

SRA TR-98-1804017-003

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**U.S. Air Force Laboratory
Personnel Demonstration Project:
1997 Assessment and Compensation Cycle
Data Analysis Report**

13 November, 1998

Prepared for:

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Under contract F41624-98-F5000, Delivery Order 1, Task 5

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1.0 Introduction

1.1 Project Background

The Department of Defense (DoD) laboratory demonstration is authorized by Public Law 103-337 (FY95 Defense Authorization Act). This law permits demonstration projects “generally similar in nature to China Lake” in DoD research laboratories designated as reinvention labs¹. The demonstrations are intended to give laboratory managers more authority and flexibility in managing their civilian personnel. The intermediate goal is a more capable and motivated workforce; the ultimate goal is improved scientific quality, performance, and customer satisfaction. By freeing lab managers from some of the rigid Title 5 civil service system rules and regulations, it is hoped that the DoD labs can better attract and retain world-class scientific talent, who can help the U.S. military maintain technological superiority in spite of budget and manpower reductions.

LabDemo consists of a set of specific personnel system changes (called interventions) designed to streamline processes and empower managers. In August and September of 1994 a “Tiger Team” developed the vision for LabDemo and recommended specific areas for improvement. Upon approval of the initial concept, several Integrated Product Teams (IPTs) were chartered to develop and staff specific interventions. Sixteen interventions survived the review and approval process at Air Force Materiel Command, Air Force headquarters, DoD, the Office of Personnel Management (OPM), and Congress². Air Force LabDemo was first publicly proposed in the *Federal Register* in May 1996. After several changes and refinements based on public feedback, the final LabDemo program was announced in the *Federal Register* in November 1996 and on 2 March 1997.

LabDemo affects over 2,400 civilian Scientists and Engineers (S&Es) in General Schedule (GS) grades 7 through 15 in 40 different job series assigned to the Air Force Research Laboratory (AFRL). The centerpieces of LabDemo are broadbanding and a Contribution-based Compensation System (CCS). The seven GS grades (7, 9, 11, 12, 13, 14, and 15) are collapsed into four broad pay bands to facilitate pay progression and allow for more competitive recruitment. The standard GS grade and step progression system is replaced by a process that directly links annual pay adjustments to each employee’s assessed level of contribution to the lab’s mission, as measured by scores on six different factors. Pay is linked to contribution via a “Standard Pay Line” that is inflated each year to reflect the congressionally authorized general increase in the cost of labor.

The law requires that OPM evaluate all of the DoD laboratory demonstrations to support permanent legislative changes and to assess the potential value of the interventions for other government agencies. Because there will eventually be many DoD labs conducting demonstrations, OPM’s evaluation will of necessity be high-level and primarily summative in

¹ China Lake refers to an earlier civilian personnel demonstration project conducted by the Navy that has now been made a permanent personnel system.

² For more information, see Air Force Materiel Command (February 14, 1997). [U.S. Air Force Laboratory Personnel Demonstration Project Operating Guide](#). Wright Patterson AFB, Ohio.

nature. The Air Force has chosen to supplement OPM's external evaluation with an internal evaluation that will focus in more detail on refining and assessing the specific Air Force interventions. While there will be an internal summary evaluation at the end of the 5-year evaluation period, the primary focus of the Air Force evaluation is formative in nature.

The purpose of this report is to summarize and document the results of the first CCS contribution assessment and compensation adjustment cycle conducted during the period October – December 1997.

1.2 CCS Description

The November 27, 1996 *Federal Register* announcement contains a complete description of CCS; the key elements of the system are summarized here.

CCS goes beyond a performance-based rating system in that it measures the employee's contribution to the organization rather than how well the employee performed a job as defined by a performance plan. Contribution is measured by the following six factors, which are relevant to the success of an R&D laboratory:

- Technical problem solving
- Communications and reporting
- Corporate resource management
- Technology transition and transfer
- R&D business development
- Cooperation and supervision

Each factor has four levels of increasing contribution corresponding to the four broadband levels³. Three or four Key Elements are defined for each factor, and standard descriptors are published for each Key Element at each level within each factor.

Each LabDemo employee is assigned to one of the following five Job Categories:

- Supervisor or manager
- Plans and programs S&E
- Program manager
- Support S&E
- Bench-level S&E

While S&Es in all Job Categories are evaluated against the same six factors, the factors are weighted to reflect differences in contribution expectations for the different Job Categories. Table 1 lists the weights used during the first CCS cycle.

³ The four broadbands are derived from the General Schedule (GS) system as follows: Band I = GS-7, 9 and 11; Band II = GS-12 and 13; Band III = GS-14; Band IV = GS-15.

The assessment process begins in late September with all employees filling out an AFMC Form 280 Part III on which they describe their contribution on each factor. Each employee's first-level supervisor then reviews the employee's input and assigns a preliminary score on each factor. The preliminary scores consist of a level (1 through 4) and a range within the level (high, medium, or low). Then the first-level supervisors meet in a group setting with their supervisor to convert the preliminary scores to decimal scores ranging from 1.0 to 4.9 (in 0.1 increments) on each factor⁴. The first-level supervisors also prepare written comments to support the score on each factor. A composite CCS score is then computed by multiplying each factor score by its corresponding weight for the S&E's Job Category, summing across all six factors, and then dividing the total by the sum of the weights.

Table 1: First CCS Cycle Weights

Job Category	Tech. Prob. Solving	Comm. & Reporting	Corp. Res. Mgt	Tech. Trans.	Bus. Dev.	Coop. & Supv
Supv/Mgr	1.0	1.0	1.0	1.0	1.0	1.0
Plns & Pgms	1.0	1.0	1.0	0.8	1.0	1.0
Pgm Mgr	1.0	1.0	1.0	1.0	1.0	1.0
Support	1.0	1.0	1.0	0.5	0.3	1.0
Bench	1.0	1.0	0.7	0.6	0.5	1.0

A target basic pay for each employee is then computed using the following formula. Plotted using the entire range of possible CCS scores, this formula defines a line called the Standard Pay Line, or SPL:

$$\text{Target Basic Pay} = \$14,487 + (\$16,455 \times \text{CCS Score})^5$$

The difference between a S&E's target basic pay and their 1997 basic pay is called DeltaY. Two lines are drawn parallel to the SPL, one offset .3 CCS to the left (called the upper rail), and the other offset .3 CCS to the right (called the lower rail). These lines are used to define zones of eligibility for certain levels of pay adjustment, which are described below. If an S&E's CCS score and present basic pay places them on or between the upper and lower rails they are considered to be equitably compensated. If they are below the lower rail they are considered under-compensated; those above the upper rail are considered over-compensated. The goal of CCS is to adjust salaries to reduce the amount of over and under-compensation. The SPL, rails, and a summary of the payout rules are illustrated in Figure 1.

⁴ A factor score of 0.0 is used to indicate that the employee failed to meet any of the minimum standards for Level I contribution. Likewise, a score of 5.9 indicates that the employee exceeded all of the standards for Level IV contribution.

⁵ Individuals who had been in LabDemo less than six months as of September 30, 1997, or who were temporarily outside of the lab environment (e.g., Long-Term, Full-Time training), automatically receive a presumptive CCS score derived from their 1997 basic pay and the SPL.

For salary adjustment purposes, the 1997 LabDemo workforce was divided into 21 paypools. Each paypool manager was given a salary increase budget equal to 4.7 percent of the sum of the annual basic pay rates of all S&Es in the paypool as of September 30, 1997⁶. Paypool managers are free to adjust salaries within the following constraints:

- They may spend less than their budgets, but not more
- The maximum allowable basic pay is that of a GS-15/step 10
- All S&Es above the upper rail (called the Automatic Attention Zone) may get an increase of no more than “G” (2.3 percent in 1997)
- All S&Es on or between the rails must get an increase of at least “G”
- All S&Es below the lower rail must get an increase of at least “G”+“I” (4.7 percent in 1997)

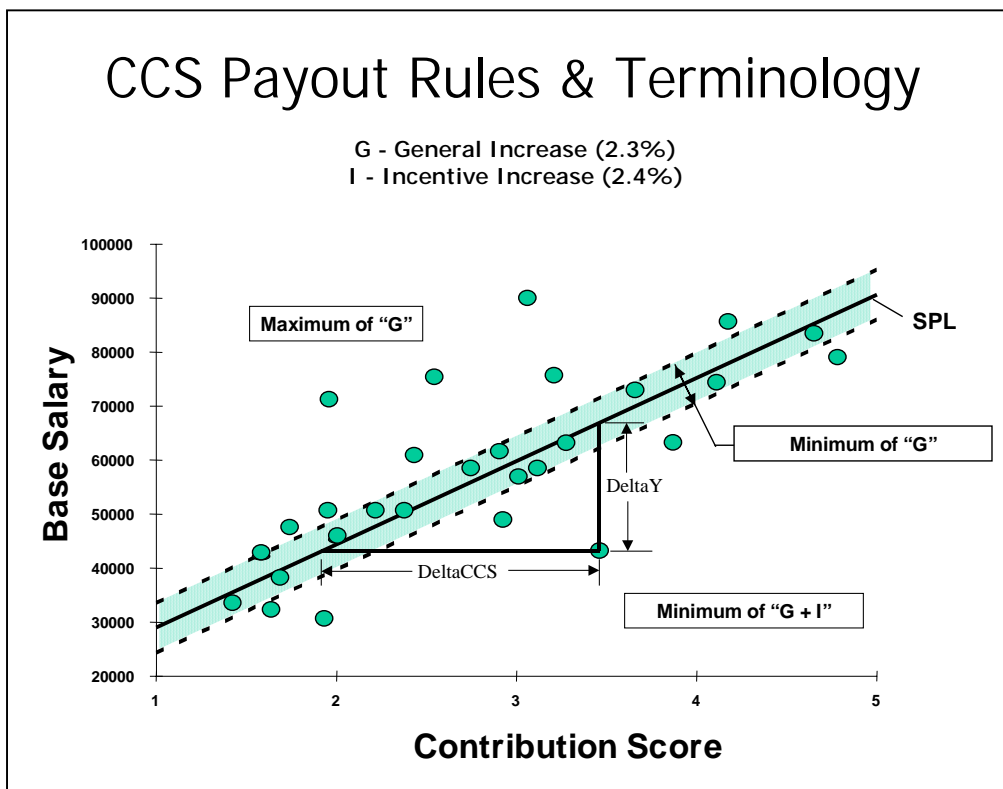


Figure 1: CCS Payout Rules & Terminology

⁶ The 4.7 percent figure is the sum of the 2.3 percent cost of labor increase authorized government-wide for 1998 (called “G”) and the 2.4 percent authorized by the LabDemo Executive Steering Committee for CCS increases in lieu of advancements and step increases that would have occurred if the workforce remained under the GS pay system (called “I”). For more information on “G” and “I” see Leighton, et. al. (March 1998), U.S. Air Force Laboratory Personnel Demonstration Project: 1998 Cost Analysis Report, (SRA TR-98-1804017-002), SRA International, San Antonio, TX.

CCS also includes a series of contribution score/salary conditions under which individuals are either eligible, recommended, or mandatory for movement to the next higher or lower broadband. Paypool managers must approve all eligible and recommended movements – mandatory movements happen automatically except for movement from band II to III. Because band III positions fall under high-grade controls, upward movement into this band can only be approved if unfilled high-grade authorizations exist. Individuals who are denied movement to band III due to high-grade limitations have their basic pay capped at the maximum for band II. However, they are also paid a one-time CCS bonus equal to the difference between their capped salary and what their annual basic pay would have been if they had moved into band III.

2.0

Assessment

The Contribution-based Compensation System (CCS) is composed of two components: contribution assessment and compensation. The assessment phase, as described in the preceding section, consists of the process where managers rate employees' contribution against six uniform factors. A single composite contribution score (CCS score) results after the appropriate factor weights are applied. This section describes the first-cycle CCS population sample and contains analyses on key contribution assessment metrics, as well as comparisons of selected measures against historical Title V performance ratings. For convenience, Table 2 contains brief definitions of key CCS assessment metrics and terms.

Table 2: Glossary of Key CCS Assessment Terminology

<i>CCS Assessment Metrics & Terms</i>	<i>Definition</i>
CCS Score	Value calculated through the CCS assessment process representing an individual's total contribution to the mission of the organization.
DeltaCCS	Difference between an individual's assessed CCS Score and the <i>expected</i> CCS Score based on present base pay.
Factor Scores	CCS contribution assessments against 6 standard factors: Technical Problem Solving, Communications and Reporting, Corporate Resource Management, Technology Transition and Transfer, Business Development, and Cooperation and Supervision.
Factor Weights	Uniform weights associated with each of the 6 CCS contribution factors representing relative importance/applicability given the employee's job category.
Zones A - D	Ranges of potential DeltaCCS scores falling above the Upper Rail (A), between the SPL and Upper Rail (B), between SPL and Lower Rail (C), and below the Lower Rail (D).
AAZ (Zone A)	Automatic Attention Zone. Area of potential DeltaCCS above Upper Rail (DeltaCCS < -0.30) representing inferior contribution relative to level of compensation.
Presumptive Rating	CCS Score assigned to individuals with "special circumstances" (i.e., away on Long-Term, Full-Time training, new hires, etc.) that is commensurate with their current compensation.
Standard Pay Line (SPL)	Under CCS, a line that relates basic pay to a level of expected contribution expressed as an <i>expected</i> CCS Score.
Lower Rail	Line parallel to SPL representing +0.30 CCS units.
Upper Rail	Line parallel to SPL representing -0.30 CCS units.
Last Adjective Rating	Most recent adjective performance rating received under Title V.
Last 9-Factor Rating	Total sum score of most recent 9-Factor ratings received under Title V.

2.1 First-Cycle CCS Population Sample

The first-cycle population sample consisted of scientists and engineers (S&Es) located across 21 paypools throughout the United States. Table 3 includes population counts detailed by paypool and overall. CCS assessments were conducted on 2,479 individuals. Of these, 70 received presumptive CCS scores -- these employees were either recently hired into LabDemo, were away from the laboratory attending Long-Term, Full-Time training, or met other specific exclusion criteria.

Table 3: First-Cycle CCS Population Counts

PAYPOOL	Received Presumptive CCS Scores	Total LabDemo Population
AL_CF	3	92
AL_HR	3	74
AL_Misc	2	69
PL_DSXPCA	5	34
PL_GP	0	143
PL_LI	4	71
PL_RK	11	108
PL_VTSX	9	82
PL_WS	3	82
RL_C3	0	121
RL_ER	0	74
RL_ERH	1	75
RL_IR	2	82
RL_OC	0	93
WL_AA	4	336
WL_CC	0	66
WL_FI	5	271
WL_ML	8	198
WL_MN	6	170
WL_MT	1	57
WL_PO	3	181
TOTAL	70	2,479

Based on their GS grade at the time of conversion into LabDemo, S&Es were classified into one of four broadbands: Band I = GS-7, 9 and 11; Band II = GS-12 and 13; Band III = GS 14 and Band IV = GS-15. This change from the traditional GS classification system was intended to facilitate seamless upward mobility for employees.

As illustrated in Table 4, over two thirds of the total LabDemo workforce are classified in Band II. Less than one percent are in Band I, and over 10 percent are in Band IV. Variability of these proportions across paypools is also noted. For example, over 83 percent of S&Es in paypool

RL_C3 are classified in Band II and over 25 percent of LabDemo personnel in PL_GP are in Band IV.

Table 4: LabDemo S&E Frequency Counts by Band

PAYPOOL	Band I		Band II		Band III		Band IV		Total	
	n	%	n	%	n	%	n	%	n	%
AL_CF	1	1.1%	53	57.6%	20	21.7%	18	19.6%	92	100.0%
AL_HR	0	0.0%	49	66.2%	15	20.3%	10	13.5%	74	100.0%
AL_Misc	4	5.8%	42	60.9%	12	17.4%	11	15.9%	69	100.0%
PL_DSXPCA	2	5.9%	19	55.9%	10	29.4%	3	8.8%	34	100.0%
PL_GP	0	0.0%	62	43.4%	44	30.8%	37	25.9%	143	100.0%
PL_LI	0	0.0%	44	62.0%	16	22.5%	11	15.5%	71	100.0%
PL_RK	3	2.8%	73	67.6%	25	23.1%	7	6.5%	108	100.0%
PL_VTSX	1	1.2%	59	72.0%	16	19.5%	6	7.3%	82	100.0%
PL_WS	2	2.4%	51	62.2%	19	23.2%	10	12.2%	82	100.0%
RL_C3	0	0.0%	101	83.5%	13	10.7%	7	5.8%	121	100.0%
RL_ER	1	1.4%	56	75.7%	12	16.2%	5	6.8%	74	100.0%
RL_ERH	0	0.0%	48	64.0%	17	22.7%	10	13.3%	75	100.0%
RL_IR	1	1.2%	61	74.4%	16	19.5%	4	4.9%	82	100.0%
RL_OC	1	1.1%	76	81.7%	11	11.8%	5	5.4%	93	100.0%
WL_AA	0	0.0%	255	75.9%	61	18.2%	20	6.0%	336	100.0%
WL_CC	0	0.0%	35	53.0%	18	27.3%	13	19.7%	66	100.0%
WL_FI	1	0.4%	197	72.7%	49	18.1%	24	8.9%	271	100.0%
WL_ML	0	0.0%	133	67.2%	34	17.2%	31	15.7%	198	100.0%
WL_MN	0	0.0%	128	81.5%	29	18.5%	13	7.6%	170	100.0%
WL_MT	0	0.0%	40	70.2%	13	22.8%	4	7.0%	57	100.0%
WL_PO	1	0.6%	134	74.0%	36	19.9%	10	5.5%	181	100.0%
Grand Total	18	0.7%	1,716	69.2%	486	19.6%	259	10.4%	2,479	100.0%

2.2 Summary Descriptive Statistics

Summary descriptive statistics were computed on total CCS score and DeltaCCS. Table 5 lists total CCS score descriptive statistics for the overall LabDemo population, as well as by the 21 paypools. The overall LabDemo mean CCS score was 3.26. The highest score was 4.90, the maximum contribution assessment score possible under CCS. All paypools except PL_DSXPCA, PL_LI, and WL_MN awarded at least one employee the maximum CCS score possible. The lowest CCS score was 0.16 (the minimum contribution assessment score under CCS possible), received by an employee in paypool WL_AA.⁷

Statistics summarizing differences in base salary across paypools are presented in Table 6. These data show the mean base salary across all LabDemo employees was \$63,678. The maximum salary was \$92,161, corresponding to GM15 / Step 10 employees at the time of conversion into LabDemo. The minimum base salary across LabDemo was \$33,028.

As described earlier, total CCS score represents a composite contribution rating calculated by summing the six weighted factor scores and dividing by the sum of the factor weights specific to each employee's job category. To interpret an individual CCS score, a ratee's base salary or

⁷ The minimum score possible was actually 0.0. However, the CCS software artificially adjusted this minimum score to 0.16. This adjustment will not take place in second cycle CCS assessments.

broadband must be considered. For example, a total CCS score of 3.26 (the overall LabDemo average) to a broadband I employee means that their assessed contribution far exceeds expectations and the employee should be considered for advancement to band II. If an individual's base salary is \$60,500, their expected CCS score would be 2.88, according to the 1997 standard pay line (SPL). An actual CCS score of 3.26 would suggest that the individual is contributing at a level that far exceeds expectations.

Table 5: Total CCS Score Descriptive Statistics

PAYPOOL	N	MEAN	STD DEV	MAXIMUM	MINIMUM
AL_CF	92	3.33	0.83	4.90	1.62
AL_HR	74	3.22	0.83	4.90	1.81
AL_Misc	69	3.23	0.85	4.90	1.74
PL_DSXPCA	34	3.42	0.75	4.87	1.96
PL_GP	143	3.57	0.81	4.90	1.71
PL_LI	71	3.31	0.77	4.88	2.02
PL_RK	108	3.13	0.78	4.90	1.17
PL_VTSX	82	3.12	0.75	4.90	1.74
PL_WS	82	3.19	0.89	4.90	0.33
RL_C3	121	3.05	0.66	4.90	1.95
RL_ER	74	3.13	0.65	4.90	1.65
RL_ERH	75	3.48	0.70	4.90	2.14
RL_IR	82	3.05	0.65	4.90	0.85
RL_OC	93	2.95	0.73	4.90	1.00
WL_AA	336	3.29	0.70	4.90	0.16
WL_CC	66	3.56	0.71	4.90	2.13
WL_FI	271	3.30	0.70	4.90	1.28
WL_ML	198	3.41	0.77	4.90	1.37
WL_MN	170	3.17	0.62	4.88	2.17
WL_MT	57	3.25	0.64	4.90	2.37
WL_PO	181	3.14	0.68	4.90	1.88
OVERALL	2,479	3.26	0.74	4.90	0.16

Table 6: Base Salary Descriptive Statistics for LabDemo S&Es

PAYPOOL	N	MEAN	STD	MAX	MIN
AL_CF	92	\$65,028	\$13,464	\$92,161	\$36,930
AL_HR	74	\$62,345	\$11,390	\$92,161	\$43,047
AL_Misc	69	\$62,384	\$12,954	\$92,161	\$40,096
PL_DSXPCA	34	\$64,403	\$12,224	\$92,161	\$45,260
PL_GP	143	\$70,471	\$12,834	\$92,161	\$43,545
PL_LI	71	\$65,501	\$11,154	\$92,161	\$46,664
PL_RK	108	\$60,763	\$12,546	\$92,161	\$33,028
PL_VTSX	82	\$60,985	\$11,481	\$92,161	\$42,111
PL_WS	82	\$64,431	\$13,401	\$92,161	\$41,890
RL_C3	121	\$61,394	\$10,764	\$92,161	\$45,034
RL_ER	74	\$61,955	\$10,045	\$92,161	\$43,021
RL_ERH	75	\$66,880	\$11,617	\$92,161	\$43,768
RL_IR	82	\$62,762	\$9,391	\$92,161	\$44,669
RL_OC	93	\$60,305	\$9,609	\$92,123	\$44,731
WL_AA	336	\$63,349	\$9,745	\$92,161	\$48,958
WL_CC	66	\$69,725	\$10,952	\$92,161	\$51,382
WL_FI	271	\$64,238	\$10,335	\$92,161	\$34,743
WL_ML	198	\$64,864	\$11,323	\$92,161	\$44,320
WL_MN	170	\$61,857	\$9,966	\$92,161	\$45,750
WL_MT	57	\$63,219	\$10,098	\$92,161	\$47,537
WL_PO	181	\$61,611	\$10,148	\$92,161	\$42,848
OVERALL	2,479	\$63,678	\$10,948	\$92,161	\$33,028

Descriptive statistics on DeltaCCS by paypool and overall are presented in Table 7. DeltaCCS quantifies the difference between expected and observed contribution to the overall mission of the laboratory. This metric is calculated by subtracting an employee's assigned CCS score from the CCS score (contribution level) commensurate with their base pay. A DeltaCCS value below zero (negative) indicates that the individual's contribution falls short of what is expected given their base pay. Positive DeltaCCS means that the observed contribution is above what was expected given current base pay.

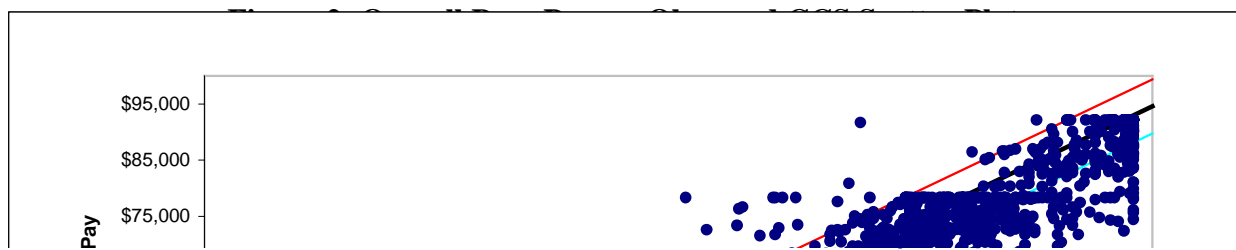
Table 7: DeltaCCS Descriptive Statistics by Paypool

PAYPOOL	N	MEAN	STD DEV	MAXIMUM	MINIMUM
AL_CF	92	0.16	0.49	1.40	-1.53
AL_HR	74	0.23	0.37	1.19	-0.64
AL_Misc	69	0.24	0.39	0.85	-1.36
PL_DSXPCA	34	0.29	0.28	0.86	-0.24
PL_GP	143	0.07	0.37	1.09	-1.53
PL_LI	71	0.12	0.29	1.03	-1.04
PL_RK	108	0.24	0.46	1.53	-1.05
PL_VTSX	82	0.21	0.50	1.86	-0.99
PL_WS	82	0.07	0.37	1.04	-1.77
RL_C3	121	0.11	0.26	0.83	-0.57
RL_ER	74	0.16	0.12	0.40	-0.20
RL_ERH	75	0.20	0.18	1.05	-0.30
RL_IR	82	0.03	0.31	0.65	-1.38
RL_OC	93	0.08	0.33	0.50	-2.24
WL_AA	336	0.24	0.38	1.33	-3.08
WL_CC	66	0.10	0.23	0.86	-0.33
WL_FI	271	0.18	0.29	0.97	-0.30
WL_ML	198	0.26	0.42	1.73	-1.04
WL_MN	170	0.21	0.24	0.64	-0.77
WL_MT	57	0.20	0.25	0.89	-0.29
WL_PO	181	0.19	0.22	0.74	-0.36
OVERALL	2,479	0.18	0.34	1.86	-3.08

The statistics in Table 7 indicate that the mean DeltaCCS value for the total workforce was 0.18, meaning that on average, LabDemo S&Es' contribution to the mission of the laboratory exceeded what was expected given their average base salaries. Said another way, these summary data indicate that LabDemo S&Es are, on average, undercompensated given their level of contribution to the laboratory.

Mean DeltaCCS values differed substantially among paypools, ranging from a low of 0.03 in the RL_IR paypool to a high of 0.26 in the WL_ML paypool. In addition, a comparison of the standard deviations, maximum, and minimum DeltaCCS values revealed marked differences in dispersion across paypools. For example, paypool RL_ER's DeltaCCS standard deviation value was 0.12 (DeltaCCS values ranged from 0.40 to -0.20), while the LabDemo mean DeltaCCS standard deviation was 0.34. Low DeltaCCS standard deviation values imply that managers made a conscious effort to rate employees' contributions close to expected contribution values. Paypool PL_VTSX's DeltaCCS standard deviation was 0.50, suggesting wider than average dispersion among DeltaCCS scores – evidence of managers drawing clear distinctions among strong and weak contributors.

To better view the relationship between the SPL (expected CCS score) and observed CCS scores, Figure 2 contains an overall scatter plot of LabDemo S&Es' base pay and observed CCS score.



The dots in Figure 2 represent individual S&E's CCS ratings. The horizontal distance between each dot (total CCS score) and the middle line (SPL) constitutes DeltaCCS. The vertical distance between the dots and the SPL represents the amount of over- or under-compensation (DeltaY). The two lines immediately above and below the SPL, aligned at ± 0.30 CCS points, are referred to as rails and are significant in compensation adjustment calculations under LabDemo rules (a detailed analysis of CCS-based salary adjustments is included later in this report).

The dispersion of CCS values for the overall LabDemo S&E population is clearly evident in Figure 2. Individuals with negative DeltaCCS values are represented by the dots to the left of the SPL. Those with positive DeltaCCS amounts appear to the right of the SPL. The farther away the individual observations are from the SPL, the greater the degree of over- or under-compensation. The horizontal concentration of CCS observations with FY97 base salaries just over \$65,000, \$75,000 and approximately \$92,000 represent S&Es whose salaries were capped after reaching GS13/Step 10, GS14/Step 10, and GS15/Step 10 respectively at the time of conversion into LabDemo. The vertical concentration of dots at a CCS score of 4.9 represent individuals who received the maximum possible contribution assessment rating from their supervisors.

The CCS process empowered paypool managers with the ability to make decisions pertaining to employee contribution assessment and ultimately salary adjustment. Tables 4 and 5 presented earlier displayed the variability observed across paypools in CSS scores and DeltaCCS values. These differences across paypools are more evident in scatter plots of base pay and observed CCS score. For example, Figure 3 contains data for one of the paypools where clear distinctions were drawn by raters in levels of contribution among S&Es.

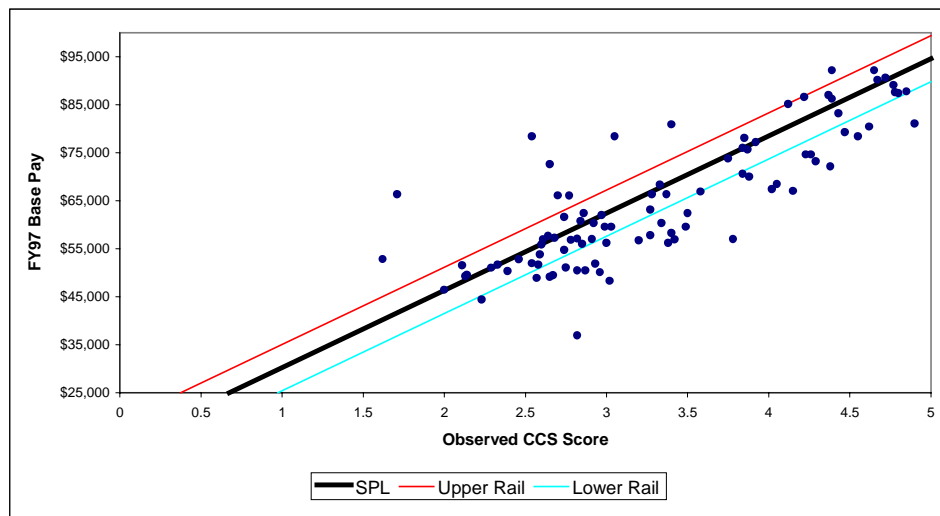


Figure 3: “Shot Gun” Pattern Plot of Base Pay and Observed CCS Score

The “shot gun” pattern apparent in Figure 3 can be contrasted with the CCS distribution presented in Figure 4, an example of a paypool where raters assigned few CCS scores that would result in DeltaCCS values greater than ± 0.30 .

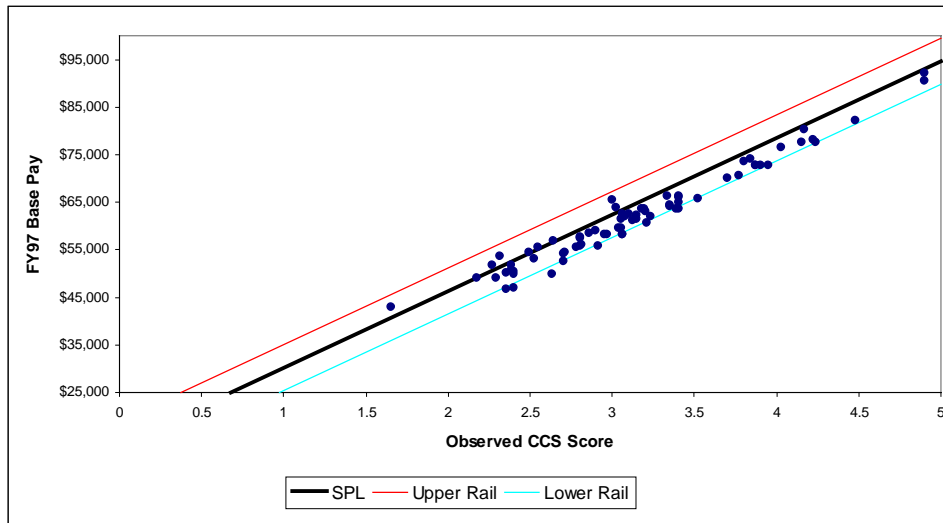


Figure 4: Concentration of CCS Scores Within the Rails

Analysis of rating patterns across other paypools showed marked differences in rating strategies. Focus group discussions and interviews conducted with paypool managers, division chiefs and branch managers revealed that some raters did not utilize the full range of possible CCS scores, as evidenced in Figure 4. Among the reasons cited were the newness of the system and short time frame between conversion to LabDemo and CCS assessments⁸.

2.3 CCS Zone Analysis

The scatter plots presented in the preceding section illustrate the variability across paypools in CCS score distribution. To further evaluate differences across paypools, frequency statistics were calculated on first-cycle CCS assessment data by zone relative to the SPL. Frequency analyses of CCS scores by zone are pertinent due to the importance of these zones in the compensation-setting phase of CCS. Figure 5 graphically illustrates the areas contained in Zones A through D relative to the SPL.

⁸ Leighton, et al (May 1998) U.S. Air Force Laboratory Personnel Demonstration Project (LabDemo): First-Year Focus Group Summary Report, (SRA TR-98-1804017-004), SRA International, San Antonio, TX.

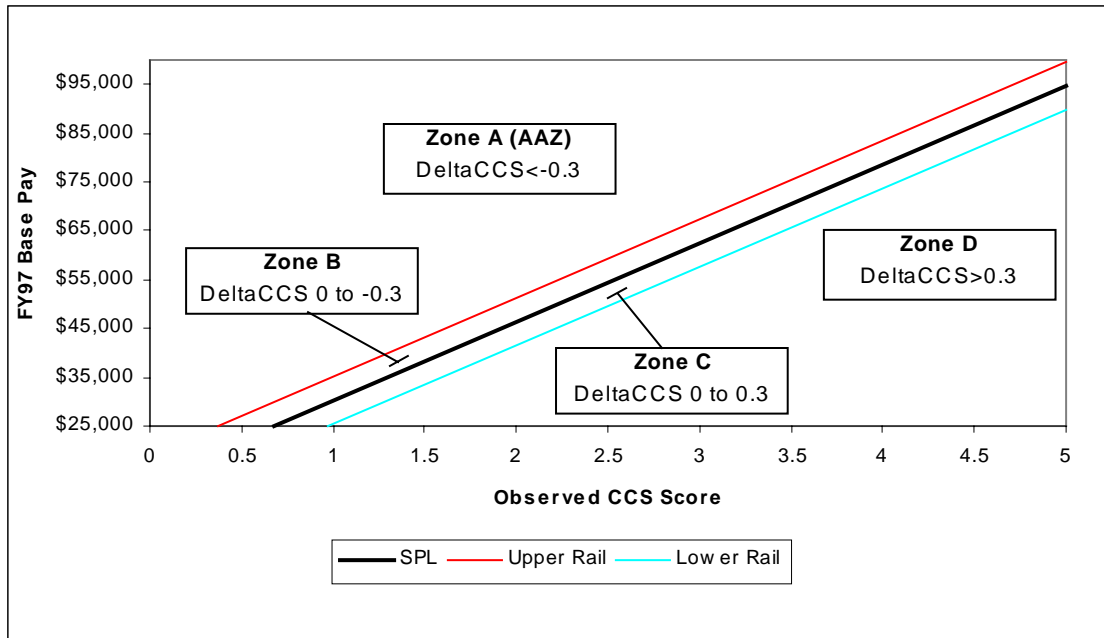


Figure 5: Zones A – D Relative to the SPL

Individuals whose CCS scores fall in zone A, also known as the Automatic Attention Zone (AAZ), receive special attention from managers, possibly including contribution improvement plans. Also, under CCS different payout rules apply depending on the CCS zone in which the individual’s CCS score falls. A more detailed discussion on the relevance of CCS zones to the compensation-setting phase will be presented later in this document.

Table 8 contains frequency statistics on all paypools and overall totals by CCS zones A through D. Data labeled as “On SPL” represent those individuals whose observed CCS score matched their expected score. In other words, their observation fell on the SPL. Most of these individuals were those receiving presumptive CCS ratings.

Table 8: Distribution of CCS Scores by Zone

PAYPOOL	Zone A		Zone B		On SPL		Zone C		Zone D		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
AL_CF	9	9.8%	17	18.5%	7	7.6%	25	27.2%	34	37.0%	92	100.0%
AL_HR	4	5.4%	8	10.8%	9	12.2%	22	29.7%	31	41.9%	74	100.0%
AL_Misc	3	4.3%	11	15.9%	2	2.9%	25	36.2%	28	40.6%	69	100.0%
PL_DSXPCA	0	0.0%	2	5.9%	7	20.6%	9	26.5%	16	47.1%	34	100.0%
PL_GP	10	7.0%	35	24.5%	0	0.0%	69	48.3%	29	20.3%	143	100.0%
PL_LI	1	1.4%	23	32.4%	5	7.0%	28	39.4%	14	19.7%	71	100.0%
PL_RK	14	13.0%	12	11.1%	11	10.2%	28	25.9%	43	39.8%	108	100.0%
PL_VTSX	9	11.0%	14	17.1%	11	13.4%	16	19.5%	32	39.0%	82	100.0%
PL_WS	8	9.8%	17	20.7%	5	6.1%	37	45.1%	15	18.3%	82	100.0%
RL_C3	6	5.0%	22	18.2%	3	2.5%	66	54.5%	24	19.8%	121	100.0%
RL_ER	0	0.0%	8	10.8%	1	1.4%	54	73.0%	11	14.9%	74	100.0%
RL_ERH	0	0.0%	4	5.3%	4	5.3%	50	66.7%	17	22.7%	75	100.0%
RL_IR	4	4.9%	25	30.5%	4	4.9%	38	46.3%	11	13.4%	82	100.0%
RL_OC	3	3.2%	17	18.3%	6	6.5%	54	58.1%	13	14.0%	93	100.0%
WL_AA	12	3.6%	44	13.1%	6	1.8%	133	39.6%	141	42.0%	336	100.0%
WL_CC	1	1.5%	20	30.3%	2	3.0%	31	47.0%	12	18.2%	66	100.0%
WL_FI	0	0.0%	61	22.5%	11	4.1%	118	43.5%	81	29.9%	271	100.0%
WL_ML	5	2.5%	34	17.2%	19	9.6%	66	33.3%	74	37.4%	198	100.0%
WL_MN	5	2.9%	15	8.8%	13	7.6%	78	45.9%	59	34.7%	170	100.0%
WL_MT	0	0.0%	13	22.8%	2	3.5%	20	35.1%	22	38.6%	57	100.0%
WL_PO	1	0.6%	24	13.3%	7	3.9%	89	49.2%	60	33.1%	181	100.0%
Grand Total	95	3.8%	426	17.2%	135	5.4%	1,056	42.6%	767	30.9%	2,479	100.0%

The above statistics indicate that overall, more than 70 percent of S&Es received total CCS scores that placed them below the SPL (zones C and D). Paypool RL_ERH placed nearly 90 percent of its employees below the SPL. On the other hand, PL_LI rated over 33 percent of its S&E workforce above the SPL (zones A and B). Overall, almost 4 percent of S&Es fell in the AAZ, with paypool PL_RK having the greatest proportion of employees in the AAZ (n=14, 13 percent). Five out of 21 paypools did not assign any AAZ CCS ratings.

Supervisors in several paypools assigned a relatively high proportion of CCS ratings that fell near, but not over the upper rail (in the AAZ). These supervisors may have wanted to “send a message” via the rating to S&Es concerning their borderline contribution, without the accompanying stigma associated with an AAZ rating. Again, some paypool managers explained during focus groups conducted after the assessment process that due to the newness of CCS, implementation challenges, and the first short LabDemo contribution cycle, they felt it was inappropriate to place employees in the AAZ during the first contribution assessment cycle⁹. An example of this type of rating pattern is presented in Figure 6.

A series of follow-on analyses were conducted to permit a more detailed examination of CCS scores near the upper rail. Frequency counts and proportions within ± 0.05 CCS points from the upper rail were computed. Results of this analysis are presented in Table 9.

⁹ See Leighton, et al (May 1998) U.S. Air Force Laboratory Personnel Demonstration Project (LabDemo): First-Year Focus Group Summary Report, (SRA TR-98-1804017-004), SRA International, San Antonio, TX for a detailed discussion of first cycle focus group results.

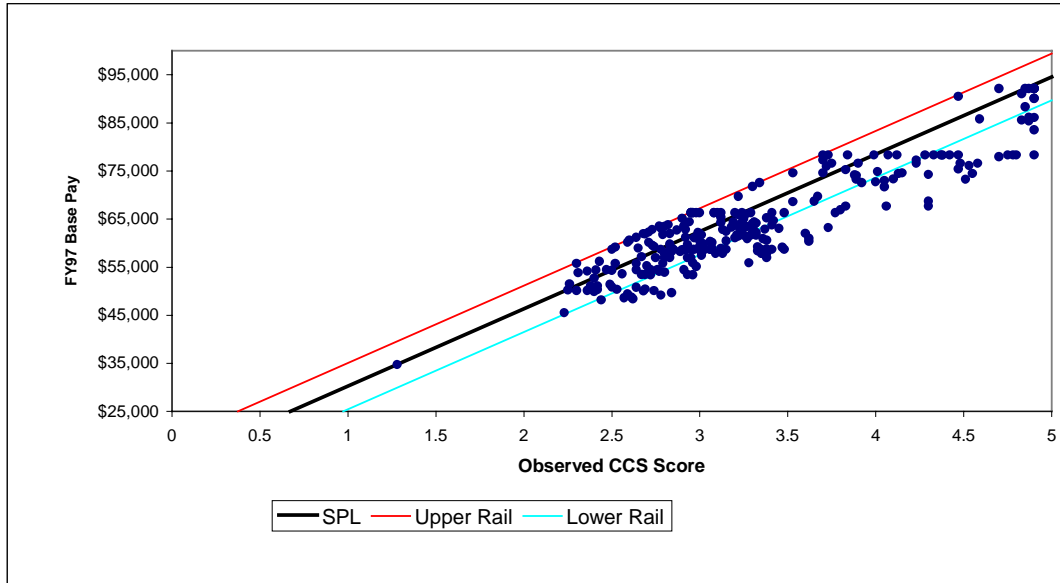


Figure 6: CCS Ratings Near, But Not In AAZ

Table 9: DeltaCCS Ratings Near Upper Rail Analysis

PAYPOOL	Zone A (AAZ)					Zone B (SPL to AAZ)				
	DeltaCCS <= -.36		DeltaCCS -.31 to -.35		ZONE A TOTAL	DeltaCCS -.25 to -.30		DeltaCCS 0 to -.24		ZONE B TOTAL
	N	%	N	%		N	%	N	%	
AL_CF	9	100.0%	0	0.0%	9	2	11.8%	15	88.2%	17
AL_HR	2	50.0%	2	50.0%	4	4	50.0%	4	50.0%	8
AL_Misc	3	100.0%	0	0.0%	3	3	27.3%	8	72.7%	11
PL_DSXPCA	0	0.0%	0	0.0%	0	0	0.0%	2	100.0%	2
PL_GP	9	90.0%	1	10.0%	10	15	42.9%	20	57.1%	35
PL_LI	1	100.0%	0	0.0%	1	3	13.0%	20	87.0%	23
PL_RK	9	64.3%	5	35.7%	14	0	0.0%	12	100.0%	12
PL_VTSX	8	88.9%	1	11.1%	9	4	28.6%	10	71.4%	14
PL_WS	8	100.0%	0	0.0%	8	2	11.8%	15	88.2%	17
RL_C3	6	100.0%	0	0.0%	6	3	13.6%	19	86.4%	22
RL_ER	0	0.0%	0	0.0%	0	0	0.0%	8	100.0%	8
RL_ERH	0	0.0%	0	0.0%	0	2	50.0%	2	50.0%	4
RL_IR	3	75.0%	1	25.0%	4	8	32.0%	17	68.0%	25
RL_OC	3	100.0%	0	0.0%	3	3	17.6%	14	82.4%	17
WL_AA	10	83.3%	2	16.7%	12	4	9.1%	40	90.9%	44
WL_CC	0	0.0%	1	100.0%	1	2	10.0%	18	90.0%	20
WL_FI	0	0.0%	0	0.0%	0	27	44.3%	34	55.7%	61
WL_ML	5	100.0%	0	0.0%	5	14	41.2%	20	58.8%	34
WL_MN	3	60.0%	2	40.0%	5	3	20.0%	12	80.0%	15
WL_MT	0	0.0%	0	0.0%	0	3	23.1%	10	76.9%	13
WL_PO	1	100.0%	0	0.0%	1	2	8.3%	22	91.7%	24
Grand Total	80	84.2%	15	15.8%	95	104	24.4%	322	75.6%	426

The data presented in Table 9 lists frequency counts of personnel with DeltaCCS values well above the upper rail (DeltaCCS <= -.36) and just above the upper rail (DeltaCCS -.31 to -.35). Also listed are frequency counts of employees with DeltaCCS values well below the upper rail, but above the SPL (DeltaCCS 0 to -.24) and just below the upper rail (DeltaCCS -.25 to -.30). The data show that only 15 individuals received ratings that placed them within 0.05 points over the upper rail. On the other hand, 104 people fell less than 0.05 points below the upper rail. In

particular, data for paypools PL_GP, RL_ERH, RL_IR, WL_FI, WL_ML, and WL_MT indicate instances where individuals were rated just below the SPL. Further, no employees were rated in the AAZ in paypools RL_ERH, WL_FI, or WL_MT. Paypool WL_FI had the greatest number of employees just below the AAZ – 27, over 44 percent of S&Es falling above the SPL.

2.4 CCS Factor Scores

As explained earlier in this document, the CCS process consists of contribution ratings on six uniform factors:

- Technical Problem Solving
- Communications and Reporting
- Corporate Resource Management
- Technology Transition and Transfer
- R&D Business Development
- Cooperation and Supervision

Total CCS scores for each S&E are computed as a weighted average of the six separate factor ratings. To assess the variability of ratings across the six factors, descriptive statistics were calculated by paypool and overall. Table 10 contains overall descriptive statistics on the individual factor scores.

Table 10: Overall Descriptive Statistics of CCS Scores for Six Factors

FACTOR	FACTOR DESCRIPTION	N	MEAN	STD	MAX	MIN
Factor 1	Technical Problem Solving	2409	3.42	0.80	5.90	0.00
Factor 2	Communications and Reporting	2409	3.30	0.79	5.90	0.00
Factor 3	Corporate Resource Management	2409	3.24	0.78	5.90	0.00
Factor 4	Technology Transition and Transfer	2409	3.21	0.80	5.90	0.00
Factor 5	R&D Business Development	2409	3.18	0.83	5.90	0.00
Factor 6	Cooperation and Supervision	2409	3.25	0.78	5.90	0.00

Note that the total number of personnel receiving separate factor ratings differs from the LabDemo S&E population receiving total CCS scores (n=2,409 vs. n=2,479). This difference is due to the 70 individuals who received presumptive CCS ratings. These personnel were assigned CCS scores commensurate with their current base salaries. However, they did not receive separate factor ratings.

The statistics presented in Table 10 show that the min, max, mean, and standard deviation of CCS scores were similar across the six factors. The difference between the highest and lowest mean factor score was 0.24 points, or less than 0.2 standard deviation units. LabDemo employees received their lowest mean CCS factor ratings on Factor 5 (R&D Business Development) and their highest ratings on Factor 1 (Technical Problem Solving). For comparison, descriptive statistics on the six factor ratings are presented by paypool in Appendix I.

To assess the relationship between the individual factor ratings and total CCS scores, correlation analyses were conducted by payroll and overall. Table 11 contains Pearson's Correlation Coefficient (r) values for payroll-level individual factor scores against total CCS scores.

Table 11: Pearson's Correlation Coefficients of Total CCS Scores vs. Factor Ratings

PAYPOOL	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5	FACTOR 6
AL_CF	0.94	0.91	0.93	0.93	0.93	0.92
AL_Misc	0.95	0.95	0.94	0.95	0.95	0.96
AL_HR	0.94	0.94	0.95	0.96	0.96	0.96
PL_DSXPCA	0.96	0.97	0.95	0.92	0.92	0.95
PL_GP	0.93	0.93	0.93	0.94	0.95	0.96
PL_LI	0.94	0.94	0.96	0.93	0.92	0.91
PL_RK	0.93	0.95	0.94	0.95	0.95	0.95
PL_VTSX	0.95	0.95	0.94	0.94	0.95	0.96
PL_WS	0.94	0.97	0.95	0.96	0.96	0.95
RL_C3	0.94	0.96	0.97	0.94	0.95	0.94
RL_ER	0.92	0.95	0.94	0.88	0.93	0.97
RL_IR	0.92	0.94	0.95	0.93	0.95	0.96
RL_OC	0.95	0.97	0.96	0.97	0.97	0.96
RL_ERH	0.92	0.95	0.95	0.91	0.91	0.95
WL_AA	0.95	0.96	0.95	0.94	0.95	0.96
WL_CC	0.96	0.95	0.94	0.93	0.95	0.93
WL_FI	0.94	0.95	0.95	0.94	0.95	0.96
WL_ML	0.93	0.95	0.94	0.92	0.94	0.94
WL_MT	0.96	0.96	0.97	0.96	0.97	0.94
WL_PO	0.95	0.97	0.97	0.93	0.96	0.97
WL MN	0.88	0.93	0.94	0.92	0.91	0.93
OVERALL	0.94	0.95	0.95	0.94	0.95	0.95

All of the correlation coefficients presented in Table 11 are statistically significant ($p < 0.001$). Table 12 contains the 6-factor overall intercorrelation matrix. Individual 6-factor intercorrelation matrices for each payroll are included in Appendix III.

Table 12: Overall Intercorrelation Matrix

FACTOR	DEFINITION	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5	FACTOR 6
Factor 1	Technical Problem Solving	1.00	0.90	0.85	0.85	0.85	0.86
Factor 2	Communications and Reporting	0.90	1.00	0.88	0.86	0.87	0.88
Factor 3	Corporate Resource Management	0.85	0.88	1.00	0.89	0.91	0.91
Factor 4	Technology Transition and Transfer	0.85	0.86	0.89	1.00	0.92	0.87
Factor 5	R&D Business Development	0.85	0.87	0.91	0.92	1.00	0.89
Factor 6	Cooperation and Supervision	0.86	0.88	0.91	0.87	0.89	1.00

As illustrated in Table 11, there is a high correlation between total CCS scores and the six individual factors. This overall relationship is consistent across the 21 paypools. The intercorrelation matrix presented in Table 12 further demonstrates the strong relationship among the six CCS factors ($r \geq 0.85$, $p < 0.001$). These correlation data suggest that raters did not make clear distinctions in their ratings about S&Es' strengths and weaknesses or the different job

factors, but instead relied on a single overall impression of individual contribution. Interestingly, a few comments from bench-level S&E focus group participants alluded to this type of “whole person” rating approach.¹⁰

2.5 Prior Performance and CCS Analysis

Under Title V, employee performance appraisals consisted of 9-point numeric ratings on 9 factors, e.g., advancement potential score¹¹. Employees’ overall performance was also appraised using adjective ratings on a 5-point scale. Although CCS measures “contribution to the laboratory mission” as opposed to performance, it was expected that CCS assessment results would be related to employees’ most recent Title V performance appraisals. To evaluate the extent of this association, correlation analyses were conducted between employees’ most recent Title V performance appraisal results and DeltaCCS.

Total CCS score was not used in this comparison because this value, if used alone, does not provide sufficient meaningful information regarding employees’ standing relative to one another. As explained earlier, to adequately compare total CCS score results, current base pay or expected CCS scores must also be taken into account. The DeltaCCS value, however, represents the difference between expected and observed contribution levels. Positive DeltaCCS scores equate to contribution that exceeds expectations based on current compensation level. On the other hand, negative DeltaCCS scores represent contribution that falls short of expectation based on current compensation.

In conducting these analyses, a single composite appraisal score was calculated for each employee based on the sum of their individual 9-factor ratings. For example, if an S&E received 8’s across all 9 factors, their composite score was 72 (8 x 9 = 72). Similarly, if the employee received the highest rating (9) on all factors, their composite score was set to 81 (9 x 9 = 81). Employees’ adjective ratings were converted to numeric values using the following mapping¹²:

5-Point Adjective Scale		Numeric Value
• Level 5, 2 Above Fully Successful	=	+2
• Level 4, 1 Above Fully Successful	=	+1
• Level 3, Fully Successful	=	0
• Level 2, 1 Below Fully Successful	=	-1
• Level 1, 2 Below Fully Successful	=	-2

Summary statistics, as well as correlation results, are presented in Table 13 for the overall LabDemo population excluding personnel who received presumptive CCS scores. Personnel receiving presumptive scores were not included in these analyses since their DeltaCCS values were artificially set to zero.

¹⁰ Leighton, et al (May 1998) U.S. Air Force Laboratory Personnel Demonstration Project (LabDemo): First-Year Focus Group Summary Report, (SRA TR-98-1804017-004), SRA International, San Antonio, TX.

¹¹ Advancement Potential Scale, AF Form 860.

¹² Since various definitions of the 5 adjective anchors exist, these descriptors are used only to describe distinctions among levels of performance.

Table 13: Overall DeltaCCS vs. Most Recent Title V Ratings Correlation Analysis

Statistic / Variable	Delta CCS	Last Adj. Rating	Last 9-Factor Rating
Mean	0.18	1.25	74.33
Std. Deviation	0.35	0.70	7.15
N	2,409	2,392	2,162
Delta CCS	1.00	0.39	0.47
Last Adj. Rating		1.00	0.65
Last 9-Factor Rating			1.00

The upper portion of Table 13 includes summary statistics for DeltaCCS, the numerically-transformed last adjective rating, and composite 9-factor rating. Note that the number of employees who received non-presumptive CCS scores (2,409) differs from the number who received adjective ratings (2,392) and 9-factor ratings (2,162). These differences exist because not all high-grade employees received traditional Title V performance ratings prior to conversion into LabDemo.

The lower portion of Table 13 contains overall Pearson’s Correlation Coefficients (r). As expected, moderate positive relationships were observed between DeltaCCS and the Title V ratings. The overall r value between employees’ last adjective ratings vs. DeltaCCS was 0.39 (p.<0.001), and 0.47 (p.<0.001) between last 9-factor scores and DeltaCCS. These results suggest that although the scales assess different constructs (contribution vs. performance), the two are related. Paypool-specific correlation results, as presented in Table 13, are included in Appendix III.

Another view of the relationship between last adjective rating and DeltaCCS is presented in Table 14. In this display, the frequency matrix of adjective rating and CCS zone relative to the SPL illustrates that personnel who received weaker adjective ratings tended to fall closer to the AAZ (Zone A). For example, note that most employees who received Level 3 adjective ratings or below, received CCS ratings above the SPL (zones A and B). Consistently, over 50 percent of employees who received Level 4 adjective ratings fell in zone C, and over 49 percent of those who were rated in Level 5 received zone D CCS scores.

Table 14: Last Adjective Rating and CCS Zone Matrix

Last Adjective Rating	Zone A		Zone B		On SPL		Zone C		Zone D		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Level 5, 2 Above Fully Successful	8	0.8%	79	8.2%	17	1.8%	381	39.7%	474	49.4%	959	100.0%
Level 4, 1 Above Fully Successful	33	3.1%	220	20.7%	36	3.4%	541	50.8%	235	22.1%	1,065	100.0%
Level 3, Fully Successful	53	14.9%	124	34.9%	11	3.1%	119	33.5%	48	13.5%	355	100.0%
Level 2, 1 Below Fully Successful	1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	100.0%
Level 1, 2 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
Overall	95	4.0%	423	17.8%	64	2.7%	1,041	43.7%	757	31.8%	2,380	100.0%

As with other analyses in this section, the data in Table 14 represent personnel who received non-presumptive CCS scores and Title V adjective performance ratings. A paypool-level last adjective rating by CCS zone frequency matrix is included in Appendix V.

3.0 Compensation

The second major phase in the CCS process is compensation. As with the assessment phase, the compensation-setting phase of CCS was analyzed using a variety of metrics and criteria. For convenience, definitions of key terms and variables are presented in Table 15.

Table 15: Glossary of Key CCS Compensation Terminology

<i>CCS Compensation Metrics & Terms</i>	<i>Definition</i>
Alpha	The proportion of an individual's under-compensation (DeltaY) that is made up by their salary increase.
Alpha*DeltaY (ADY)	Default algorithm in the CCS software for setting salary increases while complying with LabDemo payout rules and remaining within the paypool's budget.
Basic Pay	Annual base pay rate as of 30 September 1997.
Benchmark Person	Person with basic pay and DeltaCCS equal to the paypool averages. Used for analyzing effects of paypool "richness" and DeltaCCS distribution among paypools.
CCS Bonus	Bonus paid to employees in lieu of advancement to Band III due to high-grade restrictions.
DeltaY	The difference between an employee's basic pay and the SPL pay for his or her contribution level.
Discretionary Increase	Pay increase amounts set without relying on the CCS default payout algorithm – Alpha*DeltaY.
"G"	Annual percentage pay increase authorized by Congress for all government employees to reflect increases in the cost of labor. 2.3 percent in 1998.
"G" Pot	2.3 percent of the sum of basic pay in each paypool. Amount available to the paypool manager for salary increases.
"T"	Annual percentage increase in average pay due to advancements and step increases. Set to 2.4 percent for the first CCS cycle.
"T" Pot	2.4 percent of the sum of basic pay in each paypool plus "G" rollover. Amount available to the paypool manager for salary increases.
Pay Inversion	Exists between two people when the paypool manager gives the employee with a smaller DeltaY a larger dollar raise than the other.
Residual DeltaY	The amount of under-compensation remaining in a paypool after CCS pay increases. This indicates how much more money would have been required to increase employees' salary to the amount reflected by the SPL.
Total Raise	Includes "G" plus "T" plus the CCS bonus for those mandatory Band II to III movers who are denied advancement due to high-grade constraints.

The compensation phase of CCS produced a number of metrics which could be used to assess overall compensation results, as well as explore differences in payout strategies across paypools. As detailed in Section 1.0, each paypool manager had a first-cycle salary increase budget of 4.7 percent (“G”=2.3 percent plus “I”=2.4 percent). Pay adjustments were then left up to paypool managers’ discretion with the following conditions:

- Paypool managers could spend less than their budgets (4.7 percent), but not more
- The maximum allowable basic pay was that of a GS-15/step 10 (\$94,287)
- All S&Es above the Upper Rail (AAZ) could get an increase of no more than “G”
- All S&Es between the rails must get an increase of at least “G”
- All S&Es below the Lower Rail must get an increase of at least “G” + “I”

The following sections contain descriptive data on total pay raises by paypool, total raise as a percent of basic pay, average total pay raise percentages within the four CCS zones, DeltaY, residual DeltaY, and other compensation metrics.

3.1 Total Pay Raise

For analysis purposes, total pay raise was defined as an individual’s increase in compensation resulting from “I” plus “G” plus CCS Bonus, if applicable. Descriptive statistics were calculated on total pay raises by paypool¹³. Table 16 includes these data by paypool and overall.

Table 16: Descriptive Statistics on Total Pay Raises by Paypool and Overall

¹³ Descriptive statistics on base salary were included in Table 6 earlier in this document.

PAYPOOL	N	MEAN	STD	MAX	MIN
AL_CF	92	\$3,056	\$2,079	\$9,771	\$0
AL_Misc	69	\$2,933	\$1,593	\$5,580	\$0
AL_HR	74	\$2,852	\$1,928	\$8,101	\$0
PL_DSXPCA	34	\$3,027	\$1,336	\$5,695	\$1,355
PL_GP	143	\$3,307	\$2,303	\$12,084	\$1,152
PL_LI	71	\$3,076	\$2,171	\$11,274	\$1,074
PL_RK	108	\$2,856	\$1,692	\$8,258	\$0
PL_VTSX	82	\$2,831	\$2,219	\$11,133	\$0
PL_WS	82	\$2,841	\$2,025	\$9,549	\$0
RL_C3	121	\$2,875	\$1,509	\$8,674	\$1,065
RL_ER	74	\$2,911	\$971	\$4,797	\$990
RL_IR	82	\$2,950	\$1,722	\$7,879	\$1,027
RL_OC	93	\$2,829	\$1,684	\$6,744	\$0
RL_ERH	75	\$3,144	\$1,241	\$9,157	\$1,214
WL_AA	336	\$2,977	\$1,557	\$8,798	\$0
WL_CC	66	\$3,278	\$1,286	\$8,657	\$0
WL_FI	271	\$3,018	\$1,594	\$8,135	\$800
WL_ML	198	\$3,047	\$1,915	\$10,344	\$0
WL_MT	57	\$2,972	\$1,391	\$6,948	\$1,264
WL_PO	181	\$2,890	\$1,397	\$7,430	\$1,151
WL_MN	170	\$2,908	\$1,158	\$5,698	\$0
OVERALL	2,479	\$2,982	\$1,684	\$12,084	\$0

As shown in Table 16, the overall average pay raise was \$2,982. The maximum raise was \$12,084 (PL_GP) and the minimum was \$0. The paypool-specific detail indicates that four paypools awarded total raises of over \$10,000, and 11 out of 21 paypool managers withheld raises from at least one individual. Paypool RL_ER's range of total salary adjustments was the smallest -- \$3,807 (maximum raise \$4,797, minimum raise \$990). The total raise data for RL_ER are consistent with the restricted CCS ratings observed for this paypool in Figure 4 presented earlier.

3.2 Percent Raise

Descriptive statistics were also calculated on total pay raise as a percent of basic pay. Table 17 contains these data detailed by paypool.

Table 17: Percent Raise by Paypool

PAYPOOL	N	MEAN	STD	MAX	MIN
AL_CF	92	5.03%	4.05%	26.46%	0.00%
AL_Misc	69	4.83%	2.69%	9.95%	0.00%
AL_HR	74	4.58%	2.95%	12.79%	0.00%
PL_DSXPCA	34	4.86%	2.34%	10.46%	2.31%
PL_GP	143	4.98%	4.12%	22.54%	2.30%
PL_LI	71	4.70%	3.21%	16.03%	2.30%
PL_RK	108	4.93%	3.26%	17.80%	0.00%
PL_VTSX	82	4.87%	4.10%	21.18%	0.00%
PL_WS	82	4.55%	3.52%	20.85%	0.00%
RL_C3	121	4.84%	2.73%	14.70%	2.30%
RL_ER	74	4.74%	1.64%	9.60%	2.30%
RL_IR	82	4.77%	2.90%	12.87%	2.30%
RL_OC	93	4.63%	2.60%	11.46%	0.00%
RL_ERH	75	4.84%	2.44%	20.92%	2.30%
WL_AA	336	4.78%	2.60%	14.99%	0.00%
WL_CC	66	4.73%	1.78%	11.50%	0.00%
WL_FI	271	4.75%	2.45%	11.89%	2.30%
WL_ML	198	4.82%	3.24%	17.63%	0.00%
WL_MT	57	4.84%	2.53%	14.09%	2.30%
WL_PO	181	4.68%	2.12%	13.73%	2.30%
WL_MN	170	4.81%	2.00%	9.50%	0.00%
OVERALL	2,479	4.79%	2.86%	26.46%	0.00%

As can be seen in Table 17, the average pay increase across LabDemo was almost 4.8 percent. Although the pay increase pot by paypool was 4.7 percent (“G”=2.3 percent plus “T”=2.4 percent), the overall average is slightly greater due to lower paid, but high-contributing, personnel receiving large percent increases. The highest salary increase was 26.46 percent in paypool AL_CF. As shown in Tables 16 and 17, 11 out of 21 paypools did not assign pay increases to at least one S&E. Five of the paypools awarded pay increases of at least 20 percent and 10 paypools assigned “G”, 2.3 percent, as the minimum raise amount.

Paypool managers were free to assign pay increases at their discretion as long as they adhered to the CCS payout guidelines outlined earlier. To further evaluate differences in compensation-setting strategies across paypools, analyses were conducted exploring the average percent increase assigned by each paypool manager within the CCS zones relative to the SPL. Table 18 contains the number of S&Es and the average percent raise received by these employees for each paypool.

Table 18: Percent Raise by Zone Relative to the SPL

PAYPOOL	ZONE A (AAZ)		ZONE B		ON SPL		ZONE C		ZONE D	
	N	% Raise	N	% Raise	N	% Raise	N	% Raise	N	% Raise
AL_CF	9	0.00%	17	2.30%	7	2.30%	25	3.90%	34	9.13%
AL_HR	4	0.00%	8	2.30%	9	2.31%	22	3.37%	31	7.28%
AL_Misc	3	0.00%	11	2.30%	2	2.56%	25	3.68%	28	7.54%
PL_DSXPCA	0	0.00%	2	2.73%	7	2.75%	9	3.20%	16	6.99%
PL_GP	10	2.30%	35	2.30%	0	0.00%	69	3.86%	29	11.80%
PL_LI	1	2.30%	23	2.30%	5	2.30%	28	4.55%	14	9.96%
PL_RK	14	1.97%	12	2.30%	11	2.30%	28	3.56%	43	8.18%
PL_VTSX	9	0.12%	14	2.30%	11	1.88%	16	3.40%	32	9.10%
PL_WS	8	0.51%	17	2.89%	5	2.78%	37	3.94%	15	10.68%
RL_C3	6	2.30%	22	2.30%	3	2.32%	66	4.50%	24	9.07%
RL_ER	0	0.00%	8	2.30%	1	2.30%	54	4.60%	11	7.41%
RL_ERH	0	0.00%	4	2.30%	4	2.30%	50	4.32%	17	7.59%
RL_IR	4	2.30%	25	2.30%	4	2.33%	38	5.48%	11	9.72%
RL_OC	3	0.00%	17	2.30%	6	2.32%	54	4.75%	13	9.27%
WL_AA	12	0.00%	44	2.30%	6	2.30%	133	3.59%	141	7.18%
WL_CC	1	0.00%	20	3.68%	2	3.50%	31	4.56%	12	7.50%
WL_FI	0	0.00%	61	2.30%	11	2.41%	118	4.09%	81	7.87%
WL_ML	5	0.00%	34	2.30%	19	2.31%	66	3.49%	74	8.12%
WL_MN	5	0.00%	15	2.30%	13	3.38%	78	4.26%	59	6.90%
WL_MT	0	0.00%	13	2.30%	2	2.31%	20	3.93%	22	7.40%
WL_PO	1	2.30%	24	2.80%	7	2.99%	89	3.85%	60	6.89%
OVERALL	95	0.88%	426	2.42%	135	2.48%	1056	4.07%	767	7.98%

As shown in Table 18, the 767 employees in Zone D (below the lower rail) received average pay increases of almost 8 percent. The average pay increase for the 1,056 employees in Zone C (between the SPL and lower rail) was over 4 percent. The 135 employees (including 70 S&Es with presumptive ratings) whose CCS scores placed them along the SPL received average pay increases of almost 2.5 percent.

Employees in Zone B (between the SPL and upper rail) received average salary increases of 2.42 percent. Notice that most paypools assigned 2.3 percent (“G”) as the average increase for these individuals. CCS payout rules called for S&Es whose CCS scores placed them between the upper and lower rails (Zones B and C) to receive a salary increase of at least “G” (2.3 percent). Whereas most paypools did not give out additional “I” money to employees in Zone B, the four paypools with average increases above 2.3 percent did. Of those, WL_CC appears to have awarded the largest amount of additional “I” money to employees in Zone B (average salary raise of 3.68 percent).

Five paypools awarded full “G” to employees in the AAZ (PL_GP, PL_LI, RL_C3, RL_IR, and WL_PO). In addition, three other paypools paid out partial “G” to S&Es above the upper rail (PL_RK, PL_VTSX, and PL_WS). Note that of 16 paypools with at least one employee above the upper rail, eight (50 percent) awarded these employees at least partial “G.” These differences in payout strategies were discussed with selected paypool managers during focus groups conducted after the first CCS cycle. Among the reasons cited by paypool managers for

not withholding raises from employees in the AAZ were the shortened contribution assessment cycle, implementation challenges, and lack of lack of documentation of problems¹⁴.

3.3 DeltaY Analysis

DeltaY is defined as the vertical difference between an employee’s basic pay and the SPL pay for their assessed contribution level (see Figure 1). A positive DeltaY value represents the dollar amount of undercompensation based on contribution level. Conversely, a negative DeltaY reflects the degree of overcompensation in dollars. Table 19 contains descriptive statistics for DeltaY by paypool and overall.

Table 19: DeltaY Descriptive Statistics

PAYPOOL	N	MEAN	STD	MAX	MIN
AL_CF	92	\$2,618	\$7,818	\$22,591	-\$24,637
AL_Misc	69	\$3,790	\$6,209	\$13,695	-\$21,895
AL_HR	74	\$3,630	\$6,030	\$19,156	-\$10,256
PL_DSXPCA	34	\$4,706	\$4,580	\$13,898	-\$3,793
PL_GP	143	\$1,176	\$5,983	\$17,486	-\$24,637
PL_LI	71	\$1,907	\$4,739	\$16,511	-\$16,755
PL_RK	108	\$3,795	\$7,371	\$24,540	-\$16,821
PL_VTSX	82	\$3,360	\$8,101	\$29,954	-\$15,935
PL_WS	82	\$1,040	\$6,002	\$16,777	-\$28,432
RL_C3	121	\$1,789	\$4,135	\$13,384	-\$9,195
RL_ER	74	\$2,534	\$1,975	\$6,508	-\$3,164
RL_IR	82	\$508	\$4,922	\$10,520	-\$22,262
RL_OC	93	\$1,286	\$5,301	\$8,104	-\$36,057
RL_ERH	75	\$3,186	\$2,893	\$16,879	-\$4,813
WL_AA	336	\$3,798	\$6,117	\$21,429	-\$49,568
WL_CC	66	\$1,681	\$3,697	\$13,887	-\$5,301
WL_FI	271	\$2,970	\$4,614	\$15,609	-\$4,816
WL_ML	198	\$4,109	\$6,765	\$27,863	-\$16,771
WL_MT	57	\$3,235	\$4,088	\$14,380	-\$4,721
WL_PO	181	\$3,092	\$3,571	\$11,945	-\$5,817
WL MN	170	\$3,303	\$3,818	\$10,257	-\$12,412
OVERALL	2,479	\$2,872	\$5,549	\$29,954	-\$49,568

The statistics presented in Table 19 show that the average DeltaY for LabDemo employees is \$2,872. This difference between assessed contribution-based compensation level and actual base pay suggests that LabDemo employees, on average, are generally undercompensated by \$2,872. The most undercompensated employee was contributing at a level \$29,954 above his/her base salary. Conversely, the most overcompensated employee was contributing at a level expected of a typical employee earning \$49,568 less.

Differences across paypools noted while examining DeltaCCS distributions and paypool-specific scatter plots between base salary and observed CCS scores are again evident in the statistics presented in Table 19. Paypool RL_IR had the lowest mean DeltaY at \$508 and PL_DSXPCA

¹⁴ Leighton, et al (May 1998) U.S. Air Force Laboratory Personnel Demonstration Project (LabDemo): First-Year Focus Group Summary Report, (SRA TR-98-1804017-004), SRA International, San Antonio, TX.

had the highest mean DeltaY indicating that personnel in this paypool were on average undercompensated by \$4,706. WL_AA rated one individual as being overcompensated by \$49,568 and PL_VTSX rated one employee as being undercompensated by \$29,954.

Statistics on DeltaY values by paypool were separately calculated for personnel with CCS scores above and below the SPL. This analysis produced separate descriptive statistics for personnel rated as under and overcompensated. Employees receiving presumptive ratings, or those whose CCS scores placed them on the SPL were excluded. Table 20 contains DeltaY descriptive statistics on employees above the SPL.

Table 20: DeltaY Descriptive Statistics on S&Es Above the SPL

PAYPOOL	N	MEAN	STD	MAX	MIN
AL_CF	26	-\$6,177	\$6,992	-\$504	-\$24,637
AL_Misc	14	-\$4,625	\$5,970	-\$186	-\$21,895
AL_HR	12	-\$4,359	\$2,849	-\$421	-\$10,256
PL_DSXPCA	2	-\$3,269	\$741	-\$2,745	-\$3,793
PL_GP	45	-\$4,907	\$5,045	-\$121	-\$24,637
PL_LI	24	-\$2,309	\$3,381	-\$102	-\$16,755
PL_RK	26	-\$5,026	\$4,325	-\$441	-\$16,821
PL_VTSX	23	-\$5,409	\$4,551	-\$555	-\$15,935
PL_WS	25	-\$4,842	\$6,284	-\$172	-\$28,432
RL_C3	28	-\$3,920	\$2,575	-\$187	-\$9,195
RL_ER	8	-\$1,431	\$1,082	-\$305	-\$3,164
RL_IR	29	-\$4,069	\$4,787	-\$100	-\$22,262
RL_OC	20	-\$4,896	\$7,961	-\$580	-\$36,057
RL_ERH	4	-\$2,573	\$2,431	-\$171	-\$4,813
WL_AA	56	-\$4,299	\$7,890	-\$96	-\$49,568
WL_CC	21	-\$2,185	\$1,620	-\$187	-\$5,301
WL_FI	61	-\$3,175	\$1,383	-\$180	-\$4,816
WL_ML	39	-\$3,889	\$3,566	-\$103	-\$16,771
WL_MT	13	-\$2,112	\$1,872	-\$108	-\$4,721
WL_PO	25	-\$2,487	\$1,204	-\$377	-\$5,817
WL_MN	20	-\$4,014	\$3,061	-\$112	-\$12,412
OVERALL	521	-\$4,004	\$4,811	-\$96	-\$49,568

As shown in Table 20, the average degree of overcompensation for the 521 LabDemo employees whose CCS scores were above the SPL was \$4,004. The amount of overcompensation ranged from \$96 to \$49,568, both observations occurring in paypool WL_AA. The paypool with the highest average amount of overcompensation was AL_CF (\$6,177). The lowest average overcompensation was RL_ER (\$1,431).

Table 21 contains similar data for LabDemo employees with CCS scores below the SPL. Across all paypools, the average degree of undercompensation was \$5,050. The least undercompensated employee was contributing at a level of \$85 above their base salary (AL_HR). Conversely, the most under-compensated employee was contributing to the laboratory mission at a level of pay \$29,954 below their present base salary (PL_VTSX).

Table 21: DeltaY Descriptive Statistics on S&Es Below the SPL

PAYPOOL	N	MEAN	STD	MAX	MIN
AL_CF	59	\$6,806	\$4,635	\$22,591	\$149
AL_Misc	53	\$6,156	\$4,022	\$13,695	\$218
AL_HR	53	\$6,052	\$5,134	\$19,156	\$85
PL_DSXPCA	25	\$6,658	\$3,623	\$13,898	\$334
PL_GP	98	\$3,969	\$3,977	\$17,486	\$90
PL_LI	42	\$4,544	\$3,734	\$16,511	\$144
PL_RK	71	\$7,614	\$5,514	\$24,540	\$345
PL_VTSX	48	\$8,333	\$6,153	\$29,954	\$107
PL_WS	52	\$3,968	\$3,581	\$16,777	\$150
RL_C3	90	\$3,624	\$2,698	\$13,384	\$123
RL_ER	65	\$3,062	\$1,402	\$6,508	\$441
RL_IR	49	\$3,261	\$2,665	\$10,520	\$120
RL_OC	67	\$3,246	\$2,298	\$8,104	\$121
RL_ERH	67	\$3,721	\$2,490	\$16,879	\$295
WL_AA	274	\$5,536	\$4,072	\$21,429	\$87
WL_CC	43	\$3,649	\$2,886	\$13,887	\$223
WL_FI	199	\$5,017	\$3,482	\$15,609	\$93
WL_ML	140	\$6,896	\$5,770	\$27,863	\$89
WL_MT	42	\$5,044	\$2,979	\$14,380	\$231
WL_PO	149	\$4,173	\$2,897	\$11,945	\$92
WL_MN	137	\$4,685	\$2,441	\$10,257	\$130
OVERALL	1,823	\$5,050	\$4,048	\$29,954	\$85

3.4 Residual DeltaY Analysis

The objective of CCS is to better align basic pay with contribution by reducing the magnitude of their DeltaY values. Therefore, a measure of the success of the system is the amount of DeltaY remaining after basic pay has been adjusted, or residual DeltaY.

Residual DeltaY statistics from the 1997 CCS cycle are presented in Table 22 (only employees with positive DeltaY values (below the SPL) were included in these analyses). Across all paypools, the average DeltaY for the 1,823 employees falling below the SPL was \$5,050 (also shown in Table 21). The average residual DeltaY, or degree of undercompensation remaining after salary increases, was \$3,051. Another way to view the relationship between DeltaY and residual DeltaY is by assessing the employees' movement toward the SPL in percentage terms. Using this metric (Alpha), it is shown in Table 22 that almost 40 percent of employees' undercompensation was rectified by salary increases.

In part, a large residual DeltaY implies that the basic pay increase budget was insufficient to adequately compensate people for their contribution. To have eliminated all of the remaining positive DeltaY's during the 1997 CCS cycle would have required an "I" of 5.8 percent, nearly 2.5 times what was available. However, residual DeltaY is also partly a function of how paypool managers choose to spend their money. Note the range in average residual DeltaY amounts per person by paypool -- \$807 in RL_IR to \$5,750 in PL_VTSX. The CCS rules allow paypool managers to withhold "G" from individuals in the AAZ and then spend that amount on people who are below the SPL. During the 1997 CCS cycle paypool managers could have withheld

\$143,306 from the 95 people in the AAZ, but chose to withhold \$85,925. Also, paypool managers chose to give \$3,476 to people who were already above the SPL, but not in the AAZ¹⁵. Finally, paypool managers chose to give 129 people raises that totaled \$69,122 more than their DeltaY's, which moved them from below the SPL to above it. Of the 129 people, 115 had presumptive ratings – these accounted for \$58,872 of the \$69,122.

Table 22: Residual DeltaY Statistics for Employees Below the SPL

PAYPOOL	N	DeltaY per Person	Residual DeltaY per Person	% Under-Comp Made Up
AL_CF	59	\$6,806	\$4,132	39.3%
AL_HR	53	\$6,052	\$4,035	33.3%
AL_Misc	53	\$6,156	\$4,822	21.7%
PL_DSXPCA	25	\$6,658	\$4,722	29.1%
PL_GP	98	\$3,969	\$1,646	58.5%
PL_LI	42	\$4,544	\$1,942	57.3%
PL_RK	71	\$7,614	\$5,354	29.7%
PL_VTSX	48	\$8,333	\$5,750	31.0%
PL_WS	52	\$3,968	\$1,953	50.8%
RL_C3	90	\$3,624	\$1,793	50.5%
RL_ER	65	\$3,062	\$1,433	53.2%
RL_ERH	67	\$3,721	\$2,052	44.8%
RL_IR	49	\$3,261	\$807	75.3%
RL_OC	67	\$3,246	\$1,388	57.3%
WL_AA	274	\$5,536	\$3,676	33.6%
WL_CC	43	\$3,649	\$1,818	50.2%
WL_FI	199	\$5,017	\$2,987	40.5%
WL_ML	140	\$6,896	\$4,693	31.9%
WL_MN	137	\$4,685	\$2,938	37.3%
WL_MT	42	\$5,044	\$2,986	40.8%
WL_PO	149	\$4,173	\$2,484	40.5%
OVERALL	1,823	\$5,050	\$3,051	39.6%

During the 1997 CCS cycle it would have been possible to adjust salaries up to the SPL with an “I” budget of 5.7 percent, if “G” was withheld from everyone in the AAZ, no one above the SPL received any “I”, and no one received an “I” increase greater than their DeltaY. Under these same assumptions everyone could have been moved up to the Lower Rail with an “I” budget of only 1.9 percent. While there was not enough money in the “I” budget to raise salaries of all undercompensated employees to the SPL in 1997, there were sufficient funds to raise the salaries of those most undercompensated at least up to the Lower Rail if the money had been spent differently. The Alpha*DeltaY CCS software default algorithm was designed to allocate a portion of the “I” pot to S&Es below the SPL. It only ensured that those below the Lower Rail received at least “G + I”. There was no mechanism to bring these employees up to the Lower Rail, and as a result, 340 S&Es remained below the Lower Rail even after pay raises were awarded. Table 23 contains paypool-specific data on employees below the Lower Rail after payouts.

¹⁵ Refer to section 3.2 and Table 18 for paypool-specific information on average increases by CCS zone.

Table 23: Employees Below Lower Rail Before and After Salary Increases

Paypool	S&E's Below Lower Rail	Below Lower Rail After Increase	% Below Lower Rail After Increase
AL_CF	34	23	67.6%
AL_Misc	28	20	71.4%
AL_HR	31	12	38.7%
PL_DSXPCA	16	12	75.0%
PL_GP	29	4	13.8%
PL_LI	14	3	21.4%
PL_RK	43	34	79.1%
PL_VTSX	32	27	84.4%
PL_WS	15	1	6.7%
RL_C3	24	2	8.3%
RL_ER	11	0	0.0%
RL_IR	11	1	9.1%
RL_OC	13	0	0.0%
RL_ERH	17	1	5.9%
WL_AA	141	72	51.1%
WL_CC	12	4	33.3%
WL_FI	81	37	45.7%
WL_ML	74	53	71.6%
WL_MT	22	6	27.3%
WL_PO	60	11	18.3%
WL_MN	59	17	28.8%
OVERALL	767	340	44.3%

As shown in Table 23, over 44 percent of S&Es remained below the Lower Rail after 1997 salary increases. In paypool PL_VTSX, over 84 percent of the employees below the Lower Rail failed to receive increases that placed them at or above the Lower Rail. Conversely, all S&Es below the Lower Rail in paypools RL_ER and RL_OC received increases that moved their base salaries to or above the Lower Rail.¹⁶

3.5 Additional Compensation Analyses

Additional analyses were conducted on CCS compensation variables to explore LabDemo-wide and paypool-specific payout strategies, the link between salary increases and assessed contribution, the degree to which paypool managers relied on the Alpha*DeltaY default algorithm to set pay increases, the percent of potential salary increase money spent by paypool managers, and other payout metrics. Table 24 contains a matrix listing detailed compensation data by paypool.

Table 24: Additional Compensation Analyses by Paypool

¹⁶ Refer to Leighton, et al (April 1998) U.S. Air Force Laboratory Personnel Demonstration Project: 1998 Cost Analysis Report, (SRA TR-98-1804017-002A), SRA International, San Antonio, TX for a more complete discussion on first-cycle CCS costs.

PAYPOOL	DeltaCCS vs. Raise Corr Coef.	Count & Average CCS Bonus	Percent of Increase Pot Spent	% Raises Set with Alpha DeltaY	Discretionary Pay Inversions	"Benchmark" Person New Pay
AL_CF	0.905	2 / \$391	99.9%	100.0%	0	\$66,175
AL_HR	0.967	1 / \$3,645	97.3%	100.0%	0	\$66,504
AL_Misc	0.865	2 / \$3,675	100.0%	55.1%	16	\$66,441
PL_DSXPCA	0.926	1 / \$1,703	100.0%	5.9%	9	\$66,630
PL_GP	0.813	8 / \$1,685	99.9%	91.6%	2	\$65,918
PL_LI	0.883	1 / \$1,973	99.9%	98.6%	0	\$66,309
PL_RK	0.929	1 / \$429	100.0%	67.6%	7	\$66,437
PL_VTSX	0.950	3 / \$2,713	98.8%	98.8%	0	\$66,287
PL_WS	0.795	4 / \$872	93.8%	15.9%	38	\$65,923
RL_C3	0.875	5 / \$2,426	99.6%	95.0%	0	\$66,185
RL_ER	0.948	6 / \$669	100.0%	95.4%	0	\$66,588
RL_ERH	0.931	8 / \$1,074	100.0%	98.7%	1	\$66,713
RL_IR	0.743	3 / \$473	100.0%	36.6%	12	\$65,558
RL_OC	0.725	8 / \$1,656	99.8%	100.0%	0	\$65,986
WL_AA	0.864	19 / \$899	100.0%	100.0%	0	\$66,498
WL_CC	0.780	6 / \$1,237	100.0%	9.1%	39	\$66,322
WL_FI	0.941	7 / \$1,070	100.0%	98.9%	2	\$66,373
WL_ML	0.960	4 / \$1,364	100.0%	99.5%	1	\$66,516
WL_MN	0.933	11 / \$1,143	100.0%	96.5%	6	\$66,524
WL_MT	0.948	0 / \$0	100.0%	96.5%	2	\$66,482
WL_PO	0.787	7 / \$301	99.8%	12.7%	96	\$66,483
OVERALL	0.849	107 / \$1,239	99.6%	80.8%	231	\$66,326

The Table 24 column labeled “DeltaCCS vs. Raise Corr Coef.” contains Pearson’s Correlation Coefficients indicating the relationship between paypool-level DeltaCCS values and salary increases. These data quantify the degree to which paypool managers tied salary increases to assessed contribution. Note the range in correlation coefficients from 0.967 (AL_HR) to 0.725 (RL_OC), with the overall coefficient being 0.849 (n=2,479, p.<0.001). Due to supplemental and discretionary “T” amounts available to paypool managers, correlation coefficients of 1.0 would not be expected even if the Alpha DeltaY payout algorithm were used. Also, because salaries of overcompensated employees could not be reduced, this further limited the ability to directly link pay adjustments to DeltaCCS.

The second column, “Count & Average CCS Bonus”, lists the number of CCS bonuses paid in lieu of advancement from Band II to III due to high-grade restrictions, and the average amount of each bonus. CCS bonuses were calculated as the difference between the new base pay proposed by the employee’s manager and the Band II salary cap. It is important to note that these bonus amounts are not included in employees’ retirement pay calculation, nor are they included in calculation of the paypool’s FY98 CCS salary increase pot. As shown in Table 24, 107 employees received CCS bonuses, averaging \$1,239. The highest average bonus was awarded in paypool AL_Misc (\$3,675) and the lowest in WL_PO (\$307).

Another compensation metric assessed was the percent of available salary increase money spent by paypool managers. These data are shown under “Percent of Increase Pot Spent”. To calculate

this value, employees' "G", "T" and CCS bonuses were summed for each paypool and divided by the sum of their basic salaries multiplied by 4.7 percent ("G"=2.3 percent + "T"=2.4 percent). Under LabDemo rules, paypool managers could not exceed 4.7 percent in total payouts. However, it was left to their discretion whether to spend all available salary increase resources. As shown in Table 24, most paypool managers spent virtually all money available, with the exception of two: PL_WS (93.8 percent) and AL_HR (97.3 percent).

To facilitate the CCS assessment and compensation process, an interactive software package was available for use by all managers of LabDemo employees.¹⁷ As part of this software, paypool managers had the option to rely on its Alpha*DeltaY default algorithm for calculating employee pay increases. Using the default algorithm, paypool managers were ensured that salary increases were set in accordance with LabDemo payout rules and within paypool budgets. The extent to which paypool managers relied on the Alpha*DeltaY default payout algorithm to set salary increases is quantified in Table 24 and labeled "% Raises Set with Alpha DeltaY". To calculate this figure, employee raises were counted only if the individual received no discretionary increase and no "G" increase if they were in the AAZ. According to the data presented, four paypools used the default algorithm exclusively (AL_CF, AL_HR, RL_OC, and WL_AA). Five paypools used it for less than 37 percent of employees. Overall, the Alpha*DeltaY algorithm was used in almost 81 percent of salary adjustment decisions.

"Discretionary Pay Inversions" occurred between two people when a paypool manager gave the employee with a smaller DeltaY (dollars below the SPL) a larger dollar raise than the other employee. Pay inversions were only possible if the paypool manager did not rely exclusively on the Alpha*DeltaY default algorithm for setting pay increases. For analysis purposes, counts were included in Table 24 only if the inversion exceeded \$100.¹⁸ The data indicate that 231 inversions were observed across all paypools, with WL_PO accounting for over 40 percent of the LabDemo total. Note further that the three paypools with the most inversions (WL_PO, WL_CC and PL_WS) were among those who relied on the Alpha*DeltaY default algorithm the least (12.7 percent, 9.1 percent, and 15.9 percent, respectively).

The final compensation metric included in Table 24 is the "'Benchmark' Person New Pay" analysis. These values represent the new pay a hypothetical "average" person would have received in each paypool if the paypool manager had relied on the Alpha*DeltaY default algorithm. The "average" person is defined as one whose basic pay is \$63,683 (LabDemo mean basic pay) before the CCS cycle and whose DeltaCCS is equal to the mean DeltaCCS of the paypool. This metric attempts to quantify differences due to the "richness" and DeltaCCS distribution of each paypool. Results indicate that the average new pay across all paypools is \$66,326. The highest new salary would result in RL_ERH (\$66,713) and the lowest in RL_IR (\$65,558). The difference between the highest and lowest is \$1,155, or 1.76 percent of the

¹⁷ Contribution-based Compensation System Software (C2S2).

¹⁸ The pay inversion analysis criterion was set to \$100 because lesser amounts were viewed as insignificant.

average salary, suggesting that effects of paypool richness or DeltaCCS distributions across paypools had minimal effects on compensation adjustments.

4.0 Broadband Movement Analysis

The third major phase in CCS is broadband movement. Under CCS, an employee's advancement potential is based on a combination of CCS score and new salary. Depending on the specific conditions, an employee's movement to the next higher broadband is labeled as either eligible, recommended, or mandatory. S&Es whose advancement potential is labeled mandatory move automatically from broadband I to II and III to IV. However, because high-grade ceilings apply to broadband III and IV positions, unfilled high-grade authorizations must exist for movement into broadband III. Paypool managers decide whether or not to approve all eligible and recommended band movements, as well as mandatory advancement from band II to III if the authorization exists. Personnel in the mandatory zone who are denied movement from band II to III due to high-grade limitations have their basic pay capped at the maximum for band II. However, they are paid a one-time CCS bonus equal to the difference between their capped salary and what their annual basic pay would have been if they had moved into broadband III.

4.1 Overall Analysis

At the completion of the 1997 CCS cycle, 1,170 S&Es were classified as either eligible, recommended, or mandatory for advancement. Across all broadbands, 80 employees moved to the next higher level. Table 25 lists the band movement rates by advancement potential category, as well as LabDemo overall.

Table 25: 1997 CCS Cycle Advancement Statistics

Band Movement				
Approved	I to II	II to III	III to IV	Total
Eligible				
No	4	612	183	799
Yes	0	0	9	9
Total	4	612	192	808
Rate	0.0%	0.0%	4.7%	1.1%
Recommended				
No	1	160	23	184
Yes	3	18	28	49
Total	4	178	51	233
Rate	75.0%	10.1%	54.9%	21.0%
Mandatory				
No	0	107	0	107
Yes	0	17	5	22
Total	0	124	5	129
Rate	0.0%	13.7%	100.0%	17.1%
Overall				
No	5	879	206	1,090
Yes	3	35	42	80
Total	8	914	248	1170
Rate	37.5%	3.8%	16.9%	6.8%

As noted in Table 25, paypool managers selected people for advancement from broadband II to III from the recommended zone about as often as they did from the mandatory zone. Since it was

possible for S&Es in the recommended zone to have higher CCS scores than employees in the mandatory zone, some paypool managers appear to have based their advancement decisions on CCS scores rather than band movement eligibility zone.

The 80 S&Es across all paypools who moved to higher broadbands represent an advancement rate of 6.8 percent. Of those considered for movement from band I to II, 37.5 percent were approved. Less than 4 percent moved from band II to III, and almost 17 percent from III to IV. Over 1 percent of employees categorized as eligible moved to the next higher broadband. Of those recommended, 21 percent advanced, and of employees in the mandatory category, over 17 percent were approved for upward band movement (the greater proportion of personnel selected from the recommended category over the mandatory category is noteworthy). As expected, employees moving from band II to III had consistently lower advancement rates across the categories due to high-grade restrictions¹⁹.

4.2 Paypool Analysis

Overall advancement rate analysis results by paypool are presented in Table 26. This table again indicates that of the 1,170 total LabDemo employees considered for upward band movement, 1,090 were not approved for advancement while 80 successfully advanced. Similar comparisons by paypool revealed that the highest advancement rate occurred in PL_DSXPCA where five S&Es moved to the next higher band while 14 were denied movement, resulting in an advancement rate of 26.3 percent. In four paypools none of the employees considered for advancement were approved.

Table 26: Summary Advancement Analyses by Paypool

¹⁹ Three downward broadband movements took place during the first CCS cycle. Due to this small number of reductions, detailed analyses were not executed. However, reduction analyses will be performed in subsequent CCS cycles.

PAYPOOL	APPROVED		RATE
	NO	YES	
AL_CF	29	0	0.0%
AL_HR	15	0	0.0%
AL_Misc	22	2	8.3%
PL_DSXPCA	14	5	26.3%
PL_GP	46	0	0.0%
PL_LI	26	5	16.1%
PL_RK	25	5	16.7%
PL_VTSX	22	3	12.0%
PL_WS	31	4	11.4%
RL_C3	61	3	4.7%
RL_ER	41	1	2.4%
RL_ERH	48	0	0.0%
RL_IR	40	1	2.4%
RL_OC	41	2	4.7%
WL_AA	189	15	7.4%
WL_CC	37	3	7.5%
WL_FI	150	8	5.1%
WL_ML	86	10	10.4%
WL_MN	73	1	1.4%
WL_MT	28	1	3.4%
WL_PO	66	11	14.3%
OVERALL	1,090	80	6.8%

More detailed paypool-specific advancement data by band and advancement potential category are included in Appendix VI.

5.0 Summary

LabDemo gives laboratory managers more authority and flexibility in managing their civilian personnel. An intermediate goal of the demonstration project is a more capable and motivated workforce. The ultimate goal is improved scientific quality, performance, and customer satisfaction. The purpose of this report was to document and provide results of the first CCS contribution assessment and compensation adjustment cycle conducted during the period October – December 1997.

Descriptive statistics showed that across the 21 paypools, 2,479 S&Es received CCS ratings, with the largest concentration of employees in paypools WL_AA and WL_FI. Almost 90 percent of LabDemo employees were classified in broadbands II and III (GS12-14 equivalents). Slightly over 10 percent of employees were in broadband IV (GS15 equivalents) and less than one percent were classified in broadband I (GS7-9 equivalents).

First cycle CCS analyses were conducted separately on contribution assessments and compensation results. Differences in CCS assessment strategies were noted across paypools. In some cases, raters drew clear distinctions in levels of contribution among S&Es. These types of ratings were characterized by “shot gun” patterns in paypool-specific plots between base salary and assessed CCS ratings. Other paypools’ scatter plots fell in tight patterns around the SPL, reflecting raters’ efforts not to assign CCS scores that would deviate from the SPL by more or less than 0.30 points – staying within the Upper and Lower Rails. Overall, 95 S&Es (3.8 percent) received CCS ratings that placed them in the AAZ. Five paypools did not rate any employees in the AAZ. Across the LabDemo workforce, almost 74 percent of S&Es fell below the SPL, signifying some degree of undercompensation given their level of contribution to the lab’s mission.

Additional assessment analyses were conducted on the six CCS factor scores and total CCS scores. Correlation analyses produced similar results across the 21 paypools ($r \geq 0.85$, $p < 0.001$). These high correlation coefficients indicate that raters did not make clear distinctions in their ratings across individual factors, instead they appear to have relied on a single overall impression of S&Es’ contribution. Other correlation analyses were conducted on DeltaCCS values vs. Title V 5-point adjective ratings and advancement potential scale ratings. Moderate positive relationships were observed between DeltaCCS values and Title V ratings, suggesting that although the scales assess different constructs (contribution vs. performance), the two were related. Analyses on the 5-point adjective ratings further revealed that personnel who received weaker adjective ratings tended to fall closer to the AAZ. For example, 53 out of the 95 employees in the AAZ received 5-point adjective ratings of “Fully Successful”, 2 levels below the highest rating.

Compensation analysis indicated that employees received an average raise of 4.79 percent. Five paypools awarded top pay increases of 20 percent or more, and 11 paypools did not grant pay increases to at least one employee. As with CCS assessments, paypool managers employed different strategies when making compensation decisions. Five paypool managers granted pay

increases of “G” (2.3 percent) to employees in the AAZ, and four paypool managers included some “I” money in raises of employees above the SPL, but below the upper rail. DeltaY analyses highlighted the range between the most undercompensated (\$29,954) and overcompensated (\$49,568) LabDemo employees. Separately evaluating employees who fell above and below the SPL, it was observed that the average degree of overcompensation across the LabDemo workforce was \$4,004. On the other hand, the average amount of overall undercompensation was \$5,050.

Exploring the degree of undercompensation remaining after salary increases (residual DeltaY) highlighted the effects of differing payout strategies across paypools. The average residual DeltaY across paypools was \$3,051. In other words, the amount of overall undercompensation rectified with salary increases was 39.6 percent. This figure ranged from 21.7 percent to 75.3 percent. Further analyses on the number of employees that remained below the Lower Rail after salary adjustments again revealed sizeable variance across paypools. Final compensation analyses were conducted to explore LabDemo-wide and paypool-specific payout strategies, the link between salary increases and assessed contribution, the degree to which paypool managers relied on the Alpha*DeltaY default algorithm to set pay increases, the percent of potential salary increase money spent by paypool managers, and other payout metrics.

Analysis on first cycle advancements data again reflected paypool-specific differences. Under CCS, an employee’s advancement potential was based on a combination of CCS score and new salary. Data were presented indicating that paypool managers selected people for advancement from broadband II to III from the recommended zone about as often as they did from the mandatory zone. Since it was possible for S&Es in the recommended zone to have higher CCS scores than employees in the mandatory zone, some paypool managers appear to have based their advancement decisions on CCS scores rather than band movement eligibility zone. Overall advancement statistics reflected that three employees moved from band I to band II, 35 from II to III and 42 from III to IV. Due to high-grade restrictions, only 3.8 percent of employees considered for movement to broadband III were successful, compared to 37.5 percent of S&Es moving to band II and 16.9 percent moving to band IV.

APPENDIX I
Descriptive Statistics on 6 CCS Factors by Paypool

Descriptive Statistics on 6 CCS Factors by Paypool

PAYPOOL	FACTOR	FACTOR DESCRIPTION	N	MEAN	STD	MAX	MIN
AL_CF	Factor 1	Technical Problem Solving	89	3.39	0.83	4.90	1.40
	Factor 2	Communications and Reporting	89	3.40	0.86	5.90	1.80
	Factor 3	Corporate Resource Management	89	3.29	0.95	5.90	1.40
	Factor 4	Technology Transition and Transfer	89	3.36	0.92	5.90	1.80
	Factor 5	R&D Business Development	89	3.28	0.99	5.90	1.00
	Factor 6	Cooperation and Supervision	89	3.30	0.88	5.90	1.20
AL_Misc	Factor 1	Technical Problem Solving	67	3.38	0.87	5.90	1.80
	Factor 2	Communications and Reporting	67	3.30	0.96	5.90	1.50
	Factor 3	Corporate Resource Management	67	3.10	0.86	4.90	1.50
	Factor 4	Technology Transition and Transfer	67	3.14	0.87	4.90	1.50
	Factor 5	R&D Business Development	67	3.18	0.96	5.90	1.20
	Factor 6	Cooperation and Supervision	67	3.23	0.85	5.90	1.80
AL_HR	Factor 1	Technical Problem Solving	71	3.41	0.97	5.90	2.00
	Factor 2	Communications and Reporting	71	3.36	1.02	5.90	2.10
	Factor 3	Corporate Resource Management	71	3.30	1.04	5.90	1.60
	Factor 4	Technology Transition and Transfer	71	3.25	1.05	5.90	1.40
	Factor 5	R&D Business Development	71	3.24	1.07	5.90	1.30
	Factor 6	Cooperation and Supervision	71	3.31	1.08	5.90	1.50
PL_DSXPCA	Factor 1	Technical Problem Solving	29	3.63	0.72	4.90	2.30
	Factor 2	Communications and Reporting	29	3.53	0.83	4.90	2.00
	Factor 3	Corporate Resource Management	29	3.47	0.76	4.90	2.00
	Factor 4	Technology Transition and Transfer	29	3.24	0.92	4.90	1.30
	Factor 5	R&D Business Development	29	3.29	0.91	4.90	1.20
	Factor 6	Cooperation and Supervision	29	3.51	0.83	4.90	1.80
PL_GP	Factor 1	Technical Problem Solving	143	3.76	0.91	5.90	1.60
	Factor 2	Communications and Reporting	143	3.62	0.90	5.90	1.60
	Factor 3	Corporate Resource Management	143	3.54	0.88	5.90	1.60
	Factor 4	Technology Transition and Transfer	143	3.46	0.88	4.90	1.60
	Factor 5	R&D Business Development	143	3.48	0.93	5.90	1.30
	Factor 6	Cooperation and Supervision	143	3.58	0.88	5.90	1.60
PL_LI	Factor 1	Technical Problem Solving	67	3.60	0.80	5.90	2.20
	Factor 2	Communications and Reporting	67	3.37	0.76	4.90	2.10
	Factor 3	Corporate Resource Management	67	3.31	0.78	4.90	2.00
	Factor 4	Technology Transition and Transfer	67	3.27	0.91	4.90	2.00
	Factor 5	R&D Business Development	67	3.14	0.90	4.90	1.50
	Factor 6	Cooperation and Supervision	67	3.32	0.78	4.90	1.90
PL_RK	Factor 1	Technical Problem Solving	97	3.48	0.76	4.90	1.70
	Factor 2	Communications and Reporting	97	3.23	0.82	4.90	1.80
	Factor 3	Corporate Resource Management	97	3.16	0.77	4.90	1.70
	Factor 4	Technology Transition and Transfer	97	3.10	0.81	4.90	1.50
	Factor 5	R&D Business Development	97	3.13	0.83	4.90	1.50
	Factor 6	Cooperation and Supervision	97	3.17	0.74	4.90	1.70
PL_VTSX	Factor 1	Technical Problem Solving	73	3.33	0.77	4.90	2.00
	Factor 2	Communications and Reporting	73	3.29	0.81	5.90	2.00
	Factor 3	Corporate Resource Management	73	3.17	0.81	5.90	1.90
	Factor 4	Technology Transition and Transfer	73	3.16	0.85	5.90	1.70
	Factor 5	R&D Business Development	73	3.18	0.89	5.90	1.50
	Factor 6	Cooperation and Supervision	73	3.19	0.79	5.90	1.90
PL_WS	Factor 1	Technical Problem Solving	79	3.36	0.99	5.90	1.00
	Factor 2	Communications and Reporting	79	3.24	0.99	5.90	0.00
	Factor 3	Corporate Resource Management	79	3.14	0.90	5.90	0.00
	Factor 4	Technology Transition and Transfer	79	3.08	0.90	4.90	1.00
	Factor 5	R&D Business Development	79	3.07	1.00	5.90	0.00
	Factor 6	Cooperation and Supervision	79	3.21	0.97	5.90	0.00
RL_C3	Factor 1	Technical Problem Solving	121	3.17	0.72	5.90	1.90
	Factor 2	Communications and Reporting	121	3.06	0.68	4.90	1.90
	Factor 3	Corporate Resource Management	121	3.00	0.68	4.90	1.80
	Factor 4	Technology Transition and Transfer	121	3.03	0.72	5.90	2.00
	Factor 5	R&D Business Development	121	3.01	0.79	5.90	1.80
	Factor 6	Cooperation and Supervision	121	3.01	0.67	4.90	2.00
RL_ER	Factor 1	Technical Problem Solving	74	3.25	0.62	4.90	1.90
	Factor 2	Communications and Reporting	74	3.18	0.71	5.90	1.70
	Factor 3	Corporate Resource Management	74	3.07	0.71	4.90	1.70
	Factor 4	Technology Transition and Transfer	74	3.00	0.71	4.70	1.50
	Factor 5	R&D Business Development	74	3.06	0.79	5.90	1.50
	Factor 6	Cooperation and Supervision	74	3.12	0.71	4.90	1.50

Descriptive Statistics on 6 CCS Factors by Paypool (Cont.)

PAYPOOL	FACTOR	FACTOR DESCRIPTION	N	MEAN	STD	MAX	MIN
RL_IR	Factor 1	Technical Problem Solving	80	3.13	0.76	5.90	0.00
	Factor 2	Communications and Reporting	80	3.09	0.63	4.90	1.00
	Factor 3	Corporate Resource Management	80	3.07	0.66	4.90	1.00
	Factor 4	Technology Transition and Transfer	80	3.09	0.72	5.90	1.00
	Factor 5	R&D Business Development	80	3.06	0.73	4.90	1.00
	Factor 6	Cooperation and Supervision	80	3.05	0.62	4.90	1.30
RL_OC	Factor 1	Technical Problem Solving	93	3.09	0.79	4.90	1.00
	Factor 2	Communications and Reporting	93	2.98	0.77	4.90	1.00
	Factor 3	Corporate Resource Management	93	2.92	0.73	4.90	1.00
	Factor 4	Technology Transition and Transfer	93	2.88	0.75	4.90	1.00
	Factor 5	R&D Business Development	93	2.86	0.77	4.90	1.00
	Factor 6	Cooperation and Supervision	93	2.87	0.76	4.90	1.00
RL_ERH	Factor 1	Technical Problem Solving	74	3.69	0.78	5.90	2.20
	Factor 2	Communications and Reporting	74	3.51	0.72	4.90	2.20
	Factor 3	Corporate Resource Management	74	3.42	0.78	4.90	1.40
	Factor 4	Technology Transition and Transfer	74	3.30	0.78	4.90	1.40
	Factor 5	R&D Business Development	74	3.30	0.81	5.90	1.50
	Factor 6	Cooperation and Supervision	74	3.55	0.70	4.90	1.70
WL_AA	Factor 1	Technical Problem Solving	332	3.41	0.79	5.90	0.00
	Factor 2	Communications and Reporting	332	3.30	0.72	5.90	0.00
	Factor 3	Corporate Resource Management	332	3.28	0.71	5.90	1.10
	Factor 4	Technology Transition and Transfer	332	3.25	0.75	5.90	0.00
	Factor 5	R&D Business Development	332	3.22	0.77	5.90	0.00
	Factor 6	Cooperation and Supervision	332	3.29	0.73	4.90	0.00
WL_CC	Factor 1	Technical Problem Solving	66	3.65	0.72	4.90	2.30
	Factor 2	Communications and Reporting	66	3.57	0.89	5.90	1.50
	Factor 3	Corporate Resource Management	66	3.56	0.75	5.90	2.30
	Factor 4	Technology Transition and Transfer	66	3.57	0.73	4.90	2.10
	Factor 5	R&D Business Development	66	3.55	0.78	5.90	2.30
	Factor 6	Cooperation and Supervision	66	3.44	0.70	4.90	2.30
WL_FI	Factor 1	Technical Problem Solving	266	3.47	0.71	5.90	1.90
	Factor 2	Communications and Reporting	266	3.31	0.71	4.90	1.90
	Factor 3	Corporate Resource Management	266	3.28	0.73	5.90	2.10
	Factor 4	Technology Transition and Transfer	266	3.24	0.73	4.90	2.00
	Factor 5	R&D Business Development	266	3.22	0.75	4.90	1.90
	Factor 6	Cooperation and Supervision	266	3.24	0.74	4.90	1.70
WL_ML	Factor 1	Technical Problem Solving	190	3.62	0.87	5.90	1.30
	Factor 2	Communications and Reporting	190	3.46	0.86	5.90	1.20
	Factor 3	Corporate Resource Management	190	3.41	0.82	5.90	1.40
	Factor 4	Technology Transition and Transfer	190	3.38	0.84	5.90	1.00
	Factor 5	R&D Business Development	190	3.31	0.84	5.90	1.00
	Factor 6	Cooperation and Supervision	190	3.39	0.83	5.90	1.30
WL_MT	Factor 1	Technical Problem Solving	56	3.33	0.68	4.90	2.00
	Factor 2	Communications and Reporting	56	3.27	0.69	4.90	2.00
	Factor 3	Corporate Resource Management	56	3.20	0.66	4.90	2.40
	Factor 4	Technology Transition and Transfer	56	3.26	0.65	4.90	2.10
	Factor 5	R&D Business Development	56	3.20	0.70	4.90	2.10
	Factor 6	Cooperation and Supervision	56	3.21	0.62	4.90	2.20
WL_PO	Factor 1	Technical Problem Solving	178	3.35	0.70	5.90	1.90
	Factor 2	Communications and Reporting	178	3.17	0.72	4.90	1.70
	Factor 3	Corporate Resource Management	178	3.10	0.72	4.90	1.70
	Factor 4	Technology Transition and Transfer	178	3.09	0.70	4.90	1.70
	Factor 5	R&D Business Development	178	3.02	0.74	5.90	1.40
	Factor 6	Cooperation and Supervision	178	3.14	0.71	4.90	1.80
WL_MN	Factor 1	Technical Problem Solving	164	3.33	0.66	4.90	2.20
	Factor 2	Communications and Reporting	164	3.22	0.63	4.90	2.00
	Factor 3	Corporate Resource Management	164	3.20	0.66	4.90	1.80
	Factor 4	Technology Transition and Transfer	164	3.11	0.71	4.90	1.80
	Factor 5	R&D Business Development	164	3.06	0.68	4.90	1.80
	Factor 6	Cooperation and Supervision	164	3.12	0.70	4.90	1.80

APPENDIX II
6 CCS Factors Intercorrelation Matrix by Paypool

6 CCS Factors Intercorrelation Matrix by Paypool

PAYPOOL	FACTOR	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5	FACTOR 6
AL_CF	FACTOR 1	1.00	0.85	0.86	0.85	0.82	0.83
	FACTOR 2	0.85	1.00	0.76	0.81	0.81	0.78
	FACTOR 3	0.86	0.76	1.00	0.85	0.86	0.86
	FACTOR 4	0.85	0.81	0.85	1.00	0.86	0.80
	FACTOR 5	0.82	0.81	0.86	0.86	1.00	0.82
	FACTOR 6	0.83	0.78	0.86	0.80	0.82	1.00
AL_HR	FACTOR 1	1.00	0.90	0.91	0.92	0.91	0.90
	FACTOR 2	0.90	1.00	0.92	0.90	0.90	0.91
	FACTOR 3	0.91	0.92	1.00	0.92	0.91	0.93
	FACTOR 4	0.92	0.90	0.92	1.00	0.97	0.90
	FACTOR 5	0.91	0.90	0.91	0.97	1.00	0.90
	FACTOR 6	0.90	0.91	0.93	0.90	0.90	1.00
AL_Misc	FACTOR 1	1.00	0.93	0.84	0.86	0.86	0.88
	FACTOR 2	0.93	1.00	0.85	0.87	0.89	0.91
	FACTOR 3	0.84	0.85	1.00	0.93	0.92	0.91
	FACTOR 4	0.86	0.87	0.93	1.00	0.94	0.91
	FACTOR 5	0.86	0.89	0.92	0.94	1.00	0.92
	FACTOR 6	0.88	0.91	0.91	0.91	0.92	1.00
PL_DSXPCA	FACTOR 1	1.00	0.91	0.91	0.86	0.82	0.95
	FACTOR 2	0.91	1.00	0.91	0.89	0.90	0.92
	FACTOR 3	0.91	0.91	1.00	0.83	0.86	0.87
	FACTOR 4	0.86	0.89	0.83	1.00	0.91	0.82
	FACTOR 5	0.82	0.90	0.86	0.91	1.00	0.82
	FACTOR 6	0.95	0.92	0.87	0.82	0.82	1.00
PL_GP	FACTOR 1	1.00	0.88	0.85	0.83	0.87	0.87
	FACTOR 2	0.88	1.00	0.84	0.84	0.87	0.86
	FACTOR 3	0.85	0.84	1.00	0.90	0.91	0.91
	FACTOR 4	0.83	0.84	0.90	1.00	0.91	0.90
	FACTOR 5	0.87	0.87	0.91	0.91	1.00	0.92
	FACTOR 6	0.87	0.86	0.91	0.90	0.92	1.00
PL_LI	FACTOR 1	1.00	0.93	0.86	0.81	0.79	0.82
	FACTOR 2	0.93	1.00	0.86	0.81	0.82	0.80
	FACTOR 3	0.86	0.86	1.00	0.88	0.89	0.87
	FACTOR 4	0.81	0.81	0.88	1.00	0.94	0.83
	FACTOR 5	0.79	0.82	0.89	0.94	1.00	0.78
	FACTOR 6	0.82	0.80	0.87	0.83	0.78	1.00
PL_RK	FACTOR 1	1.00	0.86	0.83	0.89	0.84	0.86
	FACTOR 2	0.86	1.00	0.87	0.88	0.89	0.87
	FACTOR 3	0.83	0.87	1.00	0.86	0.89	0.88
	FACTOR 4	0.89	0.88	0.86	1.00	0.93	0.89
	FACTOR 5	0.84	0.89	0.89	0.93	1.00	0.86
	FACTOR 6	0.86	0.87	0.88	0.89	0.86	1.00
PL_VTSX	FACTOR 1	1.00	0.91	0.84	0.86	0.86	0.87
	FACTOR 2	0.91	1.00	0.87	0.87	0.87	0.91
	FACTOR 3	0.84	0.87	1.00	0.91	0.93	0.93
	FACTOR 4	0.86	0.87	0.91	1.00	0.94	0.90
	FACTOR 5	0.86	0.87	0.93	0.94	1.00	0.90
	FACTOR 6	0.87	0.91	0.93	0.90	0.90	1.00
PL_WS	FACTOR 1	1.00	0.93	0.85	0.89	0.90	0.87
	FACTOR 2	0.93	1.00	0.92	0.91	0.93	0.93
	FACTOR 3	0.85	0.92	1.00	0.91	0.94	0.94
	FACTOR 4	0.89	0.91	0.91	1.00	0.94	0.90
	FACTOR 5	0.90	0.93	0.94	0.94	1.00	0.91
	FACTOR 6	0.87	0.93	0.94	0.90	0.91	1.00
RL_C3	FACTOR 1	1.00	0.90	0.89	0.87	0.87	0.83
	FACTOR 2	0.90	1.00	0.91	0.88	0.90	0.89
	FACTOR 3	0.89	0.91	1.00	0.90	0.93	0.91
	FACTOR 4	0.87	0.88	0.90	1.00	0.88	0.88
	FACTOR 5	0.87	0.90	0.93	0.88	1.00	0.87
	FACTOR 6	0.83	0.89	0.91	0.88	0.87	1.00

6 CCS Factors Intercorrelation Matrix by Paypool (Cont.)

PAYPOOL	FACTOR	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5	FACTOR 6
RL_ER	FACTOR 1	1.00	0.88	0.83	0.74	0.78	0.87
	FACTOR 2	0.88	1.00	0.88	0.74	0.83	0.92
	FACTOR 3	0.83	0.88	1.00	0.79	0.86	0.92
	FACTOR 4	0.74	0.74	0.79	1.00	0.87	0.80
	FACTOR 5	0.78	0.83	0.86	0.87	1.00	0.88
	FACTOR 6	0.87	0.92	0.92	0.80	0.88	1.00
RL_ERH	FACTOR 1	1.00	0.92	0.79	0.76	0.77	0.81
	FACTOR 2	0.92	1.00	0.86	0.77	0.79	0.88
	FACTOR 3	0.79	0.86	1.00	0.88	0.88	0.92
	FACTOR 4	0.76	0.77	0.88	1.00	0.91	0.83
	FACTOR 5	0.77	0.79	0.88	0.91	1.00	0.84
	FACTOR 6	0.81	0.88	0.92	0.83	0.84	1.00
RL_IR	FACTOR 1	1.00	0.87	0.83	0.83	0.83	0.87
	FACTOR 2	0.87	1.00	0.88	0.85	0.85	0.89
	FACTOR 3	0.83	0.88	1.00	0.87	0.91	0.93
	FACTOR 4	0.83	0.85	0.87	1.00	0.90	0.87
	FACTOR 5	0.83	0.85	0.91	0.90	1.00	0.89
	FACTOR 6	0.87	0.89	0.93	0.87	0.89	1.00
RL_OC	FACTOR 1	1.00	0.95	0.85	0.87	0.87	0.87
	FACTOR 2	0.95	1.00	0.89	0.91	0.92	0.91
	FACTOR 3	0.85	0.89	1.00	0.96	0.95	0.92
	FACTOR 4	0.87	0.91	0.96	1.00	0.97	0.91
	FACTOR 5	0.87	0.92	0.95	0.97	1.00	0.93
	FACTOR 6	0.87	0.91	0.92	0.91	0.93	1.00
WL_AA	FACTOR 1	1.00	0.91	0.86	0.88	0.87	0.89
	FACTOR 2	0.91	1.00	0.91	0.89	0.90	0.91
	FACTOR 3	0.86	0.91	1.00	0.87	0.92	0.91
	FACTOR 4	0.88	0.89	0.87	1.00	0.93	0.88
	FACTOR 5	0.87	0.90	0.92	0.93	1.00	0.90
	FACTOR 6	0.89	0.91	0.91	0.88	0.90	1.00
WL_CC	FACTOR 1	1.00	0.88	0.89	0.87	0.90	0.86
	FACTOR 2	0.88	1.00	0.86	0.89	0.86	0.85
	FACTOR 3	0.89	0.86	1.00	0.84	0.90	0.89
	FACTOR 4	0.87	0.89	0.84	1.00	0.86	0.82
	FACTOR 5	0.90	0.86	0.90	0.86	1.00	0.89
	FACTOR 6	0.86	0.85	0.89	0.82	0.89	1.00
WL_FI	FACTOR 1	1.00	0.90	0.85	0.85	0.83	0.86
	FACTOR 2	0.90	1.00	0.89	0.86	0.86	0.88
	FACTOR 3	0.85	0.89	1.00	0.88	0.92	0.92
	FACTOR 4	0.85	0.86	0.88	1.00	0.93	0.89
	FACTOR 5	0.83	0.86	0.92	0.93	1.00	0.92
	FACTOR 6	0.86	0.88	0.92	0.89	0.92	1.00
WL_ML	FACTOR 1	1.00	0.92	0.85	0.83	0.85	0.83
	FACTOR 2	0.92	1.00	0.87	0.84	0.87	0.88
	FACTOR 3	0.85	0.87	1.00	0.89	0.92	0.90
	FACTOR 4	0.83	0.84	0.89	1.00	0.92	0.87
	FACTOR 5	0.85	0.87	0.92	0.92	1.00	0.90
	FACTOR 6	0.83	0.88	0.90	0.87	0.90	1.00
WL_MN	FACTOR 1	1.00	0.84	0.76	0.76	0.72	0.75
	FACTOR 2	0.84	1.00	0.83	0.81	0.80	0.83
	FACTOR 3	0.76	0.83	1.00	0.86	0.87	0.90
	FACTOR 4	0.76	0.81	0.86	1.00	0.87	0.81
	FACTOR 5	0.72	0.80	0.87	0.87	1.00	0.82
	FACTOR 6	0.75	0.83	0.90	0.81	0.82	1.00
WL_MT	FACTOR 1	1.00	0.91	0.92	0.90	0.93	0.89
	FACTOR 2	0.91	1.00	0.89	0.92	0.90	0.88
	FACTOR 3	0.92	0.89	1.00	0.91	0.94	0.92
	FACTOR 4	0.90	0.92	0.91	1.00	0.92	0.87
	FACTOR 5	0.93	0.90	0.94	0.92	1.00	0.89
	FACTOR 6	0.89	0.88	0.92	0.87	0.89	1.00
WL_PO	FACTOR 1	1.00	0.93	0.89	0.85	0.88	0.91
	FACTOR 2	0.93	1.00	0.92	0.86	0.91	0.93
	FACTOR 3	0.89	0.92	1.00	0.90	0.93	0.92
	FACTOR 4	0.85	0.86	0.90	1.00	0.92	0.87
	FACTOR 5	0.88	0.91	0.93	0.92	1.00	0.91
	FACTOR 6	0.91	0.93	0.92	0.87	0.91	1.00

APPENDIX III
Correlations of Title V Assessments vs. DeltaCCS by Paypool

Correlations of Title V Assessments vs. DeltaCCS by Paypool

PAYPOOL	Statistic / Variable	Delta CCS	Last Adj. Rating	Last 9-Factor Rating
AL_CF	Mean	0.17	1.24	70.72
	Std. Deviation	0.49	0.75	9.94
	N	89	89	72
	Delta CCS	1.00	0.34	0.40
	Last Adj. Rating	0.34	1.00	0.68
	Last 9-Factor Rating	0.40	0.68	1.00
AL_Misc	Mean	0.24	1.42	75.21
	Std. Deviation	0.39	0.71	7.15
	N	67	64	57
	Delta CCS	1.00	0.56	0.60
	Last Adj. Rating	0.56	1.00	0.71
	Last 9-Factor Rating	0.60	0.71	1.00
AL_HR	Mean	0.24	1.39	73.57
	Std. Deviation	0.38	0.67	8.71
	N	71	71	60
	Delta CCS	1.00	0.33	0.12
	Last Adj. Rating	0.33	1.00	0.61
	Last 9-Factor Rating	0.12	0.61	1.00
PL_DSXPCA	Mean	0.34	1.48	76.69
	Std. Deviation	0.28	0.69	7.93
	N	29	29	26
	Delta CCS	1.00	0.17	0.17
	Last Adj. Rating	0.17	1.00	0.67
	Last 9-Factor Rating	0.17	0.67	1.00
PL_GP	Mean	0.07	1.34	73.61
	Std. Deviation	0.37	0.71	6.93
	N	143	143	108
	Delta CCS	1.00	0.47	0.52
	Last Adj. Rating	0.47	1.00	0.69
	Last 9-Factor Rating	0.52	0.69	1.00
PL_LI	Mean	0.13	1.39	74.32
	Std. Deviation	0.30	0.72	8.05
	N	67	67	57
	Delta CCS	1.00	0.43	0.48
	Last Adj. Rating	0.43	1.00	0.66
	Last 9-Factor Rating	0.48	0.66	1.00
PL_RK	Mean	0.26	1.23	74.73
	Std. Deviation	0.48	0.74	5.84
	N	97	97	90
	Delta CCS	1.00	0.32	0.49
	Last Adj. Rating	0.32	1.00	0.59
	Last 9-Factor Rating	0.49	0.59	1.00
PL_VTSX	Mean	0.24	1.25	72.37
	Std. Deviation	0.53	0.74	10.75
	N	73	73	67
	Delta CCS	1.00	0.18	0.25
	Last Adj. Rating	0.18	1.00	0.72
	Last 9-Factor Rating	0.25	0.72	1.00
PL_WS	Mean	0.07	1.32	77.03
	Std. Deviation	0.38	0.67	5.29
	N	79	79	70
	Delta CCS	1.00	0.52	0.66
	Last Adj. Rating	0.52	1.00	0.54
	Last 9-Factor Rating	0.66	0.54	1.00
RL_C3	Mean	0.11	1.14	75.34
	Std. Deviation	0.26	0.64	5.63
	N	121	121	114
	Delta CCS	1.00	0.31	0.27
	Last Adj. Rating	0.31	1.00	0.73
	Last 9-Factor Rating	0.27	0.73	1.00
RL_ER	Mean	0.16	1.20	74.48
	Std. Deviation	0.12	0.62	7.30
	N	74	74	69
	Delta CCS	1.00	0.39	0.46
	Last Adj. Rating	0.39	1.00	0.72
	Last 9-Factor Rating	0.46	0.72	1.00

Correlations of Title V Assessments vs. DeltaCCS by Paypool (Cont.)

PAYPOOL	Statistic / Variable	Delta CCS	Last Adj. Rating	Last 9-Factor Rating
RL_IR	Mean	0.03	1.24	74.37
	Std. Deviation	0.31	0.60	8.02
	N	80	80	76
	Delta CCS	1.00	0.42	0.38
	Last Adj. Rating	0.42	1.00	0.68
	Last 9-Factor Rating	0.38	0.68	1.00
RL_OC	Mean	0.08	1.12	71.74
	Std. Deviation	0.33	0.55	7.61
	N	93	93	89
	Delta CCS	1.00	0.33	0.27
	Last Adj. Rating	0.33	1.00	0.75
	Last 9-Factor Rating	0.27	0.75	1.00
RL_ERH	Mean	0.20	1.10	73.44
	Std. Deviation	0.18	0.62	5.84
	N	74	74	64
	Delta CCS	1.00	0.35	0.33
	Last Adj. Rating	0.35	1.00	0.79
	Last 9-Factor Rating	0.33	0.79	1.00
WL_AA	Mean	0.24	1.12	73.52
	Std. Deviation	0.38	0.71	7.72
	N	332	332	312
	Delta CCS	1.00	0.42	0.69
	Last Adj. Rating	0.42	1.00	0.62
	Last 9-Factor Rating	0.69	0.62	1.00
WL_CC	Mean	0.11	1.32	75.44
	Std. Deviation	0.23	0.75	6.02
	N	66	66	54
	Delta CCS	1.00	0.43	0.60
	Last Adj. Rating	0.43	1.00	0.62
	Last 9-Factor Rating	0.60	0.62	1.00
WL_FI	Mean	0.19	1.21	74.45
	Std. Deviation	0.29	0.73	6.28
	N	266	266	246
	Delta CCS	1.00	0.54	0.67
	Last Adj. Rating	0.54	1.00	0.64
	Last 9-Factor Rating	0.67	0.64	1.00
WL_ML	Mean	0.27	1.22	75.69
	Std. Deviation	0.43	0.71	7.22
	N	190	190	161
	Delta CCS	1.00	0.51	0.60
	Last Adj. Rating	0.51	1.00	0.62
	Last 9-Factor Rating	0.60	0.62	1.00
WL_MT	Mean	0.20	1.07	74.58
	Std. Deviation	0.26	0.74	4.30
	N	56	56	52
	Delta CCS	1.00	0.42	0.55
	Last Adj. Rating	0.42	1.00	0.75
	Last 9-Factor Rating	0.55	0.75	1.00
WL_PO	Mean	0.20	1.14	72.70
	Std. Deviation	0.22	0.72	6.21
	N	178	177	167
	Delta CCS	1.00	0.47	0.63
	Last Adj. Rating	0.47	1.00	0.66
	Last 9-Factor Rating	0.63	0.66	1.00
WL_MN	Mean	0.21	1.68	77.89
	Std. Deviation	0.24	0.58	4.03
	N	164	151	151
	Delta CCS	1.00	0.39	0.36
	Last Adj. Rating	0.39	1.00	0.88
	Last 9-Factor Rating	0.36	0.88	1.00

APPENDIX IV
Last Adjective Rating vs. CCS Zone Correlation Matrix by Paypool

Last Adjective Rating vs. CCS Zone Correlation Matrix by Paypool

Paypool	Last Adjective Rating	Zone A		Zone B		On SPL		Zone C		Zone D		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
		AL_CF	Level 5, 2 Above Fully Successful	2	5.3%	6	15.8%	1	2.6%	7	18.4%	22	57.9%
	Level 4, 1 Above Fully Successful	3	8.8%	7	20.6%	2	5.9%	15	44.1%	7	20.6%	34	100.0%
	Level 3, Fully Successful	4	25.0%	4	25.0%	1	6.3%	3	18.8%	4	25.0%	16	100.0%
	Level 2, 1 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
	Level 1, 2 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
AL_HR	Level 5, 2 Above Fully Successful	0	0.0%	4	11.4%	3	8.6%	7	20.0%	21	60.0%	35	100.0%
	Level 4, 1 Above Fully Successful	2	6.9%	3	10.3%	2	6.9%	14	48.3%	8	27.6%	29	100.0%
	Level 3, Fully Successful	2	33.3%	1	16.7%	1	16.7%	0	0.0%	2	33.3%	6	100.0%
	Level 2, 1 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
	Level 1, 2 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
AL_Misc	Level 5, 2 Above Fully Successful	0	0.0%	4	11.4%	0	0.0%	10	28.6%	21	60.0%	35	100.0%
	Level 4, 1 Above Fully Successful	0	0.0%	6	28.6%	0	0.0%	11	52.4%	4	19.0%	21	100.0%
	Level 3, Fully Successful	3	37.5%	1	12.5%	0	0.0%	4	50.0%	0	0.0%	8	100.0%
	Level 2, 1 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
	Level 1, 2 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
PL_DSXPCA	Level 5, 2 Above Fully Successful	0	0.0%	1	5.9%	0	0.0%	5	29.4%	11	64.7%	17	100.0%
	Level 4, 1 Above Fully Successful	0	0.0%	1	11.1%	2	22.2%	4	44.4%	2	22.2%	9	100.0%
	Level 3, Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	100.0%	2	100.0%
	Level 2, 1 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
	Level 1, 2 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
PL_GP	Level 5, 2 Above Fully Successful	0	0.0%	10	14.5%	0	0.0%	36	52.2%	23	33.3%	69	100.0%
	Level 4, 1 Above Fully Successful	4	7.4%	18	33.3%	0	0.0%	27	50.0%	5	9.3%	54	100.0%
	Level 3, Fully Successful	6	30.0%	7	35.0%	0	0.0%	6	30.0%	1	5.0%	20	100.0%
	Level 2, 1 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
	Level 1, 2 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
PL_LI	Level 5, 2 Above Fully Successful	0	0.0%	7	20.0%	1	2.9%	14	40.0%	13	37.1%	35	100.0%
	Level 4, 1 Above Fully Successful	0	0.0%	11	47.8%	0	0.0%	12	52.2%	0	0.0%	23	100.0%
	Level 3, Fully Successful	1	25.0%	3	75.0%	0	0.0%	0	0.0%	0	0.0%	4	100.0%
	Level 2, 1 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
	Level 1, 2 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
PL_RK	Level 5, 2 Above Fully Successful	2	5.0%	2	5.0%	0	0.0%	12	30.0%	24	60.0%	40	100.0%
	Level 4, 1 Above Fully Successful	8	20.5%	8	20.5%	0	0.0%	12	30.8%	11	28.2%	39	100.0%
	Level 3, Fully Successful	4	22.2%	2	11.1%	0	0.0%	4	22.2%	8	44.4%	18	100.0%
	Level 2, 1 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
	Level 1, 2 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
PL_VTSX	Level 5, 2 Above Fully Successful	1	3.3%	6	20.0%	1	3.3%	7	23.3%	15	50.0%	30	100.0%
	Level 4, 1 Above Fully Successful	4	12.5%	7	21.9%	1	3.1%	7	21.9%	13	40.6%	32	100.0%
	Level 3, Fully Successful	3	42.9%	1	14.3%	0	0.0%	0	0.0%	3	42.9%	7	100.0%
	Level 2, 1 Below Fully Successful	1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	100.0%
	Level 1, 2 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
PL_WS	Level 5, 2 Above Fully Successful	0	0.0%	6	17.6%	1	2.9%	17	50.0%	10	29.4%	34	100.0%
	Level 4, 1 Above Fully Successful	2	5.6%	11	30.6%	1	2.8%	17	47.2%	5	13.9%	36	100.0%
	Level 3, Fully Successful	6	75.0%	0	0.0%	0	0.0%	2	25.0%	0	0.0%	8	100.0%
	Level 2, 1 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
	Level 1, 2 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
RL_C3	Level 5, 2 Above Fully Successful	2	5.9%	2	5.9%	0	0.0%	18	52.9%	12	35.3%	34	100.0%
	Level 4, 1 Above Fully Successful	1	1.4%	16	22.9%	2	2.9%	40	57.1%	11	15.7%	70	100.0%
	Level 3, Fully Successful	3	17.6%	4	23.5%	1	5.9%	8	47.1%	1	5.9%	17	100.0%
	Level 2, 1 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
	Level 1, 2 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
RL_ER	Level 5, 2 Above Fully Successful	0	0.0%	0	0.0%	0	0.0%	19	82.6%	4	17.4%	23	100.0%
	Level 4, 1 Above Fully Successful	0	0.0%	4	9.3%	1	2.3%	31	72.1%	7	16.3%	43	100.0%
	Level 3, Fully Successful	0	0.0%	4	50.0%	0	0.0%	4	50.0%	0	0.0%	8	100.0%
	Level 2, 1 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
	Level 1, 2 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
RL_ERH	Level 5, 2 Above Fully Successful	0	0.0%	0	0.0%	0	0.0%	7	38.9%	11	61.1%	18	100.0%
	Level 4, 1 Above Fully Successful	0	0.0%	2	4.4%	3	6.7%	34	75.6%	6	13.3%	45	100.0%
	Level 3, Fully Successful	0	0.0%	2	18.2%	0	0.0%	9	81.8%	0	0.0%	11	100.0%
	Level 2, 1 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
	Level 1, 2 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%

Last Adjective Rating vs. CCS Zone Correlation Matrix by Paypool (Cont.)

Paypool	Last Adjective Rating	Zone A		Zone B		On SPL		Zone C		Zone D		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
RL_IR	Level 5, 2 Above Fully Successful	0	0.0%	4	15.4%	0	0.0%	18	69.2%	4	15.4%	26	100.0%
	Level 4, 1 Above Fully Successful	2	4.3%	17	36.2%	1	2.1%	20	42.6%	7	14.9%	47	100.0%
	Level 3, Fully Successful	2	28.6%	4	57.1%	1	14.3%	0	0.0%	0	0.0%	7	100.0%
	Level 2, 1 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
	Level 1, 2 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
RL_OC	Level 5, 2 Above Fully Successful	0	0.0%	0	0.0%	1	5.0%	11	55.0%	8	40.0%	20	100.0%
	Level 4, 1 Above Fully Successful	3	4.7%	10	15.6%	4	6.3%	42	65.6%	5	7.8%	64	100.0%
	Level 3, Fully Successful	0	0.0%	7	77.8%	1	11.1%	1	11.1%	0	0.0%	9	100.0%
	Level 2, 1 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
	Level 1, 2 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
WL_AA	Level 5, 2 Above Fully Successful	0	0.0%	5	4.7%	0	0.0%	39	36.4%	63	58.9%	107	100.0%
	Level 4, 1 Above Fully Successful	1	0.6%	20	12.6%	2	1.3%	69	43.4%	67	42.1%	159	100.0%
	Level 3, Fully Successful	11	16.7%	19	28.8%	0	0.0%	25	37.9%	11	16.7%	66	100.0%
	Level 2, 1 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
	Level 1, 2 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
WL_CC	Level 5, 2 Above Fully Successful	0	0.0%	7	21.9%	1	3.1%	16	50.0%	8	25.0%	32	100.0%
	Level 4, 1 Above Fully Successful	0	0.0%	7	30.4%	0	0.0%	12	52.2%	4	17.4%	23	100.0%
	Level 3, Fully Successful	1	9.1%	6	54.5%	1	9.1%	3	27.3%	0	0.0%	11	100.0%
	Level 2, 1 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
	Level 1, 2 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
WL_FI	Level 5, 2 Above Fully Successful	0	0.0%	5	4.8%	0	0.0%	40	38.5%	59	56.7%	104	100.0%
	Level 4, 1 Above Fully Successful	0	0.0%	29	25.4%	4	3.5%	63	55.3%	18	15.8%	114	100.0%
	Level 3, Fully Successful	0	0.0%	27	56.3%	2	4.2%	15	31.3%	4	8.3%	48	100.0%
	Level 2, 1 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
	Level 1, 2 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
WL_ML	Level 5, 2 Above Fully Successful	0	0.0%	1	1.4%	2	2.7%	23	31.5%	47	64.4%	73	100.0%
	Level 4, 1 Above Fully Successful	0	0.0%	23	27.1%	8	9.4%	31	36.5%	23	27.1%	85	100.0%
	Level 3, Fully Successful	5	15.6%	10	31.3%	1	3.1%	12	37.5%	4	12.5%	32	100.0%
	Level 2, 1 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
	Level 1, 2 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
WL_MN	Level 5, 2 Above Fully Successful	1	0.9%	5	4.5%	5	4.5%	49	43.8%	52	46.4%	112	100.0%
	Level 4, 1 Above Fully Successful	3	10.0%	6	20.0%	1	3.3%	18	60.0%	2	6.7%	30	100.0%
	Level 3, Fully Successful	1	11.1%	3	33.3%	0	0.0%	3	33.3%	2	22.2%	9	100.0%
	Level 2, 1 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
	Level 1, 2 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
WL_MT	Level 5, 2 Above Fully Successful	0	0.0%	1	5.9%	1	5.9%	5	29.4%	10	58.8%	17	100.0%
	Level 4, 1 Above Fully Successful	0	0.0%	5	19.2%	0	0.0%	12	46.2%	9	34.6%	26	100.0%
	Level 3, Fully Successful	0	0.0%	7	53.8%	0	0.0%	3	23.1%	3	23.1%	13	100.0%
	Level 2, 1 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
	Level 1, 2 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
WL_PO	Level 5, 2 Above Fully Successful	0	0.0%	3	5.0%	0	0.0%	21	35.0%	36	60.0%	60	100.0%
	Level 4, 1 Above Fully Successful	0	0.0%	9	11.0%	2	2.4%	50	61.0%	21	25.6%	82	100.0%
	Level 3, Fully Successful	1	2.9%	12	34.3%	2	5.7%	17	48.6%	3	8.6%	35	100.0%
	Level 2, 1 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%
	Level 1, 2 Below Fully Successful	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	100.0%

APPENDIX V
Band Movement Analysis by Paypool

Band Movement Analysis by Paypool

PAYPOOL	BAND MOVEMENT POTENTIAL ZONE	APPROVED		Advancement Rate
		No	Yes	
AL_CF	Eligible: II-III	10	0	0.0%
	Eligible: III-IV	5	0	0.0%
	Recommended: I-II	1	0	0.0%
	Recommended: II-III	8	0	0.0%
	Recommended: III-IV	3	0	0.0%
	Mandatory: II-III	2	0	0.0%
AL_CF Total		29	0	0.0%
AL_HR	Eligible: II-III	9	0	0.0%
	Eligible: III-IV	1	0	0.0%
	Recommended: II-III	3	0	0.0%
	Recommended: III-IV	1	0	0.0%
	Mandatory: II-III	1	0	0.0%
AL_HR Total		15	0	0.0%
AL_Misc	Eligible: I-II	1	0	0.0%
	Eligible: II-III	11	0	0.0%
	Eligible: III-IV	3	0	0.0%
	Recommended: I-II	0	1	100.0%
	Recommended: II-III	5	0	0.0%
	Recommended: III-IV	0	1	100.0%
	Mandatory: II-III	2	0	0.0%
AL_Misc Total		22	2	8.3%
PL_DSXPCA	Eligible: I-II	1	0	0.0%
	Eligible: II-III	6	0	0.0%
	Eligible: III-IV	2	0	0.0%
	Recommended: I-II	0	1	100.0%
	Recommended: II-III	4	1	20.0%
	Recommended: III-IV	0	2	100.0%
	Mandatory: II-III	1	1	50.0%
PL_DSXPCA Total		14	5	26.3%
PL_GP	Eligible: II-III	18	0	0.0%
	Eligible: III-IV	15	0	0.0%
	Recommended: II-III	5	0	0.0%
	Mandatory: II-III	8	0	0.0%
PL_GP Total		46	0	0.0%
PL_LI	Eligible: II-III	18	0	0.0%
	Eligible: III-IV	4	1	20.0%
	Recommended: II-III	1	2	66.7%
	Recommended: III-IV	2	0	0.0%
	Mandatory: II-III	1	2	66.7%
PL_LI Total		26	5	16.1%
PL_RK	Eligible: II-III	13	0	0.0%
	Eligible: III-IV	5	1	16.7%
	Recommended: II-III	6	2	25.0%
	Recommended: III-IV	0	1	100.0%
	Mandatory: II-III	1	1	50.0%
PL_RK Total		25	5	16.7%
PL_VTSX	Eligible: II-III	10	0	0.0%
	Eligible: III-IV	2	0	0.0%
	Recommended: II-III	7	0	0.0%
	Recommended: III-IV	0	1	100.0%
	Mandatory: II-III	3	2	40.0%
PL_VTSX Total		22	3	12.0%
PL_WS	Eligible: I-II	2	0	0.0%
	Eligible: II-III	9	0	0.0%
	Eligible: III-IV	12	0	0.0%
	Recommended: II-III	4	2	33.3%
	Mandatory: II-III	4	2	33.3%
PL_WS Total		31	4	11.4%
RL_C3	Eligible: II-III	46	0	0.0%
	Eligible: III-IV	9	0	0.0%
	Recommended: II-III	1	2	66.7%
	Mandatory: II-III	5	1	16.7%
RL_C3 Total		61	3	4.7%
RL_ER	Eligible: II-III	25	0	0.0%
	Eligible: III-IV	9	0	0.0%
	Recommended: II-III	1	0	0.0%
	Mandatory: II-III	6	1	14.3%
RL_ER Total		41	1	2.4%

Band Movement Analysis by Paypool (Cont.)

PAYPOOL	BAND MOVEMENT POTENTIAL ZONE	APPROVED		Advancement Rate
		No	Yes	
RL_ERH	Eligible: II-III	20	0	0.0%
	Eligible: III-IV	11	0	0.0%
	Recommended: II-III	7	0	0.0%
	Recommended: III-IV	2	0	0.0%
	Mandatory: II-III	8	0	0.0%
RL_ERH Total		48	0	0.0%
RL_IR	Eligible: II-III	31	0	0.0%
	Eligible: III-IV	6	0	0.0%
	Recommended: II-III	0	1	100.0%
	Mandatory: II-III	3	0	0.0%
RL_IR Total		40	1	2.4%
RL_OC	Eligible: II-III	23	0	0.0%
	Eligible: III-IV	7	0	0.0%
	Recommended: II-III	3	1	25.0%
	Mandatory: II-III	8	1	11.1%
RL_OC Total		41	2	4.7%
WL_AA	Eligible: II-III	96	0	0.0%
	Eligible: III-IV	33	0	0.0%
	Recommended: II-III	37	3	7.5%
	Recommended: III-IV	4	9	69.2%
	Mandatory: II-III	19	3	13.6%
WL_AA Total		189	15	7.4%
WL_CC	Eligible: II-III	18	0	0.0%
	Eligible: III-IV	11	0	0.0%
	Recommended: II-III	1	1	50.0%
	Recommended: III-IV	1	2	66.7%
	Mandatory: II-III	6	0	0.0%
WL_CC Total		37	3	7.5%
WL_FI	Eligible: II-III	92	0	0.0%
	Eligible: III-IV	17	0	0.0%
	Recommended: II-III	28	1	3.4%
	Recommended: III-IV	6	4	40.0%
	Mandatory: II-III	7	0	0.0%
	Mandatory: III-IV	0	3	100.0%
WL_FI Total		150	8	5.1%
WL_ML	Eligible: II-III	49	0	0.0%
	Eligible: III-IV	9	0	0.0%
	Recommended: II-III	23	1	4.2%
	Recommended: III-IV	1	6	85.7%
	Mandatory: II-III	4	3	42.9%
WL_ML Total		86	10	10.4%
WL_MN	Eligible: II-III	43	0	0.0%
	Eligible: III-IV	8	1	11.1%
	Recommended: II-III	9	0	0.0%
	Recommended: III-IV	2	0	0.0%
	Mandatory: II-III	11	0	0.0%
WL_MN Total		73	1	1.4%
WL_MT	Eligible: II-III	22	0	0.0%
	Eligible: III-IV	4	0	0.0%
	Recommended: II-III	1	1	50.0%
	Recommended: III-IV	1	0	0.0%
WL_MT Total		28	1	3.4%
WL_PO	Eligible: II-III	43	0	0.0%
	Eligible: III-IV	10	6	37.5%
	Recommended: I-II	0	1	100.0%
	Recommended: II-III	6	0	0.0%
	Recommended: III-IV	0	2	100.0%
	Mandatory: II-III	7	0	0.0%
	Mandatory: III-IV	0	2	100.0%
WL_PO Total		66	11	14.3%
Grand Total		1,090	80	6.8%