



AL1103 711082

**NISTIR 4640**

NIST  
PUBLICATIONS

# **NIST PERSONNEL MANAGEMENT DEMONSTRATION PROJECT**

## **DESIGN, IMPLEMENTATION AND ACCOMPLISHMENTS**

**Allen Cassady**

U.S. DEPARTMENT OF COMMERCE  
National Institute of Standards  
and Technology  
Office of the Director  
Office of Personnel and Civil Rights  
Gaithersburg, MD 20899

U.S. DEPARTMENT OF COMMERCE  
Robert A. Mosbacher, Secretary  
Robert M. White, Under Secretary for Technology

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY  
John W. Lyons, Director

QC  
100  
.U56  
4640  
1991  
C.3

**NIST**



NISTIR 4640

---

NISTC  
Q-100  
US6  
4640  
1991  
C.3

# NIST PERSONNEL MANAGEMENT DEMONSTRATION PROJECT

## DESIGN, IMPLEMENTATION AND ACCOMPLISHMENTS

**Allen Cassady**

U.S. DEPARTMENT OF COMMERCE  
National Institute of Standards  
and Technology  
Office of the Director  
Office of Personnel and Civil Rights  
Gaithersburg, MD 20899

July 1991



U.S. DEPARTMENT OF COMMERCE  
Robert A. Mosbacher, Secretary  
Robert M. White, Under Secretary for Technology

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY  
John W. Lyons, Director



## FOREWORD

The Personnel Management Demonstration Project at the National Institute of Standards and Technology (NIST) has been the subject of many recent discussions with the Visiting Committee on Advanced Technology of the National Institute of Standards and Technology, other Federal agencies, various committees concerned with operations and programs in Federal research laboratories, the Administration, and Congressional committees. This report is in response to these discussions and specific requests for illustrations of how well the Demonstration Project has worked in recruiting and retaining scientific and engineering professionals in the critical emerging technological fields. Likewise, others have asked for explanations of how the project differs from the General Schedule (GS) personnel system.

Dr. Allen Cassady, NIST Office of Personnel and Civil Rights, has researched and compiled data that documents the design, implementation, and accomplishments achieved under the Personnel Management Demonstration Project at NIST. Information for the illustrations was provided by the technical laboratory managers who are most familiar with the market demands and availability of qualified researchers. Vickie Fox, Kimberly Goble, Robert Martin, Sharon Shaffer, Michael Stogsdill, and Terri Talbott provided editorial comments and other helpful suggestions.

The recently enacted Federal Employees Pay Comparability Act of 1990 (FEPCA) is also examined with respect to its impact on the Demonstration Project. The report presents evidence that the Demonstration Project was successful in meeting the objective to improve hiring and retention of high-quality personnel and to more effectively compensate and retain high performers. The report also illustrates the need for continual upgrade of the system to accommodate changing conditions.

This report, as well as other reviews, documents the success of this program.

Samuel Kramer  
Associate Director  
NIST



## ABSTRACT

The NIST Authorization Act for Fiscal Year 1987 provided for a 5-year project to demonstrate an alternative personnel management system, which was implemented January 1, 1988. The project system was built on the concepts of total compensation comparability, market sensitivity, pay for performance, administrative simplicity, management flexibility, and government-wide applicability. Designed to improve hiring and retention of high-quality personnel and to more effectively compensate and retain high performers, the project dramatically changed the way NIST administers pay, position classification, recruitment, qualifications examination, retention, and performance management for former General Schedule employees. Evaluations and feedback from managers and employees have shown that project personnel systems have improved NIST's ability to recruit and retain quality staff; make compensation more competitive; link pay to performance; simplify position classification; streamline processing; improve the staffing process and get new hires aboard faster; and increase the manager's role and accountability in personnel management.

## CONTENTS

CHAPTER I: SUMMARY .....	1
Objectives .....	2
Basic System Features .....	2
Employee Coverage .....	3
Evaluation .....	3
Accomplishments .....	4
Impact of Federal Pay Reform .....	5
CHAPTER II: BACKGROUND .....	7
Packard Study .....	7
NAPA Study .....	7
Project Legislation .....	7
Project Design .....	8
Timetable .....	8
CHAPTER III: FEDERAL PERSONNEL PROBLEMS AND ISSUES ADDRESSED BY THE NIST PROJECT .....	10
Proposed Civil Service Simplification Act of 1986 .....	10
Volcker Commission .....	11
Civil Service 2000 .....	12
MSPB Classification Study .....	12
NAPA Study of Federal White Collar Classification .....	13
OPM General Schedule Pay Study .....	13
MSPB Turnover Study .....	13
NRC Study on Staffing Federal Scientific and Engineering Positions .....	14
DoD Study on S&E Recruitment and Retention .....	14
MSPB Study on Attracting Quality Graduates .....	14
MSPB Study on Delegation and Decentralization .....	15
The Personnel Research Agenda .....	15
CHAPTER IV: METHODOLOGY .....	18
CHAPTER V: ARCHITECTURE .....	19
Career Paths .....	20
Pay Bands .....	21
Career Stages .....	24
CHAPTER VI: POSITION CLASSIFICATION .....	27
Background .....	28
Principles .....	30
Delegation of Responsibilities .....	31
Automated Subsystems .....	31
Position Descriptions .....	31

Classification Logic .....	32
NIST Classification Standards .....	32
Career Patterns .....	33
Costs .....	34
 CHAPTER VII: TOTAL COMPENSATION COMPARABILITY .....	 35
 CHAPTER VIII: PAY ADMINISTRATION .....	 38
Broad Banding .....	38
Pay Ceilings .....	38
Promotions .....	39
Pay Adjustments .....	39
Placement in a Lower Pay Band .....	39
Supervisory Differentials .....	39
Flexible Entry Salaries of Pay Banding .....	39
Higher Pay Potential for Current Employees .....	40
 CHAPTER IX: STAFFING .....	 41
Agency-based Staffing .....	41
Direct Hiring .....	42
Merit Assignment Program .....	42
Recruiting and Retention Allowances .....	42
Qualification Requirements .....	43
Paid Advertising .....	43
Extended Probation .....	43
Reduction-in-Force .....	43
 CHAPTER X: PERFORMANCE APPRAISAL AND PAY-FOR-PERFORMANCE .....	 45
Related Federal Pay-for-Performance Activity .....	45
NIST Performance Objectives .....	47
Findings Leading to Redesign of Initial Appraisal System .....	47
New Appraisal System .....	48
Communications Between Supervisors and Employees .....	49
Performance Plan .....	50
Mid-Year Review .....	50
Final Performance Appraisal .....	50
Scoring .....	50
Benchmark Performance Standards .....	51
Pay Pools .....	52
Converting Individual Performance Scores to Pay Increases .....	53
Link Between Performance and Retention .....	53
Grievances .....	53
Actions Based on Unsatisfactory Performance .....	53
 CHAPTER XI: AWARDS .....	 55



CHAPTER XII: EMPLOYEE DEVELOPMENT .....	56
CHAPTER XIII: EMPLOYEE RELATIONS .....	57
Actions Based on Unacceptable Performance .....	57
Placement in a Lower Pay Band .....	57
Loss of Supervisory Differential .....	57
CHAPTER XIV: PROJECT EVALUATION .....	58
CHAPTER XV: CONCLUSIONS .....	59
References .....	61
Appendix A: External Evaluation of the NIST Demonstration Project	
Appendix B: Internal Evaluation of the NIST Demonstration Project	
Appendix C: NIST Staffing Problems Prior to the Demonstration Project	
Appendix D: NIST and Pay Reform:	
A Comparison of NIST Demonstration Provisions and FEPCA Provisions	



## CHAPTER I: SUMMARY

The National Institute of Standards and Technology (NIST) Authorization Act for Fiscal Year 1987 established a 5-year project to demonstrate an alternative personnel management system.<sup>1</sup> The NIST project is founded on the concepts of market sensitivity and competitiveness, pay for performance, administrative simplicity, management flexibility, budget neutrality, and government-wide applicability. The goals are to improve hiring of high-quality personnel and to more effectively compensate and retain high performers. Implemented in January 1988, the project and its innovations are proving successful. The project has dramatically changed NIST management of human resources; evaluations and feedback from managers and employees show that these changes have significantly improved NIST's ability to recruit and retain quality staff.

Personnel demonstration projects were a creation of the Civil Service Reform Act of 1978.<sup>2</sup> Within specified limits, these projects may be undertaken "notwithstanding any lack of specific authority and notwithstanding any other provision of law relating to personnel."<sup>3</sup> A demonstration project allows an agency, through its own innovations, to design and implement improvements "to determine whether a specified change in personnel management policies or procedures would result in improved Federal personnel management."<sup>4</sup> The NIST project differs from other agency projects in two respects. First, while other demonstration projects were created by approval of the Office of Personnel Management (OPM), Congress created the NIST project (see *Background* below) and specified many of its features. Second, while under the Reform Act OPM "conducts" demonstration projects,<sup>5</sup> the NIST legislation specified that the NIST project "be conducted by the Director of the National Bureau of Standards" (now NIST)<sup>6</sup> after being jointly designed by NIST and OPM.

Demonstration projects are expected to provide ideas to OPM and to Congress in solving civil service problems, such as those addressed by *Civil Service 2000*, a Hudson Institute study which OPM forwarded to Congress in June 1988. The "intention and hope" of OPM Director Constance Horner was that the report "will serve to focus public debate on the very serious challenges we face in the civil service and that it will anchor this debate in observed and demonstrated phenomena."<sup>7</sup> *Civil Service 2000* spoke of "the coming crisis" in the civil service and recommended giving Federal agencies "more flexibility and freedom in personnel matters"<sup>8</sup> and undertaking "extensive additional experiments with delegated personnel authority."<sup>9</sup>

This NIST IR report was prepared for the Visiting Committee on Advanced Technology of the National Institute of Standards and Technology to show how the NIST demonstration system was designed and implemented, how it is intended to improve on the General Schedule (GS) system, and how it is working. The report also shows why the project was not made obsolete by the recent pay reform legislation and why it continues to be useful in informing Congress and OPM on



civil service reform. Although the Federal Employees Pay Comparability Act of 1990 (FEPCA)<sup>10</sup> resolved many important pay issues, there are lingering problems in position classification, staffing, performance management, and pay and performance linkage that have been recognized by *Civil Service 2000* and other studies and that are being successfully addressed by the NIST project.

### *Objectives*

The NIST project covers pay, position classification, recruitment, qualifications examination, retention, performance management, employee development, and employee relations. The project was designed to recruit and retain quality staff; to make compensation more competitive; to link pay to performance; to simplify position classification; to streamline processing; to improve the staffing process and get new hires aboard faster; to increase the manager's role and accountability in personnel management; and to facilitate adoption of the system by other agencies.

### *Basic System Features*

The project personnel management system:

1. enables NIST to compete more effectively in the labor market through *agency-based hiring* (authorizes NIST to create its own candidate registers instead of using OPM registers); expanded *direct-hiring* (authorizes NIST to select any qualified candidate for a hard-to-fill position without posting vacancies and rating and ranking applicants); greater management involvement in recruiting and hiring; flexible entry salaries; recruiting allowances; and more flexible paid advertising;
2. allows NIST to more effectively compensate and retain good performers through pay-for-performance, the higher pay potential of pay banding, supervisory differentials, and retention allowances;
3. improves the effectiveness and efficiency of personnel administration through pay banding, simplified classification, and automation of personnel processes;
4. strengthens the manager's role in personnel management through delegation of authority and accountability to line managers;
5. annually compares the compensation provided for NIST employees with the compensation for similar positions in the private sector, based on *total compensation* (basic pay, bonuses, allowances, retirement, health insurance, life insurance, and leave benefits); and
6. maintains compensation costs within the limits of the former system.

## *Employee Coverage*

All Gaithersburg and Boulder employees, except wage-grade employees and the NIST Director, are included in the project. Senior Executive Service (SES) and ST-3104 positions are technically in the project but are not affected by project personnel systems. ST-3104 positions are for specially qualified non-managerial scientists and other professionals above GS-15 involved in research and development. NIST has 20 of the 517 total ST slots allowed government wide, which the Institute uses for its *NIST Fellows* and *NIST Senior Fellows*.

The project covers 3031 NIST employees (as of July 11, 1991), 2577 at the Gaithersburg site and 454 attached to the Boulder site (at the beginning of the project, the total coverage was 3050 employees). By appointment type, 2516 of the covered employees are full-time-permanent (FTP), 142 are part-time-permanent (PTP), and 373 are non-permanent employees with temporary, intermittent, student, or post-doctoral appointments.

By career category, the distribution of the 3031 covered employees is 87 SES, 20 ST-3104, 1745 scientists and engineers (ZP career path), 286 technicians (ZT career path), 290 administrative (ZA career path), and 603 support (ZS career path). Of the 1745 scientists and engineers, 772, or 44 percent, have Ph.D. degrees. The ten most populous occupations are physicist, 403; secretary, 264; chemist, 240; electronics engineer, 168; computer scientist, 165; physical scientist, 158; computer specialist, 143; mechanical engineer, 118; engineering technician, 110; and physical science technician, 90. Guards and firefighters (25) are represented by labor unions. Wage-grade employees (296) are not covered by the project.

## *Evaluation*

The Office of Personnel Management (OPM) conducts an annual evaluation of the project through a contractor, as required by the project legislation. OPM contracted with the University Research Corporation (URC) for evaluations of the first two years of the project. URC published the *Implementation Report* (August 1989)<sup>11</sup> and the *Second Annual Evaluation Report* (August 1990).<sup>12</sup> Appendix A of this report summarizes the URC and OPM evaluations of the project. Although a recent General Accounting Office (GAO) report<sup>13</sup> faulted the URC evaluation, OPM stands behind the evaluation and this report cites evaluation findings (see *Project Evaluation* below). For the evaluation of the third year of the project, OPM has contracted with Human Resources Research Organization (HumRRO), which has not yet published a report.

Appendix B lists the experiences of NIST managers in using project personnel management tools. Appendix C describes some of the problems NIST managers experienced prior to the demonstration project. Appendix D compares project provisions to provisions of the Federal Employees Pay Comparability Act of 1990 (FEPCA).



## *Accomplishments*

NIST experience in operating the demonstration system shows faster classification and hiring; the ability to make hires that could not be made under the former system; greater pay flexibility, particularly at the entry level; and higher rewards for, and more effective retention of, good performers (see appendices for evaluation). The feedback from managers, supervisors, and employees has been that the demonstration project was a success, but needed improvement in some areas. In response, the performance appraisal and pay-for-performance systems were extensively revised,<sup>14</sup> and the automated classification system was expanded and made more user-friendly.<sup>15</sup>

The *Project Implementation Report*, which OPM forwarded to Congress in August 1989, concluded that:

Overall, NIST staff and management believe the Demonstration Project addresses previous problems in staffing and hiring and has the potential to make NIST a better place to work. Many of the staff feel that positive results have already been attained. In particular, they feel that decentralization and streamlining of the hiring procedures has enabled NIST to attract individuals who might have been lost under the old cumbersome processing procedures. The most useful interventions are the agency-based hiring, the delegation of classification and hiring to the line managers, and the flexibility in entry salary offered by pay bands and delegated authority.<sup>16</sup>

The staffing process is also procedurally successful. The OPM Office of Washington Examining Services audited project staffing procedures and, in a January 1989 report, concluded that:

Overall, the examining portion of NIST's Demonstration Project is very well organized, and operates smoothly and effectively. Actions taken are in conformance with merit system principles and with the legislation authorizing the Demonstration Project. There were only a few errors or inconsistencies found, and these are easily corrected. We were, in fact, very impressed with NIST's operation.<sup>17</sup>

An important measure of employee attitude is the survey questionnaire, which was sent to all employees covered by the project in the summer of 1989.<sup>18</sup> For comparison between the new and former systems, the survey repeated many items from a 1987 baseline survey of employee attitudes on the pre-demonstration personnel system.<sup>19</sup> In response to the statement, "I am in favor of the demonstration project," 47 percent of the respondents either "agreed" or "strongly agreed" while only 18 percent either "disagreed" or "strongly disagreed." Thirty-two percent were "undecided" and 3 percent felt the statement did not apply to them. Surveys of employees covered by the Navy demonstration project at the Naval Ocean Systems Center (NOSC) show that favorable ratings tend to improve over time as supervisors and employees become more experienced and more comfortable with project systems. In a 1981 OPM survey of NOSC employees conducted in the

second year of the project, 35 percent of respondents were "in favor of the demo project" while 29 percent were not in favor. By 1989, the favorable rating had risen to 71 percent, with only 11 percent not in favor.<sup>20</sup>

Most responses to the other items in the 1989 NIST survey were positive. For example, in 1987, 61 percent of employees believed the General Schedule classification system "limited my career progression." This number has been reduced to 21 percent under the project classification system, which groups occupations into career paths and grades into broad bands. The responses to items on employee morale in the 1989 survey were also generally positive. For example, 90 percent of respondents agreed that "in general, I like working here," while only 4 percent disagreed. In contrast, 71 percent of employees in other agencies agreed with this same statement, as shown by a 1986 Merit Systems Protection Board (MSPB) survey of 21,620 employees in the 22 largest agencies.<sup>21</sup>

Supervisors are much more satisfied with the new personnel system than with its predecessor. Of the 13 comparison items in the supervisory section of the 1987 and 1989 surveys, 9 responses showed a significantly more favorable attitude toward the demonstration system than the former system while only 1 response showed (by a few percentage points) a more negative attitude. Supervisors also tended to respond positively to items that directly addressed the project. For example, 59 percent agreed that "the hiring process has become more timely and efficient under the demonstration project," while only 13 percent disagreed. More items on the 1987 and 1989 surveys are listed in Appendix A.

The most negative responses to the demonstration project personnel system have been in performance appraisal and, by extension, pay-for-performance. Both supervisory and nonsupervisory employees provided ideas for improving the system, through focus groups and other forums. NIST responded to this feedback by developing a revised performance appraisal and payout system, which was approved by the Office of Personnel Management (OPM) and implemented for the 1991 performance cycle.<sup>22</sup>

### *Impact of Federal Pay Reform*

With the passage of the Federal Employees Pay Comparability Act of 1990 (FEPCA),<sup>23</sup> the question arises whether pay reform has made the NIST demonstration project unnecessary. Several provisions of the act will benefit NIST, but will not make the project obsolete. In addition to pay, the project tests many innovative ideas in personnel management and administrative functions, such as position classification, recruitment, qualifications examining, probation, performance appraisal, pay for performance, automation and paperwork reduction, and delegations of authority to managers, all of which have many advantages over current systems:

1. NIST is testing a position classification system based on career paths, broad-banding, simplified classification standards, and automated position descriptions,



that has received extensive interest from other Federal agencies. Continued demonstration of this innovative classification system would aid Congress and the Office of Personnel Management (OPM) in deliberations on the need for and direction of classification reform.

2. NIST is demonstrating a faster and more effective staffing system based on agency-based hiring, more extensive direct-hiring, and paid advertising. A three-year probation period for new hires in science and engineering allows supervisors to see more of the full cycle of research before making a final hiring decision.

3. NIST has simplified the performance appraisal system into a more direct scoring-ranking-payout process that replaces the five-rating system many Federal employees have found objectionable and counterproductive. Through pay-for-performance, NIST links annual pay increases to performance for all white-collar workers, thus eliminating the automatic step increases in the GS system and, through broad-banding, making more of the pay range dependent on performance.

4. The simplified NIST systems are more amenable to automation and reduced paperwork. For example, the automated classification system allows supervisors to produce classified position descriptions in less than 15 minutes, and the automated pay-for-performance system allows managers to enter performance scores and generate performance pay increases that are compared against pay pool ceilings and electronically transmitted to the automated payroll system.

5. With their increased delegations of authority, NIST managers have become more effective personnel managers of their units.

None of these features are made obsolete by the Pay Comparability Act. The NIST project continues to demonstrate a new and innovative personnel system.

Appendix D compares FEPCA provisions with NIST project provisions.

## CHAPTER II: BACKGROUND

### *Packard Study*

The project was added to the NIST authorization bill<sup>24</sup> for Fiscal Year 1987 as a result of a series of events beginning in March 1982 when the White House Science Council established the Federal Laboratory Review Panel, chaired by David Packard of the Hewlett Packard Company, to study the Federal laboratories and "identify any systematic impediments to performance." The White House Office of Science and Technology Policy (OSTP) developed a legislative proposal, based on the panel's findings, that was introduced in the 99th Congress as HR 3480 and S 1727. The proposed Federal Science and Technology Revitalization Act would have allowed agencies with R&D facilities to establish permanent alternative personnel management systems for scientific and technical positions along certain lines, including pay banding (influenced by the Navy demonstration project), market-competitive compensation, pay based on performance, a waiver of the pay cap for up to 5 percent of specially qualified technical personnel, and a Senior Scientific and Technical Service (SSTS) at the same level as the Senior Executive Service (SES).

### *NAPA Study*

The Packard study paralleled a study by a panel of the National Academy of Public Administration (NAPA), funded by 16 Federal agencies (*Revitalizing Federal Management: Managers and Their Overburdened Systems*, November 1983). This study found that Federal managers view the personnel system as a set of obstacles that must be overcome, rather than as a system designed to meet their needs. The NAPA panel suggested that "a more advanced concept of personnel system values and accountability is needed which goes beyond the advances of the Civil Service Reform Act [of 1978] by placing responsibility for effective personnel management squarely in the hands of the manager, and not in the personnel organization." The panel also recommended that executives and line managers take more active roles in personnel, help tailor personnel programs to meet their needs, develop a greater sense of responsibility for the design and operation of the system, and be held accountable for effective use of the authority delegated to them, and that new models of classification systems be developed and put in place.

### *Project Legislation*

When the OSTP proposal did not pass, the House Science and Technology Committee, looking for another vehicle for personnel reform, placed the substance of HR 3480 in the Fiscal Year 1987 NIST authorization bill as the Fuqua Amendment. The motive for choosing NIST, as stated in the committee report, was that:

. . . the Bureau's reputation can be expected to suffer because of its current personnel system. For this reason, the Committee feels compelled to



address the personnel problem at the NBS by providing an exemption to the rigidity of the General Schedule.<sup>25</sup>

During the Senate debate on the bill, Senator Slade Gorton commented that "the project addresses the Government's problem attracting and keeping qualified personnel, especially in high technology fields."<sup>26</sup>

The Oakar Amendment of the House Post Office and Civil Service Committee replaced the Fuqua Amendment and broadened the position coverage to all GS, GM, SES, and 3104 positions and changed the proposed permanent system to a demonstration project under a provision of the Civil Service Reform Act of 1978<sup>27</sup> that allows agencies, with OPM approval, to experiment with new ideas in personnel management otherwise prohibited by law. The legislation, signed October 28, 1986, required implementation by January 1, 1988.

### *Project Design*

NIST managers and staff designed the project. The NIST Director appointed a Steering Committee of the NIST Deputy Director as Chairman, the directors of the major organizational units (MOUs), the DOC Director of Personnel, a representative of the DOC Office of the General Counsel, the Chief of the NIST EEO Support Division, the NIST Personnel Officer, and an executive secretary from the Personnel Officer's staff.

The Steering Committee assigned specific areas of the project to six task forces, each chaired by an MOU director and staffed by one full-time member from the same MOU. Other managers and administrative staff served on the task forces as needed. The Committee established a Project Office for coordination, task charting, record keeping, reporting, and other support and appointed an Employee Advisory Committee through which NIST employees could suggest ideas for the development of the new personnel system, review elements of the system prior to implementation, and assist in evaluation.

Private sector contractors conducted a baseline evaluation of the personnel system preceding the project, advised on compensation practices, and provided comparability data and analysis.

### *Timetable*

The following chart lists major events affecting the project, from the signing of the legislation to the present:

<i>Date</i>	<i>Event</i>
10/28/86	NIST Authorization Act for Fiscal Year 1987, <sup>28</sup> mandating the NIST Personnel Management Demonstration Project



- 7/1/87 OPM Federal Register notice proposing a project plan
- 8/10/87 Public hearings on the proposed plan  
&8/18/87
- 10/2/87 OPM Federal Register notice approving the project plan
- 1/1/88 Project implementation
- 8/23/88 Creation of NIST from the National Bureau of Standards (NBS) by the Omnibus Trade and Competitiveness Act to strengthen its role of assisting American industry with new technologies.
- 8/16/89 OPM Federal Register notice finalizing amendments to the project plan to correct and clarify the original plan
- 8/18/89 OPM contractor report on the implementation of the project<sup>29</sup>
- 8/27/90 OPM contractor report on the second year of the project<sup>30</sup>
- 9/25/90 OPM Federal Register notice finalizing an amendment to the final project plan, primarily to modify the performance appraisal system
- 10/1/90 Implementation of new performance appraisal and pay-for-performance systems
- 1/1/91 Implementation of version 2 of the Automated Classification System (ACS)
- 2/10/91 NIST reorganization, creating ten operating units (OU) from five major operating units (MOU)
- 5/91 GAO final report to Congress, covering the evaluation of the project by the OPM contractor.
- 12/31/92 End of project unless extended, as provided in the project plan published in the Federal Register 10/2/88

The project is now managed by the Personnel Management Board (PMB), chaired by the NIST Associate Director. Five of the 10 operating unit (OU) directors serve as members on a rotating basis. The 5 former *major organizational units* were reorganized as 10 *operating units* on 10 February 1991, eliminating one level of organization.

### *CHAPTER III: FEDERAL PERSONNEL PROBLEMS AND ISSUES ADDRESSED BY THE NIST PROJECT*

The current General Schedule (GS) system<sup>31</sup> does not adequately serve the requirements of a modern civil service, the demands of today's leaner Federal organizations, or the needs of managers under increasing pressures to operate more effectively and efficiently. Recognizing these shortcomings, Congress directed NIST to conduct a five-year project to demonstrate an alternative personnel system.

. . . the Bureau's reputation can be expected to suffer because of its current personnel system. For this reason, The Committee feels compelled to address the personnel problem at the NBS by providing an exemption to the rigidity of the General Schedule. In so doing, the Committee expects the Bureau to emulate the highly successful demonstration projects at the Navy laboratories: The Naval Weapons Center at China Lake, California and the Naval Ocean Systems Center at San Diego, California. The key aspects of these projects are a flexible personnel structure involving a small number of pay "bands" and a strong pay-for-performance component. These projects have led to great improvements in attracting and retaining quality scientific and technical personnel, while reducing the supervisory overhead involved in the personnel management system.<sup>32</sup>

A basic objective of the project was to design the system to serve as a model for simplifying and improving Federal personnel systems government-wide, not just at NIST. The following studies, findings, and proposals show a broad consensus of opinion among management and personnel experts that the Federal personnel system is not working as well as it should; that new ideas and innovations are needed to improve the effectiveness and efficiency of Federal personnel operations. The NIST project is successfully demonstrating one set of workable innovations that can be used by all agencies.

#### *Proposed Civil Service Simplification Act of 1986*

In July 1986, Constance Horner, OPM Director, proposed a Civil Service Simplification Act to Congress (S. 2724, 7 August 1986<sup>33</sup>) that would replace the General Schedule with a pay-banding system in agencies that wanted it. In her transmittal letter, Horner said:

The shortcomings of the current General Schedule (GS) are clear. This system, which had its origins more than 60 years ago, stresses administrative procedures at the expense of management flexibility and opportunities to reward employee effort. As a result, four broad areas of dissatisfaction with the current GS system have emerged:

- the hiring system is excessively regulated and time-consuming.
- the compensation system is rigid and often inadequate.



- the performance appraisal system, despite major improvements, still does not sufficiently tie pay to employee performance.
- the job classification system on which it is all based is cumbersome and excessively involved with paperwork.<sup>34</sup>

In a December 1986 address before the Classification and Compensation Society, Claudia Cooley, OPM Associate Director for Personnel Systems and Oversight, suggested that "the need for an overhaul of the civil service has been recognized for some time."

The system is over-regulated, complex and undecipherable to the unannointed. Rather than an integral part of the management process, the personnel system has become a separate and somewhat alien process. For too long, the well-intentioned have tried to fix or anticipate every real or possible mistake or misjudgment by setting a rule or imposing a process. And now we are so entangled in this web of constraint and control that it is difficult to act, to deliver, and to achieve to our potential. And to the extent the personnel system subverts rather than supports mission accomplishment, it has lost its purpose and its value.<sup>35</sup>

Congress did not pass the proposed Civil Service Reform Act, preferring to see more experimentation in demonstration projects.<sup>36</sup> The Federal Employees Pay Comparability Act of 1990 (FEPCA)<sup>37</sup> addresses only the second problem listed by Horner, the rigid and inadequate compensation system. The other three problems still need to be addressed, and the NIST project is demonstrating a workable set of solutions.

### *Volcker Commission*

FEPCA promises to solve many of the compensation problems reported by the National Commission on the Public Service (Volcker Commission) in 1989. Other personnel system problems reported by the Commission, however, are not addressed by FEPCA. The most pressing of these is the continuing rigidity of the Federal personnel system.

effective delivery of services can only be produced within a government structure that insists upon efficient operations and that rewards innovation. Currently, layered levels of regulations and procedures often combine with a rigid federal personnel system to inhibit quick response and employee initiative.<sup>38</sup>

The staffing and performance appraisal systems were also faulted by the Commission.

Federal recruiters do not have the flexible "bag of tools" available to private recruiters in an increasingly competitive environment. . . . There is strong

dissatisfaction with the performance evaluation system instituted 10 years ago by civil service reform . . . .<sup>39</sup>

The NIST project provides recruiters with this missing "bag of tools," such as agency-based staffing, direct hire for hard-to-fill positions, paid advertising, flexible entry salaries, broad-band entry levels, recruitment allowances, more flexible travel expenses for new hires, and 3-year probation for scientists and engineers. The project performance appraisal system was designed with manager and employee input to address their concerns.

### *Civil Service 2000*

FEPCA also responds to many of the pay issues raised by *Civil Service 2000*, a report of the Hudson Institute forwarded to Congress by OPM in June 1988. The report, however, confronted civil service problems other than pay and called for giving agencies "more flexibility and freedom in personnel matters."

Standardized recruiting, testing, competition, classification, and pay should give way to decentralized personnel management, giving agency managers full responsibility not only for their missions, but for the human resources they need to accomplish them.<sup>40</sup>

The report questioned the wisdom of a highly centralized "universal" approach to reform, which is likely to be "both expensive and inefficient."

Many agencies have been granted special flexibility in hiring, pay scales, and job assignments, either on an occupation-by-occupation basis or on a facility-wide experimental basis, such as at the Navy's China Lake project.

The demographic environment of the 1990s suggests that these experiments should be expanded, and that bolder movement toward decentralized personnel management, such as is occurring in large private organizations, is needed at the Federal level. The swiftness with which the labor markets are changing in some regions and occupations suggests that a top-down, command and control system of personnel management will be increasingly unable to cope with the rapid changes ahead.<sup>41</sup>

### *MSPB Classification Study*

The U.S. Merit Systems Protection Board (MSPB) cited several issues in 1989 on the future of Federal position classification.

Regarding the future, it is by no means assured that the best classification system for the Federal Government is the current one. . . .

Some of these perceived problems are probably traceable to the antiquated nature of the existing body of classification standards, while others perhaps relate to the system's design itself. . . .



On the more global question of the system's overall design, no OPM master plan is evident at this time which will define the classification system of the future. . . . The challenge for OPM is to proactively uncover (or create, if necessary) the next generation of classification methodology, so that the system can serve the Government's mission, rather than the reverse.<sup>42</sup>

### *NAPA Study of Federal White Collar Classification*

The National Academy of Public Administration (NAPA) is now conducting a study of the General Schedule (GS) classification system. Though the final report has not yet been published, the Director of the study has announced some of the findings:

If you review the problems identified in the literature and by our survey, you could categorized them into two areas.

- The system is too complex for a workforce of approximately 1.6 million, and OPM has never and probably never will have the resources to maintain currency.
- Adherence to the principles of fairness and equity must not be blind to the fact that organizations are structured differently, with different missions and methods for accomplishing these missions.<sup>43</sup>

It appears that the NAPA study team will recommend that the Federal Government adopt a classification system for white collar positions based on:

the principles of banding occupations and grades. The four demonstration projects and at least two of the exempted agencies provided us with an ability to evaluate how well such a methodology can work.<sup>44</sup>

### *OPM General Schedule Pay Study*

In its own study in 1989, OPM found two basic problems with the General Schedule.

When compared to the compensation systems in this study, the General Schedule has two obvious problems: (1) it is less flexible than any of these systems, and (2) its ranges are too narrow.<sup>45</sup>

NIST career paths, broad pay bands, simplified classification standards, automated position description and classification process, and delegations of classification authority to managers correct both these problems.

### *MSPB Turnover Study*

A 1989 study by the MSPB found that the overall Federal turnover rate of 9 percent (OPM reported an FY 1990 turnover rate of 10.43 percent) was actually lower than turnover rates reported by many private sector employers, but other aspects of turnover and workforce profile may be causes for concern. For example, an increasingly large percentage of Federal employees are reaching retirement age,



representing "a large block of experience and knowledge" that must be replaced. Fifty percent of all employees are in the 36-55 age range; 25 percent are over 50. Another troubling statistic is the 25 percent turnover rate among new hires, reducing the effectiveness and increasing the costs of recruiting.<sup>46</sup>

#### *NRC Study on Staffing Federal Scientific and Engineering Positions*

In 1990 The National Research Council (NRC) reported on its study of the recruitment, retention, and utilization of Federal Scientists and Engineers. The report listed seven barriers to effective recruitment and retention, such as the lengthy time required to extend an offer of employment, and proposed mechanisms to reduce each of them. Among the proposed mechanisms were pay banding, recruitment bonuses, direct-hire authority, simplified hiring procedures, increased personnel authority for line managers, flexibility in increasing salary without promoting, computer-assisted classification, simplified classification systems, and pay/performance linkage, all of which are integral to the NIST demonstration personnel system.<sup>47</sup>

#### *DoD Study on S&E Recruitment and Retention*

A Department of Defense (DoD) study showed the average time required to complete the steps for filling science and engineering positions was 107 days for General Schedule (GS) grade 5-7 positions, 130 days for grade 9-12 positions, 161 days for grade 13-15 positions, and 308 days for Senior Executive Service (SES) and GS grade 16-18 positions. At the end of Fiscal Year 1986, DoD laboratories had 1,500 science and engineering vacancies. The study also found that the quality of new hires in science and engineering was declining. The ratio of scientists with Ph.D. degrees had declined from 34.8 percent prior to 1958 to 19.5 percent in 1987, while the ration of engineers with Ph.D. degrees had declined from 7.8 percent to 1.8 percent. Other indicators, such as number of scientific papers and patents, also showed a decline in quality.<sup>48</sup>

The NIST project innovations provide incentives to attract higher quality candidates and reduce the time required to make offers of appointment.

#### *MSPB Study on Attracting Quality Graduates*

A 1988 MSPB survey of college and university deans and placement officials found that private employers had a recruiting edge over Federal agencies in their ability to use a less cumbersome application and hiring process and make a firm job offer at time of interview, among other advantages.<sup>49</sup>

The NIST project simplifies and speeds up the application and hiring process under both agency-based and direct-hire procedures and allows managers to make firmer offers during interviews for positions subject to direct-hire procedures.

## *MSPB Study on Delegation and Decentralization*

A 1989 MSPB study on delegation of personnel authorities to agencies found that:

There is wide support among agency management and personnel specialists for the concept of "simplification," especially insofar as that concept is embodied in the goals of increased decentralization and delegation of personnel authorities;

...

There is . . . evidence that decentralization and delegation of authority can make the system more responsive and effective;

Agencies are pleased with recent increases in delegated personnel authorities and especially delegated examining authority which they believe provides them with better quality job candidates in a shorter period of time; . . .

There is impetus for and reason to support the continued pursuit of decentralization of personnel authority in the Federal Government.<sup>50</sup>

### *The Personnel Research Agenda*

In August 1989, OPM co-sponsored the Personnel Research Conference of personnel researchers and Federal personnel policy makers to develop and share research ideas and determine how they might be transferred to the workplace.<sup>51</sup> The conference followed three major themes:

The enormous impact which future demographics will have on all areas of personnel management, including recruitment, retention, compensation, training, and participation, and the concomitant need to plan for these changes.

The value of identifying those motivators which will encourage people to work for the government and to remain in public service.

The necessity of "deregulating" and simplifying the administrative complexities of the Federal service and, insofar as is possible, transferring private sector practice to the public sector.<sup>52</sup>

The conference also produced a Research Agenda for the future:

#### Workforce Demographics

What will be the role of the Federal Government and the nature of its work in the year 2000?

What skills will be needed to perform that work? Will these skills be readily available? What techniques for workforce planning can produce this information? What new recruiting and training approaches could assist the Federal Government in attaining and assuring a quality workforce?

What alternative classification and compensation systems would be simple, fair, competitive with other employers and adaptable to the nature of the work and job mix of the future?

Will the roles of managers change and will the ratio of managers to employees be affected? What new skills will managers need and what distinctive personnel policies could apply to them?

### Recruitment and Retention

What factors (e.g., image, pay, benefits, hiring practices) most inhibit Federal recruitment?

How can the Federal Government fill jobs with quality people in the shortest time possible?

Does the Federal Government have a retention problem, and if so, where and why? What are the cost implications?

### Compensation

What factors in the Federal pay and benefits system allow Federal agencies to be competitive with private sector organizations? What factors cause them to be noncompetitive? What alternative approaches might be effective in redressing imbalances?

What benefits do employees perceive as the most valuable to them? Do these perceptions change during their careers? What additional benefit options do they want, and what choices will they make?

### Performance Management

When do employees believe rewards are warranted? What do they most value as an incentive? What process for giving awards do they perceive as most fair?

What are the common characteristics of organizations with highly effective individual appraisal and awards systems? With group performance and awards systems? Under what conditions are these systems transferable to other organizations?

To what extent do supervisors fail to address performance problems and take justifiable corrective action? Why?

### Diversity

To what degree do the differences in organizational cultures, missions and locations within the Government suggest customized personnel systems, and how much deregulation, delegation and decentralization is optimal?



## Training and Development

What return on investment does the Government receive for its training dollars? Are training purposes met?

## Participation

How important is participation to employees? To what extent and over what matters do employees desire participation? What factors inhibit employee participation and labor-management cooperation?

Most of these issues still need to be addressed, and the NIST demonstration project is providing many workable options. Constance Newman, OPM Director, does not think that pay reform has ended the "quiet crisis" in the civil service confirmed by the Volcker Commission. In an interview published in April 1991,<sup>53</sup> she spoke of pay-for-performance, recruitment and retention, position classification, quality management, and the civil servant image as other items on the agenda, now that the basic pay reform package has been passed.

## CHAPTER IV: METHODOLOGY

Project methodology has been: (1) to reexamine the basic objectives of human resources management, (2) to determine whether objectives are being met, (3) to develop improved systems to replace those found to be ineffective or inefficient, (4) to implement the new systems in the most equitable manner possible, and (5) to evaluate whether the new systems are having the desired effect. This approach is similar to *action research* methodology, which Gareth Morgan (*Beyond Method: Strategies for Social Research*) describes as:

a mode of inquiry that starts by advocating certain models and beliefs as a framework for dealing with a problematic aspect of reality, uses observation and reasoning to draw out the consequences of this framework of analysis, and then proceeds to test it through action designed to see whether the anticipated consequences ensue. . . . The aim is not to arrive at a set of models and beliefs that correspond with reality; rather, it is to find a set that provides tools for dealing with reality.<sup>54</sup>

For Gerald Susman, a principal theorist in this methodology, the cycle of action research begins with recognition of a *problem situation*, which occurs when:

(1) the system's outputs are no longer being produced at acceptable standards and/or the system's means for producing them are no longer satisfying to members, *and* (2) the system members do not know what actions to take to make the outputs and/or means acceptable or satisfying again. . . . Evidence that system outputs are no longer acceptable might include lower product quantity, poorer quality, slower delivery, or higher costs. Evidence that system means are no longer satisfying might include higher conflict, higher turnover, absenteeism, or poor coordination.<sup>55</sup>

The project has followed Susman's five cyclical phases of action research: (1) diagnosing, (2) action planning, (3) action taking, (4) evaluating, and (5) specifying learning.<sup>56</sup> At times during the project, evaluation has led to additional action planning to improve the project.



## CHAPTER V: ARCHITECTURE

Organizational design and human resources management require an architecture for categorizing positions and employees. This structure must have *horizontal* and *vertical* components. The horizontal component categorizes positions by occupation and the vertical component by a hierarchy corresponding to levels of responsibility and pay.

An important design objective was to establish the new personnel system on an architectural foundation that would reflect the character of the Institute and meet the needs of research and development management, while providing a framework for position classification, compensation, staffing, flexible entry salaries, pay-for-performance, reduction-in-force, and other personnel functions. Ray Kline, President of the National Academy of Public Administration (NAPA), called for a more "tailor-made" approach to personnel systems in his 1988 testimony before Congress:

First, we should destroy once and for all the myth that the federal government is one gigantic monolithic structure of bureaucrats. We should see the bureaucracy for what it is--a cluster of cultures--and encourage these cultures to become centers of excellence. The traditional "cookie-cutter" approach--that all personnel issues impact all employees in all cultures alike and therefore call for mega-solutions across the board--should be abandoned. These distinctive organizations should be encouraged to seek legislative or regulatory authority to develop and manage their own systems within a very broad policy apparatus administered by OPM.<sup>57</sup>

A review by NIST staff of the Navy demonstration projects<sup>58</sup> showed that career paths and broad pay banding were superior to General Schedule (GS) grades for meeting NIST project design objectives. The narrowness of GS grades leads to system rigidity, and the large number of grades prevents clear grade distinctions through efficient and understandable classification standards. Also, classification by grades combined with virtually automatic step increases within grades does not give adequate weight to performance in setting pay.

The Factor Evaluation System (FES)<sup>59</sup> of position classification, OPM's principal classification system for GS positions, has not met the stated objectives of effectiveness and understandability. The nine factors of the system are too complex to give supervisors and employees the clear pictures of positions they need for good personnel and career management. The GS method of grouping occupations is also flawed. Although GS occupations are placed in occupational *groups* according to general subject matter, both professional (2-grade interval) and non-professional (1-grade interval) occupations are grouped together, preventing similar treatment of grouped occupations for classification, pay, qualifications, and other personnel administration.

In contrast to the tightly graded GS system, the Navy, NIST, and Air Force (Pacer-Share)<sup>60</sup> demonstration classifications systems use broad pay bands, which incorporate one or several of the former GS grades. The General Accounting Office (GAO) and the Central Intelligence Agency (CIA) have permanent broad-band classification systems. The Navy project introduced pay-banding (*vertical component*) to the Federal government and also introduced the more useful occupational grouping of career path (*horizontal component*). Although some career paths are more heterogeneous than others, a career path is ideally designed to cover a set of occupations with similar entry and full-performance levels that can be treated similarly in personnel administration. By replacing the General Schedule and its occupational groups, the career path structure solves many of the problems created by each. NIST found that four career paths were adequate to provide classification and pay structures for a workable alternative system, particularly in support of pay-for-performance. The Navy project uses five career paths, and the Air Force Pacer-Share project uses six. The Public Service of Canada uses a similar career path approach, in which occupations are grouped into six categories: (1) Operational, (2) Administrative Support, (3) Technical, (4) Administrative and Foreign Service, (5) Scientific and Professional, and (6) Executive.<sup>61</sup>

Demonstration projects such as the NIST, Navy, and Air Force projects are continuing sources of valuable information. Alternatives to the General Schedule are needed to provide more tailored structures that fit the special characteristics of the different categories of positions found in the Federal career service.

### *Career Paths*

Career paths are categories of occupations grouped by similarities in work, qualification requirements, pay ranges, and career progression. The philosophical approach taken by NIST was that an agency should first establish a career path for the basic professional work that accomplishes the agency's mission. For NIST, the basic professional work is science and engineering. Next, a career path should be constructed for the non-professional technical work that supports the professional work. For NIST, the technical support work is that of scientific and engineering technicians. Third, a career path should be provided for administrative work for which a college degree is desirable. Finally, a career path is needed for the administrative support work. The four career paths that arose from this philosophy are:

*Scientific and Engineering (ZP)*: professional technical positions in the physical, engineering, biological, mathematical, computer, and social sciences; and student positions for training in these disciplines.

*Scientific and Engineering Technician (ZT)*: nonprofessional technical positions that support scientific and engineering activities through the application of various skills and techniques in the electrical, mechanical, physical science, biological, mathematical, and computer fields; and student positions for training in these skills.



*Administrative (ZA)*: specialist positions in such administrative and managerial fields as finance, procurement, personnel, librarianship, public affairs, and program management and analysis; and student positions for training in these fields.

*Support (ZS)*: positions that provide administrative support through the application of typing, clerical, secretarial, and similar knowledges and skills; positions that provide specialized facilities support, such as guard and firefighter; and student positions for training in these skills.

The career path method promotes:

1. Human resources management along lines of work important to the agency.
2. Similar treatment for similar occupations. Classification, pay, staffing, career planning, training, and other personnel systems can be designed by career path.
3. Broader and simpler classification standards. Ideally, a single generic classification standard will cover all occupations of a career path. For the most heterogeneous career paths, however, more than one standard may be needed.
4. Broader and fewer qualification standards. Ideally, a basic pattern of experience and education can be constructed for a career path, because the occupations in the career path have been selected largely on their similarity in career progression.
5. Reductions in resources required for the development, application, and maintenance of the classification system. The generic career-path classification and qualification standards cost less to create and maintain, and they can be applied more rapidly, consuming less staff time.

### *Pay Bands*

A pay band encompasses a broader salary and classification range than does a General Schedule (GS) grade. A single band usually covers the same range as two or more grades. For this reason, pay banding is sometimes referred to as *broad banding*.



## NIST CAREER PATHS AND PAY BANDS

CAREER PATHS	PAY BANDS																	
SCIENTIFIC AND ENGINEERING (Pay Plan: ZP)	I					II					III			IV		V		
SCIENTIFIC AND ENGINEERING TECHNICIAN (Pay Plan: ZT)	I				II				III			IV		V				
ADMINISTRATIVE (Pay Plan: ZA)	I						II						III			IV		V
SUPPORT (Pay Plan: ZS)	I		II		III		IV		V									
Corresponding GS Grade	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15			

Pay banding has the following advantages:

1. Simpler, broader, and fewer classification standards. A pay band is a larger target than a grade, and thus may be defined in shorter and simpler language. This produces several benefits: less costly system development and maintenance; greater understandability; quicker and easier classification decisions; less disagreement on classification decisions, because the reduced number of classification levels allows more distinct definitions of adjacent levels; shorter position descriptions, which are easier to create and keep current; less documentation and paperwork; and easier automation.
  
2. Simpler classification factors, tailored for specific organizational environments for better agency fit and clearer understanding by managers and employees. NIST found that the factors of *duties and responsibilities* and *knowledges, skills, and abilities* were appropriate and adequate for evaluating the worth of NIST white-collar positions. Other agencies implementing a pay band system might select different factors. As Jonathan Tompkins says in his article on job evaluation validity:

It is the task of job evaluation to arrange jobs hierarchically according to whichever job content factors are deemed appropriate by management and labor. These choices become the standards for assessing job worth in a given employment context, and they need not be justified in terms of some more universal understanding of job worth.<sup>62</sup>

3. Fewer classification actions. By diminishing the number of classification levels, pay banding reduces the frequency of promotions, thus reducing the number of classification actions and much of the turmoil and cost associated with frequent and discordant classification decisions requiring fine distinctions between GS grades.
4. Assignment of classification authority and accountability to managers. The simplicity of broad-band classification supports delegation of classification authority to officials outside the personnel office. The current Federal classification process does not give managers the authority and flexibility to perform effectively as personnel managers. At NIST, the authority for position classification is delegated to line managers. The larger and easier-to-hit pay-band targets, the simplified classification standards, and the automation of classification and position descriptions allow delegation to managers without extensive management training in classification.
5. Transition of the position classification specialist to role of organizational consultant. Classification specialists, who are highly trained and experienced in such skills as program evaluation, data gathering, analysis, and organizational development, are freed from the burden of lengthy classification evaluations to use their time and expertise to advise managers on organizational design, organizational change, and position management.
6. Stronger link between pay and performance. A pay band covers a broader range of pay than does a GS grade. Movement within this broad range can be based on individual or team performance.
7. Greater pay flexibility for, and improved retention of, current employees. In many cases, good performers whose pay would have been frozen at the top step of a grade have more potential for upward movement in the broader pay band. The best performers can be moved upward in pay more rapidly than in the GS system, helping to ensure their retention.
8. More flexible entry pay for more competitive hiring. Entry bands provide broad and flexible ranges of entry pay for more effective negotiation with highly qualified candidates.
9. Greater employee mobility. Pay banding facilitates employee mobility by making it less likely that a reassignment will be blocked by competitive requirements (e.g., with GS-13 and GS-14 in the same band, former GS-13s may be reassigned to former GS-14 positions without the necessity of vacancy posting and competition).
10. Stronger link with career stages, as shown below.

## *Career Stages*

The link between broad bands and career stages is shown by the following view of the scientific and engineering career path:

<i>Band</i>	<i>Career Stage</i>
V	Manager or Nationally Recognized Authority
IV	Supervisor or Senior Expert
III	Independent, Full-Performance Researcher (entry level for Ph.D. graduates)
II	Developmental Researcher (entry level for baccalaureate graduates with superior academic achievement)
I	Student Trainee

Describing classification levels as career stages links career development with the needs of the organization, facilitates the development of individual career plans, and makes position classification more understandable and useful. It also emphasizes the *dual career track* concept in which, beginning at Band IV, the scientist or engineer may follow either the managerial or non-managerial path through Band V, extending into the SES for managers and into the ST-3104 *NIST Fellow* category for non-managers.

As Mariann Jelinek asserts in her book on career management, "awareness of career ladders--connected sequences of jobs and logical progressions between them--and of the developmental needs of the different career stages can facilitate individual development."<sup>63</sup> Career ladders, or career paths, should not have so many levels that a clear theme of progression cannot be recognized, which is a problem with the many-leveled GS system. With pay band II as the entry level for baccalaureate graduates, a scientist or engineer in the NIST system would encounter only four career levels on the way to becoming a top authority in a scientific or engineering field, while the same career in the GS system would require progression through eight levels. The literature on career development shows that four levels is much closer to the optimum number for career planning. For example, Dalton,



Thompson, and Price, in their article on professional careers,<sup>64</sup> suggest the following four stages:

<i>Stage</i>	<i>Primary Relationship</i>	<i>Major Psychological Issue</i>	<i>Central Activity</i>
IV:	sponsor	exercising power	shaping the direction of the organization
III:	mentor	assuming responsibility for others	training, interfacing
II:	colleagues	independence	independent contributor
I:	apprentice	dependence	helping, learning, following directions

These four stages correspond to the four NIST pay bands at the baccalaureate level and above, supporting what Edgar Schein in his book on career dynamics calls "the essence of the career development perspective," which is "its focus on the interaction of the individual and the organization over time." Schein goes on to say that "in order to analyze this interaction over time, it is necessary to spell out first a basic model of the total process of human resources planning and development and then to put this model into a temporal framework."<sup>65</sup> Schein's *temporal development model* contains such elements as planning for staffing, growth and development, job placement and job rotation, performance appraisal, developmental training, and early, middle, and late career issues.<sup>66</sup>

Elmer Burack has also examined the importance of the link between career paths and employee development, which he describes in his chapter on career planning:

Organizational Career Planning (OCP) involves job families and career ladders (paths) which are logical progressions of people between jobs. The organization has at least as much to gain as the individual in creating and servicing the paths which move people through "talent-stretching" experiences and makes efficient use of their talent.<sup>67</sup>

This linkage between pay bands and career stages also complements the performance appraisal process. As Dalton, Thompson, and Price found in their organizational studies:

it was the individuals who were moving successfully through these stages who had received the high performance ratings. Conversely, individuals who had remained in the early stages were likely to be low-rated.<sup>68</sup>

The broad-band concept is particularly appropriate in a research and development setting. The Wyatt Federal pay study, commissioned by the Office of Personnel Management (OPM) in 1988,<sup>69</sup> recommended the use of "the broad banding concept (a minimum number of very wide grades/levels) to administer salaries for 'bench' researchers."<sup>70</sup>

## CHAPTER VI: POSITION CLASSIFICATION

Position classification is the process by which NIST categorizes positions by career path, occupational series, and pay band. Classification also provides an orderly grouping of positions in support of organizational planning and personnel management, including workforce planning, program and budget planning, recruiting, examining, placement, compensation, promotion, reassignment, training, and reduction-in-force.

For the most part, supervisors and managers like the new NIST Automated Classification System (ACS). The dissatisfactions have related mostly to the incompleteness of Version 1, particularly the absence of the Support Career Path. Version 2 of the classification system, implemented in January 1991, goes far in resolving these issues.

The design objectives of the project classification system were to simplify and automate the classification process; to make it more understandable to managers and employees; to make it a more flexible and useful system for pay and other personnel actions; to give managers more authority and accountability; and to reduce the time required to make and execute classification decisions. Classification structure has the most value for efficient and equitable personnel management when it conforms with and helps to explain career progressions, beginning with career entry levels. It has the most value for organizational management when it conforms with levels of authority.

The NIST project demonstrates a more innovative personnel management system built around broad-band classification and shows how an agency can customize the system to respond to specific culture and human resource needs. By focusing on lines of work peculiar to NIST, the career path and pay-band system establishes a framework for personnel processes directed toward accomplishing the goals of the organization and meeting the career needs of employees. By recognizing the cultural, economic, organizational, and labor-relations differences among various types of occupational families, career paths strengthen links between NIST employees and their associates in the research community.

Broad pay bands are superior to General Schedule (GS) grades in several respects. They correct the inflexibility and narrowness found by the OPM study cited above. They are easier to define, more understandable to both managers and employees, more efficient, and easier to automate. They give managers a direct method for classification, support pay-for-performance, coincide with recognized career levels, and otherwise complement the personnel management process. The direct link between performance and within-band pay increases makes a significant portion of the pay range dependent on performance, rather than on the current combination of closely-structured classified grades and longevity pay increases within grades.



## *Background*

The 1930s edition of the Federal classification standards were contained in a single volume. These standards now cover two bookshelves. They have grown in an attempt to deal with incorrect classifications through longer explanations, but longer explanations seldom work with those who are confused by the standards or who are unwilling to follow them.

The OPM occupational groups, such as General Administrative, Legal, and Health, have little practical value for personnel and administration. Professional, subprofessional, and clerical occupations are grouped together, and the fact that two occupations are listed in the same group has little meaning for vertical classification, pay administration, staffing, reduction-in-force, performance evaluation, or training.

The broad reach of the General Schedule (GS) and the uniformity across diverse occupations created by this coverage can sever career development and other occupational links between the employees of an organization and their occupational peer groups in society. This disconnection is aggravated by the annual pay comparability process in which the pay for Federal positions is compared to the pay for similar positions in the private sector to produce a single GS pay schedule. This tends to obscure the differences between public and private sector pay for specific occupations. The General Schedule also hinders fine adjustments such as local pay setting for clerical, technician, and other positions that rely on local rather than national recruiting sources.

Moreover, the OPM classification structure and accompanying OPM standards are more specific and detailed than necessary to serve these purposes. Their specificity causes them to become outdated too quickly and their detail leads to excessive length and complexity, requiring application by trained position classifiers and leading to complaints that the process is slow, difficult to understand, and unresponsive to the needs of the organization. Classification standards would be easier to apply if they were based on an understandable framework that could be easily grasped by classifiers, employees, and managers, with just enough narrative to explain and support the framework. A classification system, to be successful, must provide a set of reliable, valid, and understandable classification criteria.

In designing the Navy demonstration classification system, the project developers wanted to make the new system easier to use than the General Schedule (GS) system. They simplified the classification structure by first grouping occupations into five career paths, each of which could be described by a single classification standard. They then grouped the GS grades into a smaller number of pay bands.<sup>71</sup> The larger target presented by the broader pay bands allowed shorter and simpler standards.

An OPM evaluation of the Navy demonstration personnel system found that:

The revised classification system has been shown to be simpler, less time-consuming, and to require fewer resources than the traditional General Schedule System.<sup>72</sup>

The concept of simplifying the classification process through shorter position descriptions and broader classification standards is widely applicable, and should produce cost and time savings in any organization. However, the demonstration laboratories' basic classification structure of five career paths and six pay bands was designed around a particular workforce, and will not fit every organization.<sup>73</sup>

The Navy Demonstration Project demonstrated that pay-band classification is a workable alternative that offers several advantages over the GS system, which is too differentiated and complex to permit accurate and understandable distinctions between adjacent grades. The difficulties and uncertainties of GS classification create friction between managers and position classifiers and lead to general dissatisfaction on the part of managers, supervisors, and employees. The larger targets presented by pay bands can be defined by much simpler standards, and the easier task of distinguishing between the broader bands can be carried out by managers.

The 1983 NAPA panel (see *Background* above) recommended delegation of classification authority to line managers. The panel asserted that:

by giving the line manager greater authority and responsibility for the final step in the classification process, he or she will consider the results from the total process in terms of (1) the requirement to comply with the basic law (the Classification Act), (2) the impact of costs of salary and fringe benefits, (3) issues of equity in their organizations as well as others, (4) the ability to defend the action with higher levels of management, outside review agencies, and individual employees, and (5) possible alternatives.<sup>74</sup>

The panel claimed that this approach, in which the manager would be the decision maker and the personnelist an advisor, would strengthen grade control rather than weaken it.

The use of the budget process to set dollar limits on personnel costs linked with stronger workforce planning and control can be far more effective means for controlling grade creep which do not have the same constraining effect on supervisory flexibility.<sup>75</sup>

Pay bands also complement pay-for-performance by replacing GS longevity steps with annual within-band pay adjustments based on performance. PMRS (Performance Management and Recognition System)<sup>76</sup> introduced merit pay to supervisory and managerial positions in GS grades 13 through 15, but pay bands make a far larger portion of the overall pay range dependent on performance than does the grade-based PMRS system.



There is also the question of whether a single classification structure can or should serve for the wide diversity of positions in the Federal white-collar competitive service, as the General Schedule (GS) attempts to do. The increasing pressure for alternative personnel systems may be viewed as an indication that no single, highly uniform system can work equally well for all categories of positions. The proliferation of special rate categories is also evidence that a single pay system cannot work.

These and other problems led the 1983 NAPA panel to recommend that:

OPM concentrate government-wide standards on the working level or professional level positions in an occupation which represents the predominant numbers of positions in that occupation. . . . Broad guideline standards should be issued by OPM which agencies would adapt and apply in classifying positions at all levels in the occupation.<sup>77</sup>

Another panel complaint was that "managers are not held accountable for grade and salary expenditures, while those who are responsible for grades and salaries (position classifiers and OPM) are not held accountable for the work of employees."<sup>78</sup>

What, specifically, are the problems with the current system that the NIST project addresses? The current General Schedule (GS) classification system has not kept pace with increasing demands for more effective Federal personnel management. The Federal white-collar GS position classification system is rigid and inadequate. All career categories, from clerical to scientific, are covered by the same classification scheme and pay system. The *Primary Standard* of the GS Factor Evaluation System (FES) establishes the basic classification criteria for all nonsupervisory GS positions.<sup>79</sup> The annual GS pay adjustment applies equally to all covered occupations and pay levels. This extreme degree of uniformity frustrates improvements in organizational effectiveness that require customizing compensation, staffing, career development, and other personnel systems for occupational categories.

### *Principles*

The NIST classification system was based on the following principles:

1. Positions must be properly classified by service, pay plan, occupation, and pay level for merit treatment (equal pay for substantially equal work) and organizational efficiency.
2. The classification system must fit the culture of, and support the mission of, the organization.
3. Position classification must be carried out in a way that is rational, understandable, and acceptable to managers, employees, and the public.



4. The whole-job narrative approach to classification is the most rational and productive way of viewing jobs for personnel administration and management.
5. The criteria of (1) *duties and responsibilities*, and (2) *knowledges, skills, and abilities* are the most broadly accepted classification criteria.
6. Performance is a broadly accepted pay criterion and must be supported by the classification system.
7. Classification can be carried out more effectively and efficiently by line managers if the system is automated, straightforward, and easy to learn.

### *Delegation of Responsibilities*

The directors of the NIST operating units (OUs) have classification authority and are authorized to delegate authority to lower level line managers. Individuals delegated classification authority are accountable for complying with NIST and Personnel Management Board (PMB) classification policies and guidelines; classifying positions in accordance with substantial differences in their duties and responsibilities and in the knowledges, skills, and abilities required, as established in the NIST classification standards; observing the principle of equal pay for substantially equal work; and maintaining up-to-date position descriptions and classifications based on current duties and responsibilities. Supervisors are the intended users of the system. They classify positions as they create position descriptions through the menu-driven User System and get approval for them in accordance with OU delegations of authority.

### *Automated Subsystems*

The Automated Classification System (ACS) consists of three subsystems: (1) the User System, used by supervisors in the operating units to classify positions while creating position descriptions; (2) the Validation System, used by the personnel office to certify that all parts of a classification action have been completed, that the action is signed by an authorized official, and that the action is ready for entry into the National Finance Center Personnel and Payroll System; and (3) the Storage and Reporting System, a central database program that manages the central storage of position descriptions in the Personnel Office and produces reports on stored data.

### *Position Descriptions*

The automated User System prompts for classification and position description data in the following sequence: *principal objective*; *career path*; *series*; *pay band*; *official position title*; *function* (ZP career path only); *specialties* (up to 3 specialty descriptors from the database); *position-specific key phrases*; *supervision exercised*; *employee name*; *name of organization*; *motor vehicle operation* (Y/N); *physical requirements* (Y/N); and *position sensitivity*. The career path, series, pay band, title, specialty,

supervision, and position sensitivity screens are menu driven, allowing the supervisor to review a variety of definitions or descriptors before selecting one of the options. The specialty descriptors are the heart of the position description. They were created by NIST supervisors and administrative staff to cover the various kinds of work performed at the Institute. The supervisor may select up to 3 of these for a position description and, if no suitable specialty is available in the database, may create one or more new specialties. In addition, the supervisor may enter up to 6 lines of free-form description, 3 for the *principal objective* and 3 for *position-specific key phrases*.

Automating position descriptions can produce substantial savings in supervisory and staff time. Faced with shortages of the expertise and supervisory time required to write lengthy General Schedule (GS) position descriptions, some agencies have contracted out the work at considerable expense. The FBI, for example, recently paid a private firm \$30,000 to write 114 position descriptions in its fingerprint division, an average of \$263 for each description.<sup>80</sup> Combining automation with broad-band classification produces even more savings by simplifying classification standards and reducing the frequency of promotions and thus the frequency of writing new position descriptions.

### *Classification Logic*

The classification logic flows from the principal objective into the definitions and narrative standards for career paths, occupations, and pay bands. The nature of work implied by the principal objective should lead the supervisor to the appropriate occupational series definition. The major responsibility expressed by the principal objective and the paramount qualification requirement inherent in that responsibility should lead the supervisor to the commensurate pay band criteria expressed in the two classification factors of *duties and responsibilities* and *knowledges, skills, and abilities*. As in the General Schedule (GS) classification system, NIST classification is not based solely on information in the position description. Proper selection of a classification level rests on both information stated in the position description and supplemental information on the occupation and organization and on relevant programs, functions, and procedures. The supervisor determines the appropriate pay band by reviewing the definition or standard of each pay band and selecting the band most appropriate for the position, consistent with the principal objective.

### *NIST Classification Standards*

Each pay band of each career path has a standard, which consists of a narrative description of the pay band in two factors: (a) *duties and responsibilities*, and (b) *knowledges, skills, and abilities*. At each successively higher band, the *duties and responsibilities* factor describes a higher level of work performed under a greater freedom from supervision. For example, in the ZP standard, supervision changes as follows:



Band V ...*general policy guidance...*

Band IV ...*general guidance on policy, resources, and planning...*

Band III ...*general direction and guidance on project objectives, limits, workplans, and conclusions...*

Band II ...*periodic technical supervision on all phases of assignments...*

Band I ...*close and detailed technical supervision...*

Simultaneously, at each successively higher band, the *knowledges, skills, and abilities* (KSA) factor describes a higher level of KSA's that an incumbent must have to successfully perform the level of work described in the *duties and responsibilities* factor. Each higher band, therefore, requires a higher level of education, or more extensive experience in the occupation, or a combination of the two.

### *Career Patterns*

Each occupational standard describes the normal or typical career pattern found in that career path. The Scientific and Engineering standard describes a career pattern in which professional researchers begin their careers as subprofessional student trainees (band I), move through a developmental stage that builds on professional knowledge gained through undergraduate work (band II), proceed to independent research work or to full-member status on a research team (band III), acquire program responsibility (band IV), and achieve broad peer recognition as an authority in the field (band V). New PhD graduates enter this career pattern at band III. This career progression may be combined with, but does not require, an increasing supervisory and managerial responsibility.

The Scientific and Engineering Technician standard describes a career pattern in which technical support staff begin their careers as trainees (band I), then move through a developmental stage (band II) that prepares them for full-performance technician work (band III). Some technicians move to a senior technician level (band IV) because of their ability to acquire professional level knowledges and become creative members of research teams. In rare situations, a technician may supervise a group of technicians (band V).

The two Administrative standards describe career patterns in which administrative specialists begin their careers as students or basic trainees (band I), then proceed through a developmental stage (band II) that eventually prepares them for independent full-performance work in all facets of an area of administration or program management (band III). Some of the full-performance specialists then advance to positions as Institute authorities in key areas of administration or to supervisory positions over other specialists (band IV). Finally, some become chiefs of major divisions or offices, or key program leaders under the direction of the NIST Director, Deputy Director, or Associate Director (band V).



The Support Career Path has no single career pattern. Each of the Support standards has its own pattern.

### *Costs*

It has been said that pay banding leads to increased payroll costs.<sup>81</sup> This charge can be traced to a comparison of payroll costs at the Navy demonstration laboratories with costs at other laboratories indicating a comparative increase in costs at the demonstration sites. The Office of Personnel Management (OPM), which conducted the evaluations of the Navy project, disputes this conclusion.

in the Navy demonstration project ("China Lake") there is no documented relationship between the concept of pay banding and the increased costs experienced by the demonstration laboratories up to now. The very small increased costs (approximately 6 % over 9 years) are due to higher starting salaries, increased pay pool funding and "buyout" costs incurred at the time of conversion, not to pay banding. While the much broadened pay ranges at the demonstration laboratories have provided much more latitude for managers to accelerate pay increases for high performers, relief from high grade controls and accelerated promotions at the control laboratories have now offset any real differences in salary costs per se.<sup>82</sup>

Pay banding does not itself lead to higher costs. Personnel costs can be controlled in a variety of ways by the agency.

## CHAPTER VII: TOTAL COMPENSATION COMPARABILITY

*Comparability* is the official policy that "Federal pay rates be comparable with non-Federal pay rates for the same levels of work within the same local pay area. . . ."83 Total compensation comparability (TCC) is an approach to measuring comparability that includes pay, benefits, and other forms of compensation.<sup>84</sup> The project legislation defines compensation as the total value of the various forms of compensation provided, including basic pay, bonuses, allowances, retirement benefits, health insurance benefits, life insurance benefits, and leave benefits. The TCC method contrasts markedly with the traditional Federal comparability method, which measures salary comparability only.

The project legislation requires NIST, by contract or otherwise, to provide for the preparation of reports that determine the extent to which the overall average level of total compensation provided for covered NIST positions is deficient in comparison with the overall average level of total compensation generally provided for employees in similar positions in the private sector. Since the beginning of the project, NIST has contracted with the Hay Group to provide, analyze, and report on private sector data.

Compensation comparability is multi-dimensional. Many factors must be considered, including occupation, level of responsibility, special job requirements, experience, uniqueness of qualifications, industry, and geographic location. The NIST comparability measurements are based on the following factors:

1. Occupation. NIST occupations are identical with OPM occupational series, such as 830, mechanical engineer, and 318, secretary.
2. Job content. Subject-matter experts, under the guidance of Hay consultants, analyzed NIST position descriptions prior to project implementation to establish the job content for job matching. NIST jobs were matched with industry jobs through the Hay job evaluation system, which point rates positions according to the evaluation factors of know-how, problem solving, and accountability.
3. Industry. Companies with research and development operations were selected from the Hay database, which covers companies surveyed by the Department of Energy's National Compensation Survey of Scientists and Engineers in Research and Development, the Hay Access study, the Hay/Huggins Benefit Report, and the Bureau of Labor Statistics Area Wage Survey.
4. Geographic location. The data used by Hay in the NIST comparability analysis is national for scientific and engineering positions, from the Washington D.C. metropolitan and Denver metropolitan areas for technician and administrative support positions, and from the mid-Atlantic region for administrative positions.

Each year, Hay provides figures that show various aspects of comparison between compensation provided for NIST positions and compensation provided for similar private sector positions. The Director is given three comparability figures: (1) the annual percentage pay increase planned for Federal General Schedule (GS) employees; (2) the net percentage by which the average compensation of NIST positions has fallen behind the average compensation of similar private sector positions over the past year; and (3) the overall percentage by which the average compensation of NIST positions is deficient in comparison with the average compensation of similar private sector positions. The Director must select at least the lesser of the first two figures as the annual NIST comparability percentage, but may select a higher figure up to the overall deficiency if the budget allows.

Since the beginning of the project, the annual deficiency (the percentage by which NIST compensation lags behind that of the private sector) has been as follows:

<i>Career Path</i>	<u>TOTAL COMPENSATION</u>			
	<i>Percent Deficiency By Year</i>			
	<i>1987</i>	<i>1988</i>	<i>1989</i>	<i>1990</i>
ZP	7.4	9.4	7.5	5.8
ZA	15.8	16.6	15.1	15.0
ZT-DC	1.9	1.3	0.7	-1.4
ZT-CO	5.5	4.8	3.3	8.5
ZS-DC	-0.7	2.5	1.2	-0.8
ZS-CO	-8.1	-12.4	-11.2	-8.8
Mean	7.0	8.7	7.0	5.6

The mean is weighted by the population in each career path and location. ZP is the scientific and engineering career path; ZA is administrative; ZT is technician; and ZS is support. Separate figures are produced for the technician and support positions at the Gaithersburg site (DC) and the Boulder site (CO). A negative deficiency means that the NIST value exceeded the corresponding market value.

Because of budget limitations, NIST implements the general Federal comparability increase rather than the higher increase authorized by the comparability provision in the project legislation. NIST continues to contract with Hay, however, for industry data. The 1990 industry data showed that NIST had a 7.7 percent salary deficiency for 1990 (9.6% for 1989), that total compensation at NIST was 5.6 percent less than that for comparable industry positions (7.0% in 1989).



The analysis of the data shows that NIST's average total compensation is below the market average, but that compensation differences are not consistent across career paths and geographic locations. There are also notable variations across occupations. Equity with the marketplace would suggest applying comparability adjustments by occupation and geographic location. The project legislation, however, requires that the same percentage comparability increase be given to all covered employees, preventing NIST from catching up with the private sector in salaries for key shortage occupations.

## CHAPTER VIII: PAY ADMINISTRATION

The objectives in designing the pay system were to strengthen recruiting by making entry salaries more flexible and to improve retention of good performers by linking pay to performance and by increasing pay potential. As in the Performance Management and Recognition System (PMRS),<sup>85</sup> two annual pay adjustments are scheduled, a January adjustment for the comparability increase and an October adjustment for the performance pay increase. The performance appraisal cycle begins October 1 and ends September 30.

### *Broad Banding*

Upon conversion to the project, the minimum and maximum rates of each band were set according to the General Schedule (GS) grades in the band, except that where positions in the band involved OPM special rates, the maximum rate of the band was set at the highest special rate involved. Both the minimum and maximum rate of each band must be adjusted in January by the same percentage as the comparability increase. The salary range of each band is divided into three intervals, covering four-ninths, three-ninths, and two-ninths respectively of the total range of salaries in the band. Employees in the band are placed in intervals according to their salaries. The first interval provides a higher potential for performance pay increases than the second interval, and the second interval provides a higher potential than the third interval. Although NIST employees are eligible for a performance pay increase every year, regardless of interval, the interval arrangement diminishes the rate of pay increases as employees move through bands, duplicating the slowing effect of the GS arrangement whereby step increases are granted every year for steps 1 through 3, every two years for steps 4 through 6, and every three years for steps 7 through 9.

### *Pay Ceilings*

The project legislation authorized a maximum rate of basic pay equal to the rate payable for level IV of the Executive Schedule. Some of this authority is used to pay non-SES band-V division chiefs up to 6 percent above the maximum rate for GS-15 and scientific and engineering band-V group leaders up to 3 percent above the maximum rate for GS-15.

The pay band ceiling for nonsupervisors equals the maximum rate of the highest GS grade in the band. Where there are occupations in the band for which OPM pays a special rate, the maximum rate of the band is the highest special rate. The pay band ceiling for supervisors is 6 percent above the ceiling for nonsupervisors. The maximum amount any employee may receive in basic pay, bonuses, and allowances in a fiscal year is the rate payable for level I of the Executive Schedule.

### *Promotions*

A promotion is a change of an employee (1) to a higher band in the same career path or (2) to a band in another career path in combination with an increase in salary. The minimum pay increase for promotion is 6 percent of salary or the amount required to reach the minimum of the new pay band if that amount is greater than 6 percent. There is no maximum percentage, except that the new salary may not exceed the ceiling of the new band.

### *Pay Adjustments*

Adjustments to base pay within pay bands include: (1) performance pay increases; (2) annual comparability increases; (3) reassignments within the same career path and pay band as a result of selection for a vacancy; (4) granting of supervisory differentials; (5) removal of supervisory differentials; and (6) pay adjustments to employees under student (CO-OP, P, Q) or faculty appointments upon completion of another academic school year or another year of teaching.

### *Placement in a Lower Pay Band*

An employee whose performance rating is *unsatisfactory* does not receive a comparability increase or a performance increase. Because the minimum pay rate for each pay band is increased each year by at least the amount of the comparability increase, it is possible that the new minimum rate of a pay band will exceed the basic pay of an employee in the band who did not receive the comparability increase. As a result, the employee is placed in the next lower pay band.

### *Supervisory Differentials*

The project legislation provides that "appropriate supervisory and managerial pay differentials (which shall be considered a part of basic pay) shall be provided." Supervisory differentials are implemented in two ways: (1) by providing pay band ceilings for supervisors in all four career paths that are 6 percent above the ceilings for nonsupervisors and (2) by increasing the base salaries of new supervisors (3 percent) and division chiefs (additional 3 percent) in the scientific and engineering career path. The differential is removed when an employee moves from a supervisory position to a nonsupervisory position. The removal of a differential is not an adverse action.

### *Flexible Entry Salaries of Pay Banding*

Under the project pay band system, an entry salary for a new hire may be set anywhere in the entry pay band, offering a broader range of pay than General Schedule (GS) grades. This flexibility allows managers to negotiate more effectively with highly qualified candidates and to compete more successfully in the market. Pay setting criteria include market rates, scarcity of qualified candidates, and programmatic urgency.



### *Higher Pay Potential for Current Employees*

The project provides several tools to improve the organization's ability to retain top performers and employees with vital and scarce skills:

1. Annual performance increases. In the General Schedule (GS) system, an employee in the mid or upper range of a grade could get a step increase only once every 2 or 3 years, respectively. Under the project, which replaced steps with pay-for-performance, each covered employee is eligible for an increase every year, unless the employee is at the ceiling of the pay band.
2. Broader range of pay. Because most bands cover the pay ranges of two or more grades, more of the range is based on performance rather than classification, and many employees whose pay would have been frozen at the tenth step of a grade have a higher pay potential through performance.
3. Higher performance increase potential. In a pay band system, the performance pay pool is augmented by money previously spent on promotions from one grade to the next higher grade, where both grades are now in the same pay band. This money, along with money previously used for step increases, quality increases, and Performance Management and Recognition System (PMRS) merit increases, provides more generous salary increases for top performers.
4. Potential for quicker promotions. In the former GS system, an employee was required to spend at least 1 year in a grade for promotion eligibility. In the project system, an employee must spend at least 1 year in a pay band for promotion eligibility. Because most bands cover two or more GS grades, promotions can be more rapid for top performers.
5. Higher potential pay increases upon promotion. In the previous system, the required pay increase upon promotion was the equivalent of two step increases in the general workforce system and 6 percent of base pay in the PMRS system. Under the project, a pay increase upon promotion is a minimum of 6 percent of base pay, with no maximum (short of the maximum rate of the new band).

## CHAPTER IX: STAFFING

Evaluations have shown that the staffing system is one of the most successful features of the project. The authority to run its own staffing system without going through OPM registers and the ability to use direct-hire for all hard-to-fill positions has allowed NIST to get better quality candidates and to get them on board faster. The OPM contract evaluator found that "NIST has succeeded in improving the efficiency of a variety of personnel actions, most notably those associated with staffing and hiring" (see Appendix A).

The three NIST staffing methods are agency-based staffing, direct hiring, and merit assignment. Agency-based staffing and direct hiring are augmented by flexible entry salaries, recruitment allowances, paid advertising, travel expenses, and the 3-year probation period for scientists and engineers. The objectives of the staffing system are to attract high-quality candidates and to reduce the time required to make a job offer.

These innovations are consistent with the recommendations set out in *Civil Service 2000* in June 1988.

Use recruitment and information vehicles more consistent with those customary in the private sector. . . . Shorten the time between application and hiring. In spite of recent improvements, the time between posting a vacancy and hiring a new employee is often far longer than necessary. This gap can discourage qualified applicants, who may find other employment before a Federal job offer can be tendered.<sup>86</sup>

### *Agency-based Staffing*

Prior to the demonstration project, NIST had to go through OPM registers before filling a position, unless the position was an engineering or higher-level physicist position that qualified for direct hire. This led to two problems: time delays and lack of qualified candidates on OPM registers. Agency-based hiring gives NIST the authority to establish its own registers, rather than having to go through OPM registers. This saves time even when the action does not qualify for the direct hire method. Under the agency-based process, NIST personnelists examine qualifications and rate and rank candidates just as do OPM examiners, but NIST staff are on the scene and can complete the process quicker.

Agency-based staffing follows competitive procedures, including posting vacancies; sending vacancy announcements to appropriate locations, such as State employment services; examining, rating, and certifying applicants in accordance with veteran preference and other OPM rating requirements; and selecting from the top three candidates.



### *Direct Hiring*

The project legislation provides that "the methods of establishing qualification requirements for, recruitment for, and appointment to positions shall, at the discretion of the Director, include methods involving direct examination and hiring." Direct examination and hiring means the ability to hire an individual immediately after determining that the individual meets the basic qualifications of the position, without having to post the vacancy, leave the vacancy open for a specified period, and rate and rank applicants. The advantages are reduced processing time, the ability to make firmer offers earlier in the process, and more confidence in successful recruiting once sources are targeted. This process is justified for hard-to-fill positions requiring skills that are in such short supply that candidates possessing them would have little difficulty finding a position.

NIST has two categories of direct hire: (1) scientific, engineering, and nuclear reactor operator positions at or above band III or positions in an occupation subject to an OPM "special rate"; and (2) critical-shortage highly-qualified candidates who meet high academic and training standards for direct hire into entry level positions, including scientists and engineers in bands I and II who have a bachelors degree with at least a 2.9 GPA out of 4.0 or have a masters degree, and technicians in bands I or II who have at least a 2.9 GPA out of 4.0 from a 2 or 4 year accredited program.

### *Merit Assignment Program*

The Merit Assignment Plan (MAP), which allows managers to select status candidates for positions with greater known promotion potential, has not changed significantly. Under the project broad-band classification system, however, many reassignments formerly requiring competition because they would result in a promotion may now be made quickly without competition because both grades are now in the same pay band.

### *Recruiting and Retention Allowances*

Recruiting and retention allowances may be offered as incentives for individuals to join or remain at NIST. A recruitment allowance of up to \$10,000 may be paid, in a lump sum or in increments, to candidates for hard-to-fill positions. Eighteen recruitment allowances, averaging \$6,283, have been paid. A recruitment allowance is paid only when it is needed to attract a well-qualified candidate. Two retention allowances, averaging \$7,500, have been paid. Retention allowances are seldom used, primarily because of the availability of cash awards up to \$10,000 for top performers. Decisions on allowances are based on market factors such as salary comparability; programmatic urgency; emerging technologies; turnover rates; special qualifications; and shortage categories or scarcity positions unique to NIST as defined by the Personnel Management Board (PMB) that oversees the project.



A recruitment allowance requires a continued service agreement and may be paid in a lump sum upon entry on duty or may be paid in increments over a period of time not to exceed 36 months. A retention allowance does not require a continued service agreement, but must be paid in increments. Allowances are not a part of basic pay.

### *Qualification Requirements*

Examination for minimum qualifications is still based on OPM's *Qualification Standards for Positions under the General Schedule (Handbook X-118)*. Candidates must meet the minimum qualification requirements in the standard for the lowest GS grade that corresponds to the entry pay band. Testing is not used for any position.

### *Paid Advertising*

Prior to the project, traditional unpaid methods of distributing vacancy announcements had to prove unsuccessful in attracting candidates for a vacancy before paid advertising could be used. This requirement often delayed filling a position for which paid methods were necessary to reach the best candidates. Under the project, paid advertising may be used at the very beginning of the recruitment effort. NIST uses paid advertisements in journals, professional magazines, and newspapers to expand recruiting sources and attract the best candidates. Selecting officials have authority for paid advertising; the personnel office reviews the content of advertisements for regulatory compliance.

### *Extended Probation*

The scientific and engineering (ZP) career path has a probation period of 3 years, rather than the normal 1 year, although the supervisor may end the probationary status anytime after 1 year. The purpose of the 3-year probation is to allow the supervisor to see the full cycle of research work before making a final decision on permanent employment. It applies only to non-status employees hired after January 1, 1988, who do not have reemployment or reinstatement rights.

### *Reduction-in-Force*

Although NIST follows Federal reduction-in-force procedures (FPM Supplement 351-1), some modifications were made to fit the procedures to the project. "Same pay band" substitutes for "same grade" and "one pay band lower" substitutes for "three grades lower" in determining bumping rights. Within a geographic area (Gaithersburg or Boulder), each of the four career paths is a separate competitive area, and bumps and retreats occur only within the competitive area. An employee may bump into a position in the same career path in the same pay band or in one pay band below that is currently held by another employee in a lower retention subgroup. An employee may retreat into a position in the same career path at the same pay band or one pay band below that is currently held by another employee in

the same retention subgroup who has fewer years of service for retention. The definition and function of *competitive level* were not changed by the demonstration project and continue to be applied as described in OPM regulations.

When NIST replaced the 5-level performance rating system with a 2-level system for fiscal year 1991, a new link had to be created for performance and retention. An employee with an overall performance score in the top 10 percent of scores within a career path, within the same pay pool, is credited with 10 additional years of service for retention purposes. This credit is applied for each of the last three annual performance scores of record, for a potential total credit of 30 years.

## *CHAPTER X: PERFORMANCE APPRAISAL AND PAY-FOR-PERFORMANCE*

The project evaluator found that:

Salary increases during the first two years of the project exhibit a strong and positive relationship to job performance. Cash bonuses exhibit a similar pattern.<sup>87</sup>

The project legislation provides that "employees shall be evaluated under a performance appraisal system which uses peer comparison and ranking wherever appropriate, and affords appeal rights comparable to those afforded under chapter 43 of title 5, United States Code". Chapter 43 covers performance appraisal and spells out procedures and appeal rights associated with actions based on unacceptable performance. The project legislation also provides that "the rate of basic pay of each participating employee will be reviewed annually, and shall be adjusted on the basis of the appraised performance of the employee."

### *Related Federal Pay-for-Performance Activity*

Congress has acted in recent years to encourage a stronger link between pay and performance. The Civil Service Reform Act of 1978 established merit pay for supervisors and managers in General Schedule (GS) grades GS-13 through GS-15, now known as the Performance Management and Recognition System (PMRS).<sup>88</sup> Recent legislation extended the PMRS through September 1993 and directed the Office of Personnel Management (OPM) to establish a committee to review the PMRS and make recommendations for improvements.<sup>89</sup> The outcome could include extending merit pay to other GS grades.

The Federal Employees Pay Comparability Act of 1990 (FEPCA) established a second committee, the "pay-for-performance labor-management committee," with representatives from major Federal agencies and employee organizations. The committee's task is to advise OPM on "the design and establishment of systems for strengthening the linkage between the performance of General Schedule employees and their pay."<sup>90</sup>

The two committees will present their recommendations to OPM, which will decide whether legislative changes are needed. Both committees are to complete their separate tasks in time for implementation of the new systems by October 1993. Constance Newman, the director of OPM, revealed one of her pay-for-performance objectives in testimony before Congress in 1989:

we would propose giving agencies the flexibility to establish, within clearly defined boundaries, alternative approaches to PMRS that would be better suited to the particular needs of different organizational environments.



Such alternative systems might, for instance, use three rather than five summary rating levels, and might use mutually developed statements of work objectives, rather than the more paper intensive elements and standards of the current system.<sup>91</sup>

FEPCA made this objective a policy of Congress:

the Federal Government should institute systems for determining pay for its General Schedule employees under which the linkage between their performance and their pay will be strengthened [and] . . . the systems should provide flexibility to adapt to the different needs of different agencies and organizational components in the Federal Government.<sup>92</sup>

A recent study on pay-for-performance by the National Research Council found little solid research in the field but suggested several benefits, including reduced turnover and increased organizational effectiveness. The study also recommended that Federal agencies de-emphasize precision in performance appraisals and depend more on managerial judgment.

the goal of a performance appraisal system should be to support and encourage informed managerial judgment and not to aspire to a degree of standardization, precision, and empirical support that would be required of, for example, selection tests.<sup>93</sup>

A study by the U.S. Merit Systems Protection Board (MSPB) dispelled the notion that Federal employees do not like pay for performance. When asked "do you support the *concept* of having your pay based upon how well you perform," 78 percent of General Schedule (GS) and 88 percent of merit pay (GM) employees answered either definitely or probably "yes."<sup>94</sup> Employees tend to be less enthusiastic, however, on the specifics of the performance systems in their agencies.

In a 1990 General Accounting Office (GAO) survey of 44 agency personnel directors on the Performance Management and Recognition System (PMRS), 39 percent of the directors recommended reducing the number of performance rating levels.<sup>95</sup> Beginning with the Fiscal Year 1991 performance cycle, NIST reduced the number of levels from five to two.

The structure of classification and pay systems is also a critical factor in pay for performance. The Navy and NIST demonstration projects have shown that broad-band classification provides a better framework for performance-based pay than the General Schedule (GS) system. Broad-banding creates broader ranges of pay at each classification level and, within these broad ranges, pay progression is dependent upon individual performance.

## *NIST Performance Objectives*

The design objectives of the NIST performance appraisal system were to:

1. Promote a pay-for-performance philosophy to help retain top performers and to increase the effectiveness of employees and their organizations;
2. Use performance plans to communicate and clarify NIST and Department of Commerce goals and objectives and to assign accountability for their accomplishment;
3. Establish critical elements and related performance standards that permit the accurate evaluation of job performance on the basis of position requirements;
4. Use performance appraisal results as a basis for pay, awards, promotion, training, retention, improving performance, removal, and reduction in pay band;
5. Establish appropriate controls to regulate costs.
6. Model the system on the Performance Management and Recognition System (PMRS).

## *Findings Leading to Redesign of Initial Appraisal System*

The last design objective, the attempt to model the demonstration system on the former PMRS system, was problematic. The initial demonstration pay-for-performance system was not working as well as it should. Feedback from managers and employees, and staff experience in operating the system, produced the following findings:

1. In a pay-for-performance system, pay increases are the intended end product of the performance appraisal process. The focus should therefore be on pay, rather than on performance ratings.
2. The emotional impact of the "labeling" implied by the performance ratings of *fully successful*, *commendable*, and *outstanding* has kept the focus on ratings in the NIST system, preventing the focus from shifting to pay and undercutting the implementation of a true pay-for-performance system.
3. A productive R&D environment requires a spirit of enthusiasm and cooperation among members of research teams and support staff. Each year, performance labeling dampens this team spirit.
4. While employees are willing to accept individual distinctions in pay increases, the personal labeling implied by the performance rating of *fully successful* is demotivating. The term *fully successful* has not been accepted by employees as a positive rating, as originally intended. As the lowest of the three possible ratings



for acceptable performance, it still conveys a message of minimal performance, when in fact employees given this rating are usually valuable contributors to the organization's efforts. Even the commendable rating is viewed by many employees as an indicator of mediocrity. Whatever is gained in morale through the granting of outstanding ratings is more than cancelled by the granting of a larger number of fully successful ratings. Overall, this hierarchy of ratings has a demotivating effect on morale and a negative impact on productivity.

5. When a scale of performance pay increases is associated with a scale of performance ratings, management must exercise some degree of control over the number of high ratings in order to predict the size of pay increases and prevent the dilution of rewards for truly outstanding performance that would result from an uncontrolled abundance of outstanding ratings. This control, however, places limitations on supervisors and causes resentment among employees who believe they would receive higher ratings if not for the controls.

These issues and attitudes have been reported and confirmed through direct reports from supervisors and employees to members of the Personnel Management Board (PMB); reports from the Employee Advisory Committee; a report from the University Research Corporation, the NIST project evaluation contractor to OPM, based on "focus groups" of NIST supervisory, technical, and administrative employees and on interviews with top managers; and a report from the head of performance management at the Department of Commerce based on two focus groups of NIST employees, one supervisory and one nonsupervisory, established at the request of NIST to review the current performance appraisal system and make recommendations for improvements.

### *New Appraisal System*

In response to these findings, NIST developed a new performance appraisal system which was implemented for the Fiscal Year 1991 performance cycle. The following is a summary comparison between the former system and the new system:

<i>Component</i>	<i>Former System</i>	<i>New System</i>
Evaluation Scale	500 points	100 points
Element Weight Scale	combined element weights must equal 100 percent	combined element weights must equal 100 points (evaluation scale and weight scale are now the same scale)
Element Evaluation	score of 1-5	score of 0-X points (X = element weight)



<i>Component</i>	<i>Former System</i>	<i>New System</i>
Final Score	sum of element scores multiplied by element weights	sum of element scores
Ratings	Outstanding Commendable Fully Successful Marginal Unsatisfactory	Eligible Unsatisfactory
Performance Standards	DoC Generic Performance Standards, with optional position-specific supplemental standards	NIST Benchmark Performance Standards, with optional position-specific supplemental standards

The new system is a simpler process, based on a 100-point scale, in which employees are awarded some portion of the point-weight of each element. An employee with an overall score in the range of 40-100 is rated *eligible*, meaning "eligible for performance pay increase and bonus." *Eligible* replaces the former ratings of *fully successful*, *commendable*, and *outstanding*. The scores are further used to rank eligible employees within peer groups at the pay pool level. The amount of the pay increase is related to an employee's position in the ranking. Employees with the top 10 percent of scores within a career path at the pay pool level are awarded an extra 10 years of service for retention purposes, which can accumulate over 3 years for a total possible credit of 30 years.

The pay-for-performance system distributes pay resources based on individual performance. Employees are rewarded for performance primarily through the October performance pay increases, but also through the January comparability pay increases, both of which require *eligible* performance ratings. Each pay band has a performance pay increase table, which is revised after each comparability increase in January.

The performance appraisal cycle continues to follow the fiscal year, beginning October 1 and ending September 30. The performance pay increases are effective the first full pay period in October. The three phases of the cycle are performance planning, progress review, and final appraisal.

#### *Communications Between Supervisors and Employees*

A key objective of performance appraisal is to create ongoing and constructive communications between supervisors and employees, punctuated by periodic formal appraisal meetings. At a minimum, the supervisor and employee meet four times

during the performance year: (1) to develop the performance plan at the beginning of the performance cycle; (2) to review performance at the middle of the cycle; (3) to discuss performance at the end of the cycle prior to performance scoring; and (4) to give the employee feedback on final decisions on scores, pay adjustments, and bonuses.

### *Performance Plan*

Just prior to the beginning of the appraisal period, supervisors and employees develop formal performance plans for the coming year. The plan is made up of two to five critical elements, usually tied to and expressed in terms of organizational goals and objectives. A critical element is a portion of the job that if not performed at an acceptable level would lead to an overall appraisal of unsatisfactory and removal from the position. Each element is further described as a list of major activities. A numerical weight is assigned to each element representing its importance and consumption of time. The critical elements in the plan must have a total weight of 100 points.

### *Mid-Year Review*

A formal progress review is held midway through the performance cycle and may be held at other points of the cycle at the discretion of the supervisor or at the request of the employee. These reviews cover progress toward performance plan objectives and planned activities, any performance deficiencies that need correcting, and any need for changes to the performance plan.

### *Final Performance Appraisal*

The final appraisal involves at least two meetings between supervisor and employee: (1) the *performance review meeting*, during which the employee presents a written list of accomplishments and the supervisor and employee review accomplishments in relation to the performance plan and discuss the quality of the employee's performance; and (2) the *evaluation feedback meeting*, during which the supervisor informs the employee of the final score, rating, and related actions, such as amount of pay increase and bonus. Between the two meetings, the supervisor scores the performance of all subordinate employees in relation to planned performance elements and works with the pay pool manager to review the scores, rank employees within their peer groups at the pay pool level, and reach final decisions on pay increases and bonuses.

### *Scoring*

Each element is scored separately along a vertical scale that ranges from 40 percent of the element weight at the bottom of the scale to the full element weight at the top of the scale. For example, an element weighted at 20 points is scored along a scale from 8 points (40% of 20) to a maximum of 20 points. The minimum score for *eligible* performance on this scale is 8 points. If performance on the element



does not warrant at least 8 points, the element is rated *unsatisfactory*, the element and the performance appraisal have no score, and the employee does not proceed to the next step in the ranking of eligible performers for pay increases and bonuses.

For convenience, the supervisor is supplied with a chart of 12 parallel vertical scales representing weights from 5 to 60 in 5-point increments. The top of the chart is a horizontal line of values from 5 to 60 representing the tops of the ranges (100 percent of the respective weights); the bottom of the chart is a horizontal line of values from 2 to 24 (40 percent of the weights) representing the bottom of the range for eligible performance. After scoring each element against the benchmarks on the chart, the supervisor derives the total score for the appraisal by summing the separate element scores.

### *Benchmark Performance Standards*

Benchmark performance standards define successive levels of performance along the vertical scales. The first standard at the top of the chart defines the maximum level of *eligible* performance, and the second and third standards from the top define the middle and minimum levels of *eligible* performance. The lowest standard defines *unsatisfactory* performance. A supervisor may also write a supplemental position-specific standard commensurate with the benchmark standard for the minimum level of *eligible* performance.

The benchmark performance standards are shown below, along with the 20-weight scale for illustration. For an element weighted at 20 points, performance meeting the first and highest benchmark would warrant the full element score of 20 points. Performance meeting the second benchmark would warrant 14 points, and performance meeting the third benchmark would warrant 8 points. Performance meeting the lowest benchmark would be rated *unsatisfactory*. Scores may also be interpolated between the benchmarks. For example, performance not meeting the first benchmark, but exceeding the second benchmark, would be scored between 14 and 20 points according to whether it fit halfway between the two benchmarks (17 points), closer to the first benchmark (18 or 19 points), or closer to the second benchmark (15 or 16 points).

Because of limited space, only the 20-point scale is shown in the illustration below. On the actual chart used by supervisors, the other weight scales, from 5 to 60 total points in 5-point increments, are aligned in columns alongside the 20-point scale.



*Points                      Benchmark Performance Standards*

20-----	Element objectives were achieved with maximum impact through exemplary work that demonstrated exceptional originality, versatility, and creativity. Activities and related tasks were carried out with the utmost effectiveness and reliability, rarely leaving room for improvement. Products were of the highest quality. Problems were solved with dedicated perseverance, penetrating insight, meticulous attention to detail, and unprecedented success. Potential sources of conflict were anticipated and avoided through creative alternatives. Cooperation and responsiveness were actively promoted wherever possible. Written and oral communications related to the performance of element activities maximized desired results, forged new cooperative relationships, and increased organizational prestige.
19	
18	
17	
16	
15	Element objectives were accomplished effectively and efficiently, with consistently good quality and quantity of work. Activities and related tasks were carried out in an efficient, orderly sequence that led to timely, correct, thorough, and cost-effective results. Products were above-average in quality and reliability. Accepted procedures were carried out proficiently and constructively, and problems were dealt with skillfully and resourcefully. Cooperative efforts were positive and productive. Written and oral communications related to the performance of element activities were clear and convincing.
14-----	
13	
12	
11	
10	
9	Element objectives, activities, and related tasks were completed with adequate quality and quantity of work. Products were generally reliable and were delivered without unacceptable delays. Procedures were minimally correct and problems were dealt with satisfactorily. Work methods demonstrated a reasonable degree of cooperation with others. Written and oral communications related to the performance of element activities were generally understandable.
8-----	

---

**Unsatisfactory**      Element objectives and activities were not successfully completed, because of failures in quality, quantity, completeness, responsiveness, or timeliness of work. Products were deficient, because they were contrary to directions or guidelines; did not meet minimum specifications; were inconsistent with proper procedures; were significantly flawed or substandard in quality; demonstrated insufficient technical knowledge or skill; were incomplete; were unacceptably late; or lacked essential cooperative involvement and support. Problems that arose during the performance of element activities were not satisfactorily resolved.

*Pay Pools*

The performance pay increase pool provides larger pay increase potential than the former General Schedule (GS) step increases, because the pool contains not only the former within-grade, quality step, and merit increase money, but also contains the money previously spent on promoting employees from one GS grade to the next higher grade where both grades are now in the same pay band.

The pay pool is usually located at the division level, the middle echelon in the NIST organizational structure of *operating units*, then *divisions*, then *groups* at the bottom. The division level provides an optimum balance between (1) the need for the pay pool to be sufficiently high in the organization to provide a pool of meaningful size for ranking and (2) the need for the pool manager to be low enough in the organization to be familiar with all subordinate positions. The pay pool manager is the head of the organization where the pay pool is located.

#### *Converting Individual Performance Scores to Pay Increases*

The pay pool manager reviews the scores from subordinate supervisors to ensure equitable scoring styles. A supervisor who scores too high in relation to other pay pool supervisors may be asked to lower scores, and a supervisor who scores too low may be asked to raise scores. The pay pool manager then enters the scores in the automated payout system, which interleaves scores by career path and produces peer group rankings. The final peer group rankings conform with the overall performance scores of those ranked.

The system displays, beside each employee's name, the potential pay increase range for the employee's pay band and interval. The pay pool manager selects a payout for each employee, considering recommendations from the employee's supervisor, and adjusts selections until the total dollar increases do not exceed the pay pool for the peer group. Each individual in a peer group ranking must receive a payout that, relative to interval ranges, is proportionately as high as or higher than the payouts of individuals of lower rank.

#### *Link Between Performance and Retention*

For reduction-in-force purposes, employees with performance scores in the top 10 percent of scores within a career path and pay pool are awarded 10 years credit. This credit may accumulate over 3 years for a total potential credit of 30 years.

#### *Grievances*

An employee may file a grievance over the performance score, rating, rank, and payout under the Department of Commerce grievance procedure. Performance plans and bonus decisions are not grievable.

#### *Actions Based on Unsatisfactory Performance*

Actions to reassign, remove, or demote may be taken at any time in response to unsatisfactory performance on a critical performance element. Before an employee may be given an *unsatisfactory* rating, however, the employee must be given an opportunity to improve performance under a written *performance improvement plan (PIP)* that explains what the employee must do to improve to the *eligible* level. If the unsatisfactory performance continues, the employee must be reassigned,

removed, or demoted, but may be removed or demoted only after expiration of a 30-day advance notice period and after the employee has been given a final written decision. Grievance rights do not apply to receipt of a *PIP* or a 30-day written notice, or to the contents of either.



## *CHAPTER XI: AWARDS*

The project has had little effect on awards policy. Expenditures for monetary awards are limited to expenditures prior to the project, and the nature of the link between performance and awards has not changed. The contract evaluator found that "mean bonus payments varied significantly and positively with performance rating."<sup>96</sup>

The project legislation provides that "performance-recognition bonuses . . . shall be awarded in appropriate circumstances (but shall not be considered a part of basic pay)." Supervisors and pay pool managers make bonus judgments when they make performance pay increase decisions for employees rated at least eligible. The pay operating unit director has authority for bonuses below \$5,000, and the NIST Director has authority for bonuses from \$5,000 to \$10,000.

The money used for bonuses is the money previously used for sustained superior performance awards and Performance Management and Recognition System (PMRS) cash awards. As in the former system, Special Act or Service Awards, based on unusual one-time, non-recurring accomplishments or heroic acts, may be granted at anytime during the performance cycle. Honorary non-monetary awards and honorary monetary awards continue as before.

## *CHAPTER XII: EMPLOYEE DEVELOPMENT*

The project legislation provides that "there shall be an employee development program under which employees may in appropriate circumstances, be granted sabbaticals, the terms and conditions of which shall be consistent with those applicable for members of the Senior Executive Service . . . ." NIST has not used the sabbatical program, for the most part because other assignment and developmental programs have proved adequate.

## CHAPTER XIII: EMPLOYEE RELATIONS

### *Actions Based on Unacceptable Performance*

The project legislation provides that "employees shall be evaluated under a performance appraisal system which . . . affords appeal rights comparable to those afforded under chapter 43 of title 5, United States Code." Chapter 43 covers reduction in grade and removal based on unacceptable performance. Section 4303 provides that an employee who has been reduced in grade or removed because of unacceptable performance is entitled to appeal the action to the Merit System Protection Board (MSPB).

### *Placement in a Lower Pay Band*

The legislation also provides that the placement of a position in a lower pay band, because the incumbent was given less than a full comparability pay increase for less than fully successful performance, "shall not be considered a reduction in grade or pay for purposes of subchapter II of chapter 75 of title 5, United States Code, or a comparable provision under the project." Chapter 75 deals with adverse actions "for cause," including suspension, removal, reduction in grade or pay, and furlough for 30 days or less.

An employee whose performance rating is unsatisfactory does not receive a comparability pay increase or a performance pay increase. Because the minimum pay rate for each pay band is increased each year by at least the amount of the comparability increase, it is possible that the new minimum rate of a pay band will exceed the basic pay of an employee in the band who did not receive the comparability increase. As a result, the employee is placed in the next lower pay band.

### *Loss of Supervisory Differential*

When a supervisor receiving a supervisory pay differential is reassigned to a nonsupervisory position, the amount of differential originally added to base pay is removed. The new pay is set so that the employee's base pay is not less than it would have been if the employee had never received the supervisory differential. The removal of a differential is not an adverse action and is not appealable.



## CHAPTER XIV: PROJECT EVALUATION

NIST contracted with Westat Inc. in 1987 to conduct a telephone survey of all employees to be covered by the project.<sup>97</sup> The purpose of this survey was to record employee attitudes toward the General Schedule (GS) personnel system for later comparison with employee attitudes toward the project system.

The Office of Personnel Management (OPM) is required by the project legislation to have the project evaluated annually by a contractor. For the evaluation of the first two years of the project, OPM contracted with the University Research Corporation (URC), which published the *Implementation Report* (August 1989)<sup>98</sup> and the *Second Annual Evaluation Report* (August 1990).<sup>99</sup> In 1991, for the evaluation of the 1990 project year, OPM contracted with Human Resources Research Organization (HumRRO). The HumRRO report has not yet been published.

In accordance with project legislation, the General Accounting Office (GAO) reported to Congress in May 1991. The GAO report covered only the evaluation methodology of the OPM contractor and did not address the success of the project. The report faulted the URC evaluation.

The evaluation of the NIST project's first two years was not sound. Although URC proposed a relatively strong research design for its study, its implementation of that design was flawed. For example, URC selected certain Commerce units as comparison sites but failed to demonstrate in a convincing way that these sites were indeed suitable comparisons to NIST.<sup>100</sup>

The GAO report also questioned the validity of comparing results of the 1987 Westat employee survey to the results of the 1989 URC survey, because the 1987 survey was conducted by telephone and produced a response rate of 96 percent while the 1989 survey was conducted by written questionnaire and produced a response rate of 57 percent. While acknowledging and correcting some of the weaknesses cited by the GAO report, OPM stands behind the URC reports, and this NIST IR report cites findings from the URC reports.

Appendix A of this report summarizes the URC and OPM evaluations of the project. Appendix B lists the experiences of NIST managers in using project personnel management tools. Appendix C describes some of the problems NIST managers experienced prior to the demonstration project. Appendix D compares project provisions to provisions of the Federal Employees Pay Comparability Act of 1990 (FEPCA).

## CHAPTER XV: CONCLUSIONS

The NIST Personnel Management Demonstration Project is meeting its objectives to recruit and retain quality staff; to make compensation more competitive; to link pay to performance; to simplify position classification; to streamline processing; to improve the staffing process and get new hires aboard faster; and to increase the manager's role and accountability in personnel management. NIST is competing more effectively in the labor market through agency-based hiring and expanded direct-hiring, flexible entry salaries, recruiting allowances, and greater use of paid advertising. Pay-for-performance has selectively increased the salaries of top performers. NIST managers are more effective personnel managers through delegations of authority in classification, staffing, and pay.

The position classification and hiring process is faster under the project system. New hires have been made under the system that could not have been made before. Greater pay increases for top performers have improved NIST's ability to keep its best personnel. The *Project Implementation Report* (August 1989) concluded that:

Overall, NIST staff and management believe the Demonstration Project addresses previous problems in staffing and hiring and has the potential to make NIST a better place to work. Many of the staff feel that positive results have already been attained. In particular, they feel that decentralization and streamlining of the hiring procedures has enabled NIST to attract individuals who might have been lost under the old cumbersome processing procedures. The most useful interventions are the agency-based hiring, the delegation of classification and hiring to the line managers, and the flexibility in entry salary offered by pay bands and delegated authority.<sup>101</sup>

A survey in the second year of the project showed that 47 percent of covered employees favored the project while only 18 percent did not favor it. This was a very positive reaction to a project in its second year when many employees might still feel apprehensive about a new personnel system. Morale is strong. Ninety percent of respondents agreed that "in general, I like working here," while only 4 percent disagreed.<sup>102</sup> Supervisors have a very positive attitude toward the project. Of the 13 1987-1989 comparison questions in the supervisory section of the survey, 10 showed a more favorable attitude toward the demonstration system than the former system, 2 did not significantly change, and only 1 showed a more negative attitude.<sup>103</sup> Employee and supervisory support for the project should be even stronger after the recently implemented improvements in the classification and performance appraisal system have had a chance to work.

Appendix B lists examples supplied by NIST managers of specific project successes in using recruiting allowances, flexible entry salaries of pay banding, direct hiring, paid advertising, and more flexible pay for current employees through pay banding and pay-for-performance.

The Federal Employees Pay Comparability Act of 1990 (FEPCA) addressed problems in Federal compensation, but other civil service personnel systems still need improvements. The NIST project offers such improvements in position classification, recruitment, qualifications examining, probation, performance appraisal, pay for performance, automation and paperwork reduction, and delegations of authority to managers, all of which have many advantages over current systems. FEPCA will have little effect on these areas. The NIST project continues to operate as an innovative personnel system demonstrating new ideas in human resources management.



## REFERENCES

1. The final plan of the NIST Personnel Management Demonstration Project was published in the Federal Register 2 October 1987. pp. 37082-37096. The plan was amended by notices in the Federal Register of 17 May 1989 (final approval, 16 August 1989) and 10 May 1990 (final approval, 25 September 1990).
2. Public Law 95-454, "Civil Service Reform Act of 1978," Title VI--Research, Demonstration, and other Programs, 13 October 1978; codified as Chapter 47, Title 5, United States Code.
3. *Report of the Committee on Post Office and Civil Service on H.R. 11280 to Reform the Civil service Laws*. Washington DC: U.S. Government Printing Office, 31 July 1978. p. 36.
4. Title 5, United States Code, Section 4701(a)(4).
5. Title 5, United States Code, Section 4703(a). Section 4703 is the codification of the section of Title VI the Civil Service Reform Act of 1978 that dealt with demonstration projects. Section 4703(a) provides that "the Office of Personnel Management may, directly or through agreement or contract with one or more agencies and other public and private organizations, conduct and evaluate demonstration projects."
6. Public Law 99-574, "National Bureau of Standards Authorization Act for Fiscal Year 1987," Section 10(a)(1), 28 October 1986.
7. The Hudson Institute. *Civil Service 2000*. William B. Johnston, Principal Author. Washington DC: U.S. Office of Personnel Management (OPM), June 1988. p. ii.
8. Ibid. p. 32.
9. Ibid. p. 37.
10. Public Law 101-509, "Federal Employees Pay Comparability Act of 1990." November 5, 1990. Codified into various sections of Title 5, United States Code.
11. University Research Corporation. *Implementation Report: National Institute of Standards and Technology Personnel Management Demonstration Project*. Washington DC: U.S. Office of Personnel Management, August 1989.
12. University Research Corporation. *Second Annual Evaluation Report: National Institute of Standards and Technology*. Washington DC: U.S. Office of Personnel Management, August 1990.
13. U.S. General Accounting Office (GAO). *Review of Evaluation of Personnel Demonstration Project at Commerce*, GAO/GGD-91-93. Washington DC: GAO, May 1991. p. 1.
14. The new NIST performance system was set out in a proposed amendment published by the U.S. Office of Personnel Management (OPM) in the Federal Register: 10 May 1990, pp. 19688-19692. OPM's final notice, which approved the proposal without change, was published in the Federal Register 25 September 1990, p. 39220.
15. National Institute of Standards and Technology (NIST). *Position Classification Manual*. Gaithersburg MD: NIST, December 1990.
16. University Research Corporation. *Implementation Report: National Institute of Standards and Technology Personnel Management Demonstration Project*. Washington DC: U.S. Office of Personnel Management (OPM), August 1989. p. 119.

17. Office of Washington Examining Services, U.S. Office of Personnel Management (OPM). *Audit Report: National Institute of Standards and Technology Demonstration Project*. Washington DC: OPM, January 1989. p. 1.
18. University Research Corporation. *Second Annual Evaluation Report: National Institute of Standards and Technology*. Washington DC: U.S. Office of Personnel Management (OPM), August 1990. Appendices D and E.
19. Scheirer, Mary Ann, Sandra Baxter, and David Cantor. *Results of the Baseline Survey for the NBS Personnel Demonstration Project*. Rockville MD: Westat, Inc., February 1988.
20. Merrow, C.M., and F.C. Goleta. *Results of December 1989 NOSC Employee Attitude Survey*, Technical Document 899. San Diego: Naval Ocean Systems Center, July 1990. p. 18.
21. Carlyle, Jamie J. and Paul van Rijn: Project Analysts. *Working for the Federal Government: Job Satisfaction and Federal Employees*. Washington DC: U.S. Merit Systems Protection Board, 21 October 1987. p. 2.
22. U.S. Office of Personnel Management (OPM). "Personnel Management Demonstration Project; Alternative Personnel Management System at the National Institute of Standards and Technology: Notice of proposed amendment." *Federal Register*. 10 May 1990. pp. 19688-19692. The final notice, which approved the proposal without change, was published in the Federal Register 25 September 1990. p. 39220.
23. Public Law 101-509, "Federal Employees Pay Comparability Act of 1990." November 5, 1990. Codified into various sections of Title 5, United States Code.
24. Public Law 99-574, "National Bureau of Standards Authorization Act for Fiscal Year 1987" (H.R. 4354, 99th Congress), signed into law 28 October 1986. Section 10 of the Act directed OPM and NBS to "jointly design a demonstration project which shall be conducted by the Director of the National Bureau of Standards."
25. *Report of the Committee on Science and Technology, U.S. House of Representatives, to accompany H.R. 4354, "National Bureau of Standards Authorization Act For Fiscal Year 1987," Report 99-617. 99th Congress, 2d Session. p. 27.*
26. Gorton, Slade (U.S. Senator from Washington). Senate debate on the "National Bureau of Standards Authorization Act." *Congressional Record--Senate*. 3 October 1986. p. 15097.
27. Public Law 95-454, "Civil Service Reform Act of 1978." 13 October 1978.
28. Public Law 99-574, "National Bureau of Standards [now NIST] Authorization Act for Fiscal Year 1987" (H.R. 4354, 99th Congress), signed into law 28 October 1986. Section 10 of the Act directed OPM and NBS to "jointly design a demonstration project which shall be conducted by the Director of the National Bureau of Standards."
29. University Research Corporation. *Implementation Report: National Institute of Standards and Technology Personnel Management Demonstration Project*. Washington DC: U.S. Office of Personnel Management (OPM), August 1989.
30. University Research Corporation. *Second Annual Evaluation Report: National Institute of Standards and Technology Personnel Management Demonstration Project*. Washington DC: U.S. Office of Personnel Management (OPM), August 1990.



31. The General Schedule (GS) classification system is prescribed by Chapter 51 of Title 5, United States Code. Section 5104 defines each of the GS grades. The General Schedule was created by the "Classification Act of 1949."
32. *Report to accompany H.R. 4354--"National Bureau of Standards Authorization Act for Fiscal Year 1987."* Report 99-617, House Committee on Science and Technology, 99th Congress, 2d Session. 4 June 1986.
33. S. 2724, "Civil Service Simplification Act of 1986"--"A bill to amend title 5, United States Code, to establish a simplified management system for Federal employees." *Congressional Record--Senate*. 7 August 1986. pp. 10747-10752.
34. Horner, Constance: Director, U.S. Office of Personnel Management (OPM). Letter to George Bush, President of the Senate, enclosing a proposed bill "to establish a simplified management system for Federal employees." Washington DC: OPM, 7 July 1986.
35. Cooley, Claudia, Associate Director for Personnel Systems and Oversight, U.S. Office of Personnel Management (OPM). From a "Closing Commentary" address before the Seventeenth Annual Conference of the Classification and Compensation Society. Printed under "OPM Initiatives: Simplify, Delegate, Increase Flexibility" in *Classifiers Column XVIII*, January 1987. p. 1.
36. Kellam, Susan. "Remaking the Grade." *Government Executive*, November/December 1987. The article pointed out that "Congress's reluctance to plunge ahead with the China Lake reforms is reflected in Ackerman's bill, which calls for added demonstration projects." p. 17.
37. Public Law 101-509, "Federal Employees Pay Comparability Act of 1990." November 5, 1990. Codified into Title 5, United States Code.
38. The National Commission on the Public Service, Paul A. Volcker, Chairman. *Leadership for America: Rebuilding the Public Service. Task Force Reports*. Washington DC: The National Commission, 1989. p. 16.
39. *Ibid.* p. 75.
40. The Hudson Institute. *Civil Service 2000*. William B. Johnston, Principal Author. Washington DC: U.S. Office of Personnel Management (OPM), June 1988. p. 32.
41. *Ibid.* pp. 34-35.
42. Friedman, Charles E.: Project Manager. *OPM's Classification and Qualification Systems: A Renewed Emphasis, A Changing Perspective*. Washington DC: U.S. Merit Systems Protection Board, November 1989. p. xii.
43. Wamsley, Barbara. "White Collar Classification: Time for Change." *The Bureaucrat* 20, Summer 1991. p. 16.
44. *Ibid.* p. 18.
45. U.S. Office of Personnel Management (OPM). *Federal White-Collar Pay System: Report of a Market-Sensitive Study*. Washington DC: OPM, August 1989. p. 65.
46. van Rijn, Paul, Project Manager. *Who is Leaving the Federal Government: An Analysis of Employee Turnover*. Washington DC: U.S. Merit Systems Protection Board (MSPB), August 1989. pp. 2-9. The OPM turnover data cited is from *Federal Civilian Workforce Statistics: Employment and Trends as of May 1990*. U.S. Office of Personnel Management (OPM), May 1990. p. 53.



47. Campbell, Alan K., and Linda S. Dix, editors. *Recruitment, Retention, and Utilization of Federal Scientists and Engineers*. A report by the National Research Council to the Carnegie Commission on Science, Technology, and Government. Washington DC: National Academy Press, 1990. p. 3.
48. Millburn, George P., Deputy Director, Defense Research and Engineering. Presentation at the OPM Personnel Research Conference, 16 August 1989.
49. Bell, Keith D., Project Manager. *Attracting Quality Graduates to the Federal Government: A View of College Recruiting*. Washington DC: U.S. Merit Systems Protection Board (MSPB), July 1988. p. 7.
50. Bell, Keith, Project Manager. *Delegation and Decentralization: Personnel Management Simplification Efforts in the Federal Government*. Washington DC: U.S. Merit Systems Protection Board (MSPB), October 1989. pp. 1-2.
51. The sponsors of the Research Conference were: the Office of Personnel Management (OPM); the Panel on the Public Service of the National Academy for Public Administration (NAPA); The Federal Section of the International Personnel Management Association (IPMA); the Section on Personnel Administration and Labor Relations (SPALR) of the American Society for Public Administration (ASPA); and The National Association of Schools of Public Affairs and Administration (NASPAA).
52. U.S. Office of Personnel Management (OPM). *Personnel Research Conference Proceedings*. Washington DC: OPM, December 1989. p. 1.
53. Newman, Constance, as interviewed by Tom Shoop. "Constance Newman: Battling the 'Quiet Crisis.'" *Government Executive* 23, April 1991. pp. 10-12.
54. Morgan, Gareth. *Beyond Method: Strategies for Social Research*. Beverly Hills: Sage Publications, 1983. p. 24.
55. Susman, Gerald I. "Action Research: A Sociotechnical Systems Perspective." in *Beyond Method: Strategies for Social Research*. Gareth Morgan, ed. Beverly Hills: Sage Publications, 1983. pp. 101-103.
56. *Ibid.* p. 101.
57. Kline, Ray. "The Future of the Public Service." Statement before the Subcommittee on Civil Service, Committee on Post Office and Civil Service. 24 March 1988.
58. The two Navy demonstration projects are at the Naval Weapons Center (NWC) at China Lake, California, and at the Naval Ocean Systems Center (NOSC) at San Diego. The Navy projects were established under the U.S. Office of Personnel Management's (OPM) authority for demonstration projects (5 U.S.C. 4703) and published in the Federal Register 18 April 1980 (pp. 26504-26543). The Navy projects were initially established for a 5-year duration, but have been twice extended for 5 years by Congress.
59. U.S. Office of Personnel Management (OPM). "Instructions for the Factor Evaluation System." Section VII, *Position Classification Standards for Positions Under the General Schedule Classification System*. Washington DC: OPM, December 1981.
60. Office of Personnel Management (OPM). "Proposed Demonstration Project; Pacer Share: A Federal Productivity Enhancement Program." Notice of approval, *Federal Register* 52, 20 November 1987. p. 44782. The Pacer-Share project at the Sacramento Air Logistics Center at McClellan Air Force Base in California is demonstrating pay banding, performance evaluation based on team performance rather than individual performance, productivity gain sharing, and other innovations.

61. Nozzolillo, Louie J. "The Classification and Pay System in the Public Service of Canada," in *Job Evaluation and Pay Administration in the Public Service*. Harold Suskin, ed. Chicago: International Personnel Management Association, 1977. p. 482.
62. Tompkins, Jonathan. "Comparable Worth and Job Evaluation Validity." *Public Administration Review*. 47, May/June 1987. pp. 257-258.
63. Jelinek, Mariann, ed. *Career Management for the Individual and the Organization*. Chicago: St. Clair Press, 1979. p. 315.
64. Dalton, Gene W., Paul H. Thompson, and Raymond L. Price. "The four stages of professional careers: A new look at performance by professionals." in *Career Management for the Individual and the Organization*. Mariann Jelinek, ed. Chicago: St. Clair Press, 1979. p. 140.
65. Schein, Edgar H. *Career Dynamics: Matching Individual and Organizational Needs*. Reading MA: Addison-Wesley Publishing, 1978. p. 2.
66. Ibid. p. 4.
67. Burack, Elmer H. "Why all the confusion about career planning?" in *Career Management for the Individual and the Organization*. Mariann Jelinek, ed. Chicago: St. Clair Press, 1979. p. 319.
68. Dalton, Gene W., Paul H. Thompson, and Raymond L. Price. "The four stages of professional careers: A new look at performance by professionals." in *Career Management for the Individual and the Organization*. Mariann Jelinek, ed. Chicago: St. Clair Press, 1979. p. 139.
69. The Wyatt Company. *Study of Federal Employee Locality Pay*. Philadelphia: The Wyatt Company, July 1989. p. 2.
70. The Wyatt Company. *Study of Federal Employee Locality Pay: Executive Summary*. Philadelphia: The Wyatt Company, July 1989. p. 9.
71. Office of Personnel Management (OPM). *Status of the Evaluation of the Navy Personnel Management Demonstration Project: Management Report*. Prepared by OPM Research and Demonstration Staff. Washington DC: OPM, March 1984. p. 9.
72. Office of Personnel Management (OPM). *A Summary Assessment of the Navy Demonstration Project: Management Report IX*. Prepared by the OPM Research and Demonstration staff. Washington DC: OPM, February 1986. p. ii.
73. Ibid. p. vi.
74. National Academy of Public Administration (NAPA). *Revitalizing Federal Management: Managers and their Overburdened Systems*. A panel report sponsored by a consortium of sixteen federal agencies under DoT Contract No. S59-82-C-00057. Washington DC: NAPA, November 1983. p. 41.
75. Ibid.
76. The Performance Management and Recognition System (PMRS) was created by Public Law 98-615 (November 1984) from the Merit Pay system established by the Civil Service Reform Act of 1978. PMRS is a pay-for-performance system covering supervisory and managerial positions in grades 13-15 of the General Schedule.
77. Ibid.



78. Ibid.
79. U.S. Office of Personnel Management (OPM). "Instructions for the Factor Evaluation System." Section VII, *Position Classification Standards for Positions Under the General Schedule Classification System*. Washington DC: OPM, December 1981.
80. Zeidner, Rita L. "Agencies Hiring Private Firms to Write Job Descriptions." *Federal Times*, 17 June 1991. p. 12.
81. Friedman, Charles E., Project Manager. *OPM's Classification and Qualification Systems: A Renewed Emphasis, A Changing Perspective*. Washington DC: U.S. Merit Systems Protection Board, November 1989. p. 30.
82. Cooley, Claudia, Associate Director for Personnel Systems and Oversight, U.S. Office of Personnel Management (OPM). In a letter responding to, and attached to (Appendix 2), *OPM's Classification and Qualification Systems* by the U.S. Merit Systems Protection Board (MSPB), November 1989. p. 65.
83. Section 5301(3) of Title 5, United States Code. The policy was first established by the Federal Salary Reform Act of 1963, was given methodology by the Federal Pay Act of 1970, and was linked to locality pay by the Federal Employees Pay Comparability Act of 1990.
84. *Study of Total Compensation in the Federal, State and Private Sectors*. Committee Print 98-16, House Committee on Post Office and Civil Service, 98th Congress, 2d Session, 4 December 1984. See also *Problems in Developing and Implementing a Total Compensation Plan for Federal Employees*. Washington DC: U.S. General Accounting Office (GAO), 5 December 1980.
85. The Performance Management and Recognition System (PMRS) was created by Public Law 98-615 (November 1984) from the Merit Pay system established by the Civil Service Reform Act of 1978. PMRS is a pay-for-performance system covering supervisory and managerial positions in grades 13-15 of the General Schedule.
86. The Hudson Institute. *Civil Service 2000*. William B. Johnston, Principal Author. Washington DC: U.S. Office of Personnel Management (OPM), June 1988. pp. 36-37.
87. University Research Corporation. *Second Annual Evaluation Report: National Institute of Standards and Technology*. Washington DC: U.S. Office of Personnel Management, August 1990. p. 81.
88. The Performance Management and Recognition System (PMRS) was created by Public Law 98-615 (November 1984) from the Merit Pay system established by the Civil Service Reform Act of 1978. PMRS is a pay-for-performance system covering supervisory and managerial positions in grades 13-15 of the General Schedule.
89. Public Law 102-22, "Performance Management and Recognition System Amendments of 1991," 23 March 1991.
90. Section 111 of Public Law 101-509, "Federal Employees Pay Comparability Act of 1990." November 5, 1990.
91. "OPM's Newman Springs PMRS Surprise." *Federal Employee Weekly Update*. The article covered the OPM director's testimony on the PMRS system before the House Subcommittee on Pay and Benefits. Washington DC: Key Communications Group Inc., 24 July 1989. p. 1.
92. Section 111 of Public Law 101-509, "Federal Employees Pay Comparability Act of 1990." November 5, 1990.



93. National Research Council. *Pay for Performance: Evaluating Performance Appraisal and Merit Pay*. George T. Milkovich and Alexandra K. Wigdor, editors. Washington DC: National Academy Press, 1991. p. 151.
94. Friedman, Charles E., and Ron W. Finnell, Project Managers. *Toward Effective Performance Management in the Federal Government*. Washington DC: U.S. Merit Systems Protection Board (MSPB), July 1988. p. 25.
95. U.S. General Accounting Office (GAO). *The Public Service: Issues Affecting Quality, Effectiveness, Integrity, and Stewardship*, GAO/GGD-90-103. Washington DC: GAO, September 1990.
96. Ibid. p. 57.
97. Scheirer, Mary Ann, Sandra Baxter, and David Cantor. *Results of the Baseline Survey for the NBS Personnel Demonstration Project*. Rockville MD: Westat, Inc., February 1988.
98. University Research Corporation. *Implementation Report: National Institute of Standards and Technology Personnel Management Demonstration Project*. Washington DC: U.S. Office of Personnel Management, August 1989.
99. University Research Corporation. *Second Annual Evaluation Report: National Institute of Standards and Technology*. Washington DC: U.S. Office of Personnel Management, August 1990.
100. United States General Accounting Office (GAO). *Review of Evaluation of Personnel Demonstration Project at Commerce*, GAO/GGD-91-93. Washington DC: GAO, May 1991. p. 1.
101. University Research Corporation. *Implementation Report: National Institute of Standards and Technology Personnel Management Demonstration Project*. Washington DC: U.S. Office of Personnel Management (OPM), August 1989. p. 119.
102. University Research Corporation. *Second Annual Evaluation Report: National Institute of Standards and Technology Personnel Management Demonstration Project*. Washington DC: U.S. Office of Personnel Management (OPM), August 1990. p. D8.
103. Ibid. pp. D16-D17.



## Appendix A: External Evaluation of the NIST Demonstration Project

The project legislation required that the Office of Personnel Management (OPM) provide for the evaluation of the project by contractor. University Research Corporation (URC) was contracted by OPM to conduct the first two annual evaluations. This appendix summarizes these two reports and an evaluation of the candidate examination system by an OPM team.

1. URC's *Implementation Report* (August 1989) stated that:
  - Demonstration project based changes to the NIST personnel system were generally implemented in a timely fashion. . . .
  - The most favorable reaction to the demonstration project related to changes in recruitment and hiring practices.
  - Most focus group employees are not satisfied with the performance appraisal process. . . . [The performance appraisal process has since been revised, largely in response to managerial and employee comments.]
  
2. URC's *Second Annual Evaluation Report* (August 1990) stated that:
  - NIST has accomplished most short-term project objectives.
  - NIST has succeeded in improving the efficiency of a variety of personnel actions, most notably those associated with staffing and hiring.
  - During each of the past two years, NIST has met its goal of implementing the demonstration project in a budget neutral manner.
  - NIST has extensively used its expanded direct hire authority during the first two years of the demonstration project. Direct hiring has been used to fill approximately 75% of the vacancies during this period.
  - Through the use of direct hire and agency-based hiring, NIST has reduced the time required to fill position vacancies.
  - NIST has been successful in linking pay increases to performance.
  - The demonstration project pay-for-performance system has significantly altered the distribution of salary increases at NIST. Within NIST, mean salary increases exhibit a strong relationship to performance rating categories.



- NIST employees registered discontent with the summary rating levels. . . . A new performance appraisal system is planned for implementation in the 1990-91 performance cycle. [The new system has since been implemented, substituting a two-level rating system for the former five-level rating system.]

3. The *Second Annual Evaluation Report* included the results of a 1989 general survey of covered employees. Many of the items on the 1989 survey repeated items from a 1987 baseline survey of the staff on the personnel system that existed prior to implementation of the project. The results showed that:

a. Supervisors appear to strongly prefer the project system over the former system. Of the 13 items on the 1987 and 1989 surveys that were for supervisors only, 10 items were more positive in 1989, 1 item was more negative in 1989, and 2 items did not significantly change.

b. The supervisory items were as follows:

(A/SA--Agree/Strongly Agree; U--Undecided; D/SD--Disagree/Strongly Disagree)

	<i>Year</i>	<i>A/SA</i>	<i>U</i>	<i>D/SD</i>
I have the authority to establish the positions I need to get the work done.	87	41.1%	10.4%	48.5%
	89	41.9%	14.5%	43.6%
I have enough authority to promote people.	87	45.0%	13.4%	41.7%
	89	48.5%	13.0%	38.5%
I have enough authority to determine my employees' pay.	87	18.1%	13.1%	68.9%
	89	37.6%	17.0%	45.5%
Top management generally supports the personnel decisions made by supervisors.	87	63.9%	17.0%	19.1%
	89	59.8%	20.8%	19.3%

	<i>Year</i>	<i>A/SA</i>	<i>U</i>	<i>D/SD</i>
Supervisors here feel their ability to manage is restricted by unnecessary personnel rules and regulations.	87	73.6%	13.1%	13.4%
	89	49.7%	27.9%	22.4%
I have enough authority to influence classification decisions.	87	35.6%	21.7%	42.7%
	89	52.7%	22.1%	25.1%
Much of my personnel paperwork is unnecessary.	87	46.6%	20.8%	32.6%
	89	36.8%	31.6%	31.6%
It takes too long to process the paperwork needed to fill vacancies here.	87	70.3%	14.4%	15.3%
	89	38.8%	23.0%	38.1%
DoC [NBS] recognizes supervisors who take the time to develop their subordinates' knowledges, skills, and abilities	87	29.9	22.9	47.1
	89	30.7	30.7	38.6
I have to devote too much time to position classification.	87	27.9%	18.6%	53.6%
	89	9.1%	20.6%	70.3%
The personnel office in this organization helps me perform my job effectively.	87	42.0%	24.3%	33.8%
	89	44.5%	26.7%	28.8%
The process for getting a position description approved tends to be an adversarial process.	87	40.4%	20.7%	38.9%
	89	18.1%	26.0%	55.9%

	<i>Year</i>	<i>A/SA</i>	<i>U</i>	<i>D/SD</i>
Negotiating over job classification has delayed the hiring process in my unit.	87	51.7%	16.9%	31.4%
	89	18.4%	28.7%	52.8%

c. Several items presented to all covered employees in 1989 addressed the demonstration project directly. Examples were:

	<i>A/SA</i>	<i>U</i>	<i>D/SD</i>
I am in favor of the demonstration project.	47.2%	32.1%	17.8%
Under the demonstration project, I don't have to become a supervisor to receive more pay.	47.7%	23.8%	18.8%
Pay banding permits a better match between my salary and level of competency than did the GS grading system.	33.4%	33.5%	26.5%
Overall, I am more satisfied with my job under the new system than under the old system.	31.0%	36.4%	24.7%

d. Employee morale appears to be high. In response to the 1989 item, "in general, I like working here," 89.7 percent either agreed or strongly agreed, 5.8 percent were undecided, and 4.5 percent either disagreed or strongly disagreed. This compares with a response of 71 percent, 15 percent, and 14 percent, respectively, when the same item was presented to 21,620 Federal employees in the 22 largest agencies in 1986.<sup>1</sup>

4. An OPM team conducted a thorough assessment of the project candidate evaluation system and found that:

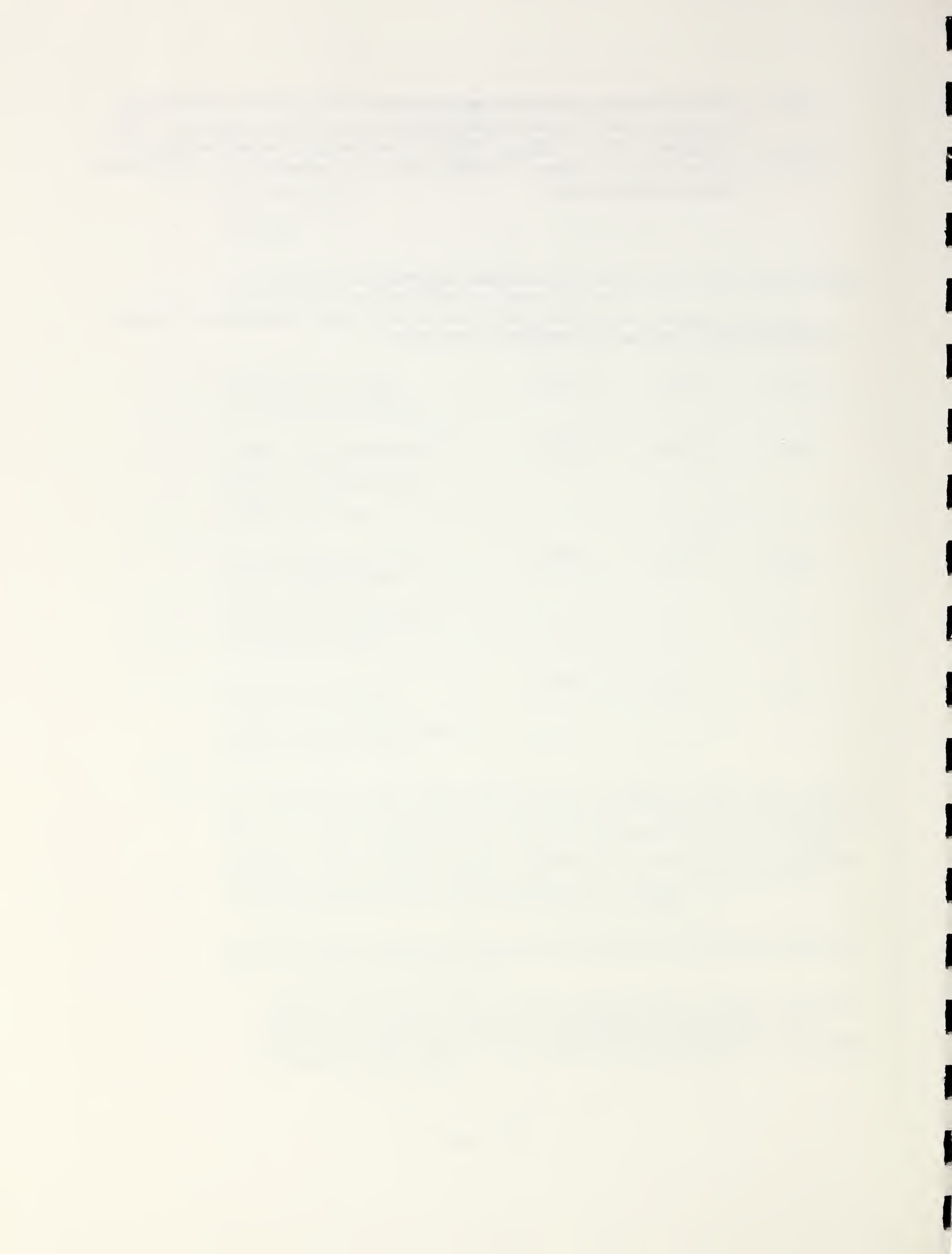
overall, the examining portion of NIST's demonstration project is very well organized, and operates smoothly and effectively. Actions taken are in conformance with merit system principles and with the legislation authorizing the demonstration project.



5. The dissatisfactions expressed by employees in focus groups and through the general survey related predominantly to performance appraisal. NIST worked with OPM to change the performance system in ways suggested by employees and managers. The new system will be used for the Fiscal Year 1991 performance cycle.

#### References: Appendix A

1. U.S. Merit Systems Protection Board (MSPB). *Working for the Federal Government: Job Satisfaction and Federal Employees*. Washington DC: MSPB, October 1987. p. 2.



## Appendix B: Internal Evaluation of the NIST Demonstration Project

Since the beginning of the project on January 1, 1988, NIST managers had been giving informal feedback that showed project interventions were having a positive impact on individual personnel cases. According to this feedback, the new provisions had led to higher-quality scientific and engineering hires, more successful competition with the private sector, quicker hires, and more effective retention through higher rewards for top performers. In March 1991 the Chair of the NIST Personnel Management Review Board asked managers to put these cases in writing. Examples are listed below by project intervention.

### *RECRUITING ALLOWANCES*

Under the project, a recruitment allowance of up to \$10,000 may be paid. Examples are the following:

- An allowance of \$6,000 paid to a Ph.D. physical scientist from a private firm to take a position with the Building Materials Division. Because of his high salary at the firm and because of the high cost of housing in Montgomery County, the cash bonus was essential and effective. (ZP-1301-IV)
- An allowance of \$2,000 granted by the Ionizing Radiation Division was instrumental in attracting one of the few black Ph.D. physicists to enter the job market in 1988. (ZP-1320-III)
- An allowance of \$10,000 was used by the Electromagnetic Technology Division to attract a Ph.D. electronics engineer for the lightwave initiative. (ZP-855-III)

### *FLEXIBLE ENTRY SALARIES OF PAY BANDING*

Under the project pay band system, an entry salary for a new hire may be set anywhere in the entry pay band. The following are examples of the successful use of flexible entry salaries:

- Three Ph.D. mathematical statisticians were hired by the Computing and Applied Mathematics Laboratory after a national search in a highly competitive market, where NIST was able to compete successfully against Du Pont in one hire, against General Motors Research in another hire, and against a West Coast environmental studies office in the third. (ZP-1529-III/IV)
- A Ph.D. mechanical engineer who graduated from the California Institute of Technology received an offer from a private firm higher than the initial offer made by the NIST fire suppression group, but NIST was able to raise the offer to a level acceptable to the candidate. (ZP-830-IV)



- A female M.S. fire prevention engineer was hired into the Fire Measurement and Research Division with a higher-than-minimum salary. (ZP-804-III)
- The perennial problem in finding an adequate number of security guards caused by low entry pay was alleviated, and flexible entry salaries were instrumental in hiring temporary guards during the Persian Gulf war, when security at Federal agencies was suddenly increased.
- A computer scientist was hired into the Fire Measurement and Research Division with a higher-than-minimum salary. (ZP-1550-II)
- An engineering technician with an associate degree from Capitol College was hired into the Fire Science and Engineering Division with the help of flexible entry pay. (ZT-802-II)
- A physical scientist and a physicist with rare technical specialties were hired into the Asbestos Analysis Project with higher-than-minimum entry salaries. (ZP-1301-III; ZP-1320-II)
- A computer scientist was hired into the Computer Security Division after the hiring official bettered an offer from the private sector. (ZP-1550-III)
- A female Ph.D. computer specialist was hired into the Information Systems Engineering Division with a higher-than-minimum entry salary. (ZP-334-V)
- The Plant Division was able to fill an electrical engineering position, which had been vacant for years, and a mechanical engineering position. (ZP-850-III; ZP-830-II)
- The Ceramics Division cited flexible entry pay as a critical factor in hiring a female Ph.D. materials research engineer and a Ph.D. research chemist with rare qualifications in solid state nuclear magnetic resonance analysis. (ZP-806-IV; ZP-1320-III)
- After a year of searching for a chemical engineer with experience in molding of composite materials, the Polymers Division was able to hire a Ph.D. chemical engineer by offering \$47,000 (\$7,000 more than under the prior system) to successfully compete against a \$52,000 offer from the private sector. (ZP-893-IV)
- The Electricity Division negotiated entry salaries to hire seven recent B.S. and Ph.D. graduates in electrical engineering and physics.

- The Semiconductor Electronics Division cited flexible entry pay as the critical factor in filling a supervisory position with a Ph.D. physicist recruited from a university position. (ZP-1310-V)
- The Electromagnetic Fields Division used negotiated entry salaries to make five significant hires: (1) two outstanding new graduates in engineering; (2) a highly qualified Ph.D. electronics engineer recruited from the Ball Corporation; (3) an M.S. electronics engineer who had several good offers from the private sector; (4) a uniquely qualified Ph.D. physicist employed by Delft University in the Netherlands.
- The Electromagnetic Technology Division cited flexible entry pay in successfully recruiting a Ph.D. electronics engineer and two Ph.D. physicists for the Lightwave initiative. (ZP-855-III; ZP-1310-IV; ZP-1310-IV)
- The Materials Science and Engineering Laboratory was able to recruit two physical scientists and a female physicist with higher entry salaries. (ZP-1301-III; ZP-1301-III; ZP-1320-III)

#### *DIRECT HIRING*

Direct hire allows NIST to fill a position with a qualified candidate without going through the formal posting and competitive process. Nearly all of the scientific and engineering examples cited under *Flexible Entry Salaries* above also benefitted from direct-hire. Other examples are:

- A leading biologist retiring early from Ciba Corning with 35 patents and over 100 publications was hired into the Biotechnology Division. Direct hire enabled the Division to act quickly before the candidate accepted a competing offer.
- Two Ph.D. physicists with unusual backgrounds in precision measurement were recruited quickly to fill urgent needs in the Quantum Metrology Division with the help of direct hire methods. (ZP-1310-III)
- Direct hire was cited by the Time and Frequency Division as the tool that allowed them to hire an electronics engineer who had other offers. (ZP-855-III)
- The Office of the Comptroller used direct hire to fill two accountant and an accounting technician position. (ZA-510-II; ZA-510-II; ZA-525-IV)
- The Electromagnetic Technology Division cited direct hire as instrumental in recruiting three Ph.D. physicists, one of whom was female, and an M.S. physicist. (ZP-1310-III/IV)

## *PAID ADVERTISING*

Under the project, paid advertising may be used at the very beginning of the recruitment effort. Many of the scientific and engineering hires cited under *Flexible Entry Salaries* and *Direct Hiring* were facilitated by paid advertising. Other examples include:

- A B.S. in business management was attracted through a paid advertisement to fill an accountant position in the Office of the Comptroller. (ZA-510-II)
- A highly qualified candidate with a B.A. in business management was attracted to a vacant supervisory printing specialist position through a paid advertisement. (ZA-1654-III)

## *MORE FLEXIBLE PAY FOR CURRENT EMPLOYEES THROUGH PAY BANDING AND PAY-FOR-PERFORMANCE*

To improve the organization's ability to retain top performers and employees with vital and scarce skills, the project provides several tools: (1) Annual performance increases; (2) Higher potential performance increases; (3) Potential for quicker promotions; and (4) Higher potential pay increases upon promotion. Examples of the application of these tools are the following:

- The Systems and Software Technology Division was able to retain an outstanding computer scientist through the higher promotion and performance pay increases allowed by the project. (ZP-1550-III)
- The Quantum Physics Division cited the potential for more rapid salary increases as the reason they were able to retain a minority supply specialist experienced in using both the NIST and University of Colorado procurement and administrative systems to manage the JILA facility. (ZA-2001-II)
- The Reactor Radiation Division has used the more flexible pay features to retain reactor operators by setting salaries more competitive with those at other research and commercial reactors. (ZT-802)
- The Polymers Division was able to retain a highly qualified Ph.D. chemical engineer with critical and highly marketable skills through the higher pay increases available for outstanding performers. (ZT-893-III)
- The Electromagnetic Fields Division used the potential for more generous salary increases for top performers to retain a Ph.D. physicist who has made major contributions to the organization. (ZP-1310-IV)



## Appendix C: NIST Staffing Problems Prior to the Demonstration Project

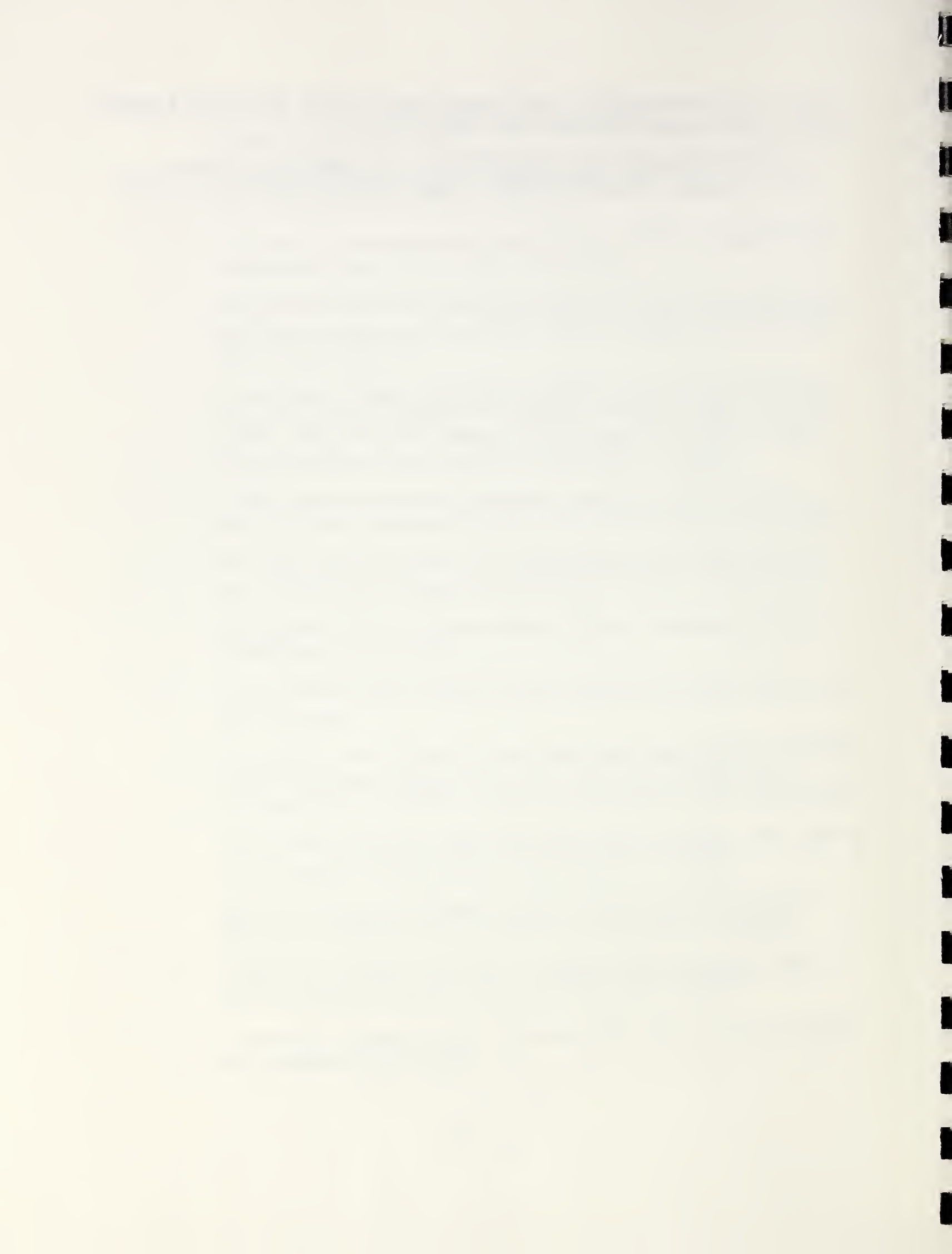
The following is a sampling of hiring and retention problems experienced by NIST prior to the NIST Personnel Management Demonstration Project implemented January 1988. These experiences were collected from NIST managers in October 1987.

- In the last 3 years, 10 scientists in the Center for Analytical Chemistry left for higher paying positions in the private sector. The private sector positions paid an average of \$11,143 above the NIST positions.
- In seven instances, the Radiation Physics Division failed to recruit new Ph.D.s or postdocs because of higher private-sector offers averaging \$14,800 above NIST offers.
- In efforts by the Ceramics Division over the last 2 years to find good candidates, eight new Ph.D. graduates rejected NIST offers at the GS-12 level to accept private-sector positions with salaries in the \$45,000 to \$50,000 range. Two new M.S. graduates rejected NIST offers for industry offers 30 percent higher, and senior Ph.D. scientists with needed experience were found to be receiving industry salaries of \$80,000 plus.
- Two postdocs left the Ceramics Division at the end of 1 year to accept private-sector offers of about \$50,000.
- A new Ph.D. graduate left his \$26,400 position in the Organic Analytical Research Division after 10 months to accept an industry position at \$44,000.
- Many new Ph.D. graduates recruited by NIST accepted private-sector positions at salaries \$7,500 to \$16,000 more than NIST could offer.
- Many new Ph.D.s did postdoc work at NIST, but would not take permanent positions at the salaries NIST could offer.
- A GS-12 physicist with 2 years of experience left the Radiation Physics Division for an industry position at a GS-15-level salary.
- A new Ph.D. in materials research engineering rejected the best offer from the Fracture and Deformation Division to accept an industry offer 45 percent higher.

- The Electricity Division attempted to hire graduates of a particular 2-year community college program into GS-4 technician positions. The effort had to be terminated when the division found that several private-sector companies were offering these graduates salaries from 40 to 55 percent more than the best offer NIST could make.
- At the end of a two-year postdoc appointment at NIST, a scientist left for a private-sector position at a GS-15- level salary.
- The Radiation Source and Instrumentation Division lost several technician candidates to private-sector technician positions paying up to \$7,000 more than the best NIST offer.
- A new physics graduate was offered a position in the Temperature and Pressure Division at \$25,000 showed NIST a competing industry offer for \$35,000. While NIST was asking OPM for permission to offer a higher rate, the candidate accepted another industry offer at \$40,000.
- A NIST technician, who was promoted as fast as the Federal system allows, left for a private-sector position with a 50-percent increase in pay.
- Two NIST group leaders from the same division, one at GS-14 and the other at GS-15, took private-sector positions at salaries of \$75,000 each.
- A young NIST Ph.D. in superconductors left for a university position at \$75,000 plus summer salary.
- A young NIST surface scientist left after receiving three offers higher than NIST could pay.
- No candidates were found for an electrical engineering position advertised at GS-7/9, because the new B.S. engineering graduates sought were receiving \$6,000 to \$10,000 more for starting positions in the private sector.
- A new Ph.D. graduate in electronics engineering rejected the NIST offer of a GS-12 salary to accept a private-sector position at \$48,000.
- An M.S. in electronics engineering with 11 years experience rejected a NIST offer of \$48,000 to accept a private sector position at \$60,000.
- A NIST coop student with a B.S. in computer science rejected a NIST offer of \$24,248 to accept a private-sector position at \$32,000.
- A new B.S. in computer science rejected a NIST offer to accept a private-sector position \$10,000 higher.

- An experienced Ceramics Division scientist with an M.S. left for a private-sector offer 40 percent above his NIST salary.
- A graduating chemist rejected an offer of \$26,000 by the Inorganic Analytical Research Division to accept a private-sector offer of \$40,000.





Appendix D: NIST and Pay Reform:  
A Comparison of NIST Demonstration Provisions and FEPCA Provisions

FEPCA (Federal Employees Pay Comparability Act of 1990) has not made the NIST demonstration project obsolete. Although FEPCA provides much needed pay reform, the extent to which it replaces NIST provisions is slight. The NIST demonstration system is broad-based, covering position classification, staffing, total compensation comparability, pay administration, performance appraisal, pay-for-performance, awards, retention, probation, and employee development. FEPCA was not intended to be a general reform of the Federal personnel system and will have little impact on the NIST demonstration system beyond pay comparability, as shown by the following chart.

NIST is testing a position classification system, based on career paths, broad-banding, simplified classification standards, and automated position descriptions, that has received extensive interest from other Federal agencies. This continues to be a useful demonstration of an innovative classification system that could aid Congress and the Office of Personnel Management (OPM) in future deliberations on the need for classification reform and the direction of that reform. NIST is demonstrating a faster and more effective staffing system based on agency-based hiring, more extensive direct-hiring, and more immediate use of paid advertising. NIST uses a three-year probation period for new hires in science and engineering, which allows a supervisor to see more of the full cycle of research before making a final hiring decision.

NIST has simplified the performance appraisal system into a more direct scoring-ranking-payout process that does away with the five-rating system that many Federal employees have found objectionable and counterproductive. Through pay-for-performance, NIST links annual pay increases to performance for all white-collar workers, eliminating the automatic step increases in the GS system and, through broad-banding, making more of the pay range dependent on performance. The simplified NIST systems are more amenable to automation and reduced paperwork. For example, the automated classification system allows a supervisor to produce a classified position description in less than 15 minutes, and the automated pay-for-performance system allows the manager to enter performance scores and generate performance pay increases that are compared against pay pool ceilings and electronically transmitted to the automated payroll system. With their increased delegations of authority, NIST managers have become more effective as the personnel managers of their units.

None of these features are made obsolete by the Pay Comparability Act. The NIST Project continues to demonstrate a new and innovative personnel system.

*NIST Demonstration Project*

*FEPCA Counterpart Provision*

*Comments*

Broad-band classification, replacing General Schedule (GS) grades

None

A broad-band classification structure more effectively supports and promotes many current Congressional, OPM, and agency objectives: (1) provides stronger link between pay and performance; (2) easier, less time consuming, and less costly to create and maintain; (3) more understandable to managers and employees; (4) easier to delegate to managers; (5) easier to automate; (6) coincides with recognized career levels; and (7) complements staffing, pay, and other personnel management systems.

Streamlined classification standards, replacing the voluminous GS standards

None

The NIST standards are far less numerous than GS standards, simpler to use, less costly to write and maintain, and facilitate delegation of classification authority to line managers.

Automated classification system

None

The automated NIST classification system speeds up the classification and hiring process, reduces operating costs, and facilitates line manager classification authority.

Two-page, standard format, automated position description

None

The NIST position description can be produced in about 15 minutes.



<i>NIST Demonstration Project</i>	<i>FEPCA Counterpart Provision</i>	<i>Comments</i>
Total Compensation Comparability	A combination of ECI-based comparability increases (beginning 1992) and locality pay (beginning 1994) (sec. 101).	NIST comparability will continue to have the advantage of being measured directly against private sector positions similar to NIST positions, but because the NIST budget neutrality provision prevents the use of this data, the FEPCA provisions will benefit NIST as well as other agencies.
Agency-based hiring	None	In agency-based hiring, NIST is successfully demonstrating the ability of a specialized agency to conduct its own recruiting and hiring system, rather than going through OPM registers. Agency-based hiring is both faster and more effective in finding the skills required by the agency.
Expanded direct hire	None	NIST uses direct hire for a broader array of hard-to-fill positions, greatly reducing hiring time.

<i>NIST Demonstration Project</i>	<i>FEPCA Counterpart Provision</i>	<i>Comments</i>
Paid advertising	None	NIST is demonstrating the advantages of allowing a specialized agency to use paid advertising as one of the primary means of advertising a vacancy. Normally, an agency must first demonstrate that unpaid methods have not succeeded in attracting candidates for a vacancy before paid methods may be used. Society publications and journals often reach the best qualified candidates.
Extended probation period for scientists and engineers	None	The 3-year probation period for scientists and engineers allows supervisors to evaluate the full cycle of research before making a final staffing decision.
Recruitment and retention allowances up to \$10,000	Recruitment and retention bonuses up to 25% of base pay. FEPCA also adds a relocation bonus (sec. 208).	The FEPCA allowance is not as high as the NIST allowance at lower-level entry positions, but is higher for mid-level and senior positions.
Reduction in Force - each career path constitutes a competitive area in the NIST retention system.	None	NIST has reduced some of the disruption created by reduction-in-force by ensuring that bumping and retreating is confined to a career path, preventing, for example, a scientist or engineer from bumping a technician or clerical employee.

***NIST Demonstration Project***

***Pay-for-Performance***

Supervisory differentials for scientific and engineering supervisors and higher pay band ceilings for all supervisors.

***FEPCA Counterpart Provision***

FEPCA did not authorize a specific pay-for-performance system, but did establish the Pay-for-Performance Labor-Management Committee to develop a system for strengthening the linkage between performance and pay. OPM is to implement the system by 10/1/93 (sec. 111).

Supervisory pay differentials for General Schedule supervisors who supervise employees not under the General Schedule (sec. 211).

***Comments***

Because the OPM system must be overlaid on the General Schedule grade system, it cannot link pay as strongly or as broadly to performance as the NIST pay-band/pay-for-performance system.

The NIST provision is much broader in scope, addressing the problem in many R&D agencies where supervisory scientists and engineers are often not compensated for their supervision because their supervisory responsibilities classify no higher than their non-supervisory research responsibilities.



*NIST Demonstration Project*

Flexible entry pay  
- allows NIST to pay a new hire at any salary level in the entry pay band.

*FEPCA Counterpart Provision*

Elimination of GS-11 threshold for new appointees to be paid above minimum rates  
- allows new hires to be paid above the minimum rate for all grades, with OPM approval in each specific case (OPM has delegated authority to agencies for pay up to 20% higher than candidate's existing pay).

*Staffing Differentials*

- authorizes the President to establish "staffing differentials equal to 5% of base pay."

Modified qualification standards, new occupational series, and sabbaticals

None

*Comments*

The NIST system is more flexible, particularly in the pay band context. Entry pay bands have broader ranges of pay than entry grades. Also, the OPM delegation is not useful to an agency competing against the private sector for new Ph.D. or other college graduates because they seldom have an "existing pay" or it is too low to serve as a basis for the entry salary.

NIST has not used these authorities thus far in the project, except for some new occupational series for students, but may make more use of them if the project is extended.

NIST-114A  
(REV. 3-90)

U.S. DEPARTMENT OF COMMERCE  
NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY

**BIBLIOGRAPHIC DATA SHEET**

1. PUBLICATION OR REPORT NUMBER  
NISTIR 4640

2. PERFORMING ORGANIZATION REPORT NUMBER

3. PUBLICATION DATE

JULY 1991

4. TITLE AND SUBTITLE

NIST Personnel Management Demonstration Project: Design, Implementation and Accomplishments

5. AUTHOR(S)

Allen Cassady

6. PERFORMING ORGANIZATION (IF JOINT OR OTHER THAN NIST, SEE INSTRUCTIONS)

U.S. DEPARTMENT OF COMMERCE  
NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY  
GAITHERSBURG, MD 20899

7. CONTRACT/GRANT NUMBER

8. TYPE OF REPORT AND PERIOD COVERED

9. SPONSORING ORGANIZATION NAME AND COMPLETE ADDRESS (STREET, CITY, STATE, ZIP)

Office of Personnel and Civil Rights

10. SUPPLEMENTARY NOTES

11. ABSTRACT (A 200-WORD OR LESS FACTUAL SUMMARY OF MOST SIGNIFICANT INFORMATION. IF DOCUMENT INCLUDES A SIGNIFICANT BIBLIOGRAPHY OR LITERATURE SURVEY, MENTION IT HERE.)

The NIST Authorization Act for Fiscal Year 1987 provided for a 5-year project to demonstrate an alternative personnel management system, which was implemented January 1, 1988. The project system was built on the concepts of total compensation comparability, market sensitivity, pay for performance, administrative simplicity, management flexibility, and government-wide applicability. Designed to improve hiring and retention of high-quality personnel and to more effectively compensate and retain high performers, the project dramatically changed the way NIST administers pay, position classification, recruitment, qualifications examination, retention, and performance management for former General Schedule employees. Evaluations and feedback from managers and employees have shown that project personnel systems have improved NIST's ability to recruit and retain quality staff; make compensation more competitive; link pay to performance; simplify position classification; streamline processing; improve the staffing process and get new hires aboard faster; and increase the manager's role and accountability in personnel management.

12. KEY WORDS (6 TO 12 ENTRIES; ALPHABETICAL ORDER; CAPITALIZE ONLY PROPER NAMES; AND SEPARATE KEY WORDS BY SEMICOLONS)

compensation; demonstration project; performance management; position classification; recruitment; retention

13. AVAILABILITY

- UNLIMITED  
 FOR OFFICIAL DISTRIBUTION. DO NOT RELEASE TO NATIONAL TECHNICAL INFORMATION SERVICE (NTIS).  
 ORDER FROM SUPERINTENDENT OF DOCUMENTS, U.S. GOVERNMENT PRINTING OFFICE, WASHINGTON, DC 20402.  
 ORDER FROM NATIONAL TECHNICAL INFORMATION SERVICE (NTIS), SPRINGFIELD, VA 22161.

14. NUMBER OF PRINTED PAGES

92

15. PRICE

A05

