telecommuting arrangements. The evaluation sheets were provided with the standard "bubble" answer sheets. Managers were required to complete demographic information in addition to the questions identified herein. Evaluations were completed for the six months prior to telework implementation and six months and one year after telework implementation.

REGARDING THE FACTORS IN ITEMS 1-14, INDICATE WHETHER, DURING THE PREVIOUS SIX MONTHS, THERE HAS BEEN IMPROVEMENT/DETERIORATION ASSOCIATED WITH THE UTILIZATION OF FW IN YOUR ORGANIZATIONAL UNIT RELATIVE TO YOUR EXPERIENCE WITH THIS UNIT PRIOR TO THE FLEXIBLE WORKPLACE (FW) PROJECT. FOCUS YOUR RATINGS ON THE PERFORMANCE OF YOUR ORGANIZATIONAL UNIT AS A WHOLE. USE THE FOLLOWING SCALE FOR YOUR RATINGS:

- A = Deterioration
- B = Slight Deteriorization
- C = No Change
- D = Slight Improvement
- E = Improvement

1. Overall quality of the work produced by this unit.
2. Overall quantity of the work produced by this unit.
3. Overall timeliness of the work produced by this unit.
4. The effectiveness of interpersonal communications between employees in this unit.

5. The effectiveness of communications between you and participating (FW) employees in your unit.
6. The effectiveness of communications between you and non-participating (FW) employees in your unit.
7. The overall morale in your unit.
8. The effectiveness of work assignment, planning, and scheduling with FW employees in your unit.
9. The effectiveness of work assignment, planning, and scheduling with non-FW employees in your unit.
10. The efficiency (relative time required to accomplish a given amount of work) of work assignment, planning, and scheduling with FW employees in your unit.
11. The efficiency of work assignment, planning, and scheduling with non-FW employees in your unit.
12. The amount of sick leave usage by FW employees.
13. The amount of administrative leave granted to FW employees for weather-related or other work shut-down reasons.
14. The amount of annual leave usage by FW employees.

FOR ITEMS 15 AND 16, EVALUATE THE PERFORMANCE AND FUNCTIONING OF THE FW ARRANGEMENT DURING THE MOST RECENT RATING PERIOD FOR THE FW PROJECT. USE THE FOLLOWING SCALE FOR YOUR RATINGS:

A	B	C	D	E
Unsatisfactory	Somewhat Less Than Satisfactory	Satisfactory	Somewhat More Than Satisfactory	Excellent

15. Your overall comfort with the FW alternative.
16. The overall effectiveness of FW as a work arrangement.

FOR ITEMS 17-19, SELECT THE RESPONSE CATEGORY THAT IS CLOSEST TO YOUR INTENDED ANSWER.

17. Indicate the length of time you have supervised this organizational unit.

- | | |
|-------------------|---------------------|
| A. 1 to 3 months | F. 7 to 10 years |
| B. 4 to 6 months | G. 11 or more years |
| C. 7 to 12 months | |
| D. 2 to 3 years | |
| E. 4 to 6 years | |

18. Indicate the length of your total experience as a supervisor.

- | | |
|---------------------|---------------------|
| A. Less than a year | F. 9 to 10 years |
| B. 1 to 2 years | G. 11 to 15 years |
| C. 3 to 4 years | H. 16 or more years |
| D. 5 to 6 years | |
| E. 7 to 8 years | |

19. Total years of work experience

- | | |
|------------------|---------------------|
| A. 1 to 2 years | F. 11 to 12 years |
| B. 3 to 4 years | G. 13 to 15 years |
| C. 5 to 6 years | H. 16 to 18 years |
| D. 7 to 8 years | I. 20 or more years |
| E. 9 to 10 years | |

ITEMS 20 THROUGH 27 ARE ADDITIONAL BACKGROUND ITEMS REFERRING TO YOU.

20. Pay Plan

- A. GS (General Schedule)
- B. GM (General Merit)
- C. WG (Wage Grade)
- D. WL (Wage Leader)
- E. Other _____

21. Marital/Family/Household Living Status

- A. Married (living with spouse) or otherwise living in a family-type relationship with another adult
- B. Divorced/Separated

- C. Single (not living in a family type relationship with another adult)
 - D. Widowed
 - E. Other _____
22. Indicate your racial category
- A. American Indian or Alaskan Native
 - B. Asian or Pacific Islander
 - C. Black, non-Hispanic
 - D. White, non-Hispanic
 - E. Hispanic
23. Number of dependent children, age 4 and under, living with you
- A. 0
 - B. 1
 - C. 2
 - D. 3
 - E. 4 or more
24. Number of dependent children, age 5 through 12, living with you
- A. 0
 - B. 1
 - C. 2
 - D. 3
 - E. 4 or more
25. Number of dependent children, age 13 through 18, living with you
- A. 0
 - B. 1
 - C. 2
 - D. 3
 - E. 4 or more

26. While participating in the FW project, will you be living with one or more adults who are fully or partially dependent upon your physical assistance or who otherwise require your personal attention for their health and physical well-being?

- A. Yes
- B. No

27. While participating in the FW project, will you be living with one or more children, age 17 or under, having a handicap requiring your special attention?

- A. Yes
- B. No

The following items refer to costs incurred by your organization as a direct result of FW participation. We are interested in ascertaining estimates of cost difference, if any, between what you spent during the last six months of FW participation and what would be normally incurred. For each expense category listed below, indicate

- The approximate difference, in dollars, between what your organizational unit spent during the last six months of FW participation and what normally would have been spent,
- Whether the difference is an increase or decrease relative to what would have been spent, and
- The percentage (divide the difference by your estimate of the normal expenditure and multiply the result by 100) of the difference relative to normal expense

Again this information should be restricted to costs incurred during the last six months of FW participation. SELECT THE RESPONSE THAT IS CLOSEST TO YOUR INTENDED ANSWER.

AMOUNT SPENT ON ACQUISITION OF EQUIPMENT

28. Difference (dollars) in amount spent relative to normal costs

- | | |
|---------------|-----------------|
| A. 0 | F. 1100 - 1400 |
| B. 100 - 200 | G. 1500 - 1900 |
| C. 300 - 400 | H. 2000 - 3000 |
| D. 500 - 700 | I. 4000 - 5000 |
| E. 800 - 1000 | J. 6000 or more |

29. Is difference an increase or decrease relative to normal costs

- A. Increase
- B. Decrease
- C. No difference in this expense category

30. Percentage of difference relative to normal costs

- | | |
|--------|---------------|
| A. 0 % | F. 10 % |
| B. 2 % | G. 15 % |
| C. 4 % | H. 20 % |
| D. 6 % | I. 25 % |
| E. 8 % | J. 30 or more |

AMOUNT SPENT ON ACQUISITION OF FURNISHINGS

31. Difference (dollars) in amount spent relative to normal costs

- | | |
|---------------|-----------------|
| A. 0 | F. 1100 - 1400 |
| B. 100 - 200 | G. 1500 - 1900 |
| C. 300 - 400 | H. 2000 - 3000 |
| D. 500 - 700 | I. 4000 - 5000 |
| E. 800 - 1000 | J. 6000 or more |

32. Is difference an increase or decrease relative to normal costs

- A. Increase
- B. Decrease
- C. No difference in this expense category

33. Percentage of difference relative to normal costs

- | | |
|--------|---------------|
| A. 0 % | F. 10 % |
| B. 2 % | G. 15 % |
| C. 4 % | H. 20 % |
| D. 6 % | I. 25 % |
| E. 8 % | J. 30 or more |

AMOUNT SPENT ON ACQUISITION OF FACILITIES

34. Difference (dollars) in amount spent relative to normal costs

- | | |
|---------------|-----------------|
| A. 0 | F. 1100 - 1400 |
| B. 100 - 200 | G. 1500 - 1900 |
| C. 300 - 400 | H. 2000 - 3000 |
| D. 500 - 700 | I. 4000 - 5000 |
| E. 800 - 1000 | J. 6000 or more |

35. Is difference an increase or decrease relative to normal costs

- A. Increase
- B. Decrease
- C. No difference in this expense category

36. Percentage of difference relative to normal costs

- | | |
|--------|---------------|
| A. 0 % | F. 10 % |
| B. 2 % | G. 15 % |
| C. 4 % | H. 20 % |
| D. 6 % | I. 25 % |
| E. 8 % | J. 30 or more |

AMOUNT SPENT ON MAIL/SHIPPING

37. Difference (dollars) in amount spent relative to normal costs

- | | |
|---------------|-----------------|
| A. 0 | F. 1100 - 1400 |
| B. 100 - 200 | G. 1500 - 1900 |
| C. 300 - 400 | H. 2000 - 3000 |
| D. 500 - 700 | I. 4000 - 5000 |
| E. 800 - 1000 | J. 6000 or more |

38. Is difference an increase or decrease relative to normal costs

- A. Increase
- B. Decrease
- C. No difference in this expense category

39. Percentage of difference relative to normal costs

- | | |
|--------|---------------|
| A. 0 % | F. 10 % |
| B. 2 % | G. 15 % |
| C. 4 % | H. 20 % |
| D. 6 % | I. 25 % |
| E. 8 % | J. 30 or more |

AMOUNT SPENT ON MAINTENANCE/REPAIR OF EQUIPMENT,
FURNISHINGS, AND/OR FACILITIES

40. Difference (dollars) in amount spent relative to normal costs

- | | |
|---------------|-----------------|
| A. 0 | F. 1100 - 1400 |
| B. 100 - 200 | G. 1500 - 1900 |
| C. 300 - 400 | H. 2000 - 3000 |
| D. 500 - 700 | I. 4000 - 5000 |
| E. 800 - 1000 | J. 6000 or more |

41. Is difference an increase or decrease relative to normal costs

- A. Increase
- B. Decrease
- C. No difference in this expense category

42. Percentage of difference relative to normal costs

- | | |
|--------|---------------|
| A. 0 % | F. 10 % |
| B. 2 % | G. 15 % |
| C. 4 % | H. 20 % |
| D. 6 % | I. 25 % |
| E. 8 % | J. 30 or more |

AMOUNT SPENT ON PREMIUM PAY

43. Difference (dollars) in amount spent relative to normal costs
- | | |
|---------------|-----------------|
| A. 0 | F. 1100 - 1400 |
| B. 100 - 200 | G. 1500 - 1900 |
| C. 300 - 400 | H. 2000 - 3000 |
| D. 500 - 700 | I. 4000 - 5000 |
| E. 800 - 1000 | J. 6000 or more |
44. Is difference an increase or decrease relative to normal costs
- A. Increase
B. Decrease
C. No difference in this expense category
45. Percentage of difference relative to normal costs
- | | |
|--------|---------------|
| A. 0 % | F. 10 % |
| B. 2 % | G. 15 % |
| C. 4 % | H. 20 % |
| D. 6 % | I. 25 % |
| E. 8 % | J. 30 or more |

AMOUNT SPENT ON OTHER ITEMS

Specify nature of expense.

46. Difference (dollars) in amount spent relative to normal costs
- | | |
|---------------|-----------------|
| A. 0 | F. 1100 - 1400 |
| B. 100 - 200 | G. 1500 - 1900 |
| C. 300 - 400 | H. 2000 - 3000 |
| D. 500 - 700 | I. 4000 - 5000 |
| E. 800 - 1000 | J. 6000 or more |

47. Is difference an increase or decrease relative to normal costs

- A. Increase
- B. Decrease
- C. No difference in this expense category

48. Percentage of difference relative to normal costs

- | | |
|--------|---------------|
| A. 0 % | F. 10 % |
| B. 2 % | G. 15 % |
| C. 4 % | H. 20 % |
| D. 6 % | I. 25 % |
| E. 8 % | J. 30 or more |

ITEMS 49 THROUGH 58 REFER TO THE FLEXIBLE WORKPLACE PARTICIPANT TRAINING YOU RECEIVED AT THE BEGINNING OF THE PROGRAM. BASE YOUR RESPONSES ON YOUR PERSONAL OPINION.

49. To what extent did your FW training help provide a successful transition to the FW arrangement?

- A. Very helpful
- B. Helpful
- C. Slightly helpful
- D. Not helpful
- E. Did not receive training

50. Was adequate time allotted for training?

- A. Yes
- B. No

51. Rate the coverage of the training

- A. Training covered too many topics, some with too much detail
- B. Training covered too few topics
- C. Training covered too many topics some with insufficient detail
- D. Training coverage was adequate

52. Were there topics that you think should be added or should receive greater emphasis?

A. Yes (specify) _____

B. No

53. Were there topics that you think should be omitted or de-emphasized

A. Yes (specify) _____

B. No

54. Were the training materials adequate?

A. Very adequate

B. Adequate

C. Fair

D. Inadequate

55. Was the training environment adequate?

A. Yes

B. No

56. Was the trainer effective?

A. Very Effective

B. Effective

C. Fair

D. Ineffective

57. Was the class size appropriate?

A. Yes

B. No

58. Was the method of presentation effective?

- A. Yes
- B. No

ITEMS 59 THROUGH 63 REFER TO THE FLEXIBLE WORKPLACE FOCUS GROUPS WHICH YOU ATTEND.

59. To what extent is your FW focus group helpful to your FW participation?

- A. Very helpful
- B. Helpful
- C. Slightly helpful
- D. Not helpful
- E. Do not belong to a FW focus group

60. Rate the frequency of focus group meetings

- A. Unnecessarily frequent
- B. Not sufficiently frequent
- C. Frequency is appropriate

61. Rate the length of focus group meetings

- A. Too long
- B. Too short
- C. Just right

62. Rate the effectiveness of the group facilitator

- A. Very effective
- B. Effective
- C. Slightly effective
- D. Ineffective

63. Rate the format of the group meetings (i.e., how the group is run)

- A. Excellent
- B. Good
- C. Ineffective

APPENDIX 7: DCAA FLEXIPLACE SURVEY FOR SUPERVISORS

DCAA required each supervisor to complete the following Flexiplace Survey.

Section A: About Your Organization

A.1 How is the equipment and software for telecommuting to be paid for? (Check all that apply)

- ☐ Out of my normal budget
- ☐ Out of an increase in my budget
- ☐ Out of other budgets in the organization
- ☐ Loaned equipment
- ☐ Varies for each employee
- ☐ No new equipment will be required
- ☐ Surplus equipment in the organization
- ☐ No equipment/software will be provided
- ☐ Other (please specify) _____

A.2 Indicate whether you agree with the following statements. Each statement has the following response options:

- () Strongly Agree, () Agree, () Neutral,
- () Disagree, () Strongly Disagree,
- () Not Applicable

- A. Upper Management is supportive of telecommuting.
- B. My organization gives me a lot of flexibility in rewarding employees.
- C. I had sufficient influence on who was chosen to telecommute.
- D. Having employees work in a remote location will be troublesome for me.
- E. When working away from the central office my staff will be able to concentrate more on work.
- F. My organization is reluctant to try out new things.

- G. Telecommuting will improve my organization's ability to retain competent staff.
- H. I am supportive of my employees' telecommuting.
- I. Because of telecommuting, communications in my work group will become more difficult.
- J. I am concerned that telecommuters will be less integrated with their work group as a result of telecommuting.

A.3 Indicate whether you agree with the following statements: Each statement has the following response options:

- ☐ Strongly Agree, ☐ Agree, ☐ Neutral,
- ☐ Disagree, ☐ Strongly Disagree,
- ☐ Not Applicable

- A. Handling confidential information will be problematic when people telecommute.
- B. Telecommuting allows people the flexibility to work during their most productive hours.
- C. It is difficult for telecommuters to supervise other people.
- D. I let my workers decide how to complete the projects I assign them.
- E. I think some people will take advantage of telecommuting to slack off on their work.

A.4 Which statement best characterizes your decision to supervise telecommuters?

- _____ I am enthusiastic about telecommuting and think it will improve how my work group operates.
- _____ I am interested in telecommuting and I'd like to find out if it will improve how my work group operates.
- _____ I am uncertain about telecommuting, but I am willing to give it a try
- _____ I felt pressured into participating.
- _____ Other: _____

A.5 Did some people in your work group apply to be telecommuters and not get chosen?

_____ Yes _____ No

If yes, _____ It was my decision

_____ It was a joint decision

_____ The decision was out of my hands

_____ Other: _____

A.6 How did those not chosen feel about the decision?

_____ People seemed to accept the reason.

_____ There was some resentment.

_____ Other: _____

Section B: Identifying Telecommuters

B.1 How many employees do you supervise directly?

_____ Full-Time

_____ Part-Time

B.2 List the names, job titles, and number of telecommuting days per month of all employees you supervise who will be telecommuting a part of this project.

Section C: Job Performance

Fill out a copy of this section for each telecommuter you supervise.

C.1 Telecommuter's name: _____

C.2 How often do you currently communicate with your telecommuter? Each statement has the following response options:

() At least once a day

() 2 - 4 times a week

() About once a week

() About once a month

() Less than once a month

() Not applicable

- A. In person - scheduled meetings
 - B. In person - informally
 - C. Formal memos
 - D. Telephone
 - E. Facsimile machine or E-mail
 - F. Notes
- C.3 Indicate whether you agree with the following statements. Each statement has the following response options:
- ☐ Strongly Agree, ☐ Agree, ☐ Neutral,
 - ☐ Disagree, ☐ Strongly Disagree,
 - ☐ Not Applicable
- A. I closely monitor how this employee uses his/her time.
 - B. This employee works best when there is a deadline.
 - C. This employee is highly motivated.
 - D. This employee's job description fits very well with telecommuting.
 - E. Telecommuting will make work harder for this employee's co-workers.
- C.4 Rate this employee's job performance in the following areas. Each area has the following response options:
- ☐ Excellent, ☐ Very Good, ☐ Good
 - ☐ Meets minimum requirements, ☐ Needs improvement
- A. Productivity
 - B. Interpersonal skills
 - C. Dependability
 - D. Communication skills

- E. Ability to work independently
 - F. Overall performance
- C.5 How often does this person's job currently require access to resources that are available only at the central office? Each area has the following response options:
- ☐ At least once a day
 - ☐ 2 - 4 times a week
 - ☐ About once a week
 - ☐ About once a month
 - ☐ Less than once a month
 - ☐ Not applicable
- A. Central paper files
 - B. Computers
 - C. Electronic data bases
 - D. Software
 - E. Other office equipment (photocopiers, facsimile machines)
 - F. Professional staff
 - G. Support staff

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APPENDIX 8: DCAA FLEXIPLACE PARTICIPANT SURVEY

DCAA required each Flexiplace participant to complete the following Flexiplace Survey.

Section A: About Your Needs on the Job

A.1 How often does your job currently require physical access to resources that are available only at the central office? Each area has the following response options:

- ☐ At least once a day
- ☐ 2 - 4 times a week
- ☐ About once a week
- ☐ About once a month
- ☐ Less than once a month
- ☐ Not applicable

- A. Central paper files
- B. Computers
- C. Electronic databases
- D. Software
- E. Other office equipment (photocopiers, facsimile machines)
- F. Support staff
- G. Professional staff

A.2 Indicate the importance of each item listed below in performing your job effectively. Each item has the following response options:

() Very Important, () Somewhat important,
() Not Important, () Not applicable

- A. Microcomputer/personal computer
- B. Mainframe or minicomputer
- C. Telephone lines for data and/or a modem
- D. Facsimile machine
- E. Answering machine
- F. Photocopier

A.3 Indicate the category for equipment to be used at home on telecommuting days. Each category has the following response options:

() Need to have, () Would like to have
() Already have, () Not applicable

- A. Computer
- B. Software used at central office
- C. Modem
- D. Second telephone line (voice/modem)
- E. Call waiting
- F. Voice mail
- G. Answering machine
- H. Printer
- I. Facsimile machine
- J. Other (please list): _____

Section B: About Your Organization and Co-Workers

B.1 Do you supervise anyone?

_____ No _____ Yes

If yes, how many people?

_____ Full-time _____ Part-time

B.2 How often do you currently communicate with your supervisor? Each statement has the following response options:

- () At least once a day
- () 2 - 4 times a week
- () About once a week
- () About once a month
- () Less than once a month
- () Not applicable

A. In person - scheduled meetings

B. In person - informal meetings

C. Formal memo

D. Telephone

E. Facsimile machine or E-mail

F. Notes

B.3 Indicate how often the following statements are true. Each statement has the following response options:

- () Always, () Frequently, () Sometimes
- () Rarely, () Never, () Not applicable

A. Distractions in the office make it hard to get my work done.

B. When working on projects with co-workers, it is difficult to coordinate delivery of timely work products or information.

B.4 Indicate whether you agree with the following statements. Each statement has the following response options:

☐ Strongly Agree, ☐ Agree, ☐ Neutral,
☐ Disagree, ☐ Strongly Disagree,
☐ Not Applicable

- A. Professional interaction with my colleagues is very important to my job performance.
- B. Telecommuting can improve my organization's ability to retain competent staff.
- C. Upper management is supportive of telecommuting.
- D. My immediate supervisor is supportive of telecommuting.
- E. I get adequate feedback on my job performance from my supervisor.
- F. I dislike the idea of someone else using my workspace while I am working at a different location.
- G. I enjoy social interaction with my colleagues.
- H. It is difficult for telecommuters to supervise other people.

Section C: About Your Job Performance

C.1 On the average, how many hours per week do you work at this job?

_____ Hours

C.2 How long have you been in your current job?

_____ Years

_____ Months

C.3 How stressful is your job in the following respects.
Each area has the following response options:

- ☐ Very stressful, ☐ Somewhat stressful
- ☐ Not at all stressful, ☐ Not applicable

- A. Volume of work
- B. Scheduling work
- C. Office politics
- D. Job security
- E. Managing multiple projects

C.4 Indicate whether you agree with the following statements. Each statement has the following response options:

- ☐ Strongly Agree, ☐ Agree, ☐ Neutral,
- ☐ Disagree, ☐ Strongly Disagree,
- ☐ Not Applicable

- A. Most of the meetings I attend are scheduled at least a day or two in advance.
- B. I am productive when working away from the central office.
- C. My work group is highly productive.
- D. I usually decide how to complete the projects assigned to me.
- E. Telecommuting allows me the flexibility to work during my most productive hours.
- F. My family is supportive of my telecommuting.

C.5 Do you feel that your productivity has changed in the last year?

_____ No, _____ Yes

If yes, how has it changed?

- _____ Increased substantially
- _____ Increased
- _____ Decreased
- _____ Decreased substantially

C.6 How will telecommuting affect you - personally and professionally?

C.7 Rate your current job performance in the following areas. Each area has the following response options:

- ☐ Excellent, ☐ Very good, ☐ Good
- ☐ Meet Minimum requirements, ☐ Needs Improvement

- A. Productivity
- B. Interpersonal skills
- C. Dependability
- D. Communication skills
- E. Ability to work independently
- F. Overall performance

Section D: Travel

D.1 How many miles is your commute from home to work, with no added trips? _____ Miles

D.2 Indicate the number of days you make additional trips during your commute to the office. Each item has the following response options:

- ☐ Daily
- ☐ 2 - 4 days a week
- ☐ About 1 day a week
- ☐ Rarely/Never

- A. Commute to school
- B. Shop/run errands
- C. Social/recreational/dining
- D. Personal business/medical/dental
- E. Drop off/pick up passengers or child

D.3 Indicate the number of days you make additional trips during your commute home from the office. Each item has the following response options:

- ☐ Daily
- ☐ 2 - 4 days a week
- ☐ About 1 day a week
- ☐ Rarely/Never

- A. Commute to school
- B. Shop/run errands
- C. Social/recreational/dining
- D. Personal business/medical/dental
- E. Drop off/pick up passengers or child

D.4 For travel to and from work, indicate the number of days per week you use the following methods of transportation. Each item has the following response options:

- ☐ Daily
- ☐ 2 - 4 days a week
- ☐ About 1 day a week
- ☐ Rarely/Never

- A. Drive alone
- B. Walk to bus
- C. Drive to bus
- D. Drive to vanpool. How many in pool? _____
- E. Carpool. How many in carpool? _____
- F. Motorcycle/moped
- G. Walk or run
- H. Bicycle
- I. Rail
- J. Ferry

- K. Dropped off by someone else
- L. Other: _____
- D.5 How many minutes is your usual commute from home to work? _____ Minutes
- D.6 How many minutes is your usual commute from work to home? _____ Minutes
- D.7 How stressful is your commute?
- ☐ Very stressful
 - ☐ Somewhat stressful
 - ☐ Slightly stressful
 - ☐ Not at all stressful
- D.8 How congested is traffic during your commute?
- ☐ Heavy ☐ Moderate ☐ Light
- D.9 If you drive your own vehicle to work, what is its estimated fuel efficiency?
- _____ mpg city _____ mpg highway
- D.10 Do you use the following services, or would you use them if your organization provided them? Each service has the following response options:
- ☐ Currently use
 - ☐ Would use if available
 - ☐ Not interested in this service
- A. Free parking
- B. Reduced-price bus pass
- C. Carpool or vanpool subsidy
- D. Reduced-price ferry
- E. Reserved carpool or vanpool parking
- F. Commuter information board
- G. Commuter transportation coordinator
- H. Flex-time
- I. Bicycle racks or storage

APPENDIX 9: AT&T'S EMPLOYEE PERSONAL SCREENER

AT&T recommends that prospective telework employees ask themselves the following questions prior to requesting telecommuting arrangements.

1. Do I have the experience and skill to work on my own, without close supervision?
2. Am I self-disciplined, with good work habits?
3. Do I need to interact face-to-face with others in the office to get my work done?
4. Would I miss seeing people during the day?
5. Which of my job functions could be done from home?
Can these functions be scheduled on a telework day?
6. How would my customers and co-workers be affected?
7. Do I have a strong motivation to telework? A desire to avoid stressful commute; a need for a flexible work arrangement in order to better balance the demands of work and family?
8. Is my home conducive to work? Not too noisy, not too many distractions?
9. Is there a place at home I can set up as a dedicated work area?

AT&T suggests that employees evaluate their personal readiness to participate in telecommuting arrangements by completing the following Personal Screener. The instructions require the employee to rate himself/herself on each of the factors on a scale of 1 to 5 where 1 indicate a low level of accomplishment or ability and 5 indicates a high level of accomplishment or ability. Furthermore, the instructions state that the employee should mark "3" for factors where he/she is uncertain.

Prerequisite Factors:

- Level of job knowledge
- Amount of job experience
- Productivity
- Overall quality of work
- Adaptability of current (or potential future) job to telework

Skill Factors:

- Organizational and planning skills
- Project management skills
- Time management skills and ability to structure time in an unstructured environment
- Ability to set goals for self and follow through on them
- Self-discipline/ability to manage potential friction between personal and work commitments
- Communications skills: verbal
- Communication skills: written
- Self-marketing
- Technology literacy level/ability to work with technology to achieve business goals

Work Style Factors:

- Ability to work productively without needing supervision or frequent feedback
- Tendency to ask for advice or input when needed
- Reliability and discipline regarding work commitments

- Ability to thrive in isolated work environments with no co-workers present
- Self-motivation, self-discipline, ability to avoid procrastination
- Flexibility. Ability to work confidently in unfamiliar or constantly changing situations.
- Independence/ability to self-manage

Attitude Factors:

- Desire for schedule flexibility
- Willingness to try new ways of working
- Interest and enthusiasm about teleworking

Regarding the scores associated with the factors identified on the Teleworker Personal Screener, AT&T makes the following recommendations:

<u>Score</u>	<u>Recommendation</u>
0 - 48	You need to develop your skills extensively and gain experience on the job before starting a telework arrangement.
49 - 85	You have good potential to be successful in telework, although you may need training, support and/or experience to overcome any personal or other barriers before starting to telework.
86 - 120	You should be solidly successful in telework and your success is likely to increase over time as you gain experience and overcome any personal barriers.

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APPENDIX 10: AT&T'S ASSESSMENT OF ORG. READINESS

AT&T recommends that prior to an organization implementing a telecommuting program, the organization assess its readiness for such a program. The AT&T organizational readiness screener assesses three key areas: performance management, use and support of technology, and communications. The purpose of the assessment is to aid managers in identifying the organization's/department's strengths and weaknesses with regard to telecommuting arrangements.

The instructions require the manager to rate the organization/department on each of the factors on a scale of 1 to 5 where 1 indicates a low level of accomplishment or ability and 5 represents a high level of accomplishment or ability.

Performance Management:

- The extent to which people are managed based on outputs and results.
- The extent to which performance is measured and tracked using objective metrics.
- The degree to which people help to formulate their own performance goals and objectives.
- The degree to which people are evaluated based on meeting previously agreed-upon targets and expectations.
- The level of confidence and trust managers have in themselves and the people they manage.

Use and Support of New Technology:

- The level of self-sufficiency people have with technology.
- The degree to which technology is effectively used.
- The level of receptiveness to software and new technology in general.
- The degree to which people implement new technology without peer-to-peer or in-person training.
- The availability of technical help

Communications:

- The extent to which people keep themselves "in the loop" via informal or face-to-face communication.
- The speed with which people respond to communicated messages.
- The willingness with which people use communication such as e-mail, shared folders, or voice mail.
- The ability people have to operate without daily face-to-face meetings.
- The amount of managing normally performed without direct observation of activities (that is, managing by watching the results, not watching the workers).

Regarding the scores associated with the factors identified on the Organizational Readiness Assessment, AT&T makes the following recommendations:

<u>Score</u>	<u>Recommendation</u>
0 - 38	Before beginning a telework program, you will need to focus on the weak areas identified in the assessment.
39 - 60	Your organization has excellent potential to be successful in telework, although you may need training, support and/or experience to overcome any barriers before starting to telework.
61 - 75	Your organization should be solidly successful in telework, and this success is likely to increase over time as teleworkers and their managers gain experience.

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APPENDIX 11: AT&T'S PILOT PROGRAM EVAL. WORKSHEET

AT&T recommends that telework coordinators, supervisors, managers, and participants complete an evaluation worksheet relative to their experiences in the pilot telework program. An example of the evaluation worksheet for managers follows. The questions provided in the manager's evaluation can be tailored to telework coordinators, supervisors, and participants.

1. How has your relationship with your employees changed as a result of their teleworking?

☐ Improved ☐ Declined ☐ Remained the same

2. Has the trust and confidence you have in your telework employees been affected?

☐ Improved ☐ Declined ☐ Remained the same

3. How has teleworking affected the quality of teleworker's work, based on the measures set up beforehand?

☐ Substantial increase

☐ Slight increase

☐ Remained the same

☐ Slight decrease

☐ Substantial decrease

4. How has teleworking affected the quantity of work produced by the teleworkers, based on the measures set up beforehand?

☐ Substantial increase

☐ Slight increase

☐ Remained the same

☐ Slight decrease

☐ Substantial decrease

5. How has teleworking affected the overall productivity of your organization?

- ☐ Substantial increase
- ☐ Slight increase
- ☐ Remained the same
- ☐ Slight decrease
- ☐ Substantial decrease

6. How has teleworking affected your workload?

- ☐ Substantial increase
- ☐ Slight increase
- ☐ Remained the same
- ☐ Slight decrease
- ☐ Substantial decrease

7. Have you found it necessary to better define work projects for your teleworkers?

- ☐ Yes ☐ No

8. Have you found it necessary to hold more frequent meetings to ensure the progress of teleworkers' assignments?

- ☐ Yes ☐ No ☐ Can't tell yet

9. Has teleworking made it easier for your teleworkers to meet their work objectives?

- ☐ Yes ☐ No ☐ Can't tell yet

10. Is it easier to assess goals and objectives when you concentrate on managing by results?

- ☐ Yes ☐ No ☐ Not sure

11. Has teleworking proven to be a helpful tool for outlining clear expectations with your workers?

- ☐ Yes ☐ No ☐ Not sure

12. How has teleworking affected the employee's appraisal?

- ☐ Made it easier to do
- ☐ Had no effect
- ☐ Made it harder to do
- ☐ Do not know

13. Has the teleworker required additional equipment or services to be effective?

- ☐ Yes ☐ No

13.a. If yes, what equipment or services were needed?

14. Approximately how much did your organization spend to purchase new equipment or services?

\$_____ per teleworker

\$_____ total for all teleworkers

15. Was it difficult to hold group meetings due to employees' telework schedules?

_____ Yes _____ No

16. Did you experience problems with employees who were not allowed to telework?

_____ Yes _____ No _____ Not applicable

16.a. If yes, what kinds of problems did you encounter?

17. Do you want employees to continue to telework?

_____ Yes _____ No _____ Not sure

_____ Yes for some, no for others

18. Would you be willing to allow more employees to telework?

_____ Yes _____ No _____ Yes for some, no for others

_____ Too early to tell

19. What worked well?

20. What needs to be improved?

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