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**A Job Evaluation Study of  
Selected Job Classes of  
the State and Counties  
of Hawaii**

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**A Report to the  
Legislature of the  
State of Hawaii**

**January 1987**

 **Arthur Young**

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A MEMBER OF ARTHUR YOUNG INTERNATIONAL

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January 9, 1987

Mr. Clinton T. Tanimura  
Office of the Legislative Auditor  
State of Hawaii  
465 South King Street, Room 500  
Honolulu, Hawaii 96813

Dear Mr. Tanimura:

Arthur Young is pleased to present our report A Job Evaluation Study of Selected Job Classes of the State and Counties of Hawaii as authorized by Act 157 of the Thirteenth Legislature of the State of Hawaii.

We would like to express our appreciation to you and your staff, as well as the other members of the Steering Committee for this study, the Hawaii Government Employees Association and the Department of Personnel Services for the assistance and cooperation we received during the course of the study.

Act 157 requested a study to determine whether pay inequity exists among specific public employee job classes that are dominated by one sex, what has contributed to any inequities if they are found to exist, and what changes in law or practice could achieve optimal fairness in job evaluation. Due to the intent and parameters established in the Act, this study is unlike more typical "comparable worth" studies which generally focus on how much of an adjustment should be made to achieve equity in compensation between males and females who perform comparable work. It has not been the purpose of this study to determine the amount of appropriate adjustments in compensation for any inequities that were found in the four bargaining units that were included in the study.

It should also be kept in mind that the existing system of job evaluation in the State and Counties of Hawaii is extremely complex. Such a complex system has required us to examine it from several perspectives: in terms of the specific job classes to be evaluated; the laws, processes and procedures that comprise the system; and the manner in which it is perceived by those who are affected by it. As will be presented in our report, approximately 25% of those job classes studied were found to have some form of inequity. It would be both unwise and incorrect to attempt to attribute these inequities to any one cause, or suggest that any one action can be taken to correct them. The complex causes of these inequities reflects the complex nature of the system. It is our hope through mutual efforts



**Arthur Young**

January 7, 1986

Mr. Clinton T. Tanimura

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involving the affected parties, that the inequities can be corrected, and we have offered some suggestions on how this might be done. We have also recommended ways in which we believe the system could be generally improved as a result of our review of the current process and procedures.

We have appreciated this opportunity to serve the State of Hawaii, and we would be happy to assist you and the Legislature where necessary in obtaining a better understanding of the results of this study as presented in our report.

Very truly yours

*Arthur Young & Company*

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# Executive Summary

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This report presents an independent and objective assessment of selected job classes for the State and Counties of Hawaii to determine whether or not value or compensation inequities exist among these classes of workers. Since the issue of pay equity has proven to be such a complex one, this assessment had to include research into the history of value and pay structures in Hawaii, a methodology to determine, category-by-category, each job requirement and its relationship to value and pay, as well as interviews with appropriate samples from the various employee organizations, unions and government personnel. It must be noted that it was not the purpose of the study to determine the amount of any adjustments considered necessary based on any inequity discovered.

## **Background**

The issue of pay equity has been gaining increasing attention in both the public and private sectors for the last decade. In Hawaii, the Temporary Commission on Comparable Worth was established by the Hawaii State Legislature in 1984 to evaluate existing classification and compensation systems within State and County job categories and, if necessary, recommend a job evaluation system that would be appropriate to implement comparable worth. The Commission's efforts were hampered, however, when the Hawaii Government Employees Association (HGEA) filed a lawsuit against the State charging sex-based discriminatory employment practices soon after the Commission was formed.

Because of the lawsuit, and the subsequent withholding of information necessary for the Commission to conduct its study, the Chairperson of the Commission, the Legislative Auditor, recommended a compromise: that an independent, highly qualified consultant, with no preconceptions about whether or not the State's procedures have produced sex-based value or wage inequities, should conduct a study of certain classes to determine if inequities exist, and if they are

found to exist, recommend an alternative method of job evaluation. The Legislature approved the Legislative Auditor's recommendation with the enactment of Act 157, which authorized this study. In July 1986, HGEA discontinued its suit and agreed to participate as a member of the steering committee for this study.

## **Methodology**

Although there is no single accepted method for conducting pay equity studies, there has been precedent in other states. However, the purpose and parameters established in Act 157 make Hawaii's case different than other pay equity studies in the United States. Some of those parameters which inhibit applying those methods established in other pay equity studies to Hawaii included the number of job classes being analyzed and the guideline preventing comparison across bargaining units. Pay equity in other states and jurisdictions has generally been considered to apply to all state jobs regardless of their bargaining unit or other such distinctions. Had the parameters been different than those established, it is possible that the results of this analysis may have been different than what was found by comparing classes only within their bargaining unit and according to the other established parameters.

In designing the study to test the job classification, evaluation and compensation factors for the State and Counties of Hawaii, seven major parameters were established. The first four were established by Act 157, while the consultant in conjunction with the project's steering committee determined that the remaining three were valuable criteria in designing the overall methodology. Those parameters included:

- That the bargaining units from which the classes were to be studied would only include units 3, 4, 9 and 13;
- That sex dominance would be defined as 70% of the incumbents in a class as either male or female and that only those sex-dominated classes would be studied;

- That there would be a study of the existing system and laws affecting civil service compensation;
- That classes which can be compared should be studied to determine if sex based wage inequity exists;
- That the minimum number of incumbents in each class to be studied would be set at 10;
- That classes studied would be "journeyworker classes" and "benchmark classes" since the pricing of all other classes within a series has been established in relation to the journeyworker class, and benchmark classes are the foundation of a wide range of relationships which have been established by the State and Counties;
- That the study would include only those classes subject to either collective bargaining or civil service.

Two different evaluation methods were selected to evaluate the 82 job classes that met all seven parameters. Each method was used separately by independent Arthur Young research teams to establish the expected value of all of the classes in the study which could then be compared to the actual value currently assigned to the class and the relationship between the expected and actual compensation. In this way, two independent tests of the current State system of salary ranges and wage determination could be made.

The **paired comparison method** of evaluating job classes was chosen for this study because it replicates current State practices as much as possible by using the same nine factors as established by the Public Employees Compensation Appeals Board (PECAB) for comparing one class to another in State classifications. The second method chosen was the **Decision Band Method**, selected both because it considers all aspects of a job when classifying them and because it is independent of current State practices, a positive factor in creating greater confidence in the study's conclusions. Additionally, the Decision Band Method is an approach considered by specialists who regularly study value and compensation systems to be an innovative and logical approach in determining pay.

Once the results of the two evaluations were obtained, they were compared through a series of twelve separate analyses to provide greater reliability in the determination of any sex-based inequity in value and compensation. It if was determined that a class was either inequitably valued or compensated based on the analyses of results from both evaluation methods, the sex of the inequitable classes was identified. The study therefore was designed to identify all inequitably valued or compensated classes through sex-neutral analyses and then to determine if any inequities that were found exhibited sex-based patterns.

With each analysis completed, two standard decision rules were applied to results to further determine if classifications should be considered inequitably valued or compensated. Once completed, the specific causes of the inequities were researched by examining the histories of each class to determine what actions or other reasons might have contributed to the inequity. Prior to the identification of inequitable classes, interviews were conducted with employee organizations, unions and State personnel to determine general factors perceived to be contributing to possible inequities. Each of the assertions regarding the perceived factors made during interviews was then measured against available data to determine their correctness or incorrectness, based on strictly factual information considered to have the greatest reliability. It was thus our intention to separate what are perceived to be the general causes of possible inequities versus actual causes of specific inequities identified in the study.

### **Conclusions and Recommendations**

Through research, the use of multiple methods and the application of a series of conservative decision rules, Arthur Young has identified in this study that, of the 82 classes evaluated, 21 of them, or just over 25%, are judged to be inequitably valued and/or compensated. This includes those judged to be more highly valued or compensated than expected, as well as those valued or paid less than would be

expected. The magnitude of the differences discovered here and the sizable percentage of the classes identified as inequitable indicate that a broader examination of the State's classes may be warranted.

Given parameters established by Act 157 and the guidelines also established for this study, Arthur Young has found no conclusive evidence of the traditional pattern of sex-based wage inequity within either bargaining units 3, 9 and 13 (bargaining unit 4 was essentially excluded since there were no male- or female-dominated classes with ten or more incumbents). In other words, it is not the case that females are consistently paid less than males within each of these three bargaining units. There is reason to believe, however, that there are differences in how male and female dominated classes are valued and/or compensated and these differences vary by bargaining unit. There is also evidence from this study to suggest that there are some historical and structural aspects of the overall job evaluation system of the State and Counties of Hawaii which need to be addressed. In addition, from our interviews it is apparent that within the community there is a perception that sex bias does exist in the State and Counties and this should be addressed by the State and Counties through more open documentation and communication to achieve greater credibility. Based on the findings from this study, then, the following recommendations have been made:

**Within the Job Evaluation System -**

- Improvements should be made in the classification specifications to more closely relate job content information to the PECAB evaluation factors, on a factor-by-factor basis. Also, documentation of the job evaluation system should be in a form that can be made available to employees or employee organizations for their independent review.
- The PECAB ruling which restricts across unit comparisons should be reviewed so that all logically related classes can be considered in determining relative value.

### **Adjustment of Classes Found to be Inequitable -**

- For classes found to be under-valued and/or compensated, adjustments to their salary range should be considered, but only after the effects of such adjustments on related classes have been fully considered.
- For classes found to be over-valued and/or compensated, one of three options should be chosen:
  - Reduce salary ranges incrementally over time;
  - Reduce salary ranges, but "grandfather" in existing employees;
  - Reduce salary ranges but where appropriate add a pay differential that accounts for market shortages.

### **Regarding Structure of Class Series -**

Series classification methods should be changed from actual reclassification by proficiency level to moving more proficient workers to the next higher step within the salary range for the same class where appropriate.

### **To Account for Market Adjustments -**

- A premium should continue to be paid for market shortages, but only in addition to base pay and labelled as such on employee pay stubs.
- The extent of each market shortage should be reviewed regularly.

### **Restructuring the PECAB -**

Alternatives to the current PECAB structure should be considered. These may include: increasing professional staff, more frequent meetings, transfer of the PECAB function to the Civil Service Commission or even abolishment and substitution of collective bargaining negotiations to determine the pricing of appealed cases.

The background, methodology, results and recommendations are discussed in greater detail in the body of the study report.

## Chapter 1: Introduction

### Overview

The Thirteenth Legislature of the State of Hawaii passed Act 157 which authorized a job evaluation study to determine:

- Whether or not pay inequity exists among specific public employee job classes that are dominated by one sex
- Factors or conditions which contribute to such inequity if such inequity exists
- Changes in laws or administrative practices which could optimally achieve fairness in job evaluation

The Act further specified that the scope of the study would be limited to an evaluation of job classes (not individual positions) that are dominated by females and males by at least 70%, and included in one of four of the thirteen bargaining units: Units 3, 4, 9 or 13.

The Act has left unclear how inequities were to be identified, or what constituted an inequity. As stated in the Act, its purpose was to determine if there was an equitable relationship between "value of work performed by state and county civil service employees and their salary or wage schedules." This would indicate the value of work was to be compared to actual dollars paid to employees, which is to some extent determined by collective bargaining among other influences. The Act, however, subsequently specifies that the existing job evaluation system should be studied and if inequities are found, that an alternative job evaluation system be proposed. These statements indicate that the actual method by which the State determines the relative value of work should be evaluated. It is therefore necessary to study both the relationship between value and pay, and the method by which the State and counties determine the value of work performed by different job classes.

This report presents the results of the study authorized by the Legislature. The report is organized into five chapters and a technical appendix. This first chapter presents a brief background of the issue of pay equity particularly as it has developed in Hawaii, and a description of the major features of the existing system for job evaluation in the State and Counties. An outline of the remaining chapters will be presented at the conclusion of this chapter.

# Chapter 1

## Introduction to the Study

The focus of this study is on the history of the labor movement in Hawaii. It is not our intention to provide a comprehensive history of the labor movement in Hawaii, but rather to focus on the history of the labor movement in Hawaii from the late 19th century to the present. The study is based on a review of the literature on the history of the labor movement in Hawaii, and on interviews with labor leaders and historians. The study is organized into four chapters. Chapter 1 provides an overview of the labor movement in Hawaii. Chapter 2 discusses the history of the labor movement in Hawaii from the late 19th century to the present. Chapter 3 discusses the history of the labor movement in Hawaii from the late 19th century to the present. Chapter 4 discusses the history of the labor movement in Hawaii from the late 19th century to the present.

### 1.1.1 A Definition of the Term "Laborer"

The terms "laborer" and "employee" are sometimes used interchangeably. While the differences are subtle, they are generally regarded as focusing on the classification of an individual. Laborers are those who are employed by an employer, and employees are those who are employed by an employer. The distinction is important because it affects the rights and benefits of workers. Laborers are generally considered to be those who are employed by an employer, and employees are those who are employed by an employer. The distinction is important because it affects the rights and benefits of workers. Laborers are generally considered to be those who are employed by an employer, and employees are those who are employed by an employer. The distinction is important because it affects the rights and benefits of workers.

Perhaps the most commonly cited reason for the concern over pay equity is the continuing wage differential that is found between male and female average wages, both nationally and in Hawaii. An analysis of national data from the U.S. Bureau of Labor Statistics shows that as a group, women earned 88 cents for every dollar earned by men in 1991. This is an improvement since 1971, although a slight

## 1.1 The History of the Issue of Pay Equity in Hawaii

The issue of pay equity has been gaining increasing attention in both the public and private sectors for the last ten years. It is not our intention here to portray the lengthy history of the issue, either nationally or within the State of Hawaii, as there have been numerous study reports, books and articles published which present that history. (The University of Hawaii's Industrial Relations Center has in fact published several documents which present both national and local histories of the issue.) What we do intend is to present the basic reasons why the issue has emerged, and the major events that have already occurred within the State of Hawaii in response to this issue and which have led to this study being authorized.

### 1.1.1 A Definition of the Issue of Pay Equity

The terms "pay equity" and "comparable worth" are sometimes used interchangeably. While the differences are arguable, pay equity is generally regarded as focusing on the elimination of any wage differentials that appear to be the intentional or unintentional result of sex discrimination. Comparable worth has a broader perspective in that it is an approach to salary determination that requires jobs of equivalent overall value to the employer to be paid at the same rate even if the jobs are dissimilar in nature and may command different salaries in the general labor market. In this study we will use the term and above definition for pay equity because it is more in keeping with the intent of the legislation authorizing this study.

Perhaps the most commonly cited reason for the concern over pay equity is the continuing wage differential that is found between male and female average wages, both nationally and in Hawaii. An analysis of national data from the U.S. Bureau of Labor Statistics shows that as a group, women earned 66 cents for every dollar earned by men in 1981. This is an improvement since 1970, although a slight

one, as women then earned 59 cents to the dollar earned by men. In Hawaii, according to an analysis of State statistics, total women's income was 49 cents for every dollar earned by men in 1970, and had risen to 57 cents in 1980, for a slightly greater increase over those ten years than for women nationally. Upon further analysis it is also true that women in Hawaii and nationally earn significantly less than men in every major occupational group as defined by the U.S. Census Bureau.

The issue is, thus, not whether women are generally paid less than men -- all available data will indicate this is true. The issue of pay equity has arisen because there is concern that women are being paid less than men for performing work that is equal in value to an employer. Within this overall issue, then, there are two fundamental and related issues: how the value of work should be measured; and how is the value of different types of work translated into equitable compensation? In Hawaii, as will be discussed in this report, the value of work is measured and determined by what is known as the job evaluation system. Compensation is the result of both the history of how the compensation plan and salary schedules have developed, and more recently collective bargaining.

To a large extent these related issues center on how to measure and compare work performed in different jobs. The process of measuring and comparing work is known as job evaluation. Job evaluation, and specifically the methods used to perform it within the State and Counties of Hawaii, has become the most visible focus of the pay equity issue within the State. Concern over the job evaluation method, however, has primarily developed because of a more general concern expressed by groups within the State as to whether wage inequities currently exist in State and county governments and whether the job evaluation method is in some ways discriminatory.

The two most significant events that have already occurred within the State related to the pay equity issue -- the creation of the Temporary Commission on Comparable Worth and the law suit filed

against the State by the Hawaii Government Employees Association (HGEA) -- have both involved job evaluation and whether inequities currently exist. The most significant aspects of these two events will be discussed as follows to provide a greater understanding of what has previously occurred from which this study has resulted.

#### 1.1.2 The Temporary Commission on Comparable Worth

In 1984, the Legislature created the Temporary Commission on Comparable Worth. The Commission was charged by the Legislature to:

- Evaluate the existing classification and compensation systems, laws and practices that determine wages of personnel throughout the State and counties.
- Examine current "job segregation and wage differentials which may exist in state and local government."
- Recommend, if necessary, a job evaluation system that would be appropriate to implement comparable worth for all public employees in Hawaii, or an alternative method of achieving comparable worth if a single job evaluation system does not seem appropriate.
- Examine the compatibility of the recommended job evaluation system with the existing laws on civil service, compensation, and collective bargaining.

The Legislative Auditor was designated as the chairperson of the Commission and his office provided administrative and staff support. The eighteen (18) members of the Commission consisted of seven representatives of State agencies including the University, each of the four directors of the county personnel departments, and seven representatives of employee organizations.

The Commission was to prepare an interim report to the Legislature in 1985 and a final report in 1986. Efforts by Commission staff were hampered, however, when soon after the Commission was established a lawsuit was filed by one of the employee organizations represented on the Commission, the HGEA. The State and county personnel agencies requested legal advice and were informed that they

should withhold requested information from the Commission and its staff. The interim report was, thus, largely inconclusive.

Commission staff then attempted to obtain available information and commissioned a survey of state and county personnel to develop data on wages by sex and classification. There were objections to this approach, principally from the state and county personnel directors, although it was ultimately used as the basis for developing options submitted to the Commission. The three options were:

- Conduct another study preferably by an independent consultant which could obtain access to data which were not accessible to Commission staff.
- Make pay equity adjustments to selected job classes to reduce or eliminate "obvious" pay disparities between male and female dominated job classes, although at that time such classes had not been able to be identified due to the restriction on information to the Commission.
- Develop and implement a point-weighted job evaluation system for the State and counties, again utilizing an external consultant to develop a method of job evaluation that would assign points to the level of difficulty of each job class, so that when summed for each class, classes could be compared and a "pay-line" could be constructed to translate the points into dollar values.

Commission members voted on each option although a majority vote on any one option, or variations of those options, could not be achieved. The Chairperson of the Commission, the Legislative Auditor, subsequently recommended a compromise between the first and third options which was to have an independent consultant conduct a study of certain classes to determine if inequities exist, and if they are found to exist, recommend an alternative method of job evaluation along the lines of a point system. The Legislature ultimately approved this recommendation with the enactment of Act 157, which authorized this study.

### 1.1.3 Hawaii Government Employees Association Lawsuit

The HGEA originally filed charges with the regional office of the Federal Equal Employment Office alleging that the existing job evaluation system used by the State and counties involved sex-based discriminatory employment practices. According to Federal procedures, the HGEA then requested the U.S. Justice Department to file a suit against the State and counties. After it became apparent that there would be a substantial delay before the Department could undertake such a suit, the HGEA requested the right to sue the State and Counties as representing a group of plaintiffs. A class action lawsuit was filed by the HGEA in August 1984 in federal court here in Hawaii, again charging that the existing job evaluation system used by the State and counties involved sex-based discriminatory employment practices.

While HGEA did not have exact data on the total number of female dominated classes, it estimated that as many as 5000 workers might be affected as a result of the suit and that the cost of making initial adjustments to classes that might be inequitably paid would be approximately \$6,000,000. This cost estimate, however, did not include retroactive damages, although this was included within the suit, which would have substantially increased the total award if the court found in favor of the plaintiffs.

HGEA discontinued its suit while it was in the discovery stage, however, in July of this year and instead agreed to participate as a member of the steering committee for this study.

### 1.1.4 Perspectives on the Issue of Pay Equity

Both of the preceding events illustrate what appear to be the two central questions regarding the issue of pay equity in Hawaii:

- Are female dominated job classes currently being inequitably paid in relation to male dominated classes?

- Does the existing job evaluation method contribute to sex-based inequities, if they in fact exist, and would another method provide greater assurance of equitable job evaluation?

During the period in which this issue has developed within Hawaii, the perspectives of those who have been involved have become well defined on both of these questions. While there are aspects of these questions for which there is common agreement, these perspectives can be characterized as those who agree and those who disagree with each question. These perspectives on each question are briefly summarized as follows.

- (1) Are female dominated job classes currently being inequitably paid in relation to male dominated classes?

Those who believe that female dominated classes are being inequitably paid include the HGEA, at least some of the other employee organizations represented on the Temporary Commission, and a rather large number of organizations including the State Commission on the Status of Women, each of the counties' committees on the status of women, and organizations such as the Hawaii Nurses Association, Hawaii Women Lawyers and others. While we were not able to contact all of the many organizations who were identified as being interested in the issue of pay equity as a result of the Temporary Commission (a list of these was provided by the Legislative Auditor's office), the sample we did contact left little doubt that there is a pervasive belief that inequities exist. It is important to understand that none of the organizations contacted believed that intentional sex discrimination was occurring, but that the inequities for the most part were as a result of historical attitudes and other conditions both in Hawaii and nationally that are difficult to precisely determine and which may be reflected in the job evaluation system.

Those who disagree with this question are primarily the personnel directors of the State and counties. Their position is that there

have been substantial efforts to correct any inequities within the class structure as it has existed, beginning with statehood, and continuing on into the present. They also point to appellate bodies in Hawaii, most notably the Public Employees Compensation Appeals Board (PECAB) which is relatively unique to Hawaii, and affords employees and others the ability to appeal their salary assignments if they believe them to be inequitable. These directors, however, generally acknowledge that it may be possible for unintentional inequities to occur in any system and each director indicated they would act to immediately correct any inequities that appear to be legitimately identified.

- (2) Does the existing job evaluation method contribute to sex-based inequities, if they in fact exist, and would another method provide greater assurance of equitable job evaluation?

Once again, those who believe that the existing job evaluation method contributes to sex-based inequities and should be replaced are essentially the same as those who believe that inequities currently exist as previously identified. The method is considered to contribute to inequities if it tends to undervalue characteristics of the work performed in female dominated jobs and/or overvalue characteristics of work performed in male dominated jobs. Those who do not believe that the existing job evaluation method contributes to sex-based inequities and therefore it should not be replaced are the State and county personnel directors. According to statements by individuals other than the personnel directors appended to the Temporary Commission report, there appears to be strong support for an alternative method of job evaluation, generally a point system which is the most widely known alternative method. The personnel directors, however, are equally strong in their statement that the existing system does not contain any feature or practices that are discriminatory and that there are mechanisms such as PECAB to appeal actions taken by the personnel agencies.

It should be noted that based upon our interviews conducted with groups and individuals outside State and county government, it is apparent that there is a certain lack of complete information and a number of misconceptions about how all of the complex parts of the existing system actually operate among many of those not directly involved with them on a day-to-day basis. The existing system of job evaluation is not something that can be easily explained, and while we do not mean to imply at this point that it is perfect, it is perhaps because of its complexity and a general lack of understanding of its workings that some of the criticisms have developed. For this reason, and because it will subsequently be important in understanding the findings of this study, we present an overview of the important characteristics of the existing system for job evaluation.

## **1.2 Overview of the Existing System for Job Evaluation in the State and the Counties**

The purpose of this section of the report is to briefly present the features of the existing job evaluation system most relevant to this study. It must first be understood that there are a number of components of the overall job evaluation "system". The three major components are classification, evaluation and compensation. It is not our intent to provide a detailed description of all of the complex activities that are involved in the process of performing each component as this would involve a lengthy discussion which we do not believe is necessary for the purposes of this report. A review of the larger system has been made, however, consistent with the guidelines included in the Act authorizing the study. While we will make some general observations regarding the system at the conclusion of this section of the report, we have chosen to present specific findings resulting from our review throughout the report where they are most relevant and will contribute to a better understanding of the overall results of the study. We believe this approach is consistent with the primary purpose of the study as stated in the Act to determine whether inequities exist and what factors may be contributory if inequities are found to exist.

This overview is organized into three sections:

- The legal framework for the job evaluation system
- The structure of the existing system
- The existing method of job evaluation.

#### 1.2.1 The Legal Framework for the Job Evaluation System

The legal framework within which the job evaluation system operates consists both of statutes passed by the Legislature and administrative rules which, once they have been offered for public review and approved, have the force of law. In addition to the statutes and rules, the PECAB, in keeping with its statutory authority, has adopted policies and standards which govern the system as well.

The statutes that apply to the job evaluation system and other related personnel activities are primarily found in HRS Chapters 76, 77, 89 and 89C. Exhibit 1 presents a summary of significant provisions of all of these statutes. These laws establish a framework that provides for:

- The same job classes considered to have the same value regardless of whether they are found in either the State, the counties or the Judiciary, thus the State, the counties and Judiciary must agree on the salary range for each job class.
- The scope of collective bargaining being limited to the negotiation of wages to be paid and the benefits for each of the separate bargaining units. Negotiations cannot be conducted separately for individual job classes or positions.
- A review of the compensation plan every two years by the personnel directors of the State, counties and Judiciary to consider requests and determine whether adjustments to the salary ranges of existing classes should be made, and review the assignment of new classes to salary ranges. A majority vote of the personnel directors is required for a recommendation for adjustment, and the recommendation is made to the

HAWAII REVISED STATUTES RELATED TO POSITION CLASSIFICATION AND JOB EVALUATION

<u>Citation</u>	<u>Dates</u>	<u>Summary of Significant Provisions</u>
<b>CHAPTER 76</b>		
76-1	L55,RL55,L63, L73	Establishes a system of personnel administration based on merit principles, scientific methods; establishes career service with incentives for promotion; establishes basic principles including use of systematic classification through job analysis and equal opportunity for all regardless of race, sex, age, religion, color, ancestry, politics or handicapping conditions.
76-2	L55,RL55	Uniform interpretation of provisions throughout the state, the counties and the judiciary is mandated, and provision is made for resolution of different interpretations.
76-3	L55,RL55 LSp59,L74	State and county departments of civil service and the judiciary must meet at least once a year to ensure uniformity.
76-4	L55,RL55 L57,LSp59,L77	State and county departments and the judiciary may enter into joint administration agreements for tests, eligible lists, etc.
76-5	L55,RL55 LSp59,L77	State may provide services and facilities to the counties and judiciary, including position classification.
76-6	L55,RL55	Nullifies any provisions of Chapters 76 and 77 if they would prevent the State or any county from obtaining Federal grants or other funds.
76-7	L73	Establishes specific circumstances in which personnel administration policies (Section 76-1) and anti-discrimination provisions (Section 76-44) do not apply. Renders 76-1 and 76-44 inoperative if they are deemed to: affect requirements controlling the employment of

<u>Citation</u>	<u>Dates</u>	<u>Summary of Significant Provisions</u>
		minors, prevent the establishment of bona fide occupational requirements, prohibit the termination or transfer of a public worker who is unable to perform his duties, affect pensions, insurance, etc., affect age requirements or conflict with security provisions in public employment of the State or federal governments.
76-8	L73,L74	Allows persons originally employed as part of Federal public employment programs a transition into full-time employment.
76-9 and 76-10 76-11.5	L74,L77, L77 L77	Establishes the autonomy of the judiciary in developing and maintaining its own personnel administration system including the development and administration of a position classification plan.
76-12 and 76-13 76-17	L55,RL55, LSp59,L55,RL55, L57,LSp59,L64, L76,L55,RL55, LSp59,L67	Authorizes general and specific duties of the State director of personnel services, including the development and maintenance of a position classification plan and necessary rules and regulations.
76-14	L55,RL55, LSp59	Authorizes the Civil Service Commission to hear/decide appeals on various matters including classification.
76-16	L55,RL55, L57,LSp59 L63,L65,L67 L77,L79,L81 L82,L84	Authorizes application of civil service to all positions in State service with specified exceptions, and the Director to determine which positions fit into one or more of the twenty-three exception categories.
76-18		Requires competitive testing of the relative fitness of applicants for public service; that such tests are open to all except as provided by law and with such limitations as to health, physical condition, education, training, experience, etc., as deemed necessary and proper for the class as deemed by the director.

<u>Citation</u>	<u>Dates</u>	<u>Summary of Significant Provisions</u>
76-35	L55,RL55 L57,L76,L81	Defines "transfer" and permits the transfer of employees between and within departments with the approval of department heads and the Director of personnel services.
76-36	L55,RL55, L57	Establishes policies regarding the exchange or transfer of personnel between the State/counties and the Federal government.
76-37	L55,RL55, LSp59	Establishes policies regarding the exchange of personnel between the state/counties and other states.
76-39	L55,RL55	Official class titles are not required to be used internally within a department or externally (with the media, citizen groups), and more descriptive titles for individual positions may be used instead.
76-44	L55,RL55,L73, L75	Establishes a policy of nondiscrimination in personnel administration.
76-48	L55,RL55	Authorizes that any person adversely affected by an action by the Director of Personnel Services may appeal that action to the Civil Service Commission.
76-71, 76-78, and 76-79	L55,RL55,L77 L55,RL55,LSp59  L55,RL55, LSp59,L77	Authorizes the counties of Hawaii, Maui and Kauai to establish a department of civil service and a commission appointed by the Mayor with the approval of the council. County commissions prescribe rules and regulations and the personnel directors shall determine matters of technique and administration. (State law does not cover the City and County of Honolulu personnel system. This is contained in the City ordinances or charter.)
76-77	L55,RL55, L57,L67, L70,L77,L80	Authorizes application of civil service to all positions in county service with specified exceptions, and the director of the county to determine which positions fit into one or more of the thirteen exception categories.

<u>Citation</u>	<u>Dates</u>	<u>Summary of Significant Provisions</u>
76-101	L55,RL55, L67,L71	Recognizes the rights of employees to organize and participate in the development and implementation of policies and procedures affecting their employment consistent with merit system principles, laws and rules.
76-103	L55,RL55, L67,L73	Provides for preference being given to veterans as allowed under rules and regulations.
<b>CHAPTER 77</b>		
77-2	L55,RL55, L61,L80	Establishes compensation policies including the determination of compensation on the following factors: general economic condition of the state; conditions of the labor market; appropriate cost of living index; minimum standard of living compatible with decency and health; and amounts offered by competing employers. Studies may be conducted consistent with the purposes and policies of this section by each director or cooperatively with other agencies.
77.25		Apply provisions of this chapter to the Judiciary equally.
77-3	L55,RL55	Authorizes application of compensation chapter provisions to all classes of positions in classification plan.
77-4	L61,L63, L67,L70	Requires the directors of personnel services and judiciary representatives to meet biennially in joint conference to review the condition of white/blue collar compensation plan and adjustments that are made. Permits representatives of employee organizations to attend and participate in deliberations although they may not vote. Establishes an appeals board (PECAB) which shall adopt policies and standards relative to compensation and make adjustments to appealed and affected classes. Authorizes directors of personnel services to assign new classes to salary ranges on the basis of policies and standards set by the PECAB.

<u>Citation</u>	<u>Dates</u>	<u>Summary of Significant Provisions</u>
77-5	L67,L68, L69,L70, L73,L80, L81	Authorizes compensation plans for blue collar positions to be fixed, adjusted biennially, and subject to appeal to PECAB.
77-9	L55,RL55,L67, L69,L74,L76, L80,L81	Authorizes Director to make adjustments to entry salaries for a class or positions in which a shortage of qualified candidates exists with the intention of attracting qualified candidates and requires the director to review each shortage category and adjust entry salaries accordingly at least once a year.
77-10	L55,RL55,LSp59, L61,L78,L81	Authorizes the State and county directors to adopt uniform rules to provide for adjustments and changes in compensation in the event of promotions - permanent and temporary, demotions, and temporary assignments.
77-13	L55,RL55,L56, L57,L59,L62, L65,L67,L69, L70,L73,L80, L81,L82	Establishes the salary structure for white collar positions and recognizes the involvement of collective bargaining for positions in bargaining units as opposed to those excluded from collective bargaining.
77-13.1	L80	Establishes that a salary structure for white collar managers excluded from collective bargaining shall be comprised of ranges/steps as deemed appropriate by authorized officials.
77-13.5	L80,L81,L83	Authorizes the number of steps within salary ranges may be reduced but not increased, and such an action is subject to negotiation. Steps may also be reduced within salary ranges for positions excluded from collective bargaining.
77-31, 77-32 77-34	L55,RL55 L55,RL55 L55,RL55	Authorizes the applicability of all provisions in Chapter 77 to all counties.

<u>Citation</u>	<u>Dates</u>	<u>Summary of Significant Provisions</u>
<b>CHAPTER 89</b>		
89-1	L70	Establishes the policy of the State is to promote "harmonious and cooperative" relations between the government and its employees by recognizing the latter's right to organize, and requiring employers to negotiate; also creates the Hawaii Labor Relations Board.
89-5	L70,L71,L74,L75 L76,L78,L82,L83	Establishes that all actions of the Hawaii Labor Relations Board (HLRB) require a simple majority vote and shall be published. Also establishes its function to investigate employee-management relationship problems relative to the Board's responsibilities in the area of bargaining unit designation.
89-6	L70,L77	Establishes the thirteen (13) collective bargaining units by category of employee, and exclusions of specified employee categories from collective bargaining.
89-9	L70,L75,L80,L84	Establishes the scope of negotiations and procedures to be followed. Excludes from negotiations matters of classification and reclassification and prohibits agreement to any proposal inconsistent with merit principles or equal pay for equal work and certain management rights.
89-11	L78,L84	Authorizes the use of mediation and arbitration to resolve disputes and the specific steps that are to be taken.
89C-2	L78,L82,L84	Establishes guidelines and limitations on adjustments for excluded officers and employees.
89C-3	L78,L82	Establishes that adjustments for excluded officers and employees covered under Chapter 77 will be voted upon by the directors of personnel services and the judiciary representative, and that all adjustments and their effective dates will be uniform among the jurisdictions.

DPS RULES AND REGULATIONS RELATED TO POSITION CLASSIFICATION AND JOB EVALUATION

<u>Reference</u>	<u>HRS Citation</u>	<u>Significant Provisions</u>
14-4-1	A:26-5,26-38 76-3,76-17 I:26-5,26-38 76-3,76-13 76-17	Establishes the policy to develop and maintain a state-wide system based on job analysis for classification of civil service positions and assignment of classes to pay ranges.
14-4-2	A:26-5,26-38 76-3,76-17 I:76-13	Position classification system shall provide for placing positions in appropriate classes. Classes will be established by the nature and level of duties, responsibilities and minimum qualifications. Official position descriptions are required.
14-4-3	A:26-5,26-38 76-3,76-17 I:76-13	Director shall establish standards for the development and maintenance of the classification system in terms of position descriptions, classes, and the position classification plan and other matters.
14-4-4	A:26-5,26-38 76-3,76-17 I:76-13	Director has authority to establish procedures for the development and maintenance of the position classification system.
14-4-5	A:26-5,26-38 76-3,76-17 I:26-5,76-13	Director has authority to place any appropriate position in a specific class and change the class of the position as necessary, consistent with the nature and level of duties, responsibilities and qualification requirements. The Director may also delegate and withdraw authority to other departments to assign positions into existing classes subject to a post audit by DPS. The effective dates of classification actions are also specified for new and existing positions.

<u>Reference</u>	<u>HRS Citation</u>	<u>Significant Provisions</u>
14-4-6	A:26-5,26-38 76-3,76-17	Defines the scope of administrative reviews as reevaluation of duties and responsibilities at time of original classification, and defines requirements for requesting an administrative review. The Director has authority to establish procedures for conducting the review.
14-4-20 and 14-4-21	A:26-5,26-38 76-3,76-17 I:77-4,77-5 A:26-5,26-38 76-3,76-17 I:77-4,77-5 77-11	Authorizes the Director to assign new classes to pay ranges in appropriate schedules and establishes principles for evaluation of class assignment to pay ranges. Requires adherence to the Board's policies and standards.
14-35-1 and 14-35-2	A:77-4 I:77-5,77-5 A:77-4 I:77-5,77-5	Establishes Public Employees Compensation Appeals Board (PECAB), pricing policies and standards for white and blue collar compensation plans, with the overall objective of maintaining proper relationships between classes within each compensation part and within and between political jurisdictions. Defines classes that are included in the blue and white collar compensation plans, authorizes the PECAB to establish rules and guidelines for determining which classes should be assigned to each plan, and deciding appeals of assignments. Authorizes the PECAB to adopt and maintain benchmark classes for each plan for purposes of ranking classes based upon one or more of nine factors separately or in combinations.
14-37	A:77-4 I:77-4,77-5	Employees, their representative, the director of a department or their representative, and employee organizations may all file appeals on their own class, their employee's class or their members' class and may also appeal to determine the inclusion/exclusion of a person's class from the blue collar compensation plan. Appeals shall be conducted based upon guidelines authorized in 14-35-2.

PECAB which adopts the recommendations unless there is an appeal.

- An independent PECAB which can hear appeals and rule on the assignment of individual classes to specific salary ranges. PECAB can establish its own policies and standards regarding the assignment of classes which must be enforced by the personnel agencies and cannot be overruled by the Governor.
- An independent Civil Service Commission (CSC) which can hear appeals and rule on the allocation of an individual position to a job class (the job class ultimately determines the salary range of the position).

As previously mentioned, administrative rules further establish requirements, processes and authority for statutory provisions which are usually more broadly stated. Title 14, Subtitle 3, Chapters 4 and 35 of the administrative rules for the State relate to evaluation and the related activity known as classification. (In simple terms, classification involves the allocation of an individual job to a class of work; evaluation involves determining the appropriate salary range for each class.) The most significant features of the administrative rules in Chapter 4 are that it provides for the following:

- A classification system that requires the establishment of classes and the placement of positions into classes based upon the nature and level of duties, responsibilities and minimum qualifications.
- Flexibility in that the exact method(s) which determines how the classification system will be maintained are not specified, nor are the methods by which classes are to be assigned to salary ranges, giving the director authority to establish and change such methods as long as statutory policies and standards are followed (the statutes also do not specify exactly what methods the State and Counties must use to perform classification or job evaluation).
- The director to have the authority to place a position in any class, change the class assignment of existing positions, and assign new classes to salary ranges. In addition, the director may delegate authority to executive departments to assign positions to existing classes.

- A job evaluation system that requires that classes be evaluated assigned to salary ranges based on their relative complexity, responsibility and qualification requirements, and in conformance with identified benchmarks, and those policies and standards required by statute.

Additional provisions in Chapter 35 establish standards to be used for evaluation, also known as pricing, which again in simple terms, is the actual determination of a class' assignment to a specific salary range. In effect, Chapter 35 codifies PECAB rulings related to pricing that have established the specific criteria, known as factors, used in pricing classes and how those factors will be applied. The most significant features of these rules are that they:

- Require the white and blue collar compensation plans to be regarded separately, relationships between classes are to be developed and maintained within each of these two plans, relationships cannot be established between white and blue collar jobs. In addition, relationships must be separately maintained within each "part" of the two plans. A "part" of the plan is understood to be a bargaining unit, thus relationships among classes in different bargaining units are not to be established or maintained.
- Salary range assignments for relatable classes within each part of the plan are to be consistent with a "ranking of classes from low to high" based upon variances in "complexities, difficulties and the nature of responsibilities." Benefits and working conditions are not to be considered in the assignment of classes to salary ranges, instead these differentials are to be treated separately.
- PECAB shall adopt and maintain "benchmark" classes for each part of both plans which will serve as the basis on which other appropriate classes will be related and priced. In other words, the benchmark classes will serve as the reference points, and virtually all other classes will be identified as being to some degree lower, higher or the same as the benchmark classes for pricing purposes. The benchmark classes are also the same for both the State and the Counties and can also be compared to similar classes of jobs in the private sector.

- Nine factors are to be used in evaluating classes for pricing, i.e., knowledge and skills required, supervisory controls, the availability of established guidelines for performing work (also indicating the degree of judgement required), complexity, personal contacts, physical demands, work environment, supervisory skills, and managerial responsibilities.

The general framework that has developed from the enactment of these laws and rules can then be characterized as being in one sense fairly broad, in that a specific method for classifying positions and evaluating classes is not specified, but alternatively the framework appears highly structured for reasons such as but not limited to:

- Equivalent salaries must be paid to workers in the same classes regardless of whether they work for the State the Counties or the Judiciary, even though the nature of working in a county versus the State as has been indicated from our interviews may create subtle differences in what could be considered the same job;
- The scope of negotiations for collective bargaining is limited in that for example class assignments to salary ranges are not negotiable;
- Classes which may logically appear related cannot be compared across either blue and white collar compensation plans, or across bargaining units (e.g., white collar building inspectors and blue collar construction workers, or white collar supervisors and white collar nonsupervisory personnel).
- Specific criteria or factors to be used in evaluating jobs and the use of benchmark classes is specified.

### 1.2.2 The Structure of the Existing System

In that there seemed to be some confusion regarding how the various pieces of the current system were related, and the responsibilities of different key organizations, we have prepared a brief description of who the major actors are involved in the current system specifically related to job evaluation and their basic responsibilities.

Department of Personnel Services (DPS). The State's Department is responsible for performing classification for all State civil service positions. In addition, DPS performs the initial evaluation for all newly established State classes and also uses evaluation procedures when it performs periodic studies of certain classes or occupations. The DPS essentially sets the example for policies and methods in these two activities which in practice are generally followed by the other jurisdictions, although the jurisdictions have significant autonomy. The director of the department also serves as the chairman of the Conference of Personnel Directors (CPD) which reviews the compensation plan every two years. DPS is not represented on PECAB, nor does it provide staff support to the board except to make arrangements for meetings prior to the board beginning its session. DPS does not file appeals to PECAB, but it does submit and make presentations before the Board in response to appeals by others.

County and Judiciary Departments of Personnel. Like the State's department, they are responsible for performing position classification and evaluation of classes for all of their jurisdiction's positions. Like DPS they participate in the CPD, but are not members of PECAB. They also do not file appeals to PECAB, but do submit and make presentations in response to appeals.

Executive Departments -- State and County. There is at least one position designed to handle personnel matters in each of the State's departments other than DPS and a similar position in the departments within the City and County of Honolulu, and to some extent in the other counties' departments. Some State departments also have personnel officers at the division level as well. These personnel positions in both the State and the counties generally assure that the position description for each job within their assigned department is properly prepared and adequately describes the job before making an initial classification recommendation to the State or County personnel department. If a new class is required because the position does not properly fit into an established

class, then they also make an initial pricing recommendation. The personnel department makes the final decision regarding either type of recommendation. In addition, departments may file requests for adjustments to a class' pricing with the CPD or file an appeal with PECAB. It is important to consider that if there are more than one internal request to the CPD for an adjustment for a single class, (e.g., nurses in each of the different hospitals request different amounts of adjustment) the department is responsible for reviewing the requests, selecting one of the requests, or consolidating them for submission to the CPD. If employees are dissatisfied, they cannot make a request to the CPD, but can appeal to PECAB.

Individual Employees. Employees may seek changes to their position's classification, the creation of a new class, or repricing of their class through their department. They can also appeal their position's classification to the Civil Service Commission or the pricing of their class to PECAB.

Employee Organizations. These organizations, such as HGEA, represent the interests of their members in a variety of ways in addition to negotiating wages and benefits. They appear before each of the boards and the CPD discussed below, and they can submit appeals in behalf of employees to the PECAB and the Hawaii Labor Relations Board. They may also assist employees in reviewing position descriptions, monitor the classification activities of the departments, and assist employees in preparing requests for administrative reviews prior to filing appeals. They may either assist employees in requesting and appearing before appeals boards or actually represent them.

The Conference of Personnel Directors. The CPD is comprised of the directors of personnel for the State, counties and the Judiciary each of whom has one vote in its proceedings. Employee organizations may present requests for adjustments, but they do not have a vote. The CPD meets biennially to review the compensation plans to determine if adjustments are warranted for individual classes.

While in theory it is supposed to examine the entire compensation plan, in practice it primarily acts on requests for adjustments made by departments and employee organizations and acts on these requests for adjustments. In addition, it may on its own initiative, undertake a review of other classes. Once the CPD has completed its deliberation, it submits its recommended compensation plan to PECAB including a report containing recommendations on all of the requests and other actions it has considered. This recommended plan is published in newspapers within the State and employee organizations, employees, and executive departments may appeal the recommended pricing of any class (employees must be members of the class). If there is no appeal, the recommendation automatically takes effect.

Public Employees Compensation Appeals Board. PECAB is a lay-person board comprised of one representative and an alternate elected by each of the civil service commissions for each jurisdiction, and approved by the Governor. PECAB also meets biennially in the same year but after the CPD meeting. PECAB, thus, is only actually in existence for about four months every two years, and generally meets only about one week each month during that period, although at other times members would be involved in reviewing documents submitted. PECAB hires its own staff once the board has been appointed and this staff is responsible for assisting the board in its deliberations and documenting decisions made by PECAB at the end of the session. PECAB may act only on appeals submitted by employee organizations, employees, and executive departments. Unlike the CPD, it cannot make an adjustment to a class on its own initiative. Finally, PECAB must establish rules and policies that affect pricing of classes. The board may adopt rulings either as a result of its actions on pricing recommendations, or in response to a request for a ruling, which according to its rules, may be made by "any interested person or agency." A hearing on proposed rules and rule changes is conducted following public notice, and the board's final action becomes effective after filing with the lieutenant governor's office. The board essentially follows the same procedure for the appeal of its rulings.

Civil Service Commission (CSC). As previously mentioned there is a separate CSC for each jurisdiction. The lay members of the counties' CSC's are usually appointed by the mayors, while the lay members of the State CSC are appointed by the Governor. The CSC's have a variety of responsibilities, but in terms of job evaluation, their most significant is hearing appeals on the allocation of a position to a class (this allocation effectively establishes the pricing for the position). The CSC's are not allowed to hear appeals on the actual pricing of a class. The CSC's usually meet monthly and also have a separate staff. An employee, employee organization or executive department may appeal the allocation, and the personnel department may make presentations in response to the appeal.

The Hawaii Labor Relations Board (HLRB). This state-wide board is appointed by the Governor. It also has a variety of responsibilities, only one of which indirectly may affect job evaluation. They are responsible for hearing appeals on the designation of positions to bargaining units. Given the restriction on relationships between classes across bargaining units, among others, this could have an indirect impact on job evaluation through the designation of the appropriate wage schedule for the position. Only the employee organization or the personnel departments may submit an appeal to the HLRB. HLRB is a quasi-legal entity so that more legalistic procedures are followed, unlike the other boards which generally use administrative procedures. It meets monthly and has its own staff, although hearings on bargaining unit determination are scheduled only when such cases are filed with the Board.

### 1.2.3 The Existing Method of Job Evaluation

We have previously indicated that the existing system consists of three major components which each in turn consists of a complex series of activities and actors. Job evaluation is only one of these activities, but a highly important one. In order to fully understand the method used for job evaluation, one must also under-

stand the method used for classification, which is a separate but integrated activity, and compensation. In order to present a basic understanding of these components we will first more precisely define them, and then outline the essential characteristics of each one.

- Classification involves the analysis of the duties and responsibilities of jobs and the qualifications required for successful performance of these duties and responsibilities. Other pertinent factors such as the relationships among jobs and the function of the program where the job is located are also considered. Based on the analysis of this information, and its comparison with existing classes each position is placed in the most appropriate class. If no appropriate class exists, classification also involves the development and description of a new class. New classes may also be developed when changes in an occupation, reorganizations, new programs, etc., create new or revised duties in groups or positions.
- Job evaluation is the process of determining the appropriate salary range for a class within the appropriate bargaining unit. The assignment of a class to a salary range takes into account its relationship to benchmark classes and other pertinent classes (i.e., "higher than," "lower than," or "the same as" in terms of level of difficulty and responsibility, qualifications required, working conditions, management responsibilities, etc.). A recent ruling by PECAB (in 1982) now requires that a class may only be related to other classes within the same bargaining unit for pricing purposes, although previously there was no such restriction. The assignment of a class to a salary range thus determines the "equivalence" of the class with all other classes assigned to the same salary range in the same schedule, and its rank order relative to all other classes assigned to all ranges in the same schedule. The assignment of a class to an SR in a particular salary schedule, also determines which range of pay rates will be applicable to all employees in that class.
- Compensation, unlike classification and job evaluation, is not a process that is performed, but rather is the end result of the historical interaction of a number of forces and influences that are reflected in the dollar amounts for each salary range contained in the different salary schedules. In other words, we are defining compensation as the actual amount paid to an employee as established for each salary range in

each schedule. Originally and until 1967, there was only one salary schedule and the dollar amounts paid were established by the Legislature. In 1967, the one schedule was divided into two separate schedules for white collar and blue collar classes. With the introduction of collective bargaining in 1970, the two salary schedules were then divided into 13 salary schedules--one for each bargaining unit. For about the past fifteen years, compensation has been most directly influenced by collective bargaining negotiations.

In summary, classification involves assigning an individual position to a class; evaluation or pricing involves determining the relative value of the class in comparison to other classes and the value is indicated by the class' salary range assignment; finally, the amount to be paid in each salary range is the result of compensation actions which more recently have included collective bargaining.

There are a number of methods that may be used to perform either classification or job evaluation. The method used by the State and other jurisdictions to perform the classification component is referred to generically as the "classification method" although in Hawaii this generic method has been adapted. It is important not to confuse the method with the component -- the classification component can be performed using point system methods, the classification method, or other alternatives. The method used to perform job evaluation can best be described as a factor comparison method, which has also been adapted for use in Hawaii. The existing method used by the State and Counties, for example, uses factors for evaluation which are more typically found in point systems, although no points or weights are assigned to the factors used by the Hawaii jurisdictions.

The most significant features of the existing method for both the classification of positions and the evaluation or pricing of classes are as follows:

- Position descriptions are developed within executive departments to identify and define the essential content of a job in narrative terms.
- The position description for an individual job is analyzed and compared to established classes of work. These comparisons are confirmed through additional comparisons to position descriptions for other positions within that class of work. In addition, narrative specifications for each class of work are reviewed which indicate the relative degree of duties and responsibilities, required qualifications, nature of work, authority, for positions within that class to determine the most appropriate match between established classes and the position.
- Established classes have already been assigned a salary range (SR), so the act of allocating a position to a class also automatically completes the job evaluation process for the position as it is considered "equivalent" in value to other positions within that class.
- If there is no established class which is a satisfactory match for the position, a new class is created. Class specifications are prepared which include a description of the characteristics of the work and positions within the class, as well as the minimum qualifications for the class. The objective of the specifications is not only to indicate the duties and responsibilities of the positions within the class, but also distinguish the class from other classes if not always explicitly. Sources of information such as the University (educational requirements), the Federal government, and the private sector may be consulted in order to prepare the specification.
- The classes are then priced by reviewing the specifications against the nine established PECAB factors. It should be noted that the specifications are not necessarily prepared in an explicit relationship to the factors where each factor would be identified and addressed in the specification. The person performing the pricing is supposed to consider each factor even though one or more may not appear relevant to the class, e.g., management responsibilities for lower level, nonsupervisory classes.
- Benchmark and other nonbenchmark classes within the same or related occupational groups are then compared to the class in question. A factor by factor comparison is made between the benchmark class(es) selected as the most relevant to the new class. Based upon this comparison, a judgement is made that the new

class is of lower, higher or equal complexity, to the benchmark class(es). The degree of difference (or the similarity) between the new and benchmark class is used to determine a relationship that indicates that the new class is so many SR's higher or lower than (or the same as) the benchmark. The same process occurs when considering the class in question to other non-benchmark classes that are considered to be within the same or a related occupational group. There are eight major occupational groups and six sub-groups within the white collar plan. Occupational groups and sub-groups often include classes in different bargaining units but since 1982, comparisons of classes across bargaining units have been prohibited.

- The final decision is documented in what are known as "pricing folders" for each class, as are the rationales for any subsequent adjustments to the pricing of the class resulting from PECAB actions. The decisions are then circulated to the other jurisdictions for their approval prior to becoming effective.
- Whenever a class' pricing is being reconsidered, either administratively or as a result of an appeal the same process is essentially used: comparisons are made between the class and its established benchmark class, as well as between other classes within the same or related occupational groups/sub-groups.

While we recognize we have not presented a detailed discussion of the existing method, we believe the above should provide a sufficient understanding of the system in order to consider the methods used in and the results of the job evaluation we have performed of the selected classes and our discussion of the existing system and method throughout the remainder of the report.

Until now we have discussed two of the major components of the job evaluation system, classification and evaluation. The end result of these two integrated components of the system is essentially the determination of the value of a position and its class in relation to other classes as indicated by its assignment to an SR. Compensation is the third component of the system. While the classification and job evaluation components determine the relative value of an individual class within the hierarchy of classes as represented by its SR rating, compensation is the monetary amount paid to all clas-

ses assigned to a specific SR. As previously mentioned, the monetary amount of a particular SR today is the cumulative result of a number of forces that over time have influenced the 13 different salary schedules for each of the bargaining units.

In order to understand the compensation component, it must be understood that the job evaluation and compensation components have been in reality inextricably tied together in the past, although this has been changing. In any organization, it is virtually impossible to totally divorce the act of determining a job's relative value from consideration of how much it is to be paid in relation to other jobs. In Hawaii, until the late 1960's there was only one salary schedule. Thus, an SR was directly related to a specified amount of compensation and all classes within the State assigned to that SR received the same compensation. The determination of a class' relative value through job evaluation, its SR, was in reality the same as determining its relative monetary compensation. An interrelationship between what was considered the relative value of a class and what it was to be paid was, therefore, only natural. That such an interrelationship occurred in the past, either consciously or unconsciously, has been indicated by State and county personnel.

The fact that such an interrelationship occurred is also evident when one considers how adjustments were made in the past when shortages of qualified personnel in particular classes developed, usually due to lower wages than were available in the private sector. When these shortages occurred, the practise until recently, was to increase the compensation of these classes by adjusting their SR upward. The same practise was also used when a new class in a new or highly technical area was created -- the SR was increased so the dollar amount paid would be more in line with what was being paid for such people in the market. In short, the SR ratings which now exist today do not only reflect internal alignments of classes in relation to their value to the State and counties; but there has been both conscious and/or unconscious interaction between job evaluation and compensation considerations in the final determination of

the value (SR rating) of the class and in some cases external influences have become incorporated into SR ratings.

With the introduction of collective bargaining in 1970, however, the interaction between job evaluation and compensation became more complicated. At that point, 13 separate bargaining units were created each with a different salary schedule and each composed of a series of SR's. The same SR in different units began to be paid different amounts based upon separate negotiations for each bargaining unit. The assessment of a class' value relative to all other classes, then, was more difficult if for example, a class assigned to SR 10 in one bargaining unit actually received less compensation in monetary terms than a class assigned to SR 10 in another bargaining unit. For this reason, in more recent years, DPS has indicated a greater effort has been made to differentiate between job evaluation which results in the SR assignment, and compensation which is the actual monetary amount of the SR in the appropriate salary schedule. Job evaluation, and the resulting SR, is now viewed by DPS and the counties as a relatively "pure" rating of the value of a class in relation to the hierarchy of classes within a bargaining unit.

What must be remembered, however, is that this is a relatively recent phenomenon, and that the class structure that exists today was largely developed prior to the introduction of collective bargaining. The existing class structure is thus a result of a history of interaction between job evaluation and compensation that has begun to change only in the past ten to fifteen years. Due to this history, it would seem questionable to suggest that the SR ratings that exist today are "pure" of compensation influences. Rather what appears to be the case is that SR ratings for classes have remained relatively constant, but that the dollar amounts paid in the SR's for each bargaining unit have increased by different amounts due to separate negotiations. However, we do not believe based upon the evidence we have examined, that these negotiations have resulted in any serious distortion of the relationships in the monetary amounts

of each SR within a bargaining unit (e.g., the amount paid to SR 5 is still higher than the amount paid to SR 4 in Bargaining Unit 3). Thus, while collective bargaining may have distorted monetary relationships between the same SR in different bargaining units, we believe the relationship between an SR rating and its associated monetary amount, as well as the relationships between the monetary amounts of the SR's within a unit have not been seriously distorted by collective bargaining.

The interaction between pricing and compensation, as well as possible influences of collective bargaining, suggest that the use of only quantified analyses of classes to determine inequities will not be able to conclusively identify whether the cause of the inequity is due to improper job evaluation, or the other forces that have influenced the amount paid. The causes of the inequities must be separately determined based upon the history of actions affecting any individual inequitable class. For this reason, we present the results of our analysis of the classes, then a separate discussion of what appears to be causes of inequities identified through that analysis.

### **1.3 Outline of the Remainder of the Report**

This chapter of the report has presented an overview of both the issue of pay equity and the three components of the State's existing job evaluation system. The descriptions contained in these overviews will be expanded upon where relevant during the remainder of the report. The remaining chapters within the report will present the following:

- Chapter 2: Methodology Used in Performing the Study - this chapter presents an explanation of the methodology and research design used for conducting our evaluation of selected classes and the methods used to identify factors perceived to be contributing to possible inequities, and actual causes of inequities identified from our evaluation.

- Chapter 3: Results of the Evaluation of Selected Classes - this chapter presents those individual classes that were found to have pay inequities based upon the methodology described in Chapter 2. It also addresses whether a sex-based pattern of inequity exists based upon the individual classes identified.
- Chapter 4: Perceived Factors and Identified Causes of Inequity - this chapter distinguishes between general factors that are perceived to be contributing to inequities, and specific causes of individual inequities identified for individual classes. An assessment of the relative significance of the causes is presented in order to determine the most important causes that should be addressed in correcting inequities.
- Chapter 5: Conclusions and Recommendations - based upon the assessment of the most important causes of inequities, this chapter presents overall conclusions and recommendations.

## Chapter 2

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# Methodology Used in Performing the Study

## Chapter 2: Methodology Used in Performing the Study

### Overview

This chapter of the report describes the methods that were used in conducting the job evaluation of the selected classes, and the methods used to identify and assess both the perceived factors as well as the causes of specific pay inequities. It is organized into two major sections:

- Job Evaluation Methodology Utilized
- Methodology for the Analysis of Factors and Causes

### 2.1 Job Evaluation Methodology Utilized

It should be first understood that there is no single accepted methodology for conducting pay equity studies. In addition, for reasons explained later in this section, the purpose and parameters of this study are somewhat different than what has been the case elsewhere in pay equity studies in the U.S. This section presents a description of the design of the overall methodology developed for this study, the two job evaluation methods that were used in evaluating the selected classes, and the approach used to assessing the results of the two methods.

#### 2.1.1 Design of the Overall Methodology

The basic parameters of the study design were established by Act 157. The Act specified:

- The bargaining units from which the classes to be studied should be drawn, i.e., units 3, 4, 9, and 13
- How sex dominance was to be defined, i.e., 70% of the incumbents in a class had to be either male or female
- That a study of the existing system and laws affecting civil service compensation be made
- That classes which can be reasonably compared should be studied to determine if sex based wage inequity exists.

The Act did not specify what methods should be used in comparing the classes nor in conducting other aspects of the job evaluation for the study. The study design was then further developed following a review of the existing system now used by the State and Counties and in consultation with the steering committee established for the study consisting of the Director of the State Department of Personnel Services, the Executive Director of the Hawaii Government Employees Association and the Legislative Auditor, the latter also serving as the project coordinator. Additional guidelines for the study were established by the committee based upon their interpretation of the Act. One such guideline was that the existing system and laws for civil service compensation were not only to be studied, but were also determined by the committee to be applicable for the job evaluation portion of the study so that our evaluation would in effect be subject to the same parameters as the evaluations performed by the State and counties. The most significant of these parameters were that our evaluation should be performed using the same nine evaluation factors used by the State as discussed in our overview to the existing method in Chapter 1, that at least one method used in the analysis should as closely replicate as possible the method now used by the State and Counties and that classes could only be evaluated in comparison with other classes in the same bargaining unit. Had additional or different parameters been established, such as allowing across unit comparisons of classes, it is possible that the results of our analysis may have been different than what was found based upon the parameters that were established.

Once these parameters were established, we further refined the study design through the following steps which were mutually agreed upon with the steering committee.

(1) Additional criteria were established for the classes to be studied.

- We first determined that the minimum number of incumbents in each class to be studied should be set at 10 at a cut-off date of July 1, 1986. This criterion

would assure that the study focused only on the classes in which we were reasonably confident that they could be categorized as clearly male or female dominated. This criterion also increased the assurance that the classes examined would not be those which are subject to possible shifts in the sex dominance of the class by a small change in the number of incumbents. The resulting classes would then be the ones most clearly sex-dominated.

- We then added a criteria that the classes studied should be "journeyworker classes". In most cases there are a series of job classes that are related to the level of difficulty of different job levels within a single occupation (e.g., Clerk I, Clerk II, Clerk III, etc.). The journeyworker level within each series is characterized as that which requires independent performance of the full range of duties and responsibilities of the occupation as required by the work setting. But more important, the pricing of all of the other classes within a series are usually established in relation to the journeyworker class, and usually in equal increments above or below the SR assigned the journeyworker class (e.g., if Clerk Typist II is the journeyworker class at SR 8, the Clerk Typist I would be assigned to SR 6 and the Clerk Typist III to SR 10). Use of the journeyworker classes then, focused the study on classes which were most important in the pricing of related classes.
- Classes which included only positions either excluded from collective bargaining or exempt from civil service were excluded. The Act was considered to be reasonably clear in restricting the study to examining classes subject to collective bargaining and within the civil service. Within the four bargaining units specified in the Act, however, there are certain classes whose incumbents are all exempt from civil service requirements and/or collective bargaining. These classes were, therefore, eliminated.
- Classes which were under administrative or appellate review were excluded.
- Due to the small number of classes in Bargaining Unit 9, classes in this unit were consolidated with classes in Unit 13.

These additional criteria discussed above led to a total of 82 job classes being included within the study. Because this sample of classes was limited by the Act and these additional criteria to sex-

dominated journeyworker classes in these bargaining units, it is not possible to generalize results of analyses based on this sample to all classes within the bargaining unit as nonsex-dominated classes were not included in the study. However, it is possible to generalize results based on this sample to all other sex-dominated classes in these bargaining units. Exhibit 2 presents the distribution of male dominated and female dominated job classes in the study by bargaining unit.

EXHIBIT 2

**NUMBER OF MALE-DOMINATED AND FEMALE DOMINATED CLASSES**

<u>Bargaining Unit</u>	<u>Male Dominated</u>	<u>Female Dominated</u>	<u>Total</u>
03	16	44	60
04	-	-	-
09	-	2	2
13	<u>11</u>	<u>9</u>	<u>20</u>
Total	<u>27</u>	<u>55</u>	<u>82</u>

(2) Two different methods of job evaluation were selected with which to evaluate the classes.

Neither of the two methods ultimately selected were considered to be of greater importance or to have provided more meaningful results. Both were considered to be of equal importance but represented different approaches to evaluating the classes in the study. Each method, then, would be used to establish the expected value of all of the classes in the study which could then be compared to the value currently assigned to the class (the SR), and the relationship between the expected value and the amount it is currently compensated. In this way, two independent tests of the current State system of SR and wage determination could be made.

A paired comparison (PC) method was designed to replicate the current State practises as much as possible using the same nine factors as evaluation criteria. A second method known as the Decision Band Method (DBM), was also used to provide another test independent of the evaluations that have resulted from the use of the existing State method and criteria. The two methods, or tests, were performed independently to avoid possible rater contamination of the ranking results. The DBM was selected for use rather than other methods such as point systems, as DBM is similar to the current system in that it evaluates the entire content of a job. DBM is different than the current method, however, in the criteria that are used, the theory and foundation on which it is based, and it results in a "score" or more appropriately, a rating, for each class which can be used to easily compare to ratings for other classes. More detailed explanations of how these methods were used are provided in sections 2.1.2 and 2.1.3 which follow, and a fuller explanation of the DBM is provided in the appendix.

These methods were selected for a variety of reasons. First, the PC method allows the use of the nine factors established by PECAB in a way that is similar to that used by the State in comparing one class to another as previously explained in our overview of the method in Chapter 1. No points or numerical score, however, are assigned to the classes by the State and Counties. In practice, the weight attached to each factor by the State and Counties varies depending upon the class being evaluated and the bargaining unit to which it is assigned. In addition, DPS informed us that records of the evaluation decisions are not kept in a manner which would have allowed us to review and audit their decisions on a factor by factor basis. Based upon this lack of full documentation, we could not, therefore, assess or exactly replicate the State's practices, but they were approximated with the paired comparison approach and by using the same factors.

The second method was selected because job evaluation is inherently a subjective process which involves the application of human judge-

ments and values. It was, therefore, determined that a thorough examination of sex-based wage inequity would benefit from the application of a method which is independent of current State practices and uses different evaluation factors. In this way, greater confidence is placed in the study's conclusions if it can be demonstrated that two independent and independently applied job evaluation methods identified the same classes as being inequitably valued or compensated. The PC and DBM methods were applied independently of each other by different members of the project team to avoid any potential contamination of the evaluation decisions arrived at by the application of the other method.

- (3) The official classification specifications were used as the base of information for evaluating the classes.

Classification specifications for each of the 82 classes were provided by DPS, in addition the Department provided information about the characteristics of journeyworker classes used in the State. DPS also provided assistance in defining and clarifying class responsibilities, work environments, the knowledge, skills, abilities and minimum qualifications of certain job classes determined by the consultant to require clarification. To focus the study on whether job classes have been inequitably valued or compensated as stated in the Act, precluded the collection and assessment of position descriptions, job questionnaires, field interviews and observation, and job audits.

- (4) Results of the evaluation of each class were used to construct relative class hierarchies and were used in statistical analyses.

Once the two evaluation methods were applied to of each class an expected value from each method was established for the class. A separate hierarchy of classes was then developed from the results of each of the two methods. The hierarchies were constructed by reviewing the overall ranking for each class resulting from the evaluations in relation to each other.

Additional analyses involving sophisticated statistical techniques were then used to predict what the SR assignment of each class should be based upon our expected value of the classes which could be compared to the actual SR assignment developed by the State and Counties. In addition, the relationship between the expected value and compensation was analyzed using both the minimum dollar amounts and the maximum dollar amounts of each SR in each bargaining unit (i.e., the lowest and the highest step for each salary range). The distinction between minimum and maximum wage levels was made in recognition that wages increase over time, although not always at the same rate. In addition, our analysis of the salary schedules for these bargaining units indicated that the dollar amounts of the minimum level wages ranged much more widely than the dollar amount of the maximum levels, in other words there appears to be a "funneling effect" where the lower level salaries for each distinct SR are more broadly based, but there is a tendency for the range for all SR's to narrow as each SR progresses toward the maximum. In order to more accurately determine if inequities exist, both ends of the range were used. These analyses are more fully explained in Sections 2.1.2 and 2.1.3 which follow. These analyses resulted in a series of comparisons of the predicted SR assignment for each class to the actual SR assignment made by the State and counties and their actual compensation.

- (5) Results of PC and DBM evaluations were combined to provide greater reliability in the determination of sex-based wage inequities in value and compensation.

As previously stated, two methods were used so that our conclusions regarding whether any one class was inequitably valued or compensated would be based on a replication of the existing State method and an independent method. Once it was determined that a class was either valued or compensated inequitably based on analyses of results from both methods, the sex of the inequitable classes was identified. Our study was, therefore, designed to identify all inequitably valued or compensated classes through sex-neutral anal-

ySES and then to determine if any inequities that were found exhibited sex-based patterns.

### 2.1.2 The Paired Comparison (PC) Evaluation Design

The paired comparison approach used each of the nine PECAB factors as shown in Exhibit 3 and each of the 82 classes was evaluated one by one against every other class in the same bargaining unit on each of the nine factors. The study evaluation team was required to determine for each pair of classes, if one class contained more than, less than or about the same level of value on each factor as the class to which it was being compared. Point values of 0, .5 or 1 were assigned if the class was less than, about the same or greater in value on each factor.

Three team members were assigned to assess the value of each class against every other class. An initial evaluation was performed by one of the members of the job evaluation team. These results were then reviewed by two other members of the team for discussion and clarification of the job's relationship to the other classes evaluated. Finally, a consensus was reached by these evaluators to produce a final job evaluation decision.

Since the State does not currently apply a formal, consistent differential weighting scheme to the nine PECAB pricing factors, it was impossible to replicate the State's weighting in the study, thus we initially suggested that each factor be weighted equally and assigned a weight of 11% (i.e., 9 factors x 11 = 99). Through further discussion with DPS, it was determined that this would be an inappropriate way to weight each of the factors and would not reflect DPS's actual use of the factors in their pricing process. Members of the DPS Classification and Compensation Review Division, in committee, discussed the weight each factor is usually given in arriving at their pricing decisions. They ultimately produced a weighting scheme which they considered generally consistent with their current practices for white collar classes and it was thus used by the consultants. This weighting scheme is shown in Exhibit 4.

**PECAB JOB EVALUATION FACTORS**

<u>FACTOR</u>	<u>DEFINITION</u>
Factor 1: Knowledge and Skills Re- quired	The nature and extent of information or facts which must be understood and applied in order to do acceptable work, and the nature and extent of skills needed to apply these knowledges, i.e., training and experience.
Factor 2: Supervisory Control	The nature and extent of direct or indirect controls exercised by the supervisory, i.e., the extent of responsibility for work product and the methods of reviewing completed work.
Factor 3: Guidelines	The nature of the guidelines available and the judgement in applying them.
Factor 4: Complexity	The nature, number, variety and interacacy of tasks, steps, processes, or methods in the work performed; difficulty in identifying what needs to be done; the difficulty and originality involved in performing the work; and the scope and effect of work done.
Factor 5: Personal Contacts	The nature and purpose of face-to-face, telephone, and other dialogue with persons not in supervisory chain which range form the exchange of information to those cases involving significant or controversial issues, differing viewpoints, goals or objectives.
Factor 6: Physical Demands	The physical abilities and exertion required.
Factor 7: Work Environment	The risks and discomfort in the work's physical surroundings or the nature of the work assigned and the safety precautions required.

PECAB JOB EVALUATION FACTORS

<u>FACTOR</u>	<u>DEFINITION</u>
Factor 8: Supervisory Skills	The nature and scope of getting work done by subordinates and accountability to superiors for the quality and quantity of work and for assuring efficient and economical work operations.
Factor 9: Managerial Responsibilities	The nature and scope of line or staff programs which involve: (a) Directing the work of a sizeable organization through subordinates who control and guide the operations; (b) Making decisions or recommendation on contents and character of operations, policies, programs and goals, planning and evaluation activities, and personnel matters affecting key persons and positions; (c) Monitoring and accounting for the success of specific line or staff programs and for attainment of planned goals and objectives; and (d) Assessing the impacts of operational activities on public relations, legislative or judicial concerns, and labor-management affairs.

**JOB EVALUATION FACTOR WEIGHTS**

<u>FACTORS</u>	<u>FACTOR WEIGHTS</u>
Knowledge and Skills	15
Supervisory Controls	9
Guidelines	9
Complexity	22
Personal Contacts	7
Physical Demands	3
Work Environment	2
Supervisory Skills	11
Managerial Responsibilities	22

Note: The above weights were developed by DPS for use only in this study. They should not be considered as applicable outside the context of this study.

The PC method produced a raw numerical score for each class in comparison to all other classes on each factor resulting from the low, same or high comparison. These raw scores on each factor were then multiplied by the factor weights provided by DPS and finally the weighted scores for each factor were summed to produce a total point score for each class. While supervisory skills and managerial responsibility factors were used in the comparisons, the PC ratings on these factors were considered equal for all job classes since journeyworker classes are not supervisory and thus should not have these criteria applied. The ratings on these two factors were thus constant for all classes and nullified their influence in the overall rating. These calculations produced a total point value for each of the 82 classifications evaluated. Finally, this hierarchy was reviewed by a fourth member of the study team to assess the overall reasonableness of the hierarchy.

Since the State's PECAB administrative rules prohibit the comparison of jobs within a bargaining unit to other jobs outside of the bargaining unit, separate calculations of PC job values were produced for each separate bargaining unit. Total point values for Unit 3 classes were calculated only for the comparison of jobs within this bargaining unit. Likewise, classifications in Units 9 and 13 were compared and point totals calculated only for classes that are included in these units.

Section 2.1.4 discusses in greater detail the manner in which the PC point scores were used in the analysis.

### 2.1.3 The Decision Band Method (DBM) Evaluation Design

Using the same classification specifications as used for the PC evaluation, as well as the class series definitions and clarifications of class content provided by DPS, a second team of evaluators applied the Decision Band Method of job evaluation to the 82 classifications. The evaluation of classes using DBM was done independently of the job evaluation team which used the PC evaluation ap-

proach, although the process of evaluation, review and final decision-making was similar.

The DBM process involved three stages. First a member of the DBM evaluation team evaluated the classifications to determine an initial rating decision. Then a second and third member of the team reviewed and discussed the results for clarification and a final decision. Because DBM requires the evaluator to make three separate reviews of each class in order to determine a classification's value, the review process occurred after each of these three stages.

The first review required examination of each of the class duties and responsibilities to assess which of six "decision bands" (i.e., "A" through "F") the class should be assigned. Exhibit 5 illustrates these six bands. This is done by assigning each task or responsibility from the class specification to one of the six decision bands. The class itself is ultimately assigned to the decision band of the highest banded task (e.g., if 5 tasks are banded at B, and 1 is banded at C, the class is banded at C).

On the second review, the evaluator examines the classes assigned within each decision band to determine if each class' duties and responsibilities involve directing the work of other classes assigned to the same band. This is the grading decision. If such is the case, the directing class is graded higher (i.e., 1 to 3) than the directed class also as shown in Exhibit 5.

Finally, the classes which have been grouped into similar bands and grades are assigned an appropriate subgrade. The subgrading process requires the evaluator to compare each class to every other class within the same band and grade, on three primary characteristics:

- Relative percent of tasks assigned to the highest band
- Relative percent of time spent on the highest banded tasks



# DECISION STRUCTURE

Band		Grade		Sub-grade
F	Policy	11	Coordinating	1
F		10	Noncoordinating	3
F		10		2
F		10		1
E	Programming	9	Coordinating	2
E		9		1
E		8	Noncoordinating	3
E		8		2
E		8		1
D	Interpretive	7	Coordinating	2
D		7		1
D		6	Noncoordinating	3
D		6		2
D		6		1
C	Process	5	Coordinating	2
C		5		1
C		4	Noncoordinating	3
C		4		2
C		4		1
B	Operational	3	Coordinating	2
B		3		1
B		2	Noncoordinating	3
B		2		2
B		2		1
A	Defined	1	Noncoordinating	3
A		1		2
A		1		1

Typically 27 In Total

- The complexity and/or difficulty of performing the highest banded tasks.

Several unique issues were considered in the application of the subgrading process in this study. First, the State's classification specifications do not indicate the relative time spent for each task. Thus, this subgrading criteria was not used in the evaluation process. Secondly, the State's class specifications do not allow a strict counting of the number of tasks in order to determine a relative percent of tasks of a higher band. Because of this, an overall estimate of the relative number of tasks was used for this subgrading component. Finally, the subgrading criteria of complexity was further divided into several additional criteria in order to assess this characteristic. These criteria included:

- Essential skills and knowledge required
- Time pressure
- Need for care and precision
- Need for alertness
- Physical effort required
- Required training time
- Heterogeneity of tasks (variety)
- Technical difficulty

Classes were also assessed on the working conditions elements of the class in terms of hazards and risks and work environment.

When each of these criteria were evaluated, combined with the relative percent of total tasks of a higher band, and compared to other classes within the same band and grade, a final subgrade value (i.e., 1 to 3) was assigned to each class. This subgrade, when combined with the band and grade decisions made earlier, resulted in an overall class hierarchy of all of the classes evaluated in each bargaining unit.

The final class hierarchy was then reviewed by a fourth study team member to determine the overall reasonableness of the values assigned.

#### 2.1.4 Approach to Assessing Results of the Two Methods

The study design was developed so that the value of each class as determined from the PC and DBM methods could be compared to the existing State determination of value for each class as represented by both the SR assignment and the corresponding compensation for the SR's. As previously discussed in Chapter 1, both SR's and compensation must be examined together as it is not possible to distinguish their effects due to the interaction between the two that has occurred over time. We have, therefore, performed separate analyses using the value of the class as determined by both methods to predict what would be an expected SR rating and an expected salary amount and then consolidated the results of both types of analyses. In short we have compared the expected value of the class to different measures: relative value and compensation.

It should be remembered, though, that each SR consists of a series of longevity steps such that there is a minimum amount and a maximum amount associated with each SR. We have, therefore, further delineated the comparison of value to salary amounts into separate minimum and maximum salary comparisons in order to account for the fact that incremental increases in amounts between steps are not always the same for each SR. This study design thus produced three basic types of comparisons for the two methods used in the study as shown below.

		<u>PC</u>	<u>DBM</u>
Value:	SR	X	X
Compensation:	Minimum salaries	X	X
Compensation:	Maximum salaries	X	X

Within the minimum and maximum types of comparisons, a series of more specific analyses were performed. A description of these analyses performed for all three types of comparisons follows.

(1) PC/SR Comparison

The PC/SR comparison involved converting the PC raw scores into grades similar in structure to the SR's used by the State. This consisted of grouping raw scores together. For bargaining unit 3 classes, the PC raw scores ranged from 128.4 to 461.6 points. Because this range of points for the classes evaluated encompassed existing SR's from 5 to 21, or 17 SR's in total, the PC raw point scores were divided into 17 equal grades. Each grade consisted of a range of 20 points, with the first grade starting at 10 points below the lowest raw PC point score. This procedure allowed the comparison of the results of the PC scores directly with the current SR's assigned by the State.

For bargaining units 9 and 13, the range of PC points was from 53.8 to 163.4. The classes evaluated encompasses a total of 9 SR's in the current State system. The grade range this produced was 12 points, with the first grade starting 6 points below the lowest raw PC point score.

Once the PC grades were calculated, they were compared to the actual SR's to test the correctness of the current assignments of each class to its SR. This comparison was made for each bargaining unit. For purposes of analysis, it was decided that if a class had an actual SR which was within a range of plus or minus 2 from the predicted PC grade, the actual SR and the predicted PC grade would be considered to be reasonably comparable. If the actual SR for the class differed by more than 2 PC grades -- either higher or lower than the predicted PC grade -- the class was determined to be either higher or lower than expected.

Since the classes were evaluated based only on written material, it was determined that a range of acceptability (or corridor) would account for differences that might exist in evaluating classes either by State personnel or the study team. In addition, the corridor of plus or minus 2 PC grades was established in order to also account for any differences which may result from the typical forms of measurement error. Clearly, if a class was found to fall outside of the plus or minus 2 grade corridor, it could be concluded with reasonable certainty that the job was assigned an inappropriate SR based on the value of the class to the State.

## (2) Predicted PC/Actual Minimum and Maximum Salary Comparisons

Two sets of analyses were conducted using the PC points to predict a salary to compare to the current minimum and maximum salaries of the SR. One set of analyses used the raw PC points in a standard linear regression with minimum and maximum salaries. Another set of analyses used the PC grades in a standard linear regression with minimum and maximum salaries. Because there were an insufficient number of male and female dominated classes in each bargaining unit (less than 20 males and 20 females, see Exhibit 2) to calculate a reliable male class regression line or female class regression line, an all-class regression line was calculated. For each regression line (a total of 4 were calculated: minimum/ maximum PC Grade; minimum/maximum raw PC points) a corridor around the regression line was calculated based on the standard error of the estimate determined to exist for the particular regression equation. Classes whose pay rate fell outside of the corridor were judged to be either paid higher or lower than expected based on which side of the corridor they fell. The corridor amounts used for each set of analyses based on the standard error for each equation are shown in Appendix A. Graphs showing the results are also found in Appendix A.

It is possible (indeed it did occur) that a class might be identified on a minimum analysis but not a maximum analysis, or vice versa. This would occur for one of the following reasons. If the

class was on or very near the borderline of the corridors established for one of the analyses, but just slightly within or outside the corridor on another analysis. The fact that the width of the corridors were different for each analysis (because of the statistical features of each regression line), would make it possible for a class to be right on the corridor line on one, but just within the corridor line on another. Alternatively, because Units 9 and 13 were consolidated for analytical purposes, the differences in the dollar amounts of the SR's in either unit has an effect on the regression equations and the corridors established. Unit 9 SR's (for the classes studied) have higher minimums, but lower maximums than SR's in Unit 13. Thus, the corridor widths were slightly different. A class could be found on or very near the line on one but just within the corridor on another. Calculations of a separate regression line for Unit 13 only would not have resulted in materially different results.

### (3) DBM/SR Comparisons

Applying the Decision Band Method results in a rank order of classes. Thus, once the subgrading was completed, the hierarchy of classes was completed. This allowed DBM results to be compared directly with the rank order of classes produced by the existing SR's.

In comparing the DBM results to SR's, two different approaches were used. The first was similar to the PC grade to SR comparison. The second method used linear regression to predict what the SR should be if DBM values were considered as the independent variable. In each case, separate analyses were conducted for each bargaining unit.

In the first approach, the DBM hierarchy of classes was produced and the corresponding SR's listed. Thus, for the classes evaluated by DBM at B22, for example, the class titles and actual SR's were listed. The average SR was calculated for each band, grade and sub-

grade, these were grouped and a corridor of plus or minus 2 SR's was determined. If any class' SR fell within this corridor, the actual SR and the DBM ranking were considered reasonably comparable. Classes which had SR's that were higher or lower than this corridor were designated as being higher or lower than expected.

In the second approach, DBM values were used as the independent variable in a linear regression equation to predict the correct SR. Once again a corridor of plus or minus 2 SR's was used to determine if the hierarchy produced by DBM and SR's were reasonably similar. Classes which fell outside of the corridor were identified as having been assigned an SR which was higher or lower than expected.

Understandably, these two methods produced similar results, but they were not identical. The mathematical properties of linear regression and the shape of the line smoothes out some differences which the first method does not. The first method is sensitive to class to class comparisons while the regression analysis accounts for the dispersion of all classes and their relative order.

#### (4) DBM Salary Comparisons

The salary comparisons with DBM were similar to the analysis used for the PC grades. The DBM value was used as the independent variable in a linear regression predicting either a minimum salary or maximum salary for each class. As before, a separate analysis was used for bargaining units 3 and another for 9 and 13. Because of the insufficient number of classes, we were unable to calculate a reliable male or female dominated class regression line, and instead, calculated an all class regression line.

In previous research using DBM, we have found that the methodology has a margin of error which is equal to plus or minus 1 subgrade. In this analysis, the value along the predicted regression line which corresponded to one subgrade was calculated and these values

were used as the corridor limits around the predicted regression line. Appendix A shows the corridor amounts for the analysis for minimum and maximum salaries. Graphic results of these analyses are also shown in Appendix A. Once again, it is possible that the classes that have been identified as being either higher or lower than expected may be different for the minimum regression than for the maximum regression as previously explained.

#### 2.1.5 Observations on How Results from the PC and DBM Comparisons Were Consolidated

As previously mentioned, in the pay equity studies completed to date throughout the country, there has not emerged a standard acceptable procedure for conducting the analysis to determine which classes are valued or compensated higher or lower than expected. Of all methods, standard linear regression is most frequently used.

We used linear regression in this analysis in addition to other comparison techniques. We were restricted from using more sophisticated statistical methods, such as the policy capturing approach or one in which the percent of sex dominance is used as an additional, independent predictor variable, because of the number of job classes being analyzed and the guideline preventing a comparison across bargaining units. Our analysis, of course, has had somewhat different objectives than most pay equity studies which are usually intended to determine the dollar value of inequities known to exist for use in determining specific wage adjustments. Our analyses had to be consistent with the guidelines established in Act 157 so that the study was designed to "test" the current State system of valuing and compensating sex-dominated classes to see if sex-based pay inequities have resulted. It was not the purpose of the study to determine the amount of any adjustments considered necessary based on any inequities discovered. Nor was it the study's purpose to describe how any inequities discovered should be remedied.

It should be noted that the guideline that limited the evaluation to within and not across bargaining units prevented approaches being used in this study that are found in more typical pay equity studies that have been done in other states and local governments. Most definitions of pay equity we are aware of which have been used nationally, indicate that comparisons of classes across bargaining units are essential to sex-based equity analysis to determine if structural aspects of these units may be a cause of inequity. Finally, it is important to note that the State and Counties have only been restricted from performing across unit comparisons since 1982 and virtually all of the pricing of classes included in the study was performed by the State and Counties or adjusted based on appeals prior to 1982. Evidence indicates that across unit comparisons for both pricing and appeal purposes occurred prior to 1982, and are still considered today in pricing despite the guideline as will be discussed in Chapter 4. In summary, had across unit comparisons of classes been allowed, it is possible that the results of our analysis may have been different than what was found by comparing classes only within bargaining units.

As we began the study, we had no preconceptions about whether the State's procedures have produced sex-based value or wage inequities. Certainly, there had been a variety of groups that have claimed that such is the case. We recognized that if we only tried to replicate the State's procedures, and this was the only method used, the study would be open to critics claiming that the nine PECAB factors are sex-biased and therefore how could it be expected to discover sex-based wage inequity if we used a system that is already considered biased.

Recognizing this, we determined that a second methodology should be used to test the value and compensation components of the State's system. Then, if both methods produced the same set of classes as being valued or compensated more than expected or less than expected, more confidence could be placed in the reliability of the results. Finally, the list of titles could be examined to identify

the sex dominance of any class found to be inequitable to determine if there appears to be sex-based wage inequities.

The analyses that were performed have each produced a list of job titles which could be judged to be valued or compensated higher or lower than expected, given the analysis approach used and the job evaluation methodology employed to produce the initial job hierarchies. As we had expected from the outset, each job evaluation and analysis method produced a similar yet slightly different list of job titles that fell outside of the corridor used.

With each of the analyses completed, we were in a position to compare across methodologies to determine to what extent the PC method and DBM methods produced a similar list of class titles. Through a series of internal reviews and after considering discussions with the steering committee, it was decided that two standard decision rules were needed to determine if a class should be considered inequitably valued or compensated. The decision rules are as follows:

Decision Rule 1: A class would be considered inequitably valued if it is identified to be valued higher or lower than expected on the PC/SR analysis and on one of the two DBM/SR analyses, and it was identified as being only higher or lower than expected (outside the established corridors).

Decision Rule 2: A class would be considered inequitably compensated if it was found to be higher or lower than expected on one of the PC salary analyses and on one of the DBM salary analyses. Because different corridors were established for each PC and DBM minimum/maximum regression equation, classes found to be higher or lower than expected on only minimum DBM/PC regression analyses but not necessarily maximum regression analyses and vice versa were still considered inequitably compensated.

These decision rules allowed us to review the results of each analysis method and be assured that if a job class was inequitably valued and/or compensated, it was because the use of two different methods of job evaluation resulted in the same conclusion. We believe

these decision rules to be the soundest alternative given the data available, the restrictions that were applied and the study objectives.

#### 2.1.6 Rationale for How Inequities Were Identified as Being Sex-Based

As previously mentioned, our approach thus far has been to use sex-neutral analyses to determine if there are any inequities due to improper valuing of a class or improper compensation, and then determine if there are any sex-based patterns to those inequities.

The reasons for making the distinction between value and compensation is that the Act is not clear as to which one was intended to be the focus of the study, and because the value of a class is presently determined by one method (i.e., job evaluation and pricing) while compensation has resulted from a variety of influences over time including more recently, collective bargaining. Therefore, it is not necessarily true that there should be a one-to-one relationship currently between value and compensation. We have thus concurred that analyses of both value and compensation should be conducted.

In the determination of whether sex-based patterns of inequity are apparent, however, the results of both types of analyses should be merged and viewed as a whole because there is evidence that interaction between the determination of value and compensation of a class has previously occurred in the historical development of the class hierarchies that now exist as described in Chapter 1. This interaction makes it impossible to truly say that classes identified as inequitable due to the value analyses (SR) are only a result of improper evaluation, and that classes identified as inequitable due to the compensation analyses (salary) are only a result of collective bargaining or other such influences. Classes that have been valued improperly, for example, may be a result of consideration of shortages of workers in those classes that previously resulted in the SR rating of the class being adjusted upward to provide more attractive compensation despite the internal alignment that had been

established through job evaluation.

Thus while it is possible to separately analyze classes in terms of value and compensation, due to the reason cited above, we believe it is necessary to view the results of the separate value and compensation analyses as a whole when it comes to assessing the results of the two analyses to determine if different patterns of inequity exists, what may have caused the inequities, and if any appear to be sex-based.

In order to determine if there are sex-based inequities, it must be understood that there may be different patterns of inequity that would indicate whether individual inequities were sex-based. As has been discussed, job evaluation is an extremely complicated activity, not only in the State and counties of Hawaii, but in any organization. Individual classes determined to be inequitable must then be examined in different ways to determine if one or more patterns of inequity are apparent, and if these patterns appear to be sex-based.

For this study, we elected to examine if two potential patterns of sex-based inequity were apparent in the classes identified as inequitable:

- "Diagonal patterns" where for example, a greater proportion of male dominated classes would be found to be higher than expected and a greater proportion of female dominated classes would be found to be lower than expected. (This is the traditional examination of pay inequities.)
- Dispersion patterns where for example, SR ratings and/or compensation for male dominated classes would be widely dispersed around the expected value/compensation, while SR ratings and/or compensation for females would be more tightly restricted within a more narrow range around the expected value/compensation

We believe both of these two patterns are necessary for use in determining inequity. A further discussion of these two patterns and how they would be identified is presented below.

### Diagonal Pattern

The identification of this pattern involves preparing a matrix of the percentage of classes found to be lower than expected and higher than expected by male and female domination as indicated below:

	<u>Lower than Expected</u>	<u>Higher than Expected</u>
Male Classes	(1)	(3)
Female Classes	(2)	(4)

Sex-based inequities would be identified if a diagonal pattern exists in the matrix such that there is a significantly higher percentage of male classes that are higher than expected ((3) in the above matrix) and there are a significantly higher percentage of female classes that are lower than expected ((2) in the above matrix), or vice versa (i.e., higher percentages in (1) and (4)). The proportion of the difference between (3) and (2) or (1) and (4) would indicate the extent of sex-based inequity.

### Dispersion Pattern

The identification of this pattern involves examining the classes found to be lower than expected and higher than expected to determine the extent to which either the value or compensation for male and female dominated classes was consistently made. If for example, it was found that female dominated classes had a very consistent and narrow pattern of pricing, but male dominated classes had a wider dispersed range of pricing than female dominated classes, it would indicate that there may be other factors which influence the pricing of male and female classes which do not appear to be exactly related to their value as determined by the job evaluation. It should be recognized that this step results in less conclusive results than the first step, but they are valid in indicating whether there are aspects of the overall job evaluation and pay setting system, not just the method, that are influenced by the sex dominance of the classification.

## 2.2 Methodology for the Analysis of Factors and Causes

The purpose of this portion of the study was to:

- Identify general factors that individuals and organizations which have been involved with the pay equity issue in Hawaii believe may contribute to inequities or potential inequities.
- Identify causes of any individual inequities found for specific classes and determine if these are related to the perceived factors, or if other influences are causing the inequities.

### 2.2.1 Methods Used in Identifying and Analyzing Factors

The general factors were identified through a series of interviews with DPS, HGEA and a sample of representative organizations and individuals identified as having expressed interest in the work of the Temporary Commission provided us by the Office of the Legislative Auditor. A listing of the individuals and organizations interviewed is included in the Appendix.

The approach taken to identifying and examining factors then involved the following:

- Interviews with all of those selected to be included in the sample of organizations as well as DPS and HGEA representatives.
- Analysis of the content of the interview results to determine commonalities in the factors identified leading to the development of general factors.
- Compilation of the factors identified in the interviews, and the selection of those factors mentioned most frequently for further examination. See Exhibit 6.
- Development of a statement of each factor in the form of a general perception based upon statements made by those interviewed regarding the factor which could be proven or disproven.

**FREQUENCY OF FACTORS IDENTIFIED**

<u>FACTOR</u>	<u>FREQUENCY*</u>
1. PECAB/Conference of Personnel Directors	7
2. Historical Influences	6
3. Market Conditions	5
4. Existing Job Evaluation Method	4
5. Collective Bargaining	4
6. Structure of the Compensation Plan	4
7. Departmental Influences Related to Budgetary Concerns and Professional Group Differences	2
8. Career/Promotion Barriers	2
9. Age/Inconsistencies in Class Specifications	2
10. Political Influence	2
11. Lack of Responsiveness of Bargaining Agents	2
12. Legislation	1
13. State/County Compensation Equity	1
14. Shortage Differentials	1
15. "Civilization"/"Deprofessionalization" of Jobs	1
16. Turnover in Department Personnel Offices	1

\* There is a total of nine sources that identified factors.

- Conduct of additional interviews, collection of relevant data and the analysis of both to validate each perception.

### 2.2.2 Methods Used in Identifying and Analyzing Causes

As mentioned above, when it came to identifying causes of inequities, the results of the separate value and compensation analyses were merged due to the interaction that has occurred between value and compensation. We thus sought to identify all possible causes of inequities as it was not considered possible to clearly distinguish classes found to be inequitable due to job evaluation and pricing, as opposed to compensation.

Causes of individual inequities were first identified through discussions with both the DPS and the HGEA regarding what they perceived as possible causes of each inequitable class. The approach taken to identifying causes was somewhat different than for the factors as follows:

- Review of each class identified as inequitable with both HGEA and DPS to determine what they consider to be the causes of inequities.
- Verification of information provided by DPS and HGEA through the review of PECAB and CPD reports, and pricing folders for each class maintained by DPS.
- Compilation of the causes identified and verified for each class, and an assessment of the identified causes based upon our research.
- Review of causes by sex to determine if there were any patterns to causes by sex.

The results of the methodology for the job evaluation as described in this chapter are presented in Chapter 3 of the report which immediately follows. A presentation of the results from the factor and cause methodologies, just described, is presented in Chapter 4.

# Chapter 3

## Results of the Evaluation of Selected Classes

In this chapter, the results of the evaluation of selected classes are presented. The results are presented in the form of a table. The table shows the results of the evaluation of selected classes. The results are presented in the form of a table. The table shows the results of the evaluation of selected classes. The results are presented in the form of a table. The table shows the results of the evaluation of selected classes.

### 3.1 Results of Separate Paired Comparison and Decision Band Method Analysis

Based upon the methodology described in Chapter 2, nine separate analyses were performed for bargaining Unit 3 and for Units 3 and 13. A list of each of these analyses with the code name for the analysis is presented in as follows:

#### PC Analyses

- PC Grade and SR Comparison (PC/SR)
- Raw PC Points Linear Regression for Minimum Salaries (Raw PC Min)
- Raw PC Points Linear Regression for Maximum Salaries (Raw PC Max)
- PC Grade Linear Regression for Minimum Salaries (PC Grade Min)
- PC Grade Linear Regression for Maximum Salaries (PC Grade Max)

#### DBM Analyses

- DBM Rating and SR Comparison (DBM/SR)
- DBM Linear Regression to Compare Predicted Order to Actual SR Order (DBM Order)
- DBM Linear Regression to Predict Actual SR Using Minimum Salaries (DBM Predict Min)
- DBM Linear Regression to Predict Actual SR Using Maximum Salaries (DBM Predict Max)

## **Chapter 3: Results of the Evaluation of Selected Classes**

### **Overview**

In this chapter we identify the job classes which are identified as being valued and/or compensated higher or lower than expected when using the methodology, and specifically the decision rules, described in the previous chapter. Finally, we conclude with a discussion of whether there is a pattern of sex-based inequity in the classes that were studied which can be generalized to all sex-dominated classes in these bargaining units.

### **3.1 Results of Separate Paired Comparison and Decision Band Method Analyses**

Based upon the methodology described in Chapter 2, nine separate analyses were performed for Bargaining Unit 3 and for Units 9 and 13. A list of each of these analyses with the code name for the analysis in parenthesis is as follows:

#### PC Analyses

- PC Grade and SR Comparison (PC/SR)
- Raw PC Points Linear Regression for Minimum Salaries (Raw PC Min)
- Raw PC Points Linear Regression for Maximum Salaries (Raw PC Max)
- PC Grade Linear Regression for Minimum Salaries (PC Grade Min)
- PC Grade Linear Regression for Maximum Salaries (PC Grade Max)

#### DBM Analyses

- DBM Rating and SR Comparison (DBM/SR)
- DBM Linear Regression to Compare Predicted Order to Actual SR Order (DBM Order)
- DBM Linear Regression to Predict Actual SR Using Minimum Salaries (DBM Predict Min)
- DBM Linear Regression to Predict Actual SR Using Maximum Salaries (DBM Predict Max)

The results of each of these separate analyses for each class within the bargaining units are presented in Exhibit 7. For each analysis, an "x" in the column indicates that the class was found to be either lower than or higher than expected (outside the corridor) for that analysis. Detailed results of the PC Grade and DBM rating comparisons to actual SR's, the corridor limits and graphs more clearly illustrating the results of each of the regression analyses are provided in the Appendix.

### 3.2 Identification of Inequities

As discussed in Chapter 2, two decision rules were used to determine if a class is inequitably paid:

Decision Rule 1: A class would be considered inequitably valued if it is identified to be valued higher or lower than expected on the PC/SR analysis and on one of the two DBM/SR analyses, and it was identified as being only higher or lower than expected (outside the established corridors).

Decision Rule 2: A class would be considered inequitably compensated if it was found to be higher or lower than expected on one of the two PC salary analyses and on one of the DBM salary analyses. Because different corridors were established for each PC and DBM minimum/maximum regression equation, classes found to be higher or lower than expected on only minimum DBM/PC regression analyses but not necessarily maximum regression analyses or vice versa were still considered inequitably compensated.

In other words, a class would have to be identified as higher or lower than expected on at least one of the appropriate PC analyses and one of the appropriate DBM analyses to be considered inequitably valued and/or compensated. In addition, if both the DBM and PC analyses on which the class was identified was based only on minimum salary data, for example, it was still considered inequitably paid -- it was not necessary for a class to be higher or lower than expected based on both minimum and maximum salary data.



RESULTS OF ANALYSES FOR BARGAINING UNIT 3  
MINIMUM SALARY RANGE

Class Code	Class Title	M/F Dom.	Lower Than Expected				Higher Than Expected					Decision Rule 1 Met		Decision Rule 2 Met				
			DBM/SR	DBM Order	DBM Prediction	PC/SR	Raw PC	PC Grade	DBM/SR	DBM Order	DBM Prediction	PC/SR	Raw PC	PC Grade	Low	High	Low	High
			(SR)	(SR)	(\$)	(SR)	(\$)	(\$)	(SR)	(SR)	(\$)	(SR)	(\$)	(\$)				
4.064	Library Assistant III	F																
4.066	Library Assistant IV	F																
4.068	Library Technician V	F			X													
4.070	Library Technician VI	F	X			X								X				
4.140	Medical Record Technician V	F																
5.363	Agricultural Research Technician III	M			X	X						X				X		
5.364	Agricultural Research Technician IV	M	X			X								X				
6.762	School Health Aide	F			X													
7.512	Engineering Technician VI	M				X				X	X							
8.010	Building Construction Inspector II	M							X	X	X		X	X			X	
8.080	Highway Construction Inspector III	M								X	X		X	X			X	
8.135	Elevator Inspector	M							X	X	X		X	X			X	
8.294	Meat Inspector IV	M								X	X			X			X	
8.358	Vector Control Inspector II	M										X	X	X				
8.593	Conservation and Resources Enforcement Officer III	M		X	X								X	X				
8.640	Security Attendant I	M		X	X		X	X									X	
8.657	Parking Control Officer I	M																
8.665	Security Officer I	M																
8.832	State Security Guard II	M		X	X												X	

MINIMUM SALARY RANGE



RESULTS OF ANALYSES FOR BARGAINING UNIT 3  
MAXIMUM SALARY RANGE

Class Code	Class Title	M/F Dom.	Lower Than Expected						Higher Than Expected						Decision Rule 1 Met		Decision Rule 2 Met	
			DBM/SR (SR)	DBM Order (SR)	DBM Prediction (\$)	PC/SR (SR)	Raw PC (\$)	PC Grade (\$)	DBM/SR (SR)	DBM Order (SR)	DBM Prediction (\$)	PC/SR (SR)	Raw PC (\$)	PC Grade (\$)	Low	High	Low	High
			4.064	Library Assistant III	F													
4.066	Library Assistant IV	F																
4.068	Library Technician V	F			X													
4.070	Library Technician VI	F	X			X								X				
4.140	Medical Record Technician V	F																
5.363	Agricultural Research Technician III	M			X	X		X								X		
5.364	Agricultural Research Technician IV	M	X			X								X				
6.762	School Health Aide	F			X													
7.512	Engineering Technician VI	M							X	X								
8.010	Building Construction Inspector II	M						X	X	X		X	X				X	
8.080	Highway Construction Inspector III	M							X	X		X	X				X	
8.135	Elevator Inspector	M				X		X	X	X		X	X				X	
8.294	Meat Inspector IV	M							X	X			X					
8.358	Vector Control Inspector II	M										X	X	X				
8.593	Conservation and Resources Enforcement Officer III	M		X	X							X	X					
8.640	Security Attendant I	M		X	X		X	X								X		
8.657	Parking Control Officer I	M																
8.665	Security Officer I	M																
8.832	State Security Guard II	M		X	X								X					

RESULTS OF ANALYSES FOR BARGAINING UNIT 3

RESULTS OF ANALYSES FOR BARGAINING UNITS 9 AND 13

MINIMUM SALARY RANGE

Class Code	Class Title	M/F Dom.	Lower Than Expected						Higher Than Expected						Decision Rule 1 Met		Decision Rule 2 Met	
			DBM/SR (SR)	DBM Order (SR)	DBM Prediction (\$)	PC/SR (SR)	Raw PC (\$)	PC Grade (\$)	DBM/SR (SR)	DBM Order (SR)	DBM Prediction (\$)	PC/SR (SR)	Raw PC (\$)	PC Grade (\$)	Low	High	Low	High
2.405	Bank Examiner II	M																
2.579	Auditor IV	M				X												
2.799	Land Agent IV	M																
2.867	PMS IV	F																
2.924	Program Budget Analyst IV	M																
2.938	DPSA IV	M																
3.432	Clinical Psychologist VI	F							X	X	X			X	X			X
3.507	Special Education Teacher III	F			X	X												X
3.518	Education Evaluator IV	F																X
4.077	Librarian III	F			X													X
5.494	Medical Technician III	F																X
5.596	Environmental Health Specialist III	M			X	X	X	X										X
6.286	Occupational Therapist III	F																X
6.321	Physical Therapist III	F																X
6.349	Speech Pathologist IV	F																X
6.453	Registered Professional Nurse III	F									X			X	X			X
6.454	Registered Professional Nurse IV	F									X			X	X			X
7.004	Engineer IV	M																X
8.244	Investigator IV	M				X												X
8.397	Registered Sanitarian IV	M																X
8.476	Plant Quarantine Inspector III	M																X
8.491	Agricultural Commodity Market Specialist III	M																X

MINIMUM SALARY RANGE  
RESULTS OF ANALYSES FOR BARGAINING UNITS 9 AND 13



The rationale for the first decision rule we believe has been adequately explained as providing that a class must be identified on the method that most replicates the existing method used by the State and counties, and another independent method. The second decision rule is considered valid due to the generous width of the corridors which already allowed for errors in measurement and differences in judgement, and the inherent inconsistencies that result when different statistical equations with different standard errors are compared.

Exhibit 8 presents a list of the sex-dominated classes included in the study sample which meet either one or both of the decision rules. It should be remembered that each of these classes is a journeyworker class, thus if one of these classes is considered inequitable, it is likely that all of the classes within that class series would be considered inequitable, although this is not always the case due to different class series structures which exist in the compensation plan. In addition, this study did not examine all classes within a series, so conclusive observations about an entire series may not be readily made only from the results of this study.

In addition this list includes a number of benchmark classes. The significance of benchmark classes are that they are used to establish pricing relationships for what is often a wide range of classes outside their own class series. Five benchmark classes were considered inequitably valued and/or compensated (i.e., Legal Stenographer I, Computer Operator II, Account Clerk III, RPN III, Security Attendant I). It is thus possible that any classes which have been valued in relation to these benchmark classes, may also have been inequitably valued, especially if they did not meet the requirements for inclusion within the study, and thus were not evaluated. It could also be the case that the benchmark classes may have been properly priced and other classes that were related to these classes improperly priced. Since our evaluation was designed to treat all classes equally, we only conclude that these five classes were inequitably valued and/or compensated in relation to the other classes

**CLASSES DETERMINED TO BE EITHER VALUED  
AND/OR COMPENSATED INEQUITABLY**

<u>Class</u>	<u>Sex Dominance</u>	<u>Valued Higher or Lower than Expected</u>	<u>Compensated Higher or Lower than Expected</u>
<b>Bargaining Unit 3</b>			
Legal Stenographer I	Female		Higher
Data Processing Control Clerk I	Female		Higher
Computer Operator II	Male	Higher	Higher
Account Clerk III	Female	Lower	Lower
Account Clerk IV	Female	Lower	Lower
Storekeeper I	Male	Lower	Lower
Social Services Aide III	Female		Lower
Library Technician VI	Female	Lower	
Agricultural Research Technician III	Male		Lower
Agricultural Research Technician IV	Male	Lower	
Building Construction Inspector II	Male		Higher
Highway Inspector	Male		Higher
Elevator Inspector III	Male		Higher
Meat Inspector IV	Male		Higher
Security Attendant I	Male		Lower
<b>Bargaining Units 9 and 13</b>			
Clinical Psychologist VI	Female		Higher
Special Education Teacher III	Female		Lower
Librarian III	Female		Lower
Environmental Health Specialist III	Male		Lower
Registered Professional Nurse III	Female		Higher
Registered Professional Nurse IV	Female		Higher

in the study sample. The cause of the inequity would thus be determined through the analysis of causes presented in Chapter 4. Finally, one other class identified, Librarian III, is a journeyworker class in the series in which a benchmark class exists, i.e., Librarian II. If the relationship between the journeyworker and benchmark classes in the series results in the benchmark class being considered inequitable, then once again, it could also be possible that all those classes related to this benchmark would be judged inequitably priced or compensated.

### 3.3 Determination of Sex-Based Inequity

Consistent with our methodology for the evaluation, we have first identified inequitable classes without regard to their sex dominance. It must now be determined whether these inequities which have resulted from either improper evaluation or improper compensation appear to be based on the sex of the incumbent through the identification of sex-based patterns in the inequities that were found. As discussed in Chapter 2, we have examined the inequitable classes to determine whether either of two different patterns of sex-based inequity are evident: a diagonal pattern and the pattern of dispersion.

#### 3.3.1 Application of the Diagonal Pattern

This pattern involves the construction of a matrix depicting the percentage of male and female classes found to be lower or higher than expected and were determined to be either valued or compensated inequitably. The existence of a pattern of sex-based inequity would be considered conclusive if there was a diagonal relationship between a significant proportion of one sex that was higher than expected and a significant proportion of the other sex that was lower than expected. If, for example, sex-based inequity exists such that females are more inequitably valued and/or compensated than males, a significant percentage of males would be higher than expected and a corresponding significant percentage of females would be lower than expected.

Exhibit 9 presents the matrix that results from taking the percentage of the male and female classes included in the study that were found to be lower or higher than expected by bargaining unit. As can be seen from the exhibit, the application of this pattern does not result in conclusive evidence that sex-based inequity exists in either bargaining unit. In Unit 3, a relatively large percentage of males are found to be higher than expected, but the percentage of females found to be lower than expected is actually less than the percentage of males found to be lower than expected. In Units 9 and 13, the situation is virtually the reverse, a relatively larger percentage of females are found to be higher than expected, but the percentage of males found to be lower than expected is actually less than the percentage of females found to be lower than expected.

### 3.3.2 Application of the Dispersion Pattern

What the exhibit also shows, however, is that while there is no conclusive diagonal pattern of sex-based inequity, if the dispersion pattern is considered, there does appear to be some differences in the consistency with which male dominated classes and female dominated classes are under- or over-valued/compensated. In Unit 3, it is clear that female dominated classes are more likely to be priced and/or compensated in accordance with the value of their work as determined by the job evaluation or compensation -- only a very small percentage were found to be either lower or higher than would be expected. Male dominated classes in Unit 3, on the other hand, are more likely to be either higher- or lower than expected based upon the value of their work as determined from the job evaluation or their compensation. This situation is once again reversed in Units 9 and 13. Male dominated classes are more correctly valued/compensated, while females are more likely to be either higher or lower than expected.

Further evidence that there is a relationship between sex and over- or under-valuing/compensation is provided by performing a standard chi-square statistical test of independence. The chi-square statistic measures the independence of two variables. If the chi-square

statistic is statistically significant, then it can be safely concluded that there is a relationship between sex dominance of the class and the value/compensation result; and that this relationship did not occur by chance. If there is statistical insignificance, then it can be concluded that there is no relationship between sex dominance of the class and the value/compensation of the class.

At the bottom of Exhibit 9, we have provided the chi-square statistic for each bargaining unit group. For Bargaining Unit 3 the results indicate that there is a statistically significant relationship between the sex dominance of the class and the likelihood of its being under- or over-valued/compensated. This relationship meets the highest standard level of statistical significant in that the same relationship that was found would occur 99% of the times it was tested. The results confirm that the dispersion pattern of inequities for Bargaining Unit 3 is related to the sex of the incumbent, although this may not be the sole reason for the pattern.

The statistical results of the chi-square test for the dispersion pattern for Bargaining Units 9 and 13 do not meet standard levels of statistical significance (i.e., 95% or 99%), but the relationship is still very strong -- it would occur between 80% to 90% of the times it was tested. Thus, while the percentages shown in Exhibit 9 for Units 9 and 13 show a significant magnitude of sex-related differences, these differences are not statistically significant at the usual limits of statistical acceptability.

Although the number of classes on which these conclusions are based are relatively small in comparison to the number of classes in the State, there are two points which need to be highlighted. First, the study involved the use of a relatively generous corridor to identify the classes which fell outside the corridor. These corridors, the use of multiple methods, and the application of a series of conservative decision rules has identified that of the 82 classes studied, just over 25% of them are judged to be inequitably valued and/or compensated. Second, the magnitude of the differences found (and the chi-square statistical findings for bargaining unit 3) in

**Proportion of Male and Female Dominated Classes  
Found Paid Lower or Higher Than Expected**

**Bargaining Unit 3\***

	<u>Lower Than Expected</u>	<u>Higher Than Expected</u>
Male Classes	25%	31%
Female Classes	9%	5%

**Bargaining Units 9 and 13\*\***

	<u>Lower Than Expected</u>	<u>Higher Than Expected</u>
Male Classes	9%	0%
Female Classes	18%	27%

\* Chi-square value = 12.239, such that the probability (p) is 99 out of 100 ( $p < .01$ ) that there is a relationship between its sex and a class being lower or higher than expected.

\*\* Chi-square value = 4.334, such that the probability is between 80 to 90 out of 100 ( $.10 < p < .20$ ) that there is a relationship between sex and a class being lower or higher than expected.

these various diagonal and dispersion pattern analyses is a meaningful and significant finding. Given the sample restrictions, especially with regard to bargaining units 9 and 13, it is possible that an examination of a larger number of State classes could produce different results which might indicate either greater or less evidence of these patterns in the existing system. The magnitude of the differences discovered here and the sizable percentage of the classes identified as inequitable, indicates that a broader examination of the State's classes may be warranted.

In summary, we do not find conclusive evidence of the more traditional pattern where male dominated jobs are consistently valued/compensated proportionately more or less than female dominated classes across the inequitable classes identified in this study. We do, however, find sufficient evidence in Bargaining Unit 3, that factors other than intrinsic job value have influenced the assigned value and/or compensation of male dominated classes more than for female dominated classes and that a significant factor is the sex dominance of the class. While the sex dominance of the class appears to be a factor, there is insufficient conclusive evidence from the analyses of the classes in this study to indicate it is the only factor causing these differences.

It should be remembered that given the parameters established by the Act and the guidelines that were also established, this study has focused only on sex-dominated journey worker classes in three bargaining units. The pattern of inequity that was found to exist in this study should not be construed as being necessarily the same if other nonsex-dominated journeyworker classes had been included in the study, or if different bargaining units had also been examined, i.e., the pattern(s) could be different or more or less pronounced. In the next chapter we examine what may be contributing to the inequities and differences that were found in the study sample.

## **Chapter 4**

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# **Perceived Factors and Identified Causes of Inequity**

## Chapter 4: Perceived Factors and Identified Causes of Inequity

### Overview

As previously mentioned, perceived factors are those which have been cited as potential causes of inequity by individuals and organizations which have been involved with the pay equity issue in Hawaii. Factors were identified and analyzed prior to the identification of the 21 inequitable classes through the job evaluation. Causes of inequity are the specific reason(s) for inequity found in individual classes as determined through our job evaluation. We have examined the factors identified by individuals and organizations in order to determine if their perceptions have merit and to serve as a basis for further understanding related causes for individual inequities that were subsequently identified. It should be understood that these factors represent the opinions of others and not those of Arthur Young and that they may or may not be considered to have been an actual cause of any one of the 21 inequitable classes identified in Chapter 3. We have analyzed the assertions made as part of each factor and offer our conclusions regarding each one based upon this research. This chapter is organized into two sections:

- Factors perceived to be contributing to possible inequity, including the identification of each factor and our assessment of those most frequently mentioned;
- Causes identified for specific inequities, including a compilation of the causes identified by DPS and HGEA, as well as our assessment of causes appearing to have the most impact, and whether there is any sex-based pattern to the causes.

#### 4.1 Factors Perceived to be Contributing to Possible Inequity

Based upon the interviews conducted and the analysis of those interviews to determine common factors as described in Chapter 2, a total of sixteen (16) possible perceived factors were identified. A listing of these factors in the order of frequency in which each one was mentioned is presented in Exhibit 6. Of these sixteen, six were clearly identified more frequently than the others. One of these six factors was considered very closely related to several of the other factors, and it was subsequently decided to be included in the discussion of these other factors rather than separately. The five

factors that were thus selected to be researched prior to completion of the job evaluation were the:

- Actions taken by the Public Employees Compensation Appeals Board (PECAB) and the Conference of Personnel Directors (CPD), as well as the structure and composition of PECAB and one of its more significant rulings.
- History of how the compensation plan has developed over time.
- Market conditions with respect to employment and compensation that influence internal compensation patterns within the State and other jurisdictions.
- Existing job evaluation method used by the State and other jurisdictions.
- Collective bargaining, specifically the differences in salary schedules for each bargaining unit that have developed over time as a result of different negotiated agreements.

Each of these perceived factors have been assessed, and the results presented below.

#### 4.1.2 Assessment of Most Frequently Cited Factors

It should be understood that we defined "factors" as general influences that are perceived as affecting job evaluation and compensation. As might be expected, different individuals which were consulted have had different opinions or views regarding any one factor. It was often the case, then, that two individuals would identify a factor as significant, but have different views on how it might be affecting evaluation and compensation. These individual views we have termed "assertions". For each factor we have developed a statement of the general perception of the majority of those identifying the factor, which is followed by a discussion of the individual assertions related to this factor.

Once again, it should be clearly understood that the assertions made do not reflect the opinions of Arthur Young. The purpose of this portion of the report is to present the perceptions of individuals and organizations which have been involved with the job evaluation system and the pay equity issue in Hawaii. We have analyzed the assertions that have been made and formed our own conclusions on whether the assertions appear to be correct, solely on the data which could be obtained. We believe we have made every reasonable attempt to identify and analyze relevant data for this purpose given the scope and timeframe for this study. We recognize, however, that if additional data had been available some of our conclusions may be different. We also recognize that there may also be different interpretations of the data we have used, although we believe we have selected the most reasonable. Sources of data that have been used are either identified within the following discussions or within Appendix B.

The remainder of this section briefly presents the general perceptions, assertions and our conclusions. A fuller discussion of each factor and assertion is presented in Appendix B.

#### **(1) PECAB/CONFERENCE OF PERSONNEL DIRECTORS**

General Perception: PECAB and/or the Conference of Personnel Directors have not provided an effective mechanism for correcting inequities.

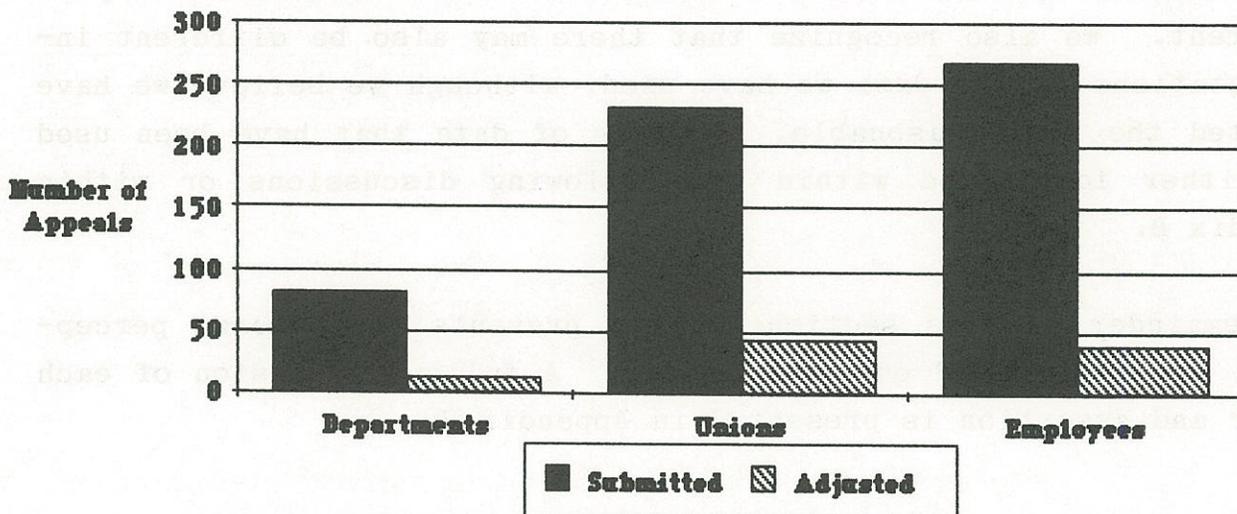
There were five (5) assertions made in support of this perception which are each presented as follows with our assessment regarding each assertion.

The following assertions were made in relation to this factor.

Assertion 1: The members of PECAB more readily agree with the rationales of the employers (represented by the State and County personnel departments) for adjusting or not adjusting class allocations to salary ranges because the board is appointed by the Governor.

The following graph illustrates our findings with respect to this assertion.

**Appeals Submitted to PECAB and Adjusted  
1973 to 1986  
(Graph 1)**



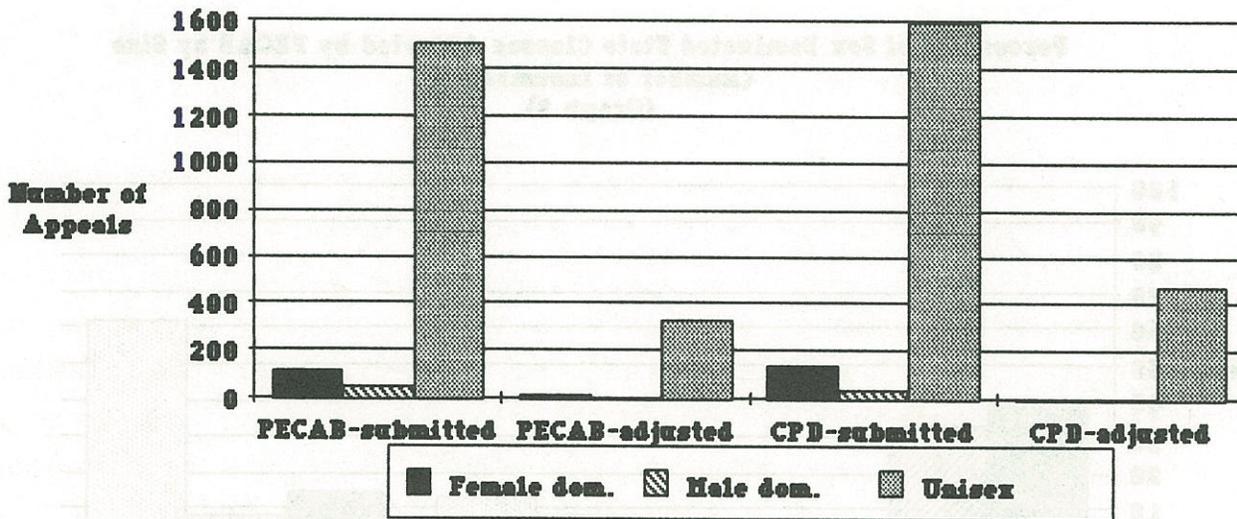
Assessment: There is no conclusive evidence that the assertion is correct. It could not be determined whether PECAB agrees more readily with the employers as the basis for PECAB's decisions do not always clearly document if they are concurring with positions stated by either party. It is possible to make this determination by reviewing material in individual files for each class, but such a review of so large a number of classes would be outside the scope of this analysis. (We have conducted such a review for the classes identified as inequitable and the results are discussed in 4.2 which follows.) It would appear that when viewing all appeals received by PECAB, they adjust those submitted by the unions most often. On the other hand, appeals submitted by the departments represent a much

smaller portion of those PECAB has reviewed but they have had about the same percentage adjusted as the other parties. The small number of adjustments that have been made by PECAB in relation to the total appeals submitted could tend to indicate either greater agreement with the employers or the existing relationships developed by the employers, but no hard data can be found within the scope of this study to substantiate this interpretation for all appeals. This data could also be interpreted as indicating that each of the different boards have considered the existing compensation plan correct, and the arguments for appeals insufficient to make changes.

Assertion 2: The Board and Conference have not adjusted female dominated classes as often as they have adjusted the male dominated classes and, PECAB has generally been ineffective and not had much of an impact on the correction of pricing inequities.

The following graph illustrates our findings with respect to this assertion.

**Dominated and Unisex Classes Submitted and Adjusted to PECAB and the Conference (CPD) 1963 to 1968  
(Graph 2)**

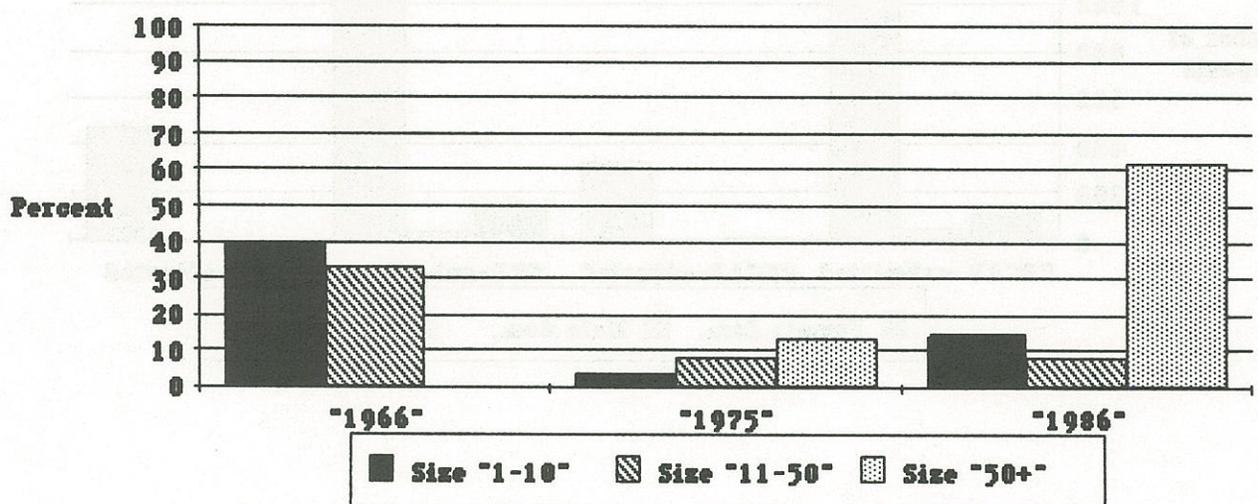


Assessment: It appears the assertion is not correct. PECAB has adjusted female dominated classes more often than male dominated classes, and almost as often as unisex classes, and the Conference has adjusted male and female dominated classes almost equally. It is also the case, however, that very few of the appeals submitted to PECAB or the Conference have resulted in adjustments, as almost 80% of those submitted to either body have not resulted in adjustments. It is possible that there may not have been a solid case for some of the appeals and requests submitted, but regardless it does not appear they have made many adjustments. If one assumes there are substantial inequities in the present compensation plan, then this would seem to indicate that neither body has had much impact on their correction. Alternatively, if one assumes no such inequities exist, it would appear that PECAB and the Conference has, in effect, been validating the correctness of the existing plan.

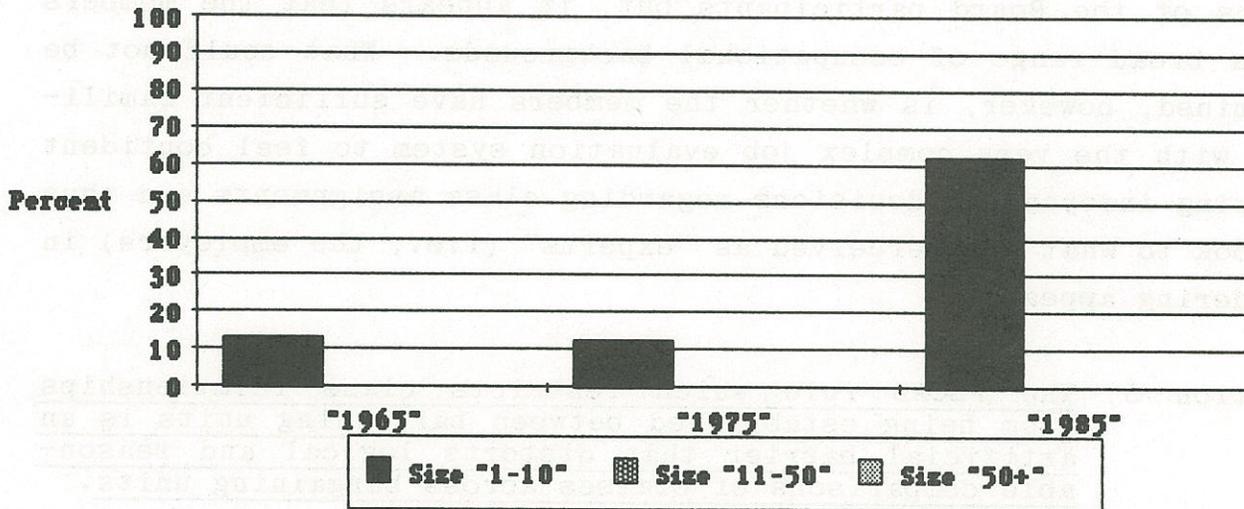
Assertion 3: The Board and Conference have not adjusted those classes with a larger number of employees as often as they have those classes with less employees, due to the effect on the overall state budget.

The following graph illustrates our findings with respect to this assertion.

**Percentage of Sex Dominated State Classes Adjusted by PECAB by Size (Number of Incumbents)**  
(Graph 3)



**Percentage of Sex Dominated Classes Adjusted by Conference by Size  
(Number of Incumbents)  
(Graph 4)**



Note: No classes having more than 10 incumbents were adjusted in any of these years.

Assessment: The assertion appears to be somewhat incorrect. Overall, when all actions for both bodies are considered, larger classes have been adjusted almost as often as smaller classes. Based on a review of the actions of PECAB and the Conference at approximately 10 year intervals, however, it appears that the Board is more likely to adjust larger classes than the Conference. There also does not appear to be any difference between the size of the classes adjusted versus those not adjusted for either female or male dominated classes.

Assertion 4: The PECAB meets every two years and, thus, there are concerns regarding the inconsistency of its members. In addition, the Board may not be able to attract the most qualified people because of the commitment on a nonrecurring basis.

Assessment: This assertion appears to be largely incorrect as the Board has had at least one repeat participant on each Board. PECAB has had 36 different people sit on the Board. Of the 36 individuals, 47% have served on a previous Board session. The percentage

of repeat participants does appear to provide for some consistency from meeting to meeting as there generally has been at least one repeat member on each Board. We were unable to assess the qualifications of the Board participants but, it appears that the members have a broad range of occupational backgrounds. What could not be determined, however, is whether the members have sufficient familiarity with the very complex job evaluation system to feel confident in making independent decisions regarding class assignments and thus may look to what are perceived as "experts" (i.e., the employers) in considering appeals.

Assertion 5: The PECAB rule which restricts class relationships from being established between bargaining units is an artificial barrier that distorts logical and reasonable comparisons of classes across bargaining units.

Assessment: There is no conclusive evidence that the assertion is correct or incorrect. Guidelines for this study precluded comparing classes across bargaining units, so we were unable to determine whether this ruling has contributed to more or less inequities.

#### Conclusions Regarding the PECAB/Conference of Personnel Directors Factor

Based upon the evidence gathered for each assertion, we cannot conclude that PECAB and the Conference have been ineffective in correcting perceived inequities, only that they appear to have adjusted a relatively small proportion of the classes submitted for review, and the adjustments made do not seem unduly affected by the sex dominance and size of the class. The relatively small portion of classes that have been adjusted can be interpreted based on different points of view regarding the existence of inequities. The first view is that the compensation plan does not have sex based inequities and the low percentage of classes adjusted reflects the correctness of the plan. In addition, one could suggest that the appeals and requests submitted to PECAB and the Conference have largely been without merit, however, it was not our purpose or intention

to assess the decisions made by either body. The second view is that the compensation plan does include sex based inequities. If the compensation plan is considered to include class pay inequities, then the relatively small number of adjustments made will have had little effect on correcting them.

## (2) HISTORY OF COMPENSATION PLAN

General Perception: There were inequities in the first classification and compensation plan implemented in 1933 which had not been addressed nor corrected through 1961 when PECAB and the Conference of Personnel Directors were established and which still exist today.

Assertion 1: Prior to 1933, pay inequities were evident in the public and private sectors which were dominated by a group of large businesses. These businesses also influenced the development of the first State classification plan in 1933.

Assessment: The assertion appears to be substantially correct. Pay inequities were most evident in the private sector, and specifically the agricultural industry, at the time the first compensation plan was developed in 1933. We have found evidence that a small group of large business interests appear to have played an important role in establishing the original classification and compensation plan through a private organization known as the Bureau of Governmental Research such that there is reason to believe that patterns of inequity in the private sector were incorporated into the plan. It is true, however, that what appears to have been a reasonable approach to developing the plan was taken, i.e., using the Federal system as a guide and making adjustments for local conditions. While it was not possible for us to conduct a formal job evaluation of female and male dominated classes that existed in 1933, research by others has indicated that this approach resulted in female dominated classes appearing at the lower end of salary scales, resulting in a general pattern of sex-based inequity in the original 1933 plan. We recog-

nize that it is possible that there may be other information which may prove this research to be incorrect, but it is outside the scope of this project to conduct a complete independent historical analysis.

Assertion 2: No subsequent major legislative and administrative changes have occurred which address any pay inequities which may have been in the 1933 classification.

Assessment: The assertion does not appear to be correct. Although not mandated by law, major reviews resulting in a substantial number of repricing actions were conducted by DPS in 1955 and 1961. Also, in 1961, PECAB reviewed the entire classification and compensation plan resulting in actions being taken on 538 classes which also affected internal alignments. In 1967, the legislation which mandated the establishment of a separate compensation plan for blue collar positions resulted in the review of each class and substantial changes in their internal alignment.

#### Conclusions Regarding the History of the Compensation Plan Factor

There may have been inequities present in the original 1933 classification plan, however, subsequent ameliorative legislative and administrative actions have significantly changed the pricing of a significant number of classes resulting in substantial changes to the internal alignment of most but not all classes.

### **(3) MARKET CONDITIONS**

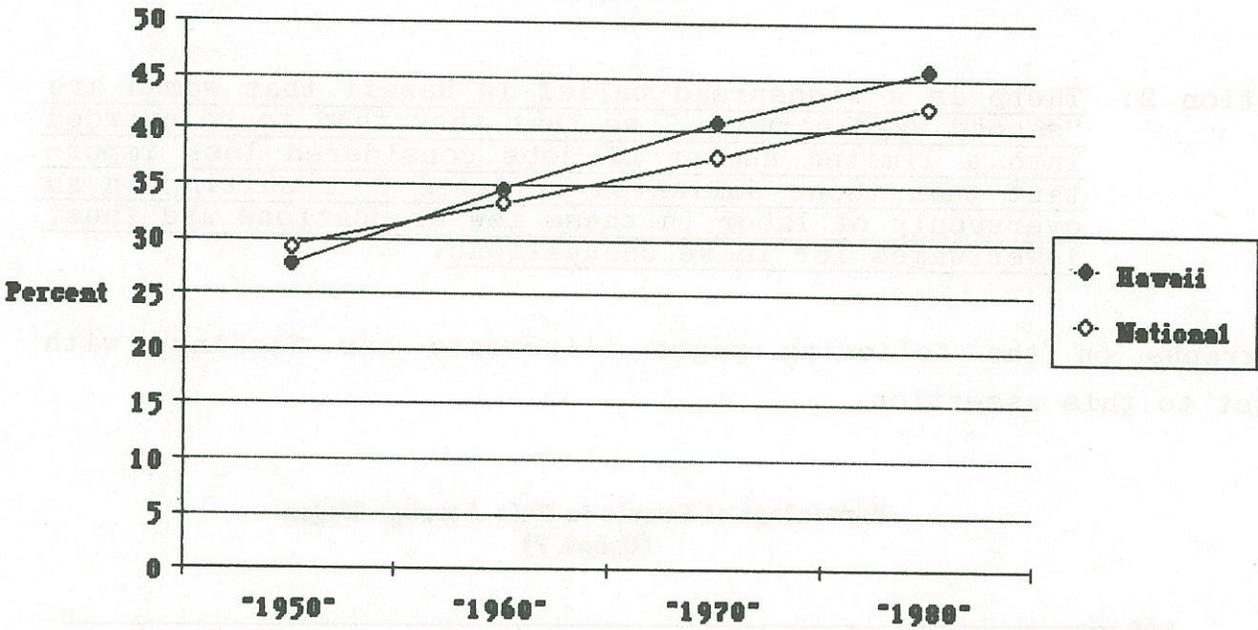
General Perception: The market in Hawaii distorts the value of occupations dominated by women because a large number of women work yet they are crowded into a small number of lesser-paying occupations, and the economy offers a limited number of opportunities.

There were three (3) assertions made in support of this perception which are each presented as follows with our assessment regarding each assertion.

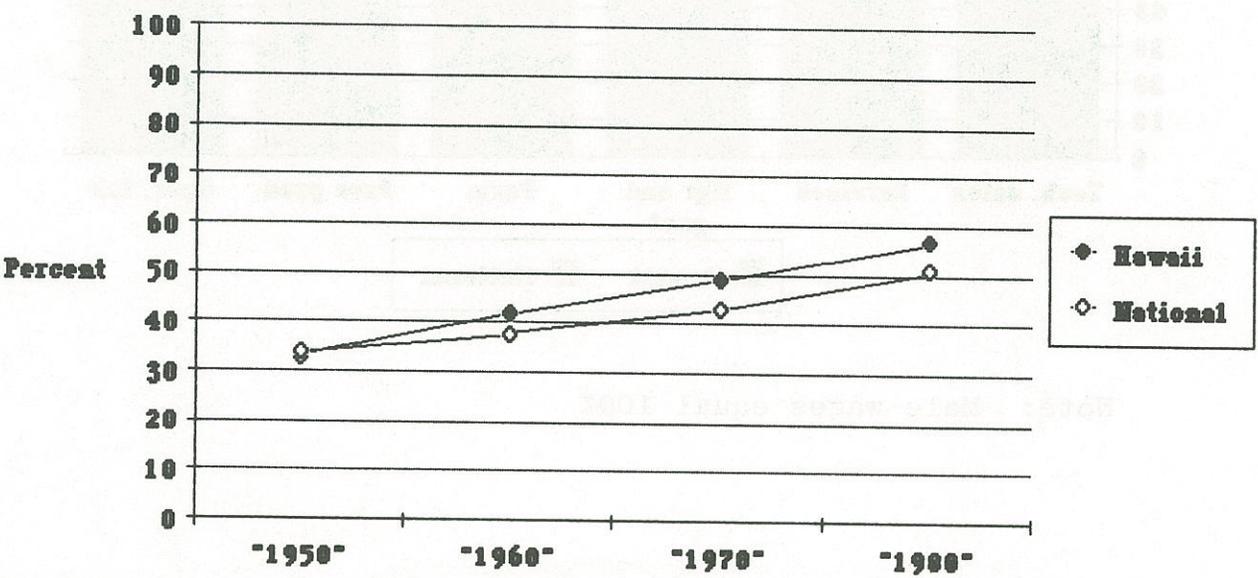
Assertion 1: A larger percentage of women work in Hawaii than nationally and have over a long period of time which indicates a need for women to work in Hawaii.

The following graphs illustrate our findings with respect to this assertion.

**Percentage of Employed Females in Total Employed Labor Force (Graph 5)**



**Percentage of Females in the Labor Force to All Females of Employment Age (Graph 6)**

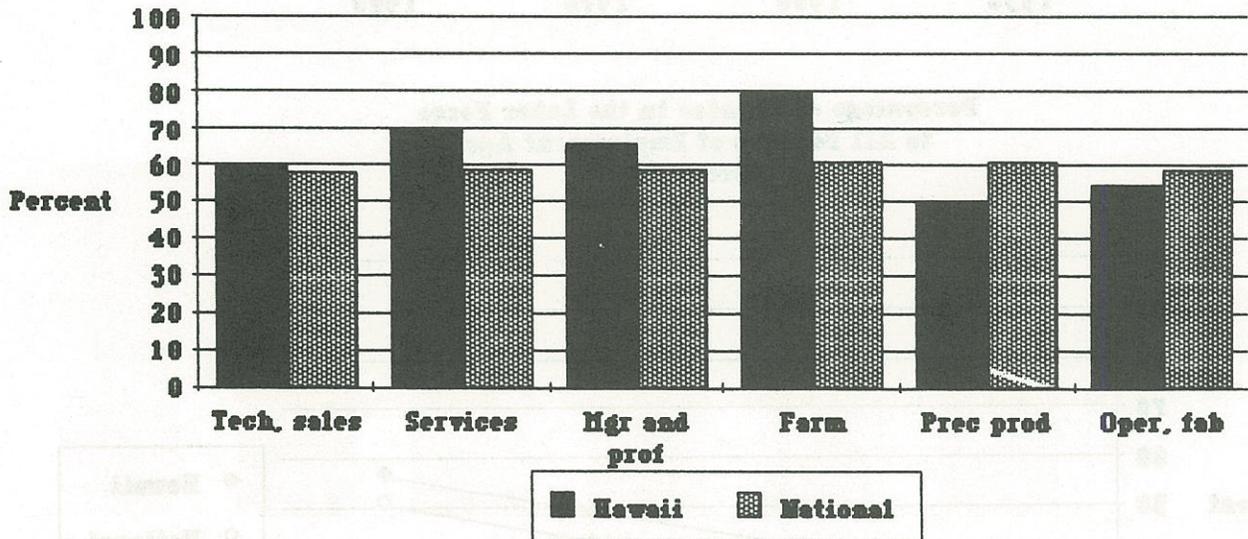


Assessment: The assertion appears to be correct. Since 1960, both the percentage of the total employed labor force that is female as well as the percentage of potential female workers that are actually employed, have been higher in Hawaii than nationally. This combined with lower average wages (see Assertion 2) and a higher cost of living in Hawaii seem to indicate a greater need for females in Hawaii to work.

Assertion 2: There is a widespread belief in Hawaii that women are "second wage earners," so that they tend to be crowded into a limited number of jobs considered less important than those dominated by males -- resulting in an oversupply of labor in these few occupations and thus, lower wages for these occupations.

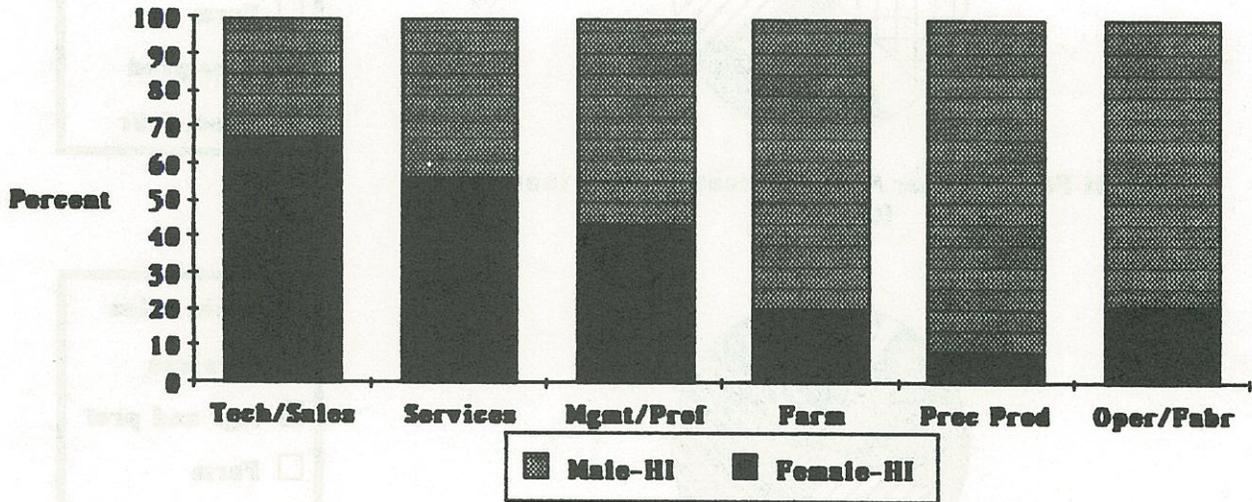
The graphs on the following pages illustrate our findings with respect to this assertion.

**Percentage of Female to Male Average Wages  
(Graph 7)**

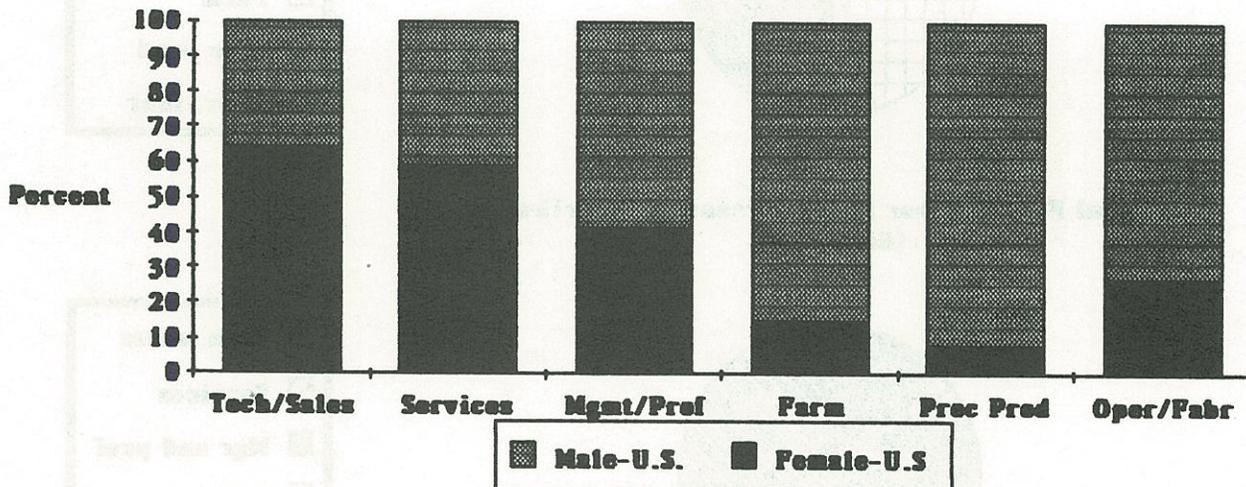


Note: Male wages equal 100%

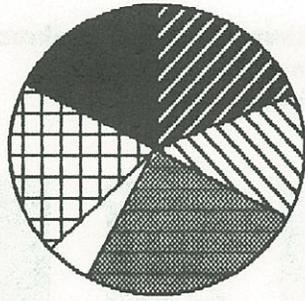
**Percentage Distribution by Sex in Hawaii  
Within Occupation Group  
(Graph 8A)**



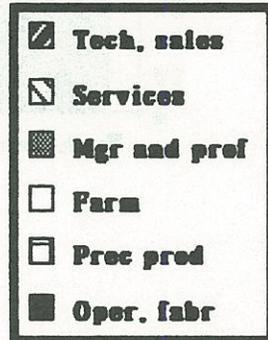
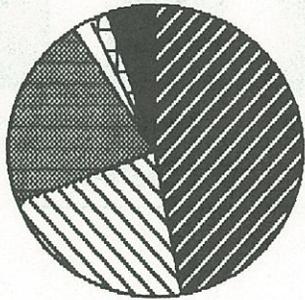
**Percentage Distribution by Sex in the United States  
Within Occupational Group  
(Graph 8B)**



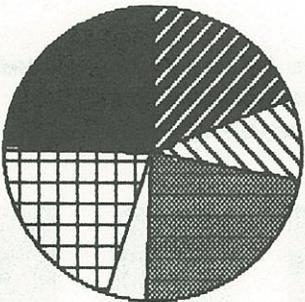
**Hawaii Male Labor Force Percentage Distribution  
(Graph 9A)**



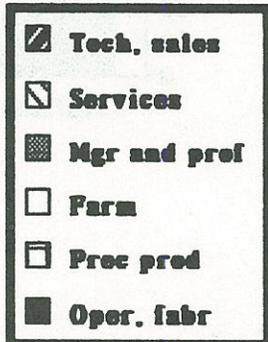
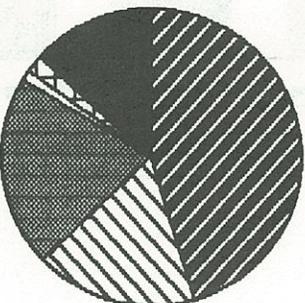
**Hawaii Female Labor Force Percentage Distribution  
(Graph 9B)**



**National Male Labor Force Percentage Distribution  
(Graph 9C)**



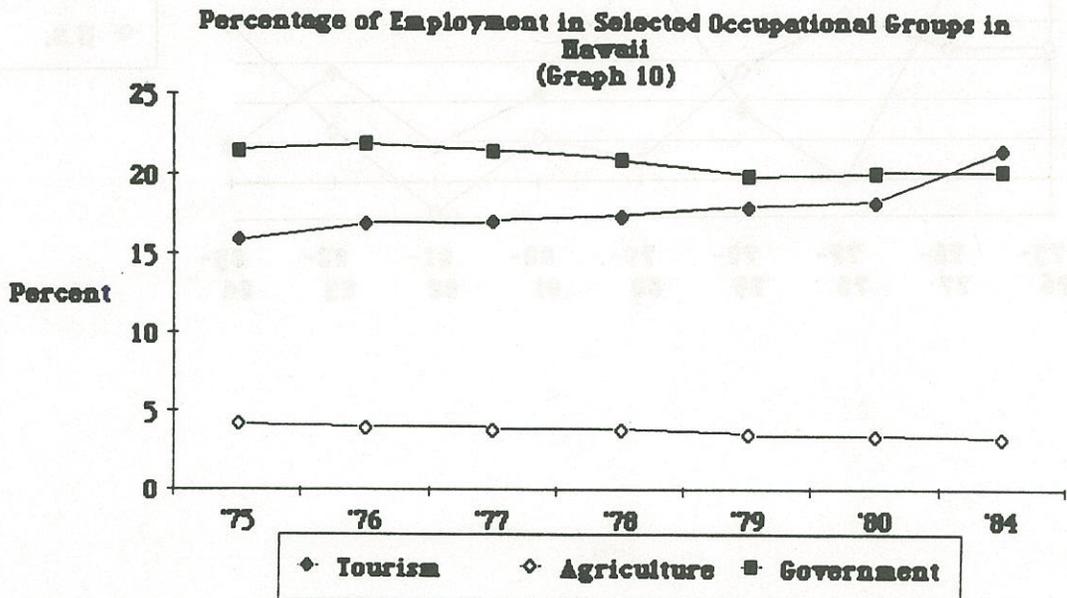
**National Female Labor Force Percentage Distribution  
(Graph 9D)**



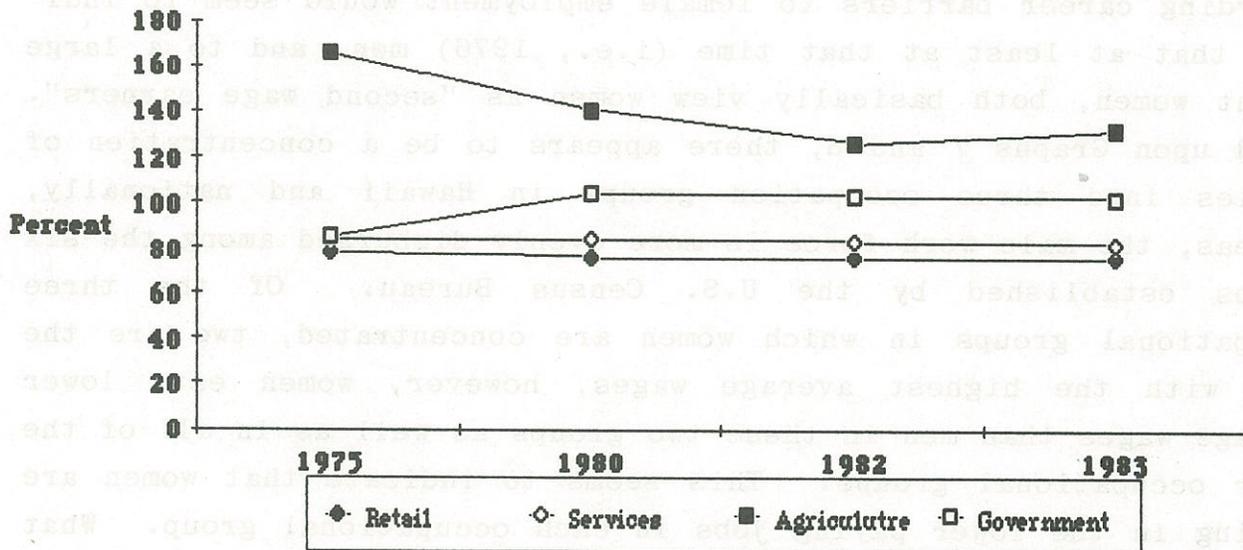
Assessment: The assertion appears to be substantially correct. The results of the only previously conducted survey of attitudes regarding career barriers to female employment would seem to indicate that at least at that time (i.e., 1976) men, and to a large extent women, both basically view women as "second wage earners". Based upon Graphs 7 and 8, there appears to be a concentration of females into three occupation groups in Hawaii and nationally, whereas, the male work force is more evenly disbursed among the six groups established by the U.S. Census Bureau. Of the three occupational groups in which women are concentrated, two are the ones with the highest average wages, however, women earn lower average wages than men in these two groups as well as in all of the other occupational groups. This seems to indicate that women are working in the lower paying jobs in each occupational group. What we have not been able to determine given available data is whether females have been forced into these occupations through conscious or unconscious discriminatory "crowding" or have chosen these occupations freely for other reasons.

Assertion 3: Hawaii's economy is based upon a relatively small number of industries -- tourism, agriculture and government, and it does not appear to be growing, so that a "buyer's market" for labor is created as people accept lower wages to stay in Hawaii and/or come here to live.

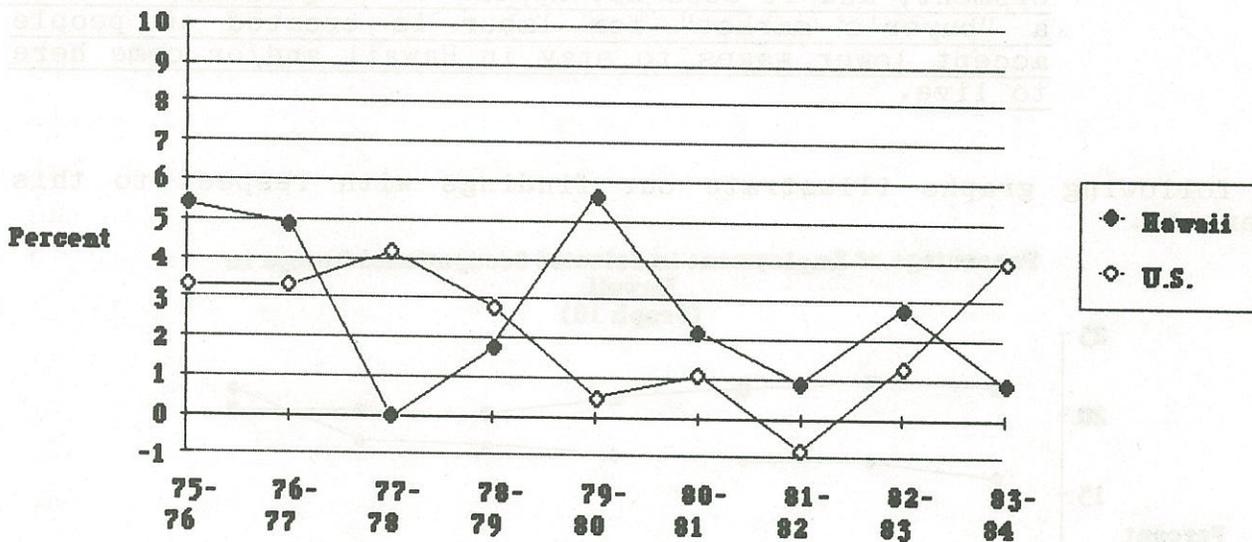
The following graphs illustrate our findings with respect to this assertion.



**Percentage of Hawaii to U.S. Average Wage  
(Graph 11)**



**Percentage Increase/Decrease in Employment  
(Graph 12)**



Assessment: The assertion appears to be at least partially correct. Hawaii's economy is based upon a relatively small number of industries -- primarily tourism and government, with agriculture a small percentage of total employment and becoming smaller. No other industry sector has greater than a third of the employment of either tourism or government. The Hawaii economy in terms of employment has been growing, however, and except for the most recent year's data, generally at a faster rate than the U.S. as a whole. It does seem that people do accept lower wages to stay in Hawaii and/or come here, as the number leaving Hawaii is more than balanced by the number arriving, despite lower average wages and a higher cost of living than on the mainland.

#### Conclusions Regarding the Market Conditions Factor

While it is not clear whether the market is distorting the value of work performed by women, it is clear that women are paid significantly less than men in every occupational group. Whether this is a result of "crowding" of women into a fewer number of jobs within each occupational group and therefore depressing wages in those occupations, or some other reason cannot be determined from the data available. Given the fact that women have comprised a significant portion of the labor force for a long period of time, we tend to consider the traditional view that women are more recent labor force entrants as not appropriate. We are not necessarily suggesting that there has been intentional discrimination against women in the Hawaii market. It is entirely possible that women have voluntarily chosen to work in jobs that are known to be lesser paid, especially since a significant number appear to have agreed with the belief that their career is not as important as their husband's career or their family. While the State and Counties do not directly base internal pricing adjustments on market conditions, it does appear that indirect uses of market conditions in developing initial pricing and/or appeals decisions should be carefully considered as they may contribute to sex-based inequities.

#### (4) EXISTING JOB EVALUATION METHOD

General Perception: The existing job evaluation method is too subjective in relation to alternative methods.

There were two (2) assertions made in support of this perception which are each presented as follows with our assessment regarding each assertion.

Assertion 1: The existing job evaluation method is too subjective in relation to alternative methods.

Assessment: The assertion does not appear to be correct. There appears little doubt based upon a review of the relevant literature that all job evaluation methods are considered inherently subjective. Our assessment of the methods as practised by the State and Counties of Hawaii suggests that if certain deficiencies were corrected, subjectivity could be reduced and the rationale for classification actions more clear and understandable to those affected. Our assessment of the point factor method suggests that it does not seem to offer any significant advantages in reducing subjectivity than the method currently practised by the State and Counties, especially if the suggested enhancements were made to the existing system. The point factor method, could in fact possibly create new and different problems for the State and Counties in its implementation and maintenance. We cannot say, then, that either is clearly more or less subjective than the other.

It should be pointed out that this conclusion addresses only the relative subjectivity of the existing method versus other methods, notably the point factor method. This conclusion should not be taken to infer any superiority of the existing method on the basis of other criteria such as susceptibility to inequity, efficiency of operation, or other criteria on which job evaluation systems may be evaluated.

Assertion 2: The existing method does not provide a straight-forward method of evaluating similar classes in relation to each other which can be easily explained to personnel.

Assessment: The assertion appears to be substantially correct. Unlike the point factor method which results in a single numerical score for a job or class which is easily compared to other jobs and classes, the method as practised by the State and Counties does not offer a simple and easily explained means of comparing one job or class to another. PECAB rules and other policies restrict comparisons across bargaining units which are perceived as contributing to some inequities. Both characteristics of the existing system appear to be creating a perception that the existing system is more subjective and tend to lead lay personnel affected by the system to regard it with some suspicion.

Conclusions Regarding the Existing Job Evaluation Method Factor

It appears that the existing system, like all job evaluation systems is inherently subjective. We cannot say for certain that it is more or less subjective than the point factor method to which it has been compared most often. It is apparent that the existing method does not provide an easily understood means of determining whether classes are evaluated equitably in relation to each other which is possibly leading to a lack of credibility for the entire system. However, there is no reason to believe that the existing method, based upon this review, is itself actually contributing to inequities more or less than would be the case under any other method.

**(5) COLLECTIVE BARGAINING**

General Perception: Collective bargaining and pay equity are incompatible processes for establishing and maintaining class relationships.

There were three (3) assertions made in support of this perception which are each presented as follows with our assessment regarding each perception.

Assertion 1: Separate salary schedules exist for each of the thirteen bargaining units. Each bargaining unit also negotiates separately and this has resulted in differences between the salary schedules.

Assessment: This assertion appears to be correct. The Collective Bargaining Law has resulted in the development of 13 bargaining units with different salary schedules, and varying amounts of pay increases have been negotiated since 1973 as shown in Exhibit 10. Negotiations for individual classes are prohibited so that negotiations may only be conducted for entire bargaining units. Different approaches used in collective bargaining negotiations, however, have resulted in different wage amounts within the same salary ranges between the different white collar bargaining units and may have slightly altered differentials between SR's within white collar bargaining units.

Assertion 2: Pay equity cannot be achieved through collective bargaining.

Assessment: It appears this assertion is not correct. There have clearly been cases where collective bargaining has been used to make adjustments over time to correct pay inequities once inequities have been identified.

Assertion 3: Pay equity cannot be maintained once established given separate negotiations for 13 different bargaining units.

Assessment: This assertion does not appear relevant under existing State laws and PECAB rules. Under existing State laws, negotiations are limited to general increases affecting the entire salary schedule within a bargaining unit -- different increases cannot be negotiated for individual classes within a unit. In those rare cases

HISTORY OF PAY INCREASES SINCE COLLECTIVE BARGAINING

EXHIBIT 10

(Prepared by the Office of Collective Bargaining, State of Hawaii)

DATES	Unit 1 Blue Collar	Unit 2 Blue Collar Supervisors	Unit 3 White Collar	Unit 4 White Collar Supervisors	Unit 5 Teachers	Unit 6 Educational Officers	Unit 7 UH-College Faculty	Unit 8 UH-College Non-Faculty	Unit 9 Nurses	Unit 10 Hospital & Institutional	Unit 11 Firefighters	Unit 12 Police	Unit 13 Prof. & Scientific
7/1/72	7.0%						I						
9/1/72					5.5% + I	5.5% + I							
12/29/72		7.0%											
1/1/73			5.5% + I	5.5% + I					5.5% + I	5.5% + I	5.5% + I		
2/1/73								5.5% + I					5.5% + I
4/1/73												5.5% + I	
7/1/73	5.5%	5.5%	5.5% + I	5.5% + I			I	7.5%	5.5% + I	5.5% + I	5.5% + I	5.5% + I	5.5% + I
9/1/73					6.0% + I	5.5% + I							
7/1/74	\$36/mo. 5.52%	3.0%	3.0% + I	7.0%			I	6.0%	3.0% + I	7.0%	8.5% + I	5.5% + I	3.0% + I
9/1/74					7.0% + I	7.5% + I							
11/1/74							\$79/mo. (9) \$92/mo. (11) 6.0%						
1/1/75		4.0%	4.0%						4.0%				4.0%
3/1/75							6.0%						
7/1/75	\$40/mo. 6.13% + I	3.5% + I	3.5% + I	7.0% + I			7.5% + I	6.0% + I	3.0% + I	8.5% + I	\$110/mo. 9.85% + I	5.5% + I	3.5% + I
9/1/75					8.5% + I	7.0% + I							
1/1/76		3.5%	3.5%						4.0%				3.5%
7/1/76	\$105/mo. (NT) 120/mo. (T) 15.69%	1.5% + \$70 8.39%	1.5% + \$70 9.96%	1.5% + \$70 7.08%			3.75%+\$712 3.75%+ 833 7.92%	1.5% + \$70 7.24%	\$94/mo. 8.03%	1.5% + \$70 9.54%	\$105/mo. 8.5%	\$205/mo.* 18.1% (\$115/mo.)	1.5% + \$70 6.66%
9/1/76					8.5% + I	7.0% + I							
10/1/76													(\$30/mo.)
1/1/77													(\$30/mo.)
4/1/77													(\$30/mo.)
7/1/77	6.13%	4.76%	5.76%	4.86%	4.62% (9/1)	4.3% (9/1)	4.02%	4.09%	4.66%	5.15%	4.4%	4.35%	4.77%
7/1/78	3.97%	4.7%	4.69%	4.8%	4.3% (9/1)	4.3% (9/1)	4.0%	4.0%	4.7%	4.7%	4.2%	4.24%	4.71%
7/1/79	11.9%	8.7%	9.1%	8.4%	8.3% (9/1)	8.0% (9/1)	8.2%	8.4%	8.6%	9.3%	7.0%	8.0%	8.4%
7/1/80	10.8%	9.8%	8.9%	8.3%	8.2% (9/1)	7.9% (9/1)	8.1%	8.3%	8.4%	8.9%	10.5%	9.0%	8.3%
7/1/81	3.6% Comp. + 6.1% Incr. (9.7%)	\$105 + 2.3% Comp. (9.8%)	variable* (9.91%)	8.3%	\$100 or 8% (8.1%)	8.0%	7.5% .5% Merit (8.0%)	\$100 or 8% (8.1%)	7.0% + 2.89% Comp. (9.89%)	\$100 or 8% (9.36%)	Eff. 3/82 13.8%	5% + 348 (8.1%)	\$100 or 8% (8.1%)
7/1/82	2.35% Comp. + 6.0% Incr. (8.35%)	\$115 + 2.1% Comp. (9.87%)	variable* (9.24%)	9.2%	10.0%	10.0%	9.5% .5% Merit (10.0%)	10.0%	9.0% + 1.85% Comp. (10.85%)	\$100 or 8% (8.68%)	Eff. 10/82 12.3%	(10.0%)	(10.0%)
4/1/84	3.06%	3.0%	3.1%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%		3.0%**	3.0%
7/1/84											2.88%		
1/1/85	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%		2.0%**	2.0%
TOTALS w/I (comp.)	97.75% (155.0%)	89.52% (137.08%)	95.66% (151.92%)	86.94% (132.11%)	94.02% (148.44%)	90.0% (139.30%)	82.74% (122.83%)	84.13% (125.73%)	93.13% (146.00%)	93.2% (145.94%)	100.93% (163.47%)	96.79% (153.33%)	88.94% (136.71%)

\*\$90/mo. or less (\$115); \$90-\$140/mo. (\$110); \$140/mo. or more (7.5%). Note: I = increments.  
 which are costed at an average of 2% each Employer's proposal

where negotiations could have created distortions between amounts paid within a bargaining unit, in reality this does not seem to have occurred. Existing PECAB rules do not allow comparisons of classes across bargaining units, thus if one unit negotiates a different amount or type of general increase than another unit it will have no effect on how comparisons are currently made. If changes are made to PECAB rules to allow comparisons across bargaining units, this assertion may become relevant, but only if measures are not also taken to eliminate or ameliorate the potential problems.

### Conclusions Regarding the Collective Bargaining Factor

It does not appear that pay equity and collective bargaining are inherently incompatible. Collective bargaining has appeared to contribute to differences in the amounts of salary ranges between bargaining units and to a much lesser extent within a bargaining unit which complicates achieving equity only if comparisons of classes and their salary ranges across bargaining units are allowed which is not now the case. Use of the dollar value neutral SR's could be enhanced to further reduce the effects of different dollar amounts in SR's between bargaining units. At the same time, however, collective bargaining has been used to correct inequities and the process is not itself considered discriminatory.

If state laws and PECAB rules are changed to either allow negotiations by class and/or comparisons of classes across bargaining units, then it will be necessary to also enact protective measures to ensure pay equity is maintained.

#### **4.2 Causes Identified for Specific Inequities**

In the previous section we presented the factors that individuals and organizations believe to be contributing to perceived inequities, and our assessment of each of those factors. In this section we focus upon the twenty-one (21) specific classes evaluated in this study which were found to be inequitable. The purpose of

this section is to identify the causes of these specific inequities.

It should be remembered that through our research we have found that in the past, there has been interaction between the evaluation of classes and their compensation. While it is not clear to what extent this has occurred, it is for this reason, we do not believe it is possible to merely conclude that classes identified as inequitable on value analyses (actual SR compared to expected SR) are necessarily the result of improper evaluation, and classes found to be inequitable on compensation analyses (actual salary compared to expected salary) are solely due to salary schedules historically derived from legislation or collective bargaining.

The relative value assignment of a class as indicated by its SR could have been influenced by actions taken by PECAB or historical relationships that are and were outside the control of DPS as it now exists and the county personnel departments. Classes identified as inequitable as a result of the value analyses, therefore, may be due to improper pricing resulting from initial actions made by DPS and the counties or appeals to PECAB with the latter possibly due to concerns other than internal alignment.

Compensation influences could be viewed as a cause of inequity since many of the classes identified as inequitable were derived from the expected to actual salary analyses. In recent years changes have occurred in compensation due to collective bargaining. It should be remembered, however, that in our analyses with only two exceptions (Registered Professional Nurses III and IV) classes were assessed only in relation to other classes within the same bargaining unit. Collective bargaining negotiations generally provide across the board increases within a unit. It is possible that the effect of different types of negotiations (e.g., dollar only or dollar and percentage combination increases) might cause certain SR's within a unit to receive slightly different amounts of increases, however, based upon a review of negotiations for the two major units included in the study (i.e., 3 and 13), this has rarely occurred. The fact

remains that all classes within the same unit assigned to the same SR receive the same compensation, and that there are clear and distinct relationships between dollars paid in each SR (e.g., SR 5 is paid more than SR 4). For classes identified as inequitable only on compensation analyses, the cause(s) is ostensibly less clear, and may be due to some form of interaction between evaluation and compensation.

Because a precise cause for classes identified as inequitable cannot be reasonably determined solely as a result of the different analyses, it is necessary to examine to the extent possible the history of pricing actions for each of the 21 classes to see what might have influenced their pricing. This examination has been limited because detailed records for every class prior to 1961 are generally not available, nor are records either before or after 1961 always specific as to the actual cause for a pricing action being taken. Thus we began our examination into causes of inequities by conducting a series of interviews with both DPS and HGEA classification and compensation specialists, followed by our own research to verify and supplement the information they provided.

From both the interviews and our research, we have developed an independent assessment of what we believe appears to be the cause of the inequity for each of the 21 classes. In addition, we have reviewed our assessments in relation to the factors previously identified to determine which factors appear to be most significant in explaining the inequities that were found in the study. This section is organized into two parts:

- An Assessment of Causes for the Classes Determined to be Inequitable
- Relationship of the Perceived Factors to Causes of Inequities

#### 4.2.1 An Assessment of Causes for the Classes Determined to be Inequitable

The rationale, if any, for inequities in each of the 21 classes identified by both DPS and HGEA have been assessed and are summarized in Exhibit 11 beginning on the following page. In reviewing the causes of individual class inequities, it is apparent that there are a number of observations that can be made regarding the causes identified by DPS and HGEA, and what we have independently concluded.

##### (1) Observations Regarding Causes Identified by DPS

A review of the causes identified by DPS indicates that in many cases they disagree with the determination of the class as being inequitable. Those classes for which they offer causes supporting the determination of the class as inequitable are all classes that have been found to be either valued or compensated higher than expected. DPS has not suggested that there may be causes for classes found to be priced lower than expected and for all such classes they have disagreed with the inequity finding.

Where they disagree with the inequity determination, DPS has generally considered either the existing relationships within a class series to be appropriate, the relationships between one series and related series to be appropriate or that collective bargaining negotiations have distorted relationships between the value of a class (represented by its SR assignment) and its compensation. In a number of cases the relationships they cited as being appropriate cut across both occupational groups and bargaining units, the latter despite the PECAB ruling which ostensibly prohibits this practice. This most often occurs when comparing technician classes found in Bargaining Unit 3 (e.g., Library Technicians) with related professional classes in Bargaining Unit 13 (e.g., Librarians). In these cases it may be that the benchmark class for the technician is a professional class. According to DPS the comparison across units

## **INEQUITABLE CLASS CAUSE ASSESSMENT**

### **Legal Stenographer I**

Female Dominated  
Higher Than Expected

#### DPS Cause Identified

PECAB action in 1963 resulted in repricing from SR 13 to 14. In addition, because the class was identified as inequitable on only compensation analyses, collective bargaining negotiations are also a cause.

#### HGEA Cause Identified

The class historically related to "court/legal" clerical classes most of which were adjusted in 1963 establishing a higher "pattern" than for other clerical classes.

#### Assessment

Inequity appears to be due to historical relationships establishing an unofficial "court/legal" pattern, which seems to have affected PECAB action in 1963. It has been observed that all court/legal classes in occupational sub-group have significantly higher SR's than other clerical classes in occupational sub-groups although these classes were not included in the study sample. This class is priced in relation to court/legal classes and other non-court/legal classes. If collective bargaining is involved, its impact cannot be determined and thus is considered less relevant than the preceding cause.

### **Data Processing Control Clerk I**

Female Dominated  
Higher Than Expected

#### DPS Cause Identified

The class was initially established and priced by a County (1965) so that when State subsequently established the class (1973) it had to follow initial pricing. Newness of work and scarcity of qualified personnel in 1965 also presumed influential. In addition, because the class was identified as inequitable on only compensation analyses, collective bargaining negotiations are also a cause.

#### HGEA Cause Identified

The class is related to the Computer Operator II also found to be high - these two classes (especially Computer Operator II which is a benchmark) found to be out of line in same occupational sub-group,

indicates entire sub-group may be out of line.

### Assessment

Inequity appears to be most directly attributed to the State law which requires State/County pricing equity and the scarcity of qualified personnel at the time the class was priced. The occupational sub-group is very large and contains benchmark classes and one other class that were included in the study but found to be properly priced - thus, there does not seem to be conclusive evidence that the entire sub-group is improperly priced, although it may warrant re-examination. If collective bargaining is involved, its impact cannot be determined and thus is considered less relevant than the preceding cause.

### **Computer Operator III**

Male Dominated  
Higher Than Expected

### DPS Cause Identified

PECAB action in 1967 resulted in repricing - SR 12 to 15 based on relationships with previously established County class; the County class was priced based upon national and local salary surveys as well as external rankings of classes in the data processing field. Also, the class was considered more complex and responsible than other classes at the same SR. Newness of work and scarcity of qualified personnel is also presumed to have been influential at that time. Finally, because the plan was identified as being inequitable on compensation analyses, collective bargaining negotiations are also a cause.

### HGEA Cause Identified

The class was originally priced high due to scarcity of these personnel at that time. Class is also a benchmark and thus affects pricing of other classes.

### Assessment

Inequity appears to be principally due to external comparisons which at the time ranked this class relatively high and to market factors (i.e., scarcity) which influenced the County's pricing. The State's pricing of the class thus had to correspond to the prior County pricing due to the State law requiring State/County pricing equity and the equity issue appears to be the basis for the PECAB action. This class was identified as inequitable on both value and compensation analyses. If collective bargaining is involved, its impact cannot be determined and thus it is considered less relevant than the preceding causes.

## Account Clerks III and IV

Female Dominated  
Lower Than Expected

(Note: Both classes are directly related and were found to be inequitable on both value and compensation analyses, so are considered here together.)

### DPS Cause Identified

Disagree with inequity finding. Internal relationships are proper within the series and with other clerical series; upward adjustment would cause clerical class pricing to exceed related professional class pricing. Study evaluation may have been influenced by private sector practice of highly valuing fiscal jobs. In addition, because the class was identified as being inequitable on compensation analyses, collective bargaining negotiations are also a cause.

### HGEA Cause Identified

The classes' occupational sub-group is related to the previous sub-group (in which above 2 classes are found) and there appears to be a general problem with these two sub-groups to have so many classes in them found to be inequitable.

### Assessment

Numerous requests/appeals to CPD/PECAB have been filed and only one granted in 1962 to the precursor class. All requests/appeals have been based upon internal relationship arguments. The class is also a benchmark. All of this suggests a reluctance by CPD/PECAB to re-price a benchmark which would affect many other classes. Clerical class pricing (i.e., Account Clerk IV and V) already equals or exceeds the pricing of professional classes (i.e., Accountant I), thus there appears to be a general problem with such relationships. Inequity, therefore, appears to be based more on reluctance to re-price the classes. Private sector practices were not considered in the study evaluation, only the State's official class specifications. This class was identified as inequitable on both value and compensation analyses. If collective bargaining is involved, its impact cannot be determined and thus it is considered less relevant than the preceding causes.

### **Storekeeper I**

Male Dominated  
Lower Than Expected

#### DPS Cause Identified

Disagree with inequity finding. Internal relationships with general clerical classes studied recently and considered appropriate. This class is related to another class in the study not found inequitable. In addition, because the class was identified as inequitable on only compensation analyses, collective bargaining negotiations are also a cause.

#### HGEA Cause Identified

Cannot explain inequity.

#### Assessment

Inequity appears to be due to use of historical class relationships as the basis for pricing which have not changed since 1962. Two PECAB appeals were denied based upon existing relationships. The fact that another class to which Storekeeper I is related was not found inequitable is not conclusive evidence that this class is properly valued/compensated as the other class has certain characteristics which are different than Storekeeper I. This class was identified as inequitable on both value and compensation analyses. If collective bargaining is involved, its impact cannot be determined and thus it is considered less relevant than the preceding causes.

### **Social Services Aide III**

Female Dominated  
Lower Than Expected

#### DPS Cause Identified

Disagree with inequity finding. Internal relationship within this series and with other general clerical classes and sub-professional aides in other nondominated social services classes is proper. In addition, because the class was identified as inequitable on only compensation analyses, collective bargaining negotiations are also a cause.

#### HGEA Cause Identified

Historical relationship established between this class and professional class (i.e., Social Worker) has not been adjusted since established; class is similar to other paraprofessional classes directly related to professional classes.

Assessment

Inequity can only be caused by improper pricing as no other explanation can be found. If collective bargaining is involved its impact cannot be determined; it was the only one of six classes found inequitable in this SR.

**Clinical Psychologist VI**

Female Dominated  
Higher Than Expected

DPS Cause Identified

PECAB action in 1964 on precursor class was based on "recruitment and turnover problems." Such problems are generally considered attributable to lower wages being paid than in the external market. In addition, because the class was identified as inequitable on only compensation analyses, collective bargaining negotiations are also a cause.

HGEA Cause Identified

The professional pricing pattern (SR's 18, 21, 24, 26) appears to have a general problem for the classes in the higher and lower ranges in that this class at SR 26 is considered too high, and a number of other classes in the study at SR 18 are considered too low; no classes in the middle ranges were identified as inequitable however.

Assessment

Inequity is most directly attributable to market conditions (i.e., higher wages in the private sector) which appeared to be the cause of PECAB's action. The structure of the professional pricing pattern may be a cause, but there is an insufficient number of classes at SR 26 included in the study to provide conclusive evidence. If collective bargaining is involved, its impact cannot be determined and thus is considered less relevant than the preceding cause.

**Special Education Teacher III**

Female Dominated  
Lower than Expected

DPS Cause Identified

Disagree with inequity finding. Internal relationship with other similar classes in the professional pattern indicates pricing is appropriate. In addition, because the class was identified as inequitable on only compensation analyses, collective bargaining negotiations are also a cause.

### HGEA Cause Identified

Once again, the professional pricing pattern appears to have a general problem for the classes in the higher and lower ranges, in that this class and others in the study at SR 18 are considered too low, and another class in the study at SR 26 considered too high; no classes in the middle ranges were identified as inequitable, however.

### Assessment

Inequity appears to be caused by the structure of the professional pricing pattern because:

- At the lower end there is a wider (two range) gap between SR 18 and 21 than is normally the case in other pricing patterns (one range) so that a class would have to be evaluated significantly higher before being priced at the higher (21) SR;
- Three out of eight professional classes at SR 18 were found to be too low, but none of the eight were found to be too high;
- A larger proportion of professional classes in the study at SR 18 are female dominated (5 out of 8), while a larger proportion of the professional classes in the middle ranges (21 and 24) are male dominated (8 out of 11).

While no one of these three findings seems conclusive, taken together, they suggest that there may be some problem in fitting the actual value of classes into a predefined professional pricing pattern. If collective bargaining is involved, its impact cannot be determined and thus is considered less relevant than the preceding cause.

### Librarian III

Female Dominated  
Lower Than Expected

### DPS Identified Cause

Disagree with inequity finding. Internal relationship with other nondominated classes in the professional pattern (not included in the study) indicates pricing is appropriate. In addition, because the class was identified as inequitable on only compensation analyses, collective bargaining negotiations are also a cause.

HGEA Identified Cause

Same cause offered as for Special Education Teacher III. The professional pricing pattern appears to have a general problem for the classes in the higher and lower ranges, in that this class and others in the study at SR 18 are considered too low, and another class in the study at SR 26 considered too low; no classes in the middle ranges were identified as inequitable, however.

Assessment

Inequity is attributed to the job evaluation method and may be due to the structure of the professional pricing pattern, as well as the fact that there have been 11 requests/appeals to CPD/PECAB for this class, and only one in 1962 has been granted. This seems to indicate a reluctance on the part of both bodies to reprice this class which, while not a benchmark, is related to a number of other classes, specifically the Librarian II benchmark (which did not meet minimum size criteria to be included in the study) and the Librarian II class is one of the fundamental benchmark classes for pricing professional classes. If collective bargaining is involved, its impact cannot be determined and thus is considered less relevant than the preceding cause.

**Library Technician VI**

Female Dominated  
Lower Than Expected

DPS Cause Identified

Disagree with inequity finding. Internal relationships with classes not included in the study at other levels within the series, and the relationship of the series with general clerical classes at lower levels and professional classes, including professional librarians, at the higher levels is appropriate. The study found Library Assistant III, IV and V appropriately priced.

HGEA Cause Identified

Library Technician VI series is "short" both in relation to the relatively longer series for other technicians and for the longer series for Librarians; also Library Technician VI is directly related to Librarian III which is also found to be lower than expected.

Assessment

Inequity is attributed to the job evaluation method. The class was originally priced in 1966 in relation to both other technician classes now in bargaining unit 3, and a benchmark class now in bargaining unit 13. The class series does not appear to be unduly short given other technician class series found throughout the compensa-

tion plan. While we recognize that there is no established relationship between technician VI's and professional classes and there may be other factors influencing such relationships, we believe it is illustrative to consider the structure of similar relationships in other occupational groups. A review of selected technician VI/professional relationships (e.g., Forestry Technician VI at SR17/Forester II at SR 15; Engineering Technician VI at SR17/Engineer I at SR 17) indicates that various SR relationships occur, comparable to the Librarian Technician VI at SR 13/ Librarian II at SR 15. It does appear that it is more often the case that the technician VI is typically at a higher or same SR as the lowest level professional class, and where there is a technician class higher than the VI (i.e., Engineering Technician VIII at SR 21) it is significantly higher than the lowest level professional class (i.e., Engineer I at SR 17) rather than what is the case in this series where the Library Technician VII at SR 15 is at the same SR as the lowest level Librarian II. The fact that other classes in the study were not found inequitable is not conclusive evidence that this class is properly valued/compensated as the other classes have characteristics which are different than Library Technician VI.

### **Agricultural Research Technician III**

Male Dominated  
Lower Than Expected

#### DPS Cause Identified

Disagree with inequity finding. In addition, because the class was identified as inequitable on only compensation analyses, collective bargaining negotiations are also a cause.

#### HGEA Cause Identified

The research portion of the class which distinguishes it from other technicians may be undervalued.

#### Assessment

Inequity is attributed to some aspect of the overall job evaluation system which cannot be specifically determined at this time. It is possible that because the Agricultural Research Technician III is related to the Agricultural Research Technician IV (discussed below) which was identified as improperly valued, that this class is inequitable due to that relationship. If collective bargaining is involved, its impact cannot be determined and thus is considered less relevant than the preceding cause.

## **Agricultural Research Technician IV**

Male Dominated  
Lower than Expected

### DPS Cause Identified

Disagree with inequity finding. Internal relationships (i.e., Agricultural Research Technician III above, to which it is related was found to be valued appropriately) and with other related technician series in the biological and physical science field are proper. Upward adjustment of the series which includes the level V, SR-15 and level VI, SR-17, classes, will cause this and related technical series to be priced higher than fully competent scientists and professionals in related fields (e.g., Environmental Health Specialist III, SR-18; Agricultural Commodities Specialist III, SR-18 and Plant Quarantine Inspector III, SR-18, which were all found to be priced appropriately under this study). Despite the fact that they are in different bargaining units and wage schedules, it does not make practical sense that the upper levels of subprofessional series should be priced higher than the professionals whom they support.

### HGEA Cause Identified

The same reason as for the previous Agricultural Research Technician III, i.e., the research portion of the class which distinguishes it from other technicians may be undervalued.

### Assessment

Inequity is attributed to the job evaluation method. The fact that both the Agricultural Research Technician III and IV, which are in the same series and have been found to be inequitable, albeit on different analyses, suggest that some aspect of the class has not been appropriately considered in evaluation, perhaps its research portion as suggested by HGEA.

## **Environmental Health Specialist III**

Male Dominated  
Lower Than Expected

### DPS Cause Identified

Disagree with inequity finding. Internal relationship with other similar nondominated classes (not included within the study) in professional pattern, including close relationship with such science-based classes also at the same SR, indicates pricing is appropriate. In addition, because the class was identified as inequitable on only compensation analyses, collective bargaining negotiations are also a cause.

HGEA Cause Identified

Once again, the professional pricing pattern appears to have a general problem for the classes in the higher and lower ranges, in that this class and others in the study at SR 18 are considered too low, and another class in the study at SR 26 considered too high; no classes in the middle ranges were identified as inequitable, however.

Assessment

Inequity is attributed to the job evaluation method and may be caused by the structure of the professional pricing pattern, particularly for the lower range classes as explained previously under the Special Education Teacher III. If collective bargaining is involved, its impact cannot be determined and thus is considered less relevant than the preceding cause.

**Registered Professional Nurses (RPN) III and IV**

- Female Dominated
- Higher Than Expected

DPS Cause Identified

PECAB repriced the RPN III from SR 18 to 20, and the RPN IV from SR 19 to 21 in 1982. Collective bargaining for this separate bargaining unit (Unit 9) has resulted in a pay schedule with a substantially higher minimum rate.

HGEA Cause Identified

PECAB action resulted in an adjustment primarily due to market conditions, and collective bargaining has resulted in new salary schedules.

Assessment

These are the only two classes where collective bargaining is clearly a cause of the inequity as the salary schedules resulting from negotiations reduced the number of steps for each SR in the schedule from the more typical 10, to 3. This had the effect of raising the minimum rate for the beginning step in each SR. In addition, the inequity is also attributable to the use of market comparisons of salary rates in 1982 which was the cause identified by PECAB for its action to upgrade both classes. Previous requests to upgrade one or both classes were based on internal relationship arguments. It appears that collective bargaining resulted in the class being compensated more highly than would be expected and the PECAB adjustment due to market conditions resulted in the value of the class to become higher than would be expected.

## **Building Construction Inspector II**

Male Dominated  
Higher Than Expected

### DPS Cause Identified

History of the compensation plan indicates that the class assignment was based on relationship with blue collar trades foreman classes prior to the separation of the white collar and blue collar compensation plans.

### HGEA Cause Identified

Class has historically been related to the Electrical Inspector which is the benchmark class for inspectors, also has had an historical relationship with blue collar classes prior to separation.

### Assessment

Inequity is clearly due to historical relationships which have not been corrected following separation of white/blue collar plans and ruling restricting comparisons across bargaining units.

## **Highway Inspector**

Male Dominated  
Higher Than Expected

### DPS Cause Identified

History of the compensation plan indicates that the class assignment was based on relationship with blue collar trades foreman classes prior to the separation of the white collar and blue collar compensation plans.

### HGEA Cause Identified

Class has historically been related to the Electrical Inspector which is the benchmark class for inspectors, also has had an historical relationship with blue collar classes prior to separation.

### Assessment

Inequity is clearly due to historical relationships which have not been corrected following separation of white/blue collar plans and ruling restricting comparisons across bargaining units. In addition, eight requests/appeals have been submitted to CPD and PECAB for this class, although our review indicates the internal relationship argument for the request/appeal has been substantially the same each time, and thus not granted.

## **Elevator Inspector**

Male Dominated  
Higher Than Expected

### DPS Cause Identified

History of the compensation plan indicates that the class assignment was based on relationship with blue collar trades foreman classes prior to the separation of the white collar and blue collar compensation plans. In addition, the Legislature, in an unusual action, passed legislation to raise the qualifications for these inspectors which resulted in a new higher level class assignment. In addition, because the class was identified as inequitable on only compensation analyses, collective bargaining negotiations are also a cause.

### HGEA Cause Identified

Class has historically been related to the Electrical Inspector which is the benchmark class for inspectors, also has had an historical relationship with blue collar classes prior to separation, and the Legislature's action caused a statutory change to the requirements for the class and an SR increase. In addition, the pricing also reflects market conditions, in that inspectors must be elevator mechanics which are a scarce resource and highly compensated in the private sector.

### Assessment

Inequity is clearly due to legislative action, historical relationships and market conditions related to scarcity for specialized skills. If collective bargaining is involved, its impact cannot be determined and thus is considered less relevant than the preceding cause.

## **Meat Inspector IV**

Male Dominated  
Higher Than Expected

### DPS Cause Identified

Pricing of this class influenced by PECAB repricing of precursor class and the current pricing also reflects recognition of the inherent hazardous nature of the work. In addition, because the class was identified as inequitable on only compensation analyses, collective bargaining negotiations are also a cause.

### HGEA Cause Identified

Disagree with inequity finding. This class is expected to be either correctly priced or too low; they know of no reason why it should be considered higher than expected.

Assessment

Inequity appears to be attributable to the class being historically priced high based upon early appeals to the Civil Service Commission which at the time had authority over pricing. The class was downgraded from an SR 18 to 17 in 1973 due to internal relationships within the Meat Inspector class series, not in relation to other job classes, thus the class series has overall remained at a relatively high level based upon the historical relationships. If collective bargaining is involved, its impact cannot be determined and thus is considered less relevant than the preceding cause.

**Security Attendant**

Male Dominated  
Lower Than Expected

DPS Cause Identified

Disagree with inequity finding. Class is properly priced in relation to other nondominated security classes (not included in the study). This class is also related to another class in the study not found to be inequitable. In addition, because the class was identified as inequitable on only compensation analyses, collective bargaining negotiations are also a cause.

HGEA Cause Identified

Class is a very low level benchmark class within this occupational group, and has not changed over a long history.

Assessment

Inequity appears to be due to historical pricing relationship. Appeals/requests to PECAB/CPD based upon internal relationship arguments have not been granted twice. Because the class is a benchmark and thus its adjustment would affect a number of other classes, would expect there to be reluctance to adjust this class. The fact that another class in the study to which this class is related was not found inequitable is not conclusive evidence that this class is properly valued/compensated as the other class has characteristics that are different than the Security Attendant I. If collective bargaining is involved, its impact cannot be determined and thus is considered less relevant than the preceding cause.

between, for example technicians and professionals is secondary to comparisons between appropriate technicians in the same unit. The fact that such secondary comparisons are made, though, indicates that what appear to be logical relationships are still being maintained by DPS between classes in different bargaining units despite the PECAB ruling.

In addition, in some cases where DPS has indicated that established relationships are appropriate, they suggest that if adjustments are made they could lead to what they call "inverse relationships." Inverse relationships are, for example, where the highest level of a clerical class series (e.g., Personnel Clerk II, III, IV, V) equals or exceeds the lowest level of a related professional class series or a class series which is generally considered to be at a higher level based upon their qualifications, etc. (e.g., Personnel Management Specialist I, II, III, IV, V, VI). This concern was expressed in four of the classes determined to be inequitable. While we recognize that this may appear to be conceptually inappropriate, in reality a review of the compensation plan finds a number of cases where inverted relationships already exist. Two examples cited in Exhibit 11 are the Forestry Technician VI, the highest level technician, at SR 17 versus the Forester II, the lowest level professional at SR 15; and the Engineering Technician VIII at SR 21 versus the Engineer I at SR 17. In general, in many organizations and for many occupations, it is not unusual for such relationships to occur given career patterns or other considerations. However, because the guidelines for this study prevented a job evaluation across bargaining units, we were unable to verify whether the relationships cited by DPS are proper.

In those cases where DPS provided causes supporting the determination of inequity, they most often cited actions taken by PECAB or the CPD and, for one group of classes, historical relationships that have not been altered when the white and blue collar compensation plans were separated. In relation to PECAB actions, it is important to examine what caused PECAB to take an action that raised the SR of

a class, especially to a level that we determined to be higher than expected. In the years 1962 and 1963, shortly after PECAB was created in 1961, it appears to have undertaken on its own initiative a review of a large number of classes, if not all classes at that time, and made a significant number of adjustments in class pricing relationships. Records indicating their reasons for adjustments are generally not available as they were not required to document them.

After 1963, the number of adjustments made by either PECAB or the CPD substantially declines, and generally reflect adjustments made on the basis of requests or appeals from employees, employee organizations, etc. In addition during the latter part of the 1960's, the CPD also undertook a number of adjustments, primarily in the professional classes, on their own initiative. A detailed review of all of the requests made to the CPD and the appeals filed with PECAB for each of the 21 classes following 1963 results in one major finding: PECAB has only adjusted classes upward when external factors are used as the basis for the argument for adjustment. Such external factors include wage surveys indicating higher wages paid locally or nationally, and "recruitment and retention problems" also related to lower relative wages between the State and the private sector, and relationships with county classes which were priced based upon external salary surveys and by law the State is required to match county pricing for classes performing equal work.

PECAB and CPD have not appeared to actually base their pricing decisions on surveys (i.e., they have not matched a dollar amount on a survey to determine the SR), rather they have based their decision to upgrade a class by one or more SR's on the basis of such surveys. Just as important, is it appears that none of the requests or appeals based solely upon a perceived internal relationship with a higher class were granted by the CPD or PECAB based upon a review of information available from the pricing folder for each of these 21 classes and CPD and PECAB reports.

This finding suggests two observations:

- Appeals, requests and the decisions to grant the appeals and requests are supposed to be based upon internal pricing relationships. The stated rationale for why and how classes should be appealed to PECAB and CPD reviews requested, has not been the only rationale on which the appeals and requests have actually been granted;
- There appears to be a reluctance, particularly on the part of PECAB boards, to alter established class relationships, which we believe can be attributed to the fact that PECAB is a lay board consisting of different members when it meets only every two years, thus they may not be willing to disturb something so complex as the State and County compensation plan. The CPD is comprised of the personnel directors of the State and counties, and it would seem natural for them to be less inclined to make adjustments to the compensation plans they have primarily developed.

We recognize the sample of 21 classes is relatively small in comparison to the total of 576 which have been appealed since 1963, but these 21 classes appear to include many of the classes most often appealed, and the consistency of this pattern is very suggestive. While we have agreed that PECAB's and CPD's actions can be cited as the most obvious reason for an inequity, it appears that in most cases the underlying reasons are external factors and the structure and practices of these two bodies.

The inequitable classes that DPS cites as being caused by historical relationships are a set of various types of inspector classes. These classes all appear to have been priced in relation to blue collar foreman classes during the time when there was only one State compensation plan. When the separation of the blue and white collar plans occurred, these classes were assigned to the white collar plan even though their pricing was set in relation to the blue collar classes. It has been suggested, then, that their pricing is now not in relation to the pricing of other white collar classes. These classes were all found to be inequitable on salary rather than value analyses which might suggest that improper pricing is not the pri-

mary cause. Because of the grouping of these classes that emerged and the inability to precisely attribute salary inequities solely to compensation influences, we believe the suggestion that they are improperly priced in relation to other white collar classes has merit and is more significant.

DPS has also suggested that collective bargaining negotiations have resulted in distortions between the relative value of the class as indicated by its SR assignment and the amount it is actually compensated. As previously discussed, it does appear to be true that distortions have occurred when comparisons between different bargaining units are made -- classes assigned to SR 12 for example are compensated different amounts in bargaining units 3 and 13. In our study comparisons between bargaining units were not made with only two exceptions. Two classes from one unit (Unit 9) were compared with classes in another unit at the direction of the committee. In this case, it was found that collective bargaining negotiations were a significant cause of the inequity. However, when one only compares classes within a bargaining unit, which was done for all other classes, such distortions do not appear. It is possible for certain types of negotiations to result in different amounts of increases for SR's within one bargaining unit (see Appendix B, Collective Bargaining Factor discussion). However, for the bargaining units included in this study, except Unit 9, this type of negotiation has occurred very rarely - once for Units 3 and 4; twice for Unit 13 in the past fourteen years. In addition the negotiated agreement in each case appears to have been structured in such a way as to have had little net impact on the overall relationships between the amounts of compensation of each SR within these units so that the integrity of the overall salary range hierarchy has been maintained. Finally, if negotiated agreements were the only cause of the inequity, then one would expect all of the classes within a certain SR within one unit to be found inequitable since all classes considered to have the same value that were assigned to the same SR are paid the same amount. This was not the case, for every SR to which inequitable classes were assigned, there were other classes

found to be equitable. We therefore disagree with DPS in most cases where they suggest collective bargaining was the primary cause of an inequity given the manner in which our analysis was conducted. Instead, we would attribute such inequities to possible interaction between evaluation and compensation, or other specific causes as identified in Exhibit 11.

Finally, DPS has raised several concerns suggesting that different aspects of the methodology used in the study may have incorrectly resulted in classes being found inequitable. We have reviewed these concerns in detail and in most cases performed alternative statistical techniques to verify the methods and procedures used in the study. Based upon this review, we have determined that none of these concerns would materially affect any conclusions we have drawn. Because an explanation of these concerns and the approach used to assess them would require a lengthy technical explanation, and as we have stated none of them materially affect the results of the study, we have deleted reference to such concerns in Exhibit 11.

## (2) Observations Regarding Causes Identified by HGEA

With only two exceptions, HGEA has offered causes for all of the classes that were determined to be inequitably priced. In one case HGEA disagrees with the inequity finding, and in another they can offer no other explanation than some unknown aspect of the job evaluation system as causing the inequity. Unlike DPS which has primarily offered individual causes for each class, HGEA has tended to provide broader patterns of causes for a number of the classes. To some extent this is understandable, as HGEA does not have available to it the detailed case histories of each class that DPS maintains. We have concluded, though, that some of the patterns do not necessarily appear well founded based upon the detailed information available in DPS's files and other records.

The most significant cause identified by HGEA for at least four of the inequitable classes relates to what is known as the professional

pricing pattern. The pattern was essentially established in order to provide greater order for the pricing of professional classes now primarily found in Bargaining Unit 13. The pattern is based upon the fact that all professional class series have a journeyworker class from which relationships are established in a reasonable sequence. For example, the Clinical Psychologist VI is the journeyworker class in this series and is priced at SR 26. The Clinical Psychologist V (SR 24) is priced at two SR's below the Clinical Psychologist VI, and the Clinical Psychologist VII (SR 28) is priced at two higher SR's.

The pattern provides that all journeyworker classes for all professional series will be priced at either SR 18, 21, 24 and to a lesser extent 26. Other classes within a series are then generally priced in equal increments in either direction from the journeyworker class' SR. Based upon the job evaluation performed in this study, HGEA has suggested that use of the pattern may not be appropriate for all professional classes especially those at the lower and upper ends of the pattern. By attempting to "fit" a class into a predefined pattern, it is possible that job evaluations in the past have undervalued or over-valued the work performed so that, for example, a class' value may actually be at SR 19, but it has been adjusted down to an SR 18 to fit the pattern. Our assessment of this cause is that while there does not appear to be conclusive proof that the pattern has been incorrectly structured or used in actual pricing decisions based upon our job evaluation, there is sufficient evidence to indicate that at least the lower level of the pattern and the classes assigned to it should be subjected to further study.

The majority of HGEA's other identified causes are generally consistent with those identified by DPS. The exceptions are most evident where DPS disagreed with all lower than expected classes. In most of these cases, HGEA suggested that there were other historical or existing relationships that might explain the inequity. In some cases following our review of pricing folders and other materials, we concurred with these suggestions, and in other cases we could

find no supporting documentation, thus did not concur.

### (3) Observations Regarding Our Assessments of the Identified Causes

Based upon our assessments of the identified causes we have found that we have concurred no more often with DPS than HGEA regarding causes of the inequitable classes, except that we did not concur with DPS in any of those cases where it disagreed with the inequity finding. In those cases where DPS or HGEA offered no cause for an inequity, we have taken the position that the cause of the inequity by default must be some aspect of the overall job evaluation system -- but not necessarily the method of job evaluation used within the existing system. In order to more precisely pinpoint the specific cause of a single inequity in such a complex system may be possible, but is not within the scope, guidelines, or other parameters of this study.

#### 4.2.2 Relationship of the Perceived Factors to Causes of Inequities

It has been our intention to separate what are perceived to be causes of general inequities, versus actual causes of specific inequities identified in the job evaluation. We have thus labeled the perceptions, "factors" while referring to "causes" as the reasons for specific inequities. It seems useful though to relate the causes to the perceived factors in order to determine how correct the perceptions were at least for the classes identified in this job evaluation.

A cursory review of the causes that have been identified for the 21 classes found to be inequitable would indicate they fit into one or more of the following factor categories:

- PECAB/CPD actions
- History
- Collective bargaining

- Existing job evaluation method
- State Laws and other legislation which was not researched in detail.

However, upon closer examination of the causes, it appears that the following observations are more accurate:

- PECAB/CPD adjustments made to these 21 classes after 1963 were solely based on market conditions, and more specifically salary and wage surveys conducted both locally and nationally, as well as labor shortages for specific occupations which in some cases (i.e., Registered Professional Nurses) can be attributed to low wages for those occupations. The surveys obviously would reflect what was occurring in the market, thus if there is an undervaluing of work in traditionally female dominated occupations, this could be reflected by these surveys. The surveys involved in the pricing of female dominated classes found to be inequitable indicated higher wages were appropriate relative to what the State and counties were providing. However, it could be argued that these surveys might have reflected the lower wages paid to females in the market as generally found in the preceding analysis of the market conditions factor, and thus wages are still lower than they should be. We also believe that the previous observations regarding the reluctance of PECAB and the CPD to reprice classes based upon only internal relationships, indicates that those who perceive both bodies to have been ineffective have some basis for their perceptions.
- History has clearly affected at least one group of classes, inspectors. These classes appear to be in the few occupational sub-groups that have not been subjected to administrative reviews since 1961, unlike the large number of occupational groups found to be subjected to such reviews in the preceding analysis of the history factor.
- Collective bargaining has clearly influenced only two of the 21 classes, the Registered Professional Nurses III and IV. Its most direct influence has been the negotiated change to the structure of the salary schedule so that it is no longer consistent with schedules for most other white collar bargaining units. This change has also generally resulted in higher wages for the lower levels within each SR in this salary schedule, such that SR 19 to which the Registered Professional Nurse III is assigned, for

example, in Bargaining Unit 9 pays \$23,784 annually at the lowest step while the same SR in Bargaining Unit 13 pays \$19,464 annually at the lowest step. Once again, this cause and factor are only relevant if one compares classes across bargaining units, and according to PECAB rules, such comparisons are not supposed to be made.

- Existing job evaluation method was itself not determined to be the specific cause of inequities except where class relationships that resulted from the use of that method were considered inappropriate, most notably those related to the professional pricing pattern. The broader job evaluation "system" was considered the cause of inequities in classes where no other cause could be determined. There were a number of classes for which no other cause could be identified other than the job evaluation system.
- State laws and legislation were not previously analyzed in detail because it was only cited as a perceived factor by one organization, DPS. There are essentially two types of laws which have been attributed as causes of inequities: the State/County "equal pay for equal work" law and legislation which has established statutory requirements for certain classes, most notably the Elevator Inspectors. The equal pay for equal work law essentially requires that classes considered to be performing the same work in both the counties and the State must be priced the same, i.e., assigned to the same SR. It is known that there are many cases where there are substantive differences between the work performed by the same class within the State and the counties given the different nature of the services provided by either government. In addition, even the same class in different counties have different functions (e.g., firemen on Oahu, and firemen on Kauai which also function to some extent as paramedics). The requirements of this law, however, do not allow these differences to be recognized in pricing, unless they are great enough to warrant the creation of different classes. Legislation providing for specific requirements of individual classes is extremely rare. According to DPS, these requirements such as licenses, cause these classes to tend to be over-valued in relation to other classes which do not have such requirements. While we have not analyzed either the equal pay for equal work law, or legislation for specific classes, the points raised appear to be reasonable on the face of each.

In conclusion, it does appear that at least some of the perceptions regarding PECAB, history, collective bargaining and the job evaluation method as described above appear to be valid on the basis of the 21 classes determined to be inequitable. This should not be construed to mean, however, that all of the assertions regarding each of these factors are valid.

#### 4.2.3 Sex-Based Patterns of Causes for Inequities

In Chapter 3 it was concluded that there appeared to be sex-based differences in the pricing of male and female dominated classes which were not directly related to the value of the classes as determined by the job evaluation method. This was determined to be most significant for Bargaining Unit 3, and less so for Bargaining Units 9 and 13. In this Chapter we have examined perceived factors which might be contributing to such differences, and what we have determined to be the causes of specific inequitable classes identified through the job evaluation performed in this study. In this section, we examine the causes for inequitable classes by sex, to determine if there are any sex-based patterns. Once again, we have chosen to view all classes determined to be inequitable regardless of whether they were determined to be inequitable on value or compensation analyses.

In reviewing the results of our research into the causes for each inequitable class which are summarized in the assessments for each class in Exhibit 11, we make the following observations:

- Male dominated inequitable classes are most often due to historical relationships with other classes, most of which are in different bargaining units (e.g., all of the inspectors); all but one of the male dominated classes which are caused by historical causes were found to be higher than expected, and all of them are in Bargaining Unit 3.
- The second most common cause determined for unrelated male dominated classes (i.e., not including the Agricultural Research Technicians III and IV which were identified to have the same cause) are market condi-

tions (i.e., Computer Operator II and Elevator Inspector); both of these classes were found to be higher than expected and are also in Unit 3. In these cases the interaction between evaluation and compensation is most apparent.

- Female dominated inequitable classes are not as clearly the result of any one cause. If related classes (e.g., Accountant Clerk III and IV) are considered together, then market conditions, the professional pricing pattern, and the job evaluation system in general are all cited with about the same frequency. Two of the three determined to be caused by market conditions are in Units 9/13 and all three were found to be higher than expected. The professional pricing pattern is obviously only a cause for classes in Unit 13, and in both cases the classes were found to be lower than expected. Both of the classes determined to be caused by the job evaluation system are in Unit 3, and were found to be lower than expected.

In summary, the sex-based patterns that appear to emerge from reviewing the causes for each class are as follows, and are summarized in Exhibit 12.

### Bargaining Unit 3

- The majority of male dominated classes in Unit 3 that were higher than expected are a result of historical relationships with classes in different bargaining units (i.e., all of the inspector classes), and some of these relationships are also influenced by the scarcity in the market of qualified personnel at the time the class was created (i.e., the Computer Operator II), or which still continue (i.e., Elevator Inspector). This is the most clear-cut pattern that can be established for either sex in either bargaining unit.
- The male dominated classes that were lower than expected are also a result of historical relationships in one case (i.e., the Security Attendant I), or due to aspects of the job evaluation system which were unable to be more precisely determined (i.e., the Agricultural Research Technicians III and IV).
- There were only two higher than expected female dominated classes in this bargaining unit, one resulted from market scarcities of qualified labor at the time the class was created (i.e., Data Processing Control

**CAUSES FOR CLASSES IDENTIFIED AS INEQUITABLE  
CATEGORIZED BY SEX**

<u>Classes Identified As Inequitable</u>	<u>Higher Than Expected</u>	<u>Lower Than Expected</u>
<b>Bargaining Unit 3</b>		
Male Classes	Historical Relationships Market Conditions	Historical Relationships Job Evaluation System*
Female Classes	Market Conditions PECAB Actions	Job Evaluation System*
<b>Bargaining Units 9 and 13</b>		
Male Classes	None	Job Evaluation System*
Female Classes	Market Conditions Collective Bargaining	Job Evaluation System*

\* The term "job evaluation system" is used to encompass all of the many aspects of classification and job evaluation which could not be more precisely identified as a specific cause in this study. In Units 9 and 13, this term also encompasses possible problems with the professional pricing pattern.

Clerk I), the other from what appears to be an unofficial "subgroup" for court related clerical classes which developed as a result of initial PECAB actions in the early 1960's (i.e., Legal Stenographer I).

- All of the lower than expected female classes appear to be caused by some aspect of the overall system, either as a result of PECAB reluctance to reprice the class (i.e., Account Clerk III and IV), or aspects of the system which have been less precisely determined (i.e., Library Technician VI, Social Services Aide III).

#### Bargaining Unit 9 and 13

- There were no higher than expected male classes found in this unit, and the only male dominated class found to be lower than expected appears to be caused by possible problems with the professional pricing pattern (i.e., the Environmental Health Specialist).
- The higher than expected female dominated classes are both clearly the result of market conditions, primarily scarcity (i.e., Clinical Psychologist VI and the Registered Professional Nurses III and IV) and collective bargaining negotiations (Registered Professional Nurses III and IV).
- The lower than expected female dominated classes appear to be both related to possible problems with the professional pricing pattern (i.e., Special Education Teacher III and the Librarian III).

In the following chapter we bring together the results of the job evaluation in Chapter 3 and the assessment of causes and factors in this chapter to develop a complete set of conclusions on which to base recommendations for future action.

## **Chapter 5**

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# **Conclusions and Recommendations**

## Chapter 5: Conclusions and Recommendations

### Overview

In this chapter we have outlined our conclusions regarding the existence of sex-based wage inequities among the selected job classes in the State and Counties of Hawaii. This chapter first describes our conclusions as to whether any patterns of wage inequities were discovered which could be attributed to the sex dominance of the job classifications. Causes which appear to have created these inequities for the classes judged to be higher or lower paid than expected are summarized. A series of recommendations are then made on steps that should be taken to improve the existing job evaluation system.

### 5.1 Conclusions Regarding The Existence of Inequities Among the Selected Job Classes

There are two major conclusions we have reached based upon the results of our evaluation of selected classes in the State and Counties of Hawaii which are as follows.

(1) Given the parameters and guidelines established for this study, there is no conclusive evidence of the traditional pattern of sex-based wage inequity within either bargaining units 3, 9 and 13. In other words, it is not the case that females are consistently valued and/or compensated less than males within each bargaining unit.

(2) There is, however, reason to believe that there are differences in how male and female dominated classes are valued and/or compensated and these differences vary by bargaining unit:

- In Unit 3, female dominated classes appear to be valued and compensated very much as they would be expected to be based upon their relative value as determined by the existing job evaluation method. Male dominated classes, on the other hand, are much more inconsistently over or under what would be expected based upon their relative value and/or their compensation. Statistical tests indicate this finding is clearly significant.
- In Units 9 and 13, the reverse appears to be true, male dominated classes appear to be more consistently

valued and compensated in relation to their relative value as determined by the existing job evaluation method. Female dominated classes are more inconsistently higher or lower than would be expected based upon their relative value as determined by the existing job evaluation method and their compensation. Statistical tests indicate this finding is less significant than for Bargaining Unit 3.

We offer the following conclusions regarding the causes of these inconsistencies in the bargaining units:

- In Unit 3 the inconsistencies in the male dominated inequitable classes appear to be principally caused by historical relationships between these classes and other classes in a different bargaining unit which were developed prior to the separation of the white and blue collar compensation plans. In addition, the inconsistencies also appear to be due to market scarcities of qualified labor at the time the classes were originally priced which appear to be the primary reason resulting in PECAB decisions to adjust these classes.
- In Units 9 and 13 the inconsistencies in the female dominated inequitable classes that were found to be higher than expected also appear to be principally due to market scarcities of qualified labor which appear to be the primary reason resulting in PECAB decisions to adjust these classes. Inconsistencies in the female dominated inequitable classes that were found to be lower than expected appear to be the result of different aspects of the overall existing system -- not necessarily just the job evaluation method.

Thus while there appear to be differences in how male and female dominated classes are valued and/or compensated in the different bargaining units, the general causes we can identify are the same: most of the higher than expected male and female dominated classes are due to historical relationships and market conditions; most of the lower than expected male and female dominated classes are due to some aspect of the job evaluation system. What appears to be occurring then, is that in Bargaining Unit 3, these causes are more evident in male dominated classes, while in Bargaining Unit 13 these causes are more evident in female dominated classes (Bargaining Unit

9 is a special case as the two higher than expected classes are principally due to a different salary schedule resulting from collective bargaining, as well as PECAB adjustments).

## 5.2 Recommendations Regarding Actions to be Taken in Relation to the Sex-Based Differences Identified

Upon consideration of the conclusion that there does appear to be evidence of differences in pricing of classes included within the study, we have prepared the following five recommendations.

### (1) Recommendations Regarding the Job Evaluation System

There does not appear to be sufficient evidence of sex-based wage inequity as determined from this study to warrant changing the entire job evaluation system utilized by the State and Counties of Hawaii. There is sufficient evidence, however, to warrant consideration of improvements to the existing system. That our interviews with individuals and organizations in the community also indicated to varying degrees a lack of credibility in the current system also suggests that improvements should be considered.

It is first necessary to make a clear distinction between the job evaluation method and the overall job evaluation system. The existing job evaluation method involves the application of the nine PECAB pricing factors in a systematic comparison of one class to others in order to determine the relative value of one class in relation to all other classes. There are other aspects of the overall system which influence the pricing of a class, however, most notably actions taken by the Conference of Personnel Directors or PECAB, and these actions as has been shown are often influenced by external as well as internal considerations. We also, therefore make a distinction between evaluation of a class using the job evaluation method, and the compensation of the class which may be otherwise influenced.

In relation to the existing job evaluation method itself, we have found that it is a reasonably accurate method of evaluating classes. However, the use of the method and the documentation of its results by DPS is inadequate to allow for an independent examination of the decisions made. This lack of documentation and "audit trail" makes it difficult for the system to be examined and also difficult for DPS to defend its decisions. Such documentation is particularly unclear or lacking in two critical areas:

- Job content data (i.e., the description of duties and responsibilities, etc.) contained in the class specifications is not directly related to the nine PECAB pricing factors.
- An explanation of how the job content of each class is related to its benchmark comparison class and/or other classes is not made in a uniform manner, if at all.

We recommend that improvements be made in the classification specifications to more closely relate job content information to the PECAB evaluation factors, on a factor by factor basis. Benchmark and other related classes should be clearly specified and a factor by factor comparison to each separately documented. Class specifications should, therefore provide detailed information on the content of the job sufficient to evaluate the class on each factor. This information and the format in which it is presented, should be adequate for an independent evaluator to review the job content on each factor to determine if the job is higher, lower or about the same as the job content for the benchmark and other related classes. This documentation should be in a form that can be made available to employees or employee organizations upon request. We believe if this were done it would contribute to greater credibility for the actions taken by DPS among employees and others in the community.

Based upon our interviews with DPS and in reviewing pricing folders it appears that classes are not only evaluated in relation to other classes within the same bargaining unit, but also across bargaining

units even if only as a secondary comparison. This occurs most often to assure that classes within an overall occupational group are consistently priced, when classes in more than one unit are represented in the occupational group. This is a reasonable practice, and it would also seem reasonable that this practice continue. What seems unreasonable then, is the ruling which requires that such evaluations across units should not be done.

We therefore, recommend that the PECAB ruling which restricts across unit comparisons should be revised so that all logically related classes can be considered in the determination of relative value. Our understanding is that the current ruling came about due to concern regarding appeals based upon the different dollar amounts of SR's between the units resulting from collective bargaining. It would seem a more narrow ruling could be substituted for the broader one now in existence. Such a ruling would simply preclude appeals being based upon different dollar amounts between units, so that the relative value of each class as determined by the use of the nine factors would be the sole basis for appeal. Once better methods are developed for documenting how relative value has been determined, the appeals process would be improved procedurally through focusing on how determinations of value were made.

Finally, as discussed in Chapter 4, there appears to be sufficient evidence from this study to warrant an examination of the professional pricing pattern. It seems that the central issue is whether by predefining that a professional journeyworker class can only be priced on one of three or four SR's, that the actual relative value of the class may be distorted either at a higher or lower level. We recommend that such an examination be made to determine if other classes, not included in the study, may have been priced according to the dictates of the pattern, rather than solely on consideration of their relative value as determined by the evaluation method. This examination should occur before the adjustment of any inequitable classes is considered as discussed below.

(2) Recommendations Regarding the Adjustment of Classes Found to be Inequitable in This Study

Because it is not always possible to clearly separate pricing decisions made by DPS from the influences of PECAB and wage negotiations, the actions required to correct the inequities found in this report also cannot be the sole responsibility of any specific body. This does not mean that the State, HGEA or others should ignore the classes found to be higher or lower than expected. Rather, resolution of the inequities will require joint action and temporary relaxing of specific practices which may now restrict corrective action.

In order to resolve the differences that were found in how male and female dominated classes are valued and/or compensated, particularly in Bargaining Unit 3 where they were found most significant, one must consider the causes that were identified for the inequities by sex as summarized in Exhibit 12 in Charter 4. For the most part, male and female inequities that were higher than expected were determined to be caused by historical relationships and market conditions while some aspect of the job evaluation system was determined to be the cause for both male and female classes found to be lower than expected.

In order to make adjustments for the higher than expected classes, then, it will be necessary to remove the effects of the historical relationships and market conditions. We suggest three possible courses of action:

- Reduce the SR for each of these classes incrementally over some period of time, which is acknowledged to be extremely difficult as this action would in effect be asking existing employees to take a cut in salary.
- Reduce the SR for each of these classes, but allow existing incumbents to be "grandfathered" in such that two rates of compensation would exist for these classes -- one for new entrants into the class and one for existing incumbents -- until the existing incumbents depart from this class.

- Reduce the SR, but where appropriate, add a market (i.e., shortage) differential in addition to the compensation associated with the SR. This would be appropriate for a number of the classes such as the Elevator Inspector and the Clinical Psychologist VI for which shortages are generally considered to exist today. If a net reduction in compensation would result from this approach, the State could either incrementally phase down the market adjustment over some number of years, or once again grandfather incumbents and apply the new SR/differential to new entrants.

It could also be argued that because these classes are too high, that it is because all of the related classes are too low, and thus rather than reduce the SR of these classes, upward adjustments should be made to the related classes to bring them in line with those found to be higher than expected. Given the number of classes that would have to be adjusted in order to accomplish this, we believe it is more realistic to try to reduce the SR and/or compensation of these higher than expected classes as we have suggested to bring them into line with the remaining classes.

For those classes, primarily female dominated, found to be lower than expected, we recommend that the State, Counties and HGEA should systematically analyze alternative adjustments for the SR assignment and that only such adjustments should be phased-in over some reasonable number of years. It should be recognized that since journeyworker classes were used in this study, those journeyworker classes found to be inequitable will affect all of the classes within their class series, and other classes not in the series to which they have been used in evaluations. Any such adjustments which may be necessary should be accomplished by moving these classes to within the corridors established by this study.

These adjustments should be approached extremely carefully, however, so that resulting adjustments do not cause related classes to move outside the corridor as a result of bringing the journeyworker class within the corridor. To accomplish this, it will be necessary to undertake a series of "what if" adjustments taking into account all

classes in the study and all related classes not in the study. This series of "what if" adjustments should be made on an experimental basis, in other words, no employees will be affected until the examination is complete and the results satisfactorily meet the criteria stated above. The goal should be to bring the classes within the corridor without making more of them inequitably paid as a result of adjustments. This process may require an examination of how the class series have been structured and the way the compensation system is administered as discussed below.

### (3) Recommendations Regarding the Structure of Class Series

Most of the classes reviewed in this study are contained in a class series. Our review of these series, including the responsibilities, duties and qualifications required, suggest that they do not represent different kinds of work being performed at each level as much as they represent work being performed by more experienced workers. This fine distinction between less and more experienced workers can and often is accomplished by moving individuals within a salary range rather than through a series of class levels which requires time consuming reclassification actions

As an example, the difference between Class I and Class II (or Class II and Class III) is usually that a higher level of competency is required at Class II (or Class III) not that the actual "jobs" assigned to the higher class are different than those at the lower class. If the content of work is substantially the same from one level to the next, the established steps in the compensation plan can be used for distinguishing between competency levels, rather than having a more experienced worker progress through higher SR valuing of the same job due to greater seniority and competence of the worker.

Currently a worker enters the series at class level I, and after a year or two on the job is reclassified to a level II based on experience and proficiency. The worker stays at this level for a

period of time and if experience and proficiency warrants, is moved to level III and so on up the class series levels. This is one way to approach compensation and the one which is currently used by the State. The other approach which we recommend is to move the more proficient worker to the next higher step within the salary range for the same class, but not actually reclassify it to a different class since the worker is still essentially performing the same work.

Implementation of this recommendation would reduce the number of reclassification actions required which are currently contributing to a substantial workload for DPS, and which the department has been criticized as taking too long to process. Implementation of this recommendation would also reduce the number of different levels within a class series by combining certain levels based on similarity of job content and renumbering of the class series.

For example, in the hypothetical example below the current series contains six different levels of work. However, on examination of the work content, levels I and II; and levels III and IV are essentially indistinguishable as are levels V and VI. These are merged together to produce the following:

	<u>Current Level</u>		<u>Suggested Level</u>	
Entry	I)	)	I	Entry
	II)			
Journey	III)	)	II	Journey
	IV)			
Senior	V)	)	III	Senior
	VI)			

Employees would enter the series at the new level I at the beginning step in the SR. At the end of the appropriate time period currently specified and with adequate proficiency and performance, the worker

would move to the next step in the SR. The worker would continue to move from one step to the next in the SR until they are determined to be of journeyworker capabilities at which time they would be allowed to advance to level II.

In summary, if steps were instead used for what is in effect seniority and competency progression, rather than the progression through classes, it should be possible to reduce the number of class levels within each series. This reduction would also have the benefit of simplifying overall salary administration for the State and counties and could reduce delays which have been experienced in reclassification.

#### (4) Recommendations Regarding Market Adjustments

The State's current classification and compensation laws permit the State to pay a premium for labor market shortages, but this should not be considered in the determination of the base salary. Many of the jobs determined in this study to be inequitably paid are a result of market conditions, where the State has in the past responded to market shortages by an adjustment in the SR for the class. This has the effect of making permanent adjustments in the base pay of the job, which is difficult, if not impossible to correct, when the shortage no longer exists. We recognize that most of these adjustments were made as a result of PECAB actions, but we believe a more effective mechanism could be established for shortage adjustments.

We recommend that a premium be paid for market shortages, but that this should not be considered in the SR assignments. The premium should be in addition to the base pay and labelled as such on the pay stubs received by the worker. The extent to which the shortage exists should also be examined on an annual or other regular basis and reviewed by the CPD to determine if the premium should be increased/decreased or remain the same. This recommended procedure would more clearly distinguish between base pay and market condition pay and allow the State to adjust salaries more easily if the market

condition no longer applies.

(5) Recommendations Regarding the PECAB

In Chapter 4 we found that there appears to be a reluctance on the part of the board to make adjustments when internal pricing relationships are the sole basis for the appeal. Such reluctance can be attributed to the fact the Board consists of essentially lay personnel who do not have to work with the extremely complex compensation plan on a day-to-day basis as do DPS or the Counties. While it could be argued PECAB members are also CSC members, it also appears that a majority of CSC activity involves resolving grievances as opposed to compensation, thus they would not be likely to develop this specialized expertise. PECAB is assisted by professional staff, but the number of these personnel is extremely limited and they are only hired for short periods on a biennial basis, thus even if they originally had some compensation expertise, it would be difficult to maintain it. We, therefore, believe that the current structure of PECAB is probably not the most effective mechanism for accomplishing the purpose it is intended to serve. We recommend that alternatives to the current PECAB structure be considered which might include adding additional professional staff, more frequent meetings, transfer of its function to the Civil Service Commission or even its abolishment and the substitution of collective bargaining negotiations to determine the pricing of appealed classes as some have suggested. We have not been able within the scope of this study to sufficiently assess this particular issue to determine the most advantageous alternative.

It seems that more should and can be done to make PECAB as independent a body as possible such that it is not directly or indirectly influenced by either the employers or the employees and employee organizations. PECAB is in effect the final arbiter of how much the majority of State employees are paid, so that its credibility must be assured. In theory, a lay board offers many advantages. In reality, however, due to the complexity of the job evaluation system

and the compensation plan it seems that the structure of the board should be reconsidered or they should be provided more substantial support.

\* \* \* \* \*

Arthur Young is pleased to have been given the opportunity to serve the State of Hawaii in the conduct of this study. We believe our conclusions are sound given the parameters and guidelines established for the study and that the recommendations we have made will improve the job evaluation system as it exists in Hawaii.

# Appendices

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## Appendix A

- A-1 Supplementary Information on the Decision Band Method from the Decision Band Method Training Manual
- A-2 Supplementary tables presenting evaluation results
- A-3 Supplementary graphs presenting evaluation results

## Appendix B

Complete discussion of research on the five (5) perceived factors

## Appendix C

- C-1 Comments Regarding the Report from the Hawaii Government Employees Association
- C-2 Comments Regarding the Report from the Department of Personnel Services
- C-3 Arthur Young Response to Comments from the Department of Personnel Services

# Appendix A

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The following graphs illustrate the scatter of classes and current salaries at the SR minimum or SR maximum for each bargaining unit.

The straight lines represent the result of a standard linear regression line calculated using the job evaluation result as the independent variable and the salaries as the dependent variable. The dependent variable was transformed using a natural logarithmic transformation in order to straighten out curvilinear relationships. This approach is a standard acceptable approach in calculating wage salary trend lines. The thicker line represents the regression line, the thinner lines higher and lower represent the lines generated by the corridor. It should be noted that due to the manner in which the graphs are prepared by the computer, there are instances where two or more classes' points (squares or +'s) may be overlaid on top of each other. This occurs if the values are the same or very similar. Nonetheless, all decisions as to whether a class was within or outside a corridor were based not on the graphs themselves, but on the actual statistics which the graphs illustrate.

The statistics produced by the computerized regression line are shown following the graphs. These statistics identify the slope and intercept of the regression lines in logarithmic values. Other statistics of the regression line are also labeled.

Also included in this appendix are the corridor limit values which were used in each of the graphs.



## APPENDIX A-1

The following material on the Decision Band Method (DBM) has been included to more fully acquaint readers with its features and the process by which it is used.

### I. PREFACE

This Manual has been prepared for the guidance of persons acting as Job Analysts in the implementation of the Decision Band<sup>TM</sup> Method (DBM) of Job Evaluation.

The Manual provides:

- (a) a summary description of Decision Band<sup>TM</sup> Theory as it relates to the grading of jobs;
- (b) an explanation of the role of the Job Analyst and his/her relations with the members of the pay group under study and the Grading Committee; and
- (c) particulars of the procedures to be followed by the Job Analyst, and the information to be gathered during the job analysis stage of the job evaluation process.

#### Use of the Manual

The Manual is intended to serve as an introduction to the Decision Band<sup>TM</sup> Method for persons who have not previously acted as Job Analysts, and as a source to which they can refer subsequently to remind themselves about particular principles and procedures.

The Manual represents a summary of DBM theory and practice as it relates to job grading. It does not purport to deal with all aspects of the subject in minute detail. Additional guidance will be provided by the Project Director and consultants during the orientation session before the Job Analyst begins his/her work and also through "on-the-job" training as the project proceeds.

## II. INTRODUCTION TO JOB EVALUATION

The purpose of any job evaluation method is to systematically establish the relative value of all jobs within an organization for the purpose of determining pay. Job evaluation should provide objective, documented, source data that will aid in analyzing and grading jobs in a manner that establishes a basis for equitable pay relationships, both internally and externally.

### Evolution of Techniques

Over the years there have been major shifts in the underlying philosophies of job evaluation, and considerable development and refinement of techniques. It is the purpose of this section to briefly summarize these developments to provide a framework for commenting on the current status of job evaluation techniques.

Historically, the first job measurement techniques were developed in the mid-twenties in response to the Federal Classification Act of 1923. The impetus of the law was to ensure equal pay for comparable positions. The first method developed was "Whole Job Ranking."

Whole job ranking is a simple procedure in which all jobs within a company are ranked from top to bottom with respect to their relative "worth" or "value." The worth or value is not specifically defined. The jobs may be compared on the basis of judged overall difficulty or importance within the organization. A pay rate is then assigned based on the job's position in the hierarchy. This method was typically used in small companies.

The Classification Method was developed as the first formalized pay evaluation technique for larger and more complex organizations. The first model was developed by the U.S. Civil Service in the mid-twenties and is the most widely known. It is still in use today. The classification approach rates each job within a

defined hierarchy or job family. Each job is slotted into a classification based on best fit of job content and job pre-requisites. Benchmarks within each job family are used to determine the pay for the entire family.

In addition to Whole Job Ranking and the Classification Method, Market Pricing is a common technique used by many organizations today.

Market Pricing is used most commonly with benchmark jobs. Benchmark jobs are those jobs that are most easily defined and compared to similar jobs in other organizations. Once the jobs within a company have been matched with the jobs defined in the survey, each job can then be directly priced by reference to the survey data and updated each year. By determining the market pay rates or "going rate," one is able to decide what a job is worth externally. The results can then be compared with internal pay rates and adjustments made to reflect the company's internal equity considerations.

These three methods are considered qualitative, or nonquantitative, because they are not based on any numerical or objective criteria.

By the end of World War II, there was a shift toward more quantitative methods that appeared to more systematically measure job content. In 1979, the National Academy of Sciences, in a preliminary report on Job Evaluation Systems, stated that the Job Ranking, Classification and Market Pricing systems were inherently subjective and perpetuated the status quo, particularly in those jobs traditionally held by females.

In response to the need for a quantitative job evaluation method, Factor Comparison and Point Factor systems were developed. These systems are steps in the direction of improved objectivity, consistency and documentation.

Basically, Factor Comparison systems compare all jobs using a set of compensable factors such as skill and responsibility (usually 4 to 7). Point values are assigned to the factors. A set of "benchmark" jobs are chosen for evaluation. The factors of each position are compared in sequence, and a total score for each position is derived. The jobs are ranked in order of their total point values, and monetary amounts are assigned.

Point Factor systems evaluate jobs against a set of specific common factors. A scale is derived representing increasing levels of worth. Each level is then assigned a number of points. In point factor systems, the weighting, or number of points, is common to all jobs. A matrix is developed and these points are totaled to arrive at the overall job score.

The most well-known point factor system uses a matrix to evaluate jobs based on these common factors: know-how, problem solving, and accountability. It further delineates the levels of worth based on management and professional responsibilities.

In summary, job evaluation methods have been either overly simplistic and ill defined or extremely complex. Point factor and factor comparison methods are more difficult to implement and administer, and more costly to maintain, but they provide some documentation and a degree of objectivity and consistency. On the other hand, the first three methods discussed do not provide the documentation, are subjective and can be manipulated.

#### Background of DBM

The Decision Band<sup>TM</sup> Method was first developed in the 1960s by Professor Emeritus T.T. Paterson for use in Europe, the United Kingdom, and Africa. In 1979, it was introduced in Canada by our affiliate firm, Woods Gordon. In 1981, Arthur Young International, through its member firms, became the worldwide licensee for DBM because DBM was considered to be the most innovative and logical approach to a continuing problem -- how to determine pay.

The Decision Band<sup>TM</sup> Method combines the better attributes of the point factor, whole job ranking and market pricing approaches. It is comparable to whole job ranking and market pricing in terms of simplicity of implementation and administration.

The pay structure developed with the Decision Band<sup>TM</sup> Method can be as sensitive to the marketplace as whole job ranking and market pricing.

Because the results of Grading under the Decision Band<sup>TM</sup> Method can be well documented and are directly based on job content, the results stand up better under scrutiny by third parties than those found in the whole job ranking and market pricing methods. Because the system is simpler to understand than traditional point factor plans, it is more readily accepted by employees.

The Decision Band<sup>TM</sup> Method will provide the kind of information and analysis needed for other personnel systems such as organizational development, performance appraisal, manpower planning, recruitment, and job training and development. The Decision Band<sup>TM</sup> Method can become an integral part of these other systems more readily than point factor plans can, because it provides the type of information that is required when introducing any of these other human resource systems. The potential impact of organizational or job content changes is easier to identify under the Decision Band<sup>TM</sup> Method than under any other method that exists today.

### III. THE DECISION BAND METHOD

#### The Basic Idea

What we are trying to establish, by using the Decision Band™ method, is a reasonable relationship between work and pay.

Work is a form of purposeful activity; it involves both deciding and doing. One person may make a decision and execute the decision himself. Or he/she may delegate the task of executing the decision to someone else. In either event, making the decision is more important than executing it, although deciding and doing are both necessary if anything useful is going to be accomplished.

The basic idea of the Decision Band™ Method of Job Evaluation (DBM) is that:

- (a) the basic pay rate for a job should reflect the importance of the job to the enterprise; and
- (b) the decisions for which the person doing the job is responsible are the essence of what makes a job important.

The decision-making requirements of the tasks that make up a job are therefore used as the criteria for estimating the relative worth of a job to the enterprise.

#### Management Theory

The Paterson theory of management, on which the Decision Band™ Method is based, has two aspects: Organization and Administration. An understanding of this theory is essential if you are to perform your role of Job Analyst successfully.

## Organization

Every enterprise is set up for a purpose; to accomplish this purpose, action of various kinds is required. We describe the kinds of action needed to achieve the purpose of the enterprise as functions -- such as buying, producing, selling, accounting, maintaining, and managing. Organizing an enterprise involves the progressive subdivision of the necessary work into major functions, minor functions, and tasks, including tasks of coordination. The tasks are combined into jobs that can be assigned to individual employees.

Each enterprise, if it is to survive, must adapt to changing conditions; it must react to stimuli from the environment. Between stimulus and reaction, a decision process takes place. There must be a decision to act and there must be coordinated action.

The organization of the entire enterprise is the function of management. Functions must be assigned, authority delegated, and decision-making responsibilities specified.

When the work of an enterprise is divided among departments, sections, and individual employees, some means of coordinating their efforts is absolutely essential. Otherwise, the work will not be done as efficiently as possible or may not get done at all.

Coordination has been described as "the task of facilitating linked activities." It is achieved through the use of authority. One tool for achieving coordination is the general plan of organization, which establishes "lines of authority" and specifies each member's sphere of authority (the scope and limits of their decision-making rights).

Another kind of coordination, which is of special importance in the Decision Band™ Method, is more dynamic in nature and relates to the actual doing of the work.

For example, a woodworking shop employs a variety of workers (carpenters, joiners, painters, laborers). Each worker has a special function -- cutting, turning, drilling, sanding, spraying, etc. -- that contributes to the making of the finished products. Their functions (what they do) are determined for the employees, whereas their procedures (how they work) are (subject to limitations imposed by the available machines, tools, and other facilities) normally determined by the employees. However, circumstances often make it necessary for the person responsible for coordinating the activities of the group to make decisions about a worker's procedures that would otherwise be made by the worker himself, in order to facilitate the accomplishment of the objectives of the entire group. Such decisions (on procedures specific to function) often have to do with the sequence and timing of activities, the use of shared equipment, and so forth, that could cause delays or conflicts unless someone makes arrangements to avoid their occurrence.

In short, the task of coordination consists of ensuring that the decisions and actions of the individual members of a group are mutually compatible and contribute to the achievement of the group's common objectives. This entails developing the group's plan of action, communicating it to all members of the group, seeing to it that the necessary resources and facilities are available, and placing such limits on the freedom of choice of individual members as are necessary to enable the group to work together smoothly and efficiently.

The decisions made in an enterprise are of several kinds, but the process is common to all. A stimulus of some kind indicates a possible need for action. Information is accumulated and analyzed. On the basis of the available information, the relative

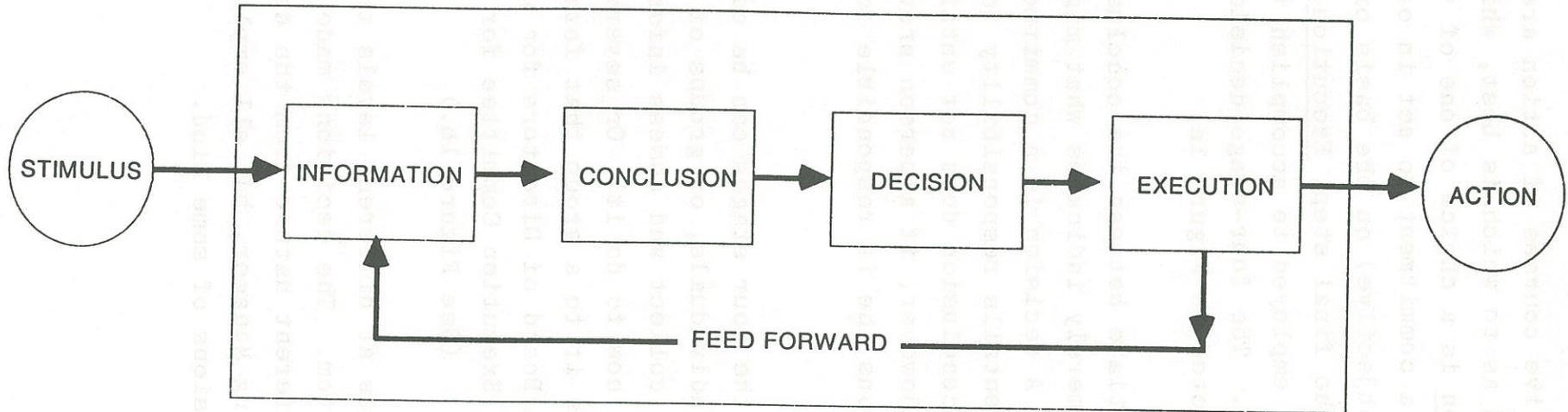
merits of possible alternative courses of action are considered and a Conclusion is reached as to which is best, which is next best, and so on. A Decision is a choice of one of the alternative courses of action and a commitment to act in order to achieve a particular end (objective) on the basis of the conclusion previously reached. The final step, Execution, consists of deciding on the means to be employed to accomplish the end defined at the Decision stage. The four-stage decision process, which is universal, is depicted in Figure 1a.

It is important to differentiate between the conclusion and decision stages. A conclusion merely indicates what might, should, ought to, or must be done. A decision is a commitment to a specific course of action and entails responsibility for the results of the decision, whereas a conclusion does not entail responsibility for the outcome. However, if a person provides advice or counsel on possible actions, he is responsible for the quality of that advice or counsel.

Each or any combination of the four stages can be carried out by one individual, different individuals, or groups of individuals. For example, one person may collect and assess information, decide what to do, and then decide how to do it. Or several persons may collect information and pass it to a group that forms a conclusion, which it submits to a Board of Directors for a decision on ends, this then going to an Execution Committee for decisions on the means of implementation. (See Figure 1b.)

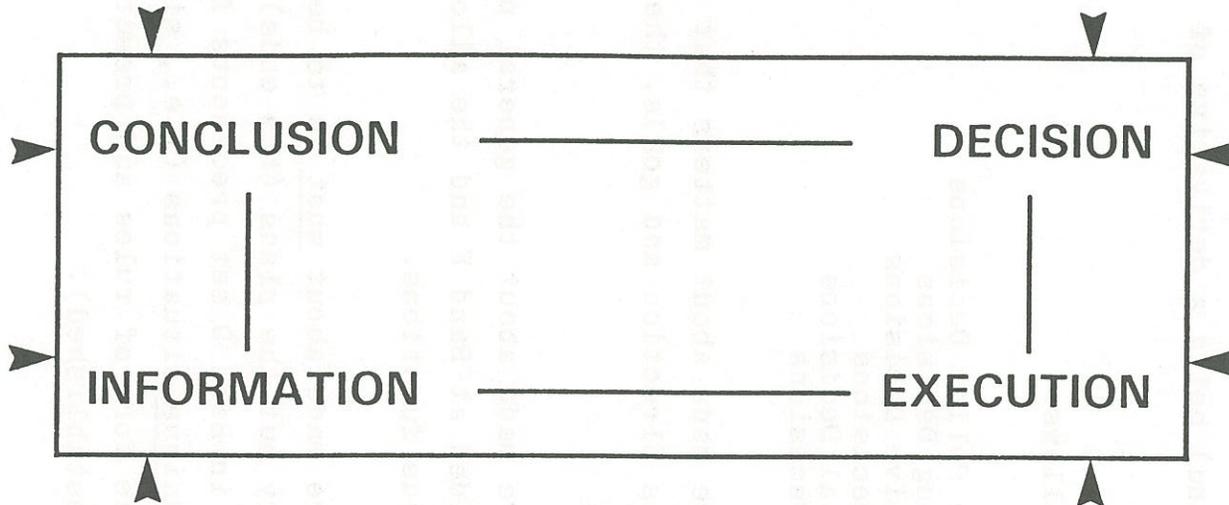
The decision process operates at different levels throughout the enterprise, from top to bottom. The decisions made by a copy typist are clearly of a different nature from the decisions made by the President or Marketing Manager, but all employees, regardless of position, make decisions of some kind.

# THE DECISION PROCESS



- INFORMATION:** Reception (or collection) and analysis of data relevant to the decision to be made.
- CONCLUSION:** Assessment of the data and situation, and evaluation of possible courses of action.
- DECISION:** Selection of a preferred course of action, and a commitment to its execution.
- EXECUTION:** Planning the implementation of the chosen course of action.

THE DECISION COMPLEX 



Stages

- 1. One person may perform all stages
- 2. Different people may perform individual stages

System

- 1. Open
- 2. External stimuli can be received at each stage

Figure 1b

In the Decision Band™ Method, six distinct levels are recognized, ranging from the most far-reaching decisions on corporate policy to the simplest decisions (such as how fast to sweep the office floor). These six levels, known as "Decision Bands," apply universally and cover the entire spectrum of decisions that can be made in any organization. The six Bands form a continuum, each (except the top Band) being a derivative of the next higher Band.

The six Bands are as follows:

- Band F - Corporate Policy Decisions
- Band E - Programming Decisions
- Band D - Interpretive Decisions
- Band C - Process Decisions
- Band B - Operational Decisions
- Band A - Defined Decisions

At Band F, decisions are made about matters that affect the enterprise as a whole, its direction and goals, the scope and nature of its operations.

At Band E, decisions are made about the general plans for accomplishing the goals decided at Band F and the allocation of resources among the various functions.

At Band D, decisions are made about what is to be done (the means) in order to carry out the plans (the ends) decided at Band E. The decisions made in Band D set precedents for the lower Bands; they relate to unique situations (i.e., situations for which precedents, in the form of rules and prescribed routines, have not already been established).

At Bands C, B, and A, decisions are made as to how to carry out the tasks, in accordance with rules, guidelines, and constraints decided at Band D.

The decisions made in the upper three Bands (D, E, F) are "adaptive" decisions. They have to do with adapting the enterprise to new circumstances, and can be regarded as "planning" decisions.

In the lower three Bands (A, B, C) the decisions are "instrumental" decisions. They have to do with the actual carrying out of decisions made at Band D and above.

The Decision Bands are defined in Figure 2. You should note that in every enterprise decisions are made in all six Decision Bands, but this does not necessarily mean that all enterprises will have different employees at each decision level; this will depend on the size of the enterprise. (For example, in a one-man business, the same person makes all the decisions in every one of the six Bands.)

Appendices A through F illustrate how the Decision Band system operates in:

- a Manufacturing Company
- Government
- a Utility Company
- a Hospital
- a Retailing Company and
- a Financial Services Company

It is important to remember that when jobs are classified by Decision Band, it is on the basis of the individual tasks that make up the job, rather than the job as a whole. Each task is classified by Decision Band, according to the level of decision that the incumbent has to make when carrying out the task. It is the level of decision required when performing the task that determines its Decision Band.

Frequently, a job is made up of a number of tasks that belong in different Decision Bands. In that case, the Decision Band of the job is the same as the Decision Band of the highest-Banded task of the job, even if there is only one task in that Band.

If, however, only one task determines the Band of the job, management is in a position to determine whether or not that job should retain that task, or whether additional tasks at the same Band level should be added to the job.

## DECISION BAND DEFINITIONS

### Band F - Policy-Making Decisions

Decisions that determine the scope, the direction, the overall goals of the total enterprise, subject to few constraints other than those imposed by law and/or economic conditions. These decisions take into consideration the relationship and interaction of all the major functions of the enterprise. Such decisions also set the goals of the major functions and set the limits of the funds available to each, and the extent of their intended programs. Band F decisions are of the kind made at the Board or chief executive level.

### Band E - Programming Decisions

Decisions on the means of achieving the goals (ends) established at Band F. Such decisions are concerned with the formulation or adjustment of programs or plans for the major functions, specifying goals for the constituent functions of these major functions, and allocating resources (facilities, people, money, materials) among these constituent functions in order to achieve the goals.

### Band D - Interpretive Decisions

Decisions on the means of achieving the goals (ends) established by Band E decisions -- specifying what is to be done in lower Bands, and deploying the allocated resources. If circumstances change, involving uncertainty of information or outcome, a Band D decision is required to establish what is to be done in similar circumstances in the future.

### Band C - Process Decisions

Decisions on the means (selection of a process) of achieving the goals (ends) established by Band D decisions, subject to the limits imposed by the available technology and resources, and the

constraints set at Band D. The selection of the process is a decision that must precede the carrying out of the operations that constitute the process. That is, the process decision specifies what is to be done at Band B.

Band B - Operational Decisions

Decisions on the carrying out of the operations of a process specified by a Band C decision. There is, within the limits set by the specific process, a choice as to how the operations are carried out, but not as to what operations constitute the process.

Band A - Defined Decisions

Decisions on the manner and speed of performing the elements of an operation. There is, within the limits set by the prescribed operation, a choice as to how the elements are performed, but not as to what elements constitute the operation.

Each Decision Band (other than Band A) is divided into two Decision Grades, a lower and an upper. These Grades are numbered from 1 to 11 as follows:

<u>Band</u>	<u>Kind of Decision</u>	<u>Grade</u>	
F	Policy	11	Coordinating
		10	Noncoordinating
E	Programming	9	Coordinating
		8	Noncoordinating
D	Interpretive	7	Coordinating
		6	Noncoordinating
C	Process	5	Coordinating
		4	Noncoordinating
B	Operational	3	Coordinating
		2	Noncoordinating
A	Defined	1	Noncoordinating

The upper Grades in Bands B to F are reserved for any jobs that include the task of coordinating other jobs that have been assigned to the same Band. (Note that a job that involves coordinating only jobs in a lower Band would remain in the lower substantive Grade of its own Band.)

### Administration

Administration concerns the relations among the people occupying the positions in an organization structure; their rights, their duties, and how they communicate.

Each employee in an enterprise performs a function (i.e., a job), which contributes to achieving the purpose of the enterprise.

The contributions of the different functions vary in importance. But no employee performs his function in isolation. Each one plays a role in relation to other people in the organization. The

nature of the relationship depends on certain differences between them. The differences that are relevant to job evaluation relate to the employee's position in the organization structure (his "structural authority") and the knowledge or wisdom (his "sapiential authority") that he is called upon to apply in performing his job.

### 1. Structural Authority

Of necessity, the functions of an enterprise have to be controlled and coordinated. This entails the use of structural authority.

If a person to whom structural authority has been delegated has "full control" (as described below) over the juniors in his sphere of authority, the relation between him and them is said to be one of responsibility. "Full control" implies that the senior has the right:

- to decide what the functions of his juniors shall be, i.e., to command "ends"
- to assign their functions to them (individually or as a group)
- to decide on procedures necessary to coordinate their activities ("procedures specific to function")
- to give them appropriate orders, i.e., to order "means"
- to monitor their activities and take corrective action, when necessary
- to enforce compliance of commands through the imposition or threat of penalties (e.g., deprivation of some kind, suspension, or -- in extreme cases -- dismissal) if they fail to comply.

The relation of responsibility is reciprocal. A junior has an obligation to comply with the commands of his senior. At the same time, the senior has an obligation to support his juniors by seeing to it that they have all the facilities they need to carry out their assigned jobs.

Frequently, a senior finds it necessary to assign to one of his juniors full control over some part of the senior's function, delegating to him the authority to command other juniors, to assign them functions, to coordinate and monitor their activities, and to enforce compliance. In this event, the relation between the coordinating junior and the other juniors is again one of responsibility.

However, the senior may decide not to assign to the coordinating junior the right to command ends, assign functions, and enforce compliance, but only the right to coordinate the other juniors (i.e., the coordinating junior is authorized to decide on procedures necessary for their coordination, to give orders accordingly, and to monitor their activities). In this event, the relation between the coordinating junior and the other juniors is said to be one of accountability, which is a diminished form of responsibility. The coordinating junior is said to have "partial control" (i.e., coordinative control) over the juniors within his sphere of authority. This means that the coordinating junior has the right to give orders to the juniors coordinated and, if they fail to comply with his rightful orders, he may report such failure to the senior to whom he and the other juniors are all responsible. The senior then takes such action as he deems necessary to secure compliance.

## 2. Sapiential Authority

While coordination and the use of structural authority is essential to enable an enterprise to function at all, if it is to function successfully, advantage must also be taken of the knowledge and wisdom available within the organization, in order to make the best possible decisions. Persons who possess knowledge and wisdom relevant to the decision to be made are said to have sapiential authority, meaning "the right to be heard."

Sapiential authority can be exercised in two ways. The two ways are called advisability and informability. The first involves the giving of "advice," using this word in a very special sense.

An expert or specialist in a particular field can "advise" someone in the same Decision Band, meaning he can say "You must do so-and-so, of necessity, if you are to fulfill your function." To do this, the adviser must possess knowledge and wisdom relevant to the function (job) of the person advised and to the Decision Band involved. That is, he must understand the nature and consequences of the action that he says must be taken. He has no right to command, no right to demand compliance. The relationship between the adviser and the person advised is called "advisability" and it is reciprocal; each may advise on ends specific to the other person's function, by virtue of his expert knowledge of matters pertaining to that function; and the other has the right to ask for such advice. The adviser is held responsible (by his senior) for the quality of the advice. The person advised is not obliged to act on the advice given, but he is obliged to consider it carefully and will be held responsible by his senior for the consequences of his decision, if he chooses to ignore the advice.

In the example given in Figure 3, under "Advisability," the Production Control Manager can advise the Production Manager and the latter's juniors; the Production Manager can advise the Production Control Manager and the latter's juniors.

If a position gives the incumbent the right to "advise" (in the rigorous sense defined above) on decisions concerning ends, then the task of advising belongs to the same Grade as the decision to which the advice pertains. While this may place the adviser's job in the same Grade as the decision-maker, these jobs may not necessarily be in the same Subgrade.

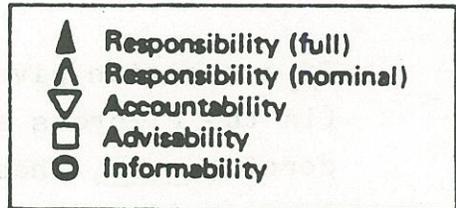
The second way in which sapiential authority can be exercised is when it is applied to means, rather than ends. Anyone who is recognized to have useful knowledge pertaining to the work to be done may offer "counsel," meaning "you could (or should, or ought to) do it this way, because it is better." The relation between the persons giving and receiving such counsel is called "informability." (The counselor may not even be an employee of the enterprise.)

The President's secretary can properly counsel him about how to set up his filing system. A Work Study Analyst can counsel an Officer Manager about a better method. But there is no obligation on the part of the recipient to act on the counsel given.

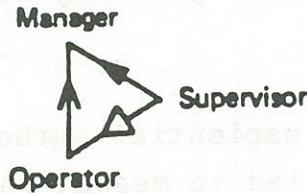
In the example given in Figure 3, under "Informability," the Industrial Engineer can counsel (inform or offer suggestions to) the Production Manager and the latter's juniors; the Production Manager can inform the Industrial Engineer and the latter's juniors about matters that pertain to work study on the production line.

RELATIONS

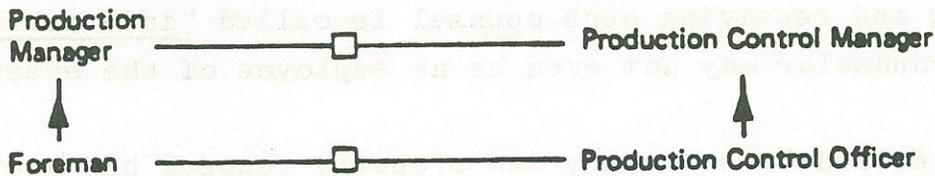
RESPONSIBILITY



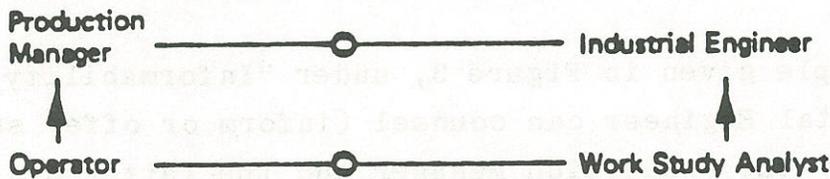
ACCOUNTABILITY



ADVISABILITY – THE FUNCTIONAL QUADRATIC



INFORMABILITY – THE PROCEDURAL QUADRATIC



Another way of viewing the distinction between advisability and informability is that someone whose expertise lies in the area of methods (e.g., a Systems Analyst or an Industrial Engineer), rather than a particular function (e.g., a Production Control Manager), does not usually give "advice" in the strict meaning used in DBM theory; he only provides information "counsel."

In decision-making, structural authority carries more weight than sapiential authority. Also, the decision-maker's sense of obligation is less compelling when the authority relation is one of "accountability" rather than "responsibility," or "informability" rather than "advisability."

The four kinds of authority relations are depicted in Figure 3.

### 3. Banding and Grading

The whole job is assigned to the same Band as the highest-Banded of the tasks that make up the job.

- When a relation of responsibility exists, the controlling tasks of the senior job are in the Band above the junior job.
- When a relation of accountability exists, the coordinating tasks of the senior job are in the Grade above the junior job.
- When a relation of advisability exists, the task of advising belongs to the same Grade as the decision to which the advice pertains.
- When a relation of informability exists, the task of counselling usually belongs to the Band below that of the "ends" decision to which the counsel pertains.

#### 4. Subgrading

In most enterprises, the people concerned may regard eleven pay levels (corresponding to the eleven Grades) as being too few to reflect the differences that they perceive in the relative value of jobs. To allow for such situations, the eleven Grades can be divided into Subgrades. Whereas the grading of jobs is objective, being based on verifiable facts and standardized Decision Band definitions and rules, Subgrading involves some subjective judgments. However, the subjectivity is contained, as the judgments are confined to comparisons among jobs assigned to the same Grade.

In Subgrading, as in Grading, decision-making provides the basis for evaluation. However, whereas the Grading of jobs is governed by the relative importance (to the enterprise) of the decisions made, Subgrading is governed by the relative difficulty of the decision-making.

##### a. Number of Subgrades

Whereas there is a definite number of Decision Bands (six) and Grades (eleven), the number of Subgrades cannot be fixed objectively. In practice, however, it is difficult to justify the use of more than three Subgrades in any one Grade. If the people concerned feel strongly that the number of Subgrades should be greater, there is nothing to prevent their establishing additional Subgrades.

##### b. The Subgrading Principle

The principle to be applied when Subgrading is as follows:

The greater the difficulty of the decision-making requirements of the job within a Grade, the more valuable the contribution of the job to the enterprise and, therefore, the higher the Subgrade of the job.

c. The Subgrading Criteria

The overall Job Difficulty is affected by:

- Job Complexity, indicated by the number of the highest-graded tasks and the complexity and diversity of those tasks.
- Task Occurrence, indicated by Task Frequency (how often it occurs) and the Percentage of Time devoted to carrying out those tasks.

The Grading Committee may use the following Secondary Criteria if it has not been able to determine the Subgrade using the Primary Criteria.

- Time Pressure, as when a task must be completed within tight time limits;
- Need For Alertness, as when a task involves monitoring many (and possibly rapidly changing) variables or "cues"; and
- Need For Special Care and Precision, as when working to fine tolerances.

The Subgrading criteria are set out in diagrammatic form in Figure 4.

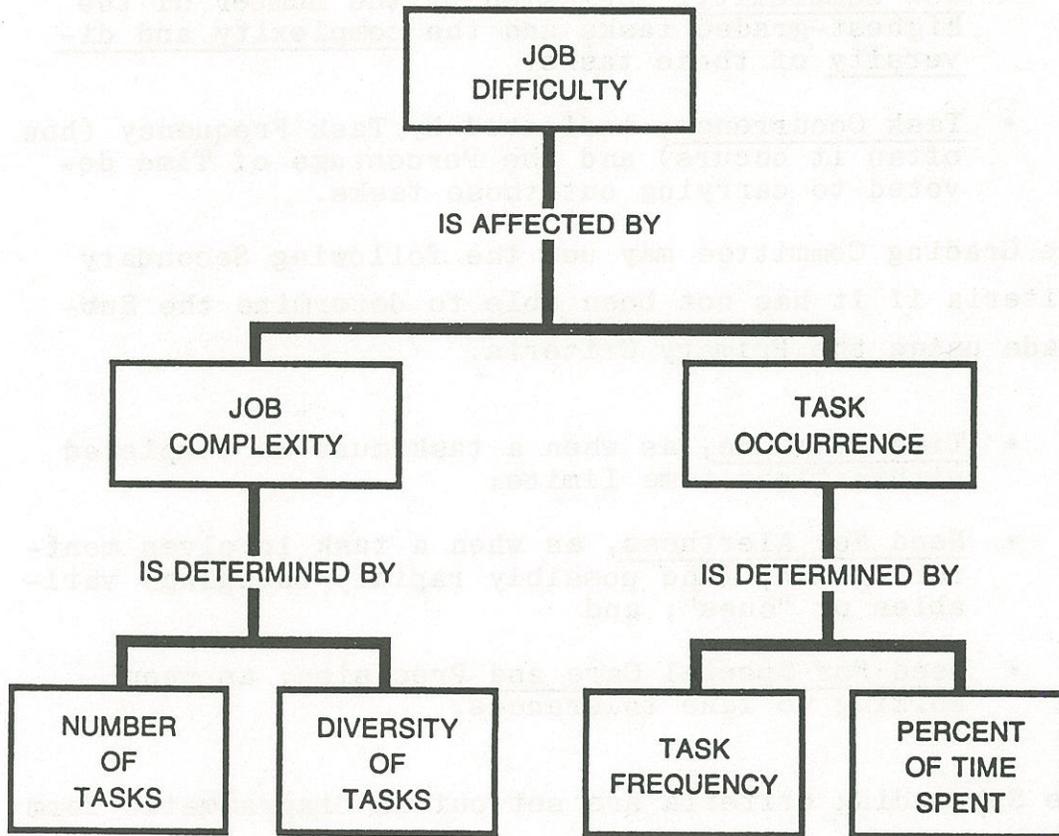
d. Applying the Subgrading Principle and Criteria

The Subgrading of the jobs in a Grade is accomplished by applying the Subgrading principle to the Subgrading criteria.

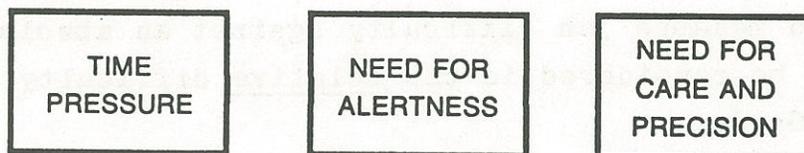
When comparing jobs for the purpose of Subgrading, no attempt is made to measure job difficulty against an absolute scale. What must be considered is the relative difficulty of jobs in the same Grade.

# SUBGRADING CRITERIA

## PRIMARY CRITERIA



## SECONDARY CRITERIA



The difficulty of a job cannot be measured (in the strict sense of the word), because there is no definable unit of measurement or measuring instrument; also because "difficulty" is not a one-dimensional characteristic, but the product of a number of interacting variables. Consequently, the jobs must be evaluated, which involves making multi-dimensional judgments about their relative difficulty, in accordance with selected criteria. When Subgrading, the Grading Committee will have to review the various factors that make a job difficult, one against the other, and form conclusions as to the relative difficulty of each job, compared with the other jobs assigned to the same Grade.

As a matter of practical convenience, it is assumed that when Subgrading, only the highest-graded tasks of the jobs need be considered. For example, if one job in Grade C4 consists of ten tasks, six of which are C4, and another job consists of seven tasks, four of which are C4, the jobs would only be compared (at least initially) on the basis of the six and four C4 tasks.

The Subgrading criteria contain quantitative and qualitative elements. The number of tasks and the percentage of time performing the tasks can be expressed numerically, whereas evaluating the relative complexity and diversity of the tasks involves value judgments. However, estimates of percentage of time will often be no more than rough approximations. Similarly, given individual differences in the writing style of different job analysts, tasks will not always be described in an absolutely consistent and uniform way. Depending on the format they use, two job analysts may describe the identical job as consisting of (for example) ten and eight tasks, respectively. Consequently, the numbers should never be regarded as precise measurements.

**Subgrading Process for  
Grade A1**

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Subgrade	Complexity
3	Complex
2	Moderately Complex
1	Simple

When carrying out the Subgrading process, apply the following procedures.

Grade A1

Since all tasks are Band A and the incumbent is spending 100% of his/her time performing these tasks, the only consideration for Subgrading is the complexity issue. For example: if the tasks are simple, the job would be assigned to A1-1; if moderately complex for a Band-A job, it would be assigned to A1-2; and if the tasks included were more diverse, and determined to be complex, the job would be assigned to A1-3. (See Figure 5.)

Grades B2/C4/D6/E8

When Subgrading the substantive or noncoordinating jobs, three Subgrades are normally required. In these cases the process again is relatively simple. For example, if a minority of a job's tasks were at the Band C level, were determined to be simple, and took up to approximately 30% of the incumbent's time, then the job would be assigned to C4-1. From Figure 6 it can be determined how jobs would be assigned to the middle and upper Subgrades.

Exceptions to the direct application of Figure 6 include the following examples:

Case 1

If the highest Banded tasks represent the Minority of a job's tasks, are determined to be either Complex or Moderately Complex, and the Percentage of Time performing these tasks is up to 30%, the job would be assigned to the middle Subgrade.

Process for Grades B2/C4/D6/E8

Figure 6

Subgrade	Number of Highest Graded Tasks	Complexity	Percentage of Time
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Where Three Subgrades are Required

3	Majority	Complex	Over 60%
2	Fairly Even Distribution	Moderately Complex	30% to 60%
1	Minority	Simple	Up to 30%

Where Four Subgrades Are Required

4	Majority	Complex	Over 60%
3	Fairly Even Distribution	Moderately Complex	40% to 60%
2	Fairly Even Distribution	Moderately Complex	20% to 40%
1	Minority	Simple	Up to 20%

### Case 2

If the highest Banded tasks represent the Majority of a job's tasks, are Moderately Complex, and the Percentage of Time performing these tasks is over 60%, then the job would be assigned to the middle Subgrade.

### Case 3

If the highest Banded tasks represent the Majority of a job's tasks, are Complex or Moderately Complex, and the Percentage of Time performing these tasks is up to 60%, then the job would be assigned to the middle Subgrade.

Note: Particular care must be exercised to ensure consistent application of the Subgrading process.

In some cases, there may be a need to have more than three Subgrades to provide finer distinction among jobs. As noted earlier, this is not the normal case. Should this occur, however, refer to Figure 6. You will note that the only real distinction between Subgrades 2 and 3 lies in the Percentage of Time required to carry out the highest Banded tasks.

### Grades B3/C5/D7/E9

The coordinating jobs normally require only two Subgrades. The guidelines for Subgrading these jobs are set out in Figure 7.

In some cases, there may be a need to have more than two Subgrades. Should this occur, please refer to Figure 6, where the means for determining three Subgrades is set out.

**Subgrading Process For  
Grades B3/C5/D7/E9**

Subgrade	Number of Highest Graded Tasks	Complexity	Percentage of Time
2	Majority	Complex	Over 50%
1	Minority	Moderately Complex	Up to 50%

## 5. Working Conditions

So far, no mention has been made of "working conditions." This is because the Decision Band<sup>TM</sup> Method regards the conditions under which a job is carried out as separate from the work itself. Employees are paid for what they do (i.e., the tasks they perform) and, in addition, if they have to work under arduous conditions, for what they endure. These two components of an employee's earnings are dealt with separately.

The Grading Committee, when assigning jobs to Bands, Grades, and Subgrades, is only interested in the work itself, but the Assessment Committee, when deciding to pay, will need to know about working conditions. Consequently, this information must be obtained and recorded by the Job Analyst during the interviewing process.

## APPENDIX A-2

The following tables show the class hierarchies resulting from the paired comparison (PC) and Decision Band Method (DBM) job evaluations. Separate tables are found for bargaining unit 3 and bargaining units 9 and 13. Each table entry includes the class code and a description of the class, a PC grade or DBM band/grade/subgrade and the State's actual SR assignment along with the minimum and maximum salaries corresponding to the SR. Table entries are determined by PC grade or DBM band/grade/subgrade and are in ascending order.

PAIRED COMPARISON HIERARCHY  
BARGAINING UNIT #3

JOB CODE	JOB CLASSIFICATION TITLE	TOTAL PC POINTS	ACCEPTABLE PC RANGE	SR	MINIMUM SALARY	MAXIMUM SALARY
1.244	KEY EQUIPMENT OPERATOR I	128.4	3 - 7	8	\$1,050	\$1,540
1.366	CASHIER CLERK	137.6	3 - 7	8	\$1,050	\$1,540
1.027	RECEPTIONIST	150.0	4 - 8	7	\$1,019	\$1,481
3.469	ED ASST II	152.0	4 - 8	7	\$1,019	\$1,481
4.064	LIBRARY ASST III	154.6	4 - 8	7	\$1,019	\$1,481
6.762	SCHOOL HEALTH AIDE	168.5	5 - 9	9	\$1,078	\$1,604
1.926	VISITOR INFO PROGRAM ASST I	168.8	5 - 9	8	\$1,050	\$1,540
8.657	PARKING CONTROL OFFCR I	169.9	5 - 9	8	\$1,050	\$1,540
8.640	SECURITY ATTENDANT I	174.2	5 - 9	5	\$961	\$1,377
1.927	VISITOR INFO PROGRAM ASST II	179.1	5 - 9	10	\$1,112	\$1,670
1.643	STORES CLERK II	184.5	6 - 10	8	\$1,050	\$1,540
1.007	CLERK III	186.4	6 - 10	8	\$1,050	\$1,540
3.470	ED ASST III	193.5	6 - 10	9	\$1,078	\$1,604
4.066	LIBRARY ASST IV	197.0	6 - 10	9	\$1,078	\$1,604
1.036	CLERK TYPIST II	199.6	6 - 10	8	\$1,050	\$1,540
1.080	CLERK STENO II	213.9	7 - 11	9	\$1,078	\$1,604
8.358	VECTOR CONTROL INSPECTOR II	220.0	7 - 11	13	\$1,217	\$1,903
1.252	DATA PROC CONTROL CLERK I	226.8	8 - 12	12	\$1,187	\$1,821
1.291	COMPUTER OPERATOR II	232.2	8 - 12	15	\$1,306	\$2,081
3.074	SOCIAL SVC AID III	245.3	9 - 13	9	\$1,078	\$1,604
1.375	CASHIER II	247.5	9 - 13	12	\$1,187	\$1,821
3.471	BIL/BIC SCHOOL HOME ASST	253.9	9 - 13	11	\$1,151	\$1,742
1.023	ADMITTING CLERK	256.2	9 - 13	10	\$1,112	\$1,670
4.140	MEDICAL RECORD TECH V	256.8	9 - 13	11	\$1,151	\$1,742
1.424	STATS CLERK I	259.9	9 - 13	10	\$1,112	\$1,670
1.147	SECRETARY I	260.7	9 - 13	10	\$1,112	\$1,670
3.805	UNEMPLOYMENT INS ASST V	279.3	10 - 14	13	\$1,217	\$1,903
1.519	PERSONNEL CLERK IV	283.6	10 - 14	11	\$1,151	\$1,742
4.068	LIBRARY TECHNICIAN V	288.2	11 - 15	11	\$1,151	\$1,742
1.645	STOREKEEPER I	288.3	11 - 15	10	\$1,112	\$1,670
1.149	SECRETARY II	298.5	11 - 15	12	\$1,187	\$1,821
1.090	MEDICAL STENO	306.1	11 - 15	12	\$1,187	\$1,821
5.363	AGRIC RESEARCH TECH III	307.4	12 - 16	11	\$1,151	\$1,742
8.665	SECURITY OFFCR I	307.8	12 - 16	13	\$1,217	\$1,903
1.338	ACCOUNT CLERK III	308.8	12 - 16	10	\$1,112	\$1,670
1.095	LEGAL STENO I	312.6	12 - 16	14	\$1,261	\$1,990
1.325	HOSPITAL BILLING CLERK I	321.4	12 - 16	9	\$1,078	\$1,604
1.465	TAX CLERK	345.7	13 - 17	12	\$1,187	\$1,821
8.832	STATE SECURITY GUARD II	346.7	13 - 17	15	\$1,306	\$2,081
4.070	LIBRARY TECHNICIAN VI	356.4	14 - 18	13	\$1,217	\$1,903
3.083	INCOME MAINT WORKER II	356.4	14 - 18	14	\$1,261	\$1,990
1.407	PRE AUDIT CLERK I	357.8	14 - 18	11	\$1,151	\$1,742
5.364	AGRIC RESEARCH TECH IV	359.8	14 - 18	13	\$1,217	\$1,903
1.861	BUSINESS REGISTRATION ASST	372.3	15 - 19	15	\$1,306	\$2,081
1.339	ACCOUNT CLERK IV	374.0	15 - 19	12	\$1,187	\$1,821
1.150	SECRETARY III	377.9	15 - 19	14	\$1,261	\$1,990

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STATE OF HAWAII PAY EQUITY STUDY, BARGAINING UNIT #3

PAIRED COMPARISON HIERARCHY  
BARGAINING UNIT #3

JOB CODE	JOB CLASSIFICATION TITLE	TOTAL PC POINTS	ACCEPTABLE PC RANGE	SR	MINIMUM SALARY	MAXIMUM SALARY
1.839	SCHOOL ADMIN SVCS ASST II	381.5	15 - 19	12	\$1,187	\$1,821
3.084	INCOME MAINT WORKER III	405.2	16 - 20	16	\$1,356	\$2,178
8.080	HWY CONSTR INSPECTOR III	406.7	16 - 20	17	\$1,411	\$2,280
1.840	SCHOOL ADMIN SVCS ASST III	407.8	16 - 20	14	\$1,261	\$1,990
1.409	PRE AUDIT CLERK II	410.3	16 - 20	13	\$1,217	\$1,903
8.010	BLDG CONSTR INSPECTOR II	418.4	17 - 21	19	\$1,529	\$2,491
1.494	TAX RETURNS EXAMINER II	422.4	17 - 21	15	\$1,306	\$2,081
1.842	SCHOOL ADMIN SVCS ASST IV	428.9	17 - 21	16	\$1,356	\$2,178
8.294	MEAT INSPECTOR IV	429.7	17 - 21	17	\$1,411	\$2,280
8.593	CONSVN & RESCS ENFC OFFCR III	431.6	17 - 21	18	\$1,469	\$2,383
1.151	SECRETARY IV	435.5	18 - 22	16	\$1,356	\$2,178
1.471	DELINQUENT TAX COLL ASST I	439.8	18 - 22	15	\$1,306	\$2,081
7.512	ENGINEERING TECH VI	455.5	19 - 23	17	\$1,411	\$2,280
8.135	ELEVATOR INSPECTOR	461.6	19 - 23	21	\$1,668	\$2,733

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DBM JOB HIERARCHY  
BARGAINING UNIT #3

JOB CODE	JOB CLASSIFICATION TITLE	ACCEPTABLE		ACCEPTABLE		SR	MINIMUM SALARY	MAXIMUM SALARY
		DBM RANGE		DBM PREDICTED RANGE				
1.027	RECEPTIONIST	5 - 7		5 - 9		7	\$1,019	\$1,481
1.244	KEY EQUIPMENT OPERATOR I	5 - 9		6 - 10		8	\$1,050	\$1,540
1.366	CASHIER CLERK	5 - 9		6 - 10		8	\$1,050	\$1,540
1.926	VISITOR INFO PROGRAM ASST I	5 - 9		6 - 10		8	\$1,050	\$1,540
3.469	ED ASST II	5 - 9		6 - 10		7	\$1,019	\$1,481
4.064	LIBRARY ASST III	5 - 9		6 - 10		7	\$1,019	\$1,481
8.640	SECURITY ATTENDANT I	5 - 9		6 - 10		5	\$961	\$1,377
8.657	PARKING CONTROL OFFCR I	5 - 9		6 - 10		8	\$1,050	\$1,540
1.007	CLERK III	8 - 12		8 - 12		8	\$1,050	\$1,540
1.023	ADMITTING CLERK	8 - 12		8 - 12		10	\$1,112	\$1,670
1.036	CLERK TYPIST II	8 - 12		8 - 12		8	\$1,050	\$1,540
1.080	CLERK STENO II	8 - 12		8 - 12		9	\$1,078	\$1,604
1.095	LEGAL STENO I	8 - 12		8 - 12		14	\$1,261	\$1,990
1.252	DATA PROC CONTROL CLERK I	8 - 12		8 - 12		12	\$1,187	\$1,821
1.325	HOSPITAL BILLING CLERK I	8 - 12		8 - 12		9	\$1,078	\$1,604
1.375	CASHIER II	8 - 12		8 - 12		12	\$1,187	\$1,821
1.424	STATS CLERK I	8 - 12		8 - 12		10	\$1,112	\$1,670
1.643	STORES CLERK II	8 - 12		8 - 12		8	\$1,050	\$1,540
1.927	VISITOR INFO PROGRAM ASST II	8 - 12		8 - 12		10	\$1,112	\$1,670
4.066	LIBRARY ASST IV	8 - 12		8 - 12		9	\$1,078	\$1,604
1.090	MEDICAL STENO	9 - 13		9 - 13		12	\$1,187	\$1,821
1.147	SECRETARY I	9 - 13		9 - 13		10	\$1,112	\$1,670
1.291	COMPUTER OPERATOR II	9 - 13		9 - 13		15	\$1,306	\$2,081
1.407	PRE AUDIT CLERK I	9 - 13		9 - 13		11	\$1,151	\$1,742
1.465	TAX CLERK	9 - 13		9 - 13		12	\$1,187	\$1,821
1.519	PERSONNEL CLERK IV	9 - 13		9 - 13		11	\$1,151	\$1,742
3.074	SOCIAL SVC AID III	9 - 13		9 - 13		9	\$1,078	\$1,604
3.470	ED ASST III	9 - 13		9 - 13		9	\$1,078	\$1,604
4.140	MEDICAL RECORD TECH V	9 - 13		9 - 13		11	\$1,151	\$1,742
6.762	SCHOOL HEALTH AIDE	9 - 13		9 - 13		9	\$1,078	\$1,604
1.149	SECRETARY II	10 - 14		11 - 15		12	\$1,187	\$1,821
1.338	ACCOUNT CLERK III	10 - 14		11 - 15		10	\$1,112	\$1,670
1.409	PRE AUDIT CLERK II	10 - 14		11 - 15		13	\$1,217	\$1,903
1.494	TAX RETURNS EXAMINER II	10 - 14		11 - 15		15	\$1,306	\$2,081
1.645	STOREKEEPER I	10 - 14		11 - 15		10	\$1,112	\$1,670
1.839	SCHOOL ADMIN SVCS ASST II	10 - 14		11 - 15		12	\$1,187	\$1,821
1.840	SCHOOL ADMIN SVCS ASST III	10 - 14		11 - 15		14	\$1,261	\$1,990
1.861	BUSINESS REGISTRATION ASST	10 - 14		11 - 15		15	\$1,306	\$2,081
3.083	INCOME MAINT WORKER II	10 - 14		11 - 15		14	\$1,261	\$1,990
3.471	BIL/BIC SCHOOL HOME ASST	10 - 14		11 - 15		11	\$1,151	\$1,742
3.805	UNEMPLOYMENT INS ASST V	10 - 14		11 - 15		13	\$1,217	\$1,903
4.068	LIBRARY TECHNICIAN V	10 - 14		11 - 15		11	\$1,151	\$1,742
5.363	AGRIC RESEARCH TECH III	10 - 14		11 - 15		11	\$1,151	\$1,742
8.358	VECTOR CONTROL INSPECTOR II	10 - 14		11 - 15		13	\$1,217	\$1,903
8.665	SECURITY OFFCR I	10 - 14		11 - 15		13	\$1,217	\$1,903
1.150	SECRETARY III	14 - 18		12 - 16		14	\$1,261	\$1,990
1.151	SECRETARY IV	14 - 18		12 - 16		16	\$1,356	\$2,178
1.339	ACCOUNT CLERK IV	14 - 18		12 - 16		12	\$1,187	\$1,821

STATE OF HAWAII PAY EQUITY STUDY, BARGAINING UNIT 3

DBM JOB HIERARCHY  
BARGAINING UNIT #3

JOB CODE	JOB CLASSIFICATION TITLE	ACCEPTABLE DBM RANGE	ACCEPATBLE DBM PREDICTED RANGE	SR	MINIMUM SALARY	MAXIMUM SALARY
1.471	DELINQUENT TAX COLL ASST I	14 - 18	12 - 16	15	\$1,306	\$2,081
1.842	SCHOOL ADMIN SVCS ASST IV	14 - 18	12 - 16	16	\$1,356	\$2,178
3.084	INCOME MAINT WORKER III	14 - 18	12 - 16	16	\$1,356	\$2,178
4.070	LIBRARY TECHNICIAN VI	14 - 18	12 - 16	13	\$1,217	\$1,903
5.364	AGRIC RESEARCH TECH IV	14 - 18	12 - 16	13	\$1,217	\$1,903
7.512	ENGINEERING TECH VI	14 - 18	12 - 16	17	\$1,411	\$2,280
8.010	BLDG CONSTR INSPECTOR II	14 - 18	12 - 16	19	\$1,529	\$2,491
8.080	HWY CONSTR INSPECTOR III	14 - 18	12 - 16	17	\$1,411	\$2,280
8.135	ELEVATOR INSPECTOR	14 - 18	12 - 16	21	\$1,668	\$2,733
8.294	MEAT INSPECTOR IV	14 - 18	12 - 16	17	\$1,411	\$2,280
8.832	STATE SECURITY GUARD II	13 - 17	18 - 22	15	\$1,306	\$2,081
8.593	CONSVN & RESCS ENFC OFFCR III	16 - 20	19 - 23	18	\$1,469	\$2,383

PAIRED COMPARISON HIERARCHY  
BARGAINING UNITS #9 & #13

JOB CODE	JOB CLASSIFICATION TITLE	TOTAL PC POINTS	ACCEPTABLE PC RANGE	SR	MINIMUM SALARY	MAXIMUM SALARY
2.799	LAND AGENT IV	53.8	16 - 20	21	\$1,770	\$2,733
5.494	MED TECH III	55.3	16 - 20	18	\$1,558	\$2,383
6.286	OT III	61.7	17 - 21	18	\$1,558	\$2,383
6.321	PT III	61.7	17 - 21	18	\$1,558	\$2,383
6.453	RPN III	72.2	17 - 21	19	\$1,982	\$2,374
8.491	AGRIC COMMOD MKT SPCLT III	76.4	18 - 22	18	\$1,558	\$2,383
4.077	LIBRARIAN III	77.5	18 - 22	18	\$1,558	\$2,383
8.476	PLANT QUARAN INSPECTOR III	81.6	18 - 22	18	\$1,558	\$2,383
6.454	RPN IV	101.9	20 - 24	21	\$2,135	\$2,594
3.507	SPEC ED TEACHER III	102.5	20 - 24	18	\$1,558	\$2,383
2.938	DPSA IV	109.4	20 - 24	21	\$1,770	\$2,733
2.867	PMS IV	111.4	20 - 24	21	\$1,770	\$2,733
5.596	ENVIRON HLTH SPCLT III	115.9	21 - 25	18	\$1,558	\$2,383
6.349	SPEECH PATHOLOGIST IV	116.2	21 - 25	21	\$1,770	\$2,733
8.397	REG SANITARIAN IV	118.2	21 - 25	21	\$1,770	\$2,733
2.924	PROG BUDGET ANALYST IV	119.7	21 - 25	21	\$1,770	\$2,733
3.518	ED EVALUATOR IV	122.7	21 - 25	21	\$1,770	\$2,733
8.244	INVESTIGATOR IV	129.9	22 - 26	21	\$1,770	\$2,733
7.004	ENGINEER IV	147.9	23 - 27	24	\$2,021	\$3,137
2.579	AUDITOR IV	151.9	23 - 27	21	\$1,770	\$2,733
2.405	BANK EXAMINER II	159.3	24 - 28	24	\$2,021	\$3,137
3.432	CLINICAL PSYCHOLOGIST VI	163.4	24 - 28	26	\$2,216	\$3,442

A-39

DBM JOB HIERARCHY  
BARGAINING UNIT #9-13

JOB CODE	JOB CLASSIFICATION TITLE	DBM ORDER ACCEPTABLE RANGE		ACCEPTABLE DBM PREDICTED RANGE		SR	MINIMUM SALARY	MAXIMUM SALARY
5.494	MED TECH III	16	- 20	16	- 20	18	\$1,558	\$2,383
6.286	OT III	16	- 20	16	- 20	18	\$1,558	\$2,383
6.321	PT III	16	- 20	16	- 20	18	\$1,558	\$2,383
6.453	RPN III	16	- 20	16	- 20	19	\$1,982	\$2,374
8.476	PLANT QUARAN INSPECTOR III	16	- 20	16	- 20	18	\$1,558	\$2,383
8.491	AGRIC COMMOD MKT SPCLT III	16	- 20	16	- 20	18	\$1,558	\$2,383
2.579	AUDITOR IV	18	- 22	18	- 22	21	\$1,770	\$2,733
2.799	LAND AGENT IV	18	- 22	18	- 22	21	\$1,770	\$2,733
2.867	PMS IV	18	- 22	18	- 22	21	\$1,770	\$2,733
2.924	PROG BUDGET ANALYST IV	18	- 22	18	- 22	21	\$1,770	\$2,733
3.507	SPEC ED TEACHER III	18	- 22	18	- 22	18	\$1,558	\$2,383
4.077	LIBRARIAN III	18	- 22	18	- 22	18	\$1,558	\$2,383
5.596	ENVIRON HLTH SPCLT III	18	- 22	18	- 22	18	\$1,558	\$2,383
6.349	SPEECH PATHOLOGIST IV	18	- 22	18	- 22	21	\$1,770	\$2,733
6.454	RPN IV	18	- 22	18	- 22	21	\$2,135	\$2,594
8.244	INVESTIGATOR IV	18	- 22	18	- 22	21	\$1,770	\$2,733
2.405	BANK EXAMINER II	21	- 25	21	- 25	24	\$2,021	\$3,137
2.938	DPSA IV	21	- 25	21	- 25	21	\$1,770	\$2,733
3.432	CLINICAL PSYCHOLOGIST VI	21	- 25	21	- 25	26	\$2,216	\$3,442
3.518	ED EVALUATOR IV	21	- 25	21	- 25	21	\$1,770	\$2,733
7.004	ENGINEER IV	21	- 25	21	- 25	24	\$2,021	\$3,137
8.397	REG SANITARIAN IV	21	- 25	21	- 25	21	\$1,770	\$2,733

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APPENDIX A-3

The following graphs illustrate the scatter of classes and current salaries at the SR minimum or SR maximum for each bargaining unit.

The straight lines represent the result of a standard linear regression line calculated using the job evaluation result as the independent variable and the salaries as the dependent variable. The dependent variable was transformed using a natural logarithmic transformation in order to straighten out curvilinear relationships. This approach is a standard acceptable approach in calculating wage salary trend lines. The thicker line represents the regression line, the thinner lines higher and lower represent the lines generated by the corridor.

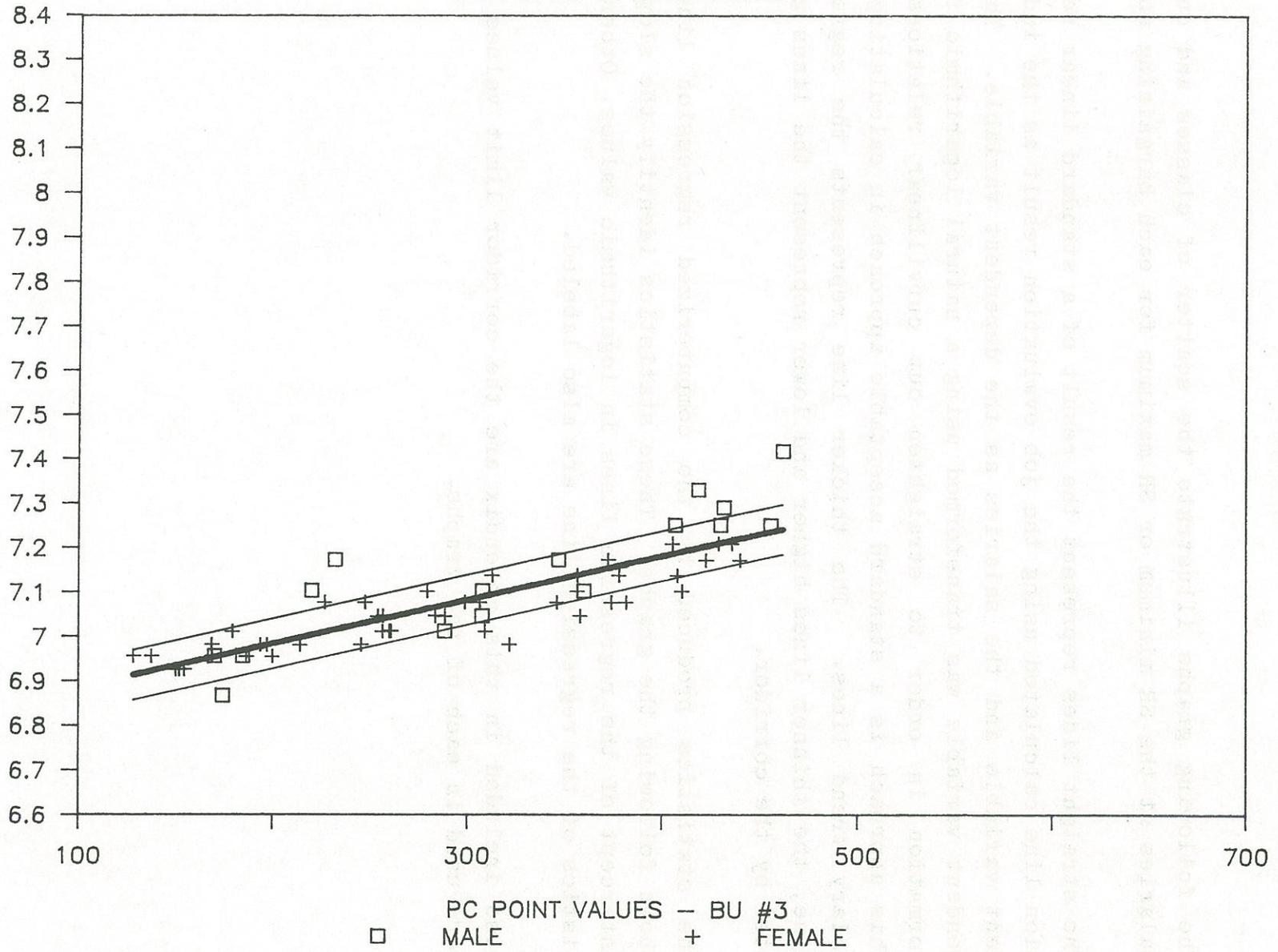
The statistics produced by the computerized regression line are shown following the graphs. These statistics identify the slope and intercept of the regression lines in logarithmic values. Other statistics of the regression line are also labeled.

Also included in this appendix are the corridor limit values which were used in each of the graphs.

# STATE OF HAWAII

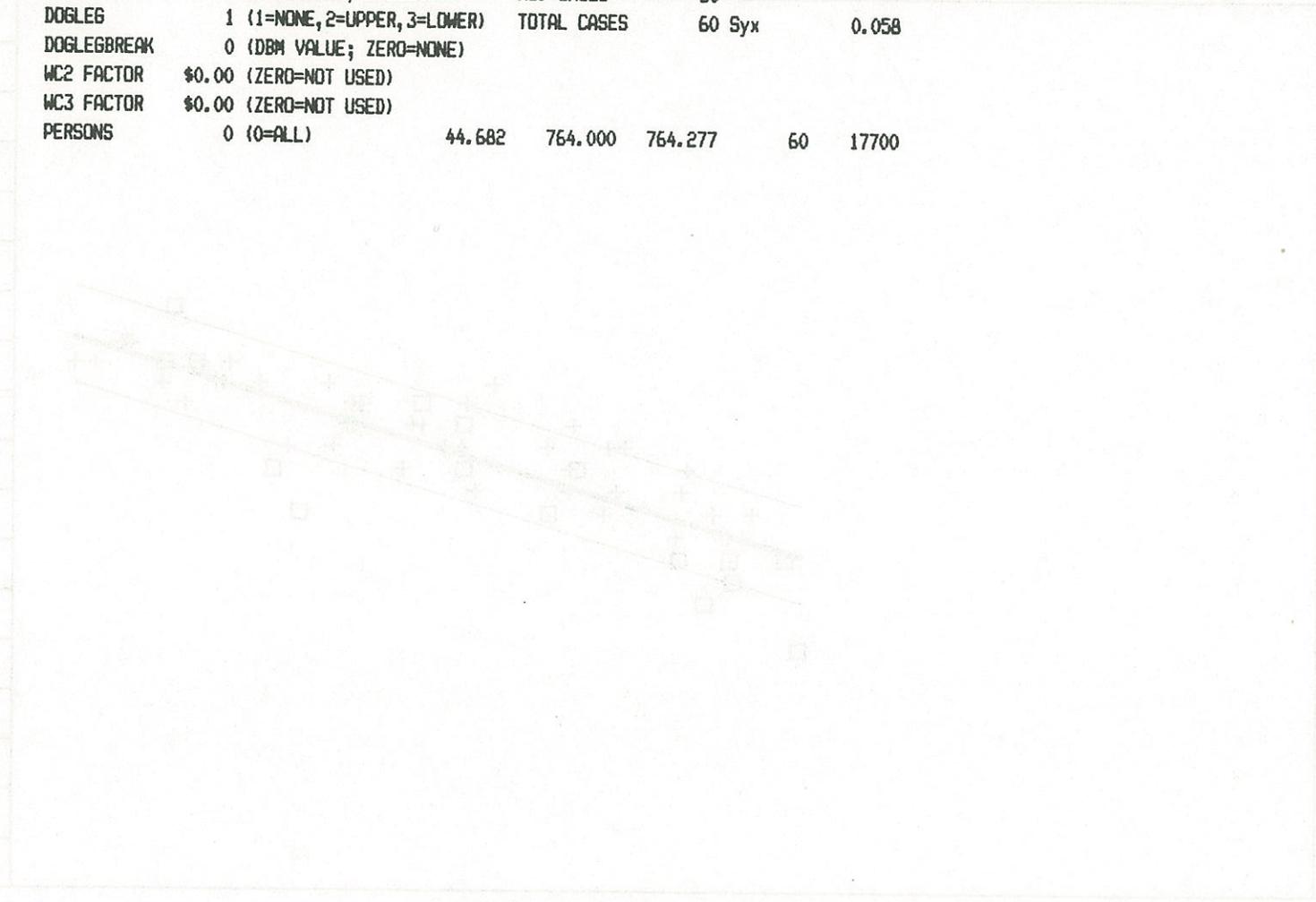
## PC POINTS vs LOG VALUES

A-42  
LOG MINIMUM MONTHLY SALARY



STATE OF HAWAII BARGAINING UNIT 3

PARAMETERS	VALUE KEY	RESULTS				
SEX COMP.	4 (1=M, 2=F, 3=B, 4=IGNORE)	SLOPE	0.00099	MEAN(X)	295.000	
WORK.COND.	4 (1,2,3,4=ALL JOBS,5=2 & 3)	INTERCEPT	6.787	MEAN(Y)	7.078	
SALARY USED	1 (1=MIN,2=MID,3=MAX)	CORR.COEFF.	0.855	SQR(R)	0.732	
ANALYSIS	2 (1=DOLLARS, 2=LOG(\$))	NO. CASES	60			
DOGLEG	1 (1=NONE,2=UPPER,3=LOWER)	TOTAL CASES	60	Syx	0.058	
DOGLEGBREAK	0 (DBM VALUE; ZERO=NONE)					
WC2 FACTOR	\$0.00 (ZERO=NOT USED)					
WC3 FACTOR	\$0.00 (ZERO=NOT USED)					
PERSONS	0 (0=ALL)	44.682	764.000	764.277	60	17700



STATE OF HAWAII

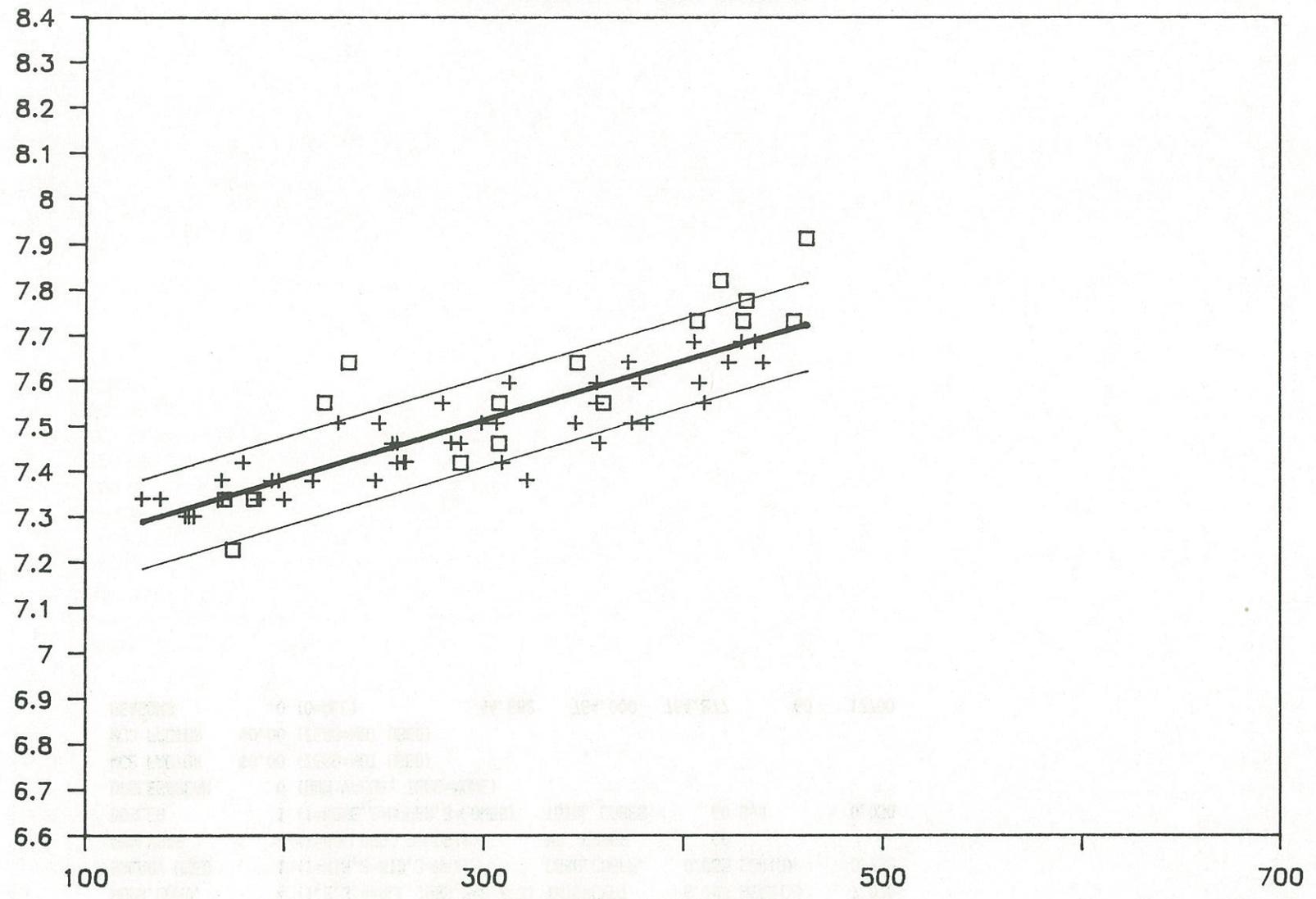
PC POINTS - BU3 - MIN

# STATE OF HAWAII

## PC POINTS vs LOG VALUES

A-44

LOG MAXIMUM MONTHLY SALARY



PC POINT VALUES - BU #3  
 □ MALE                    + FEMALE

A-45

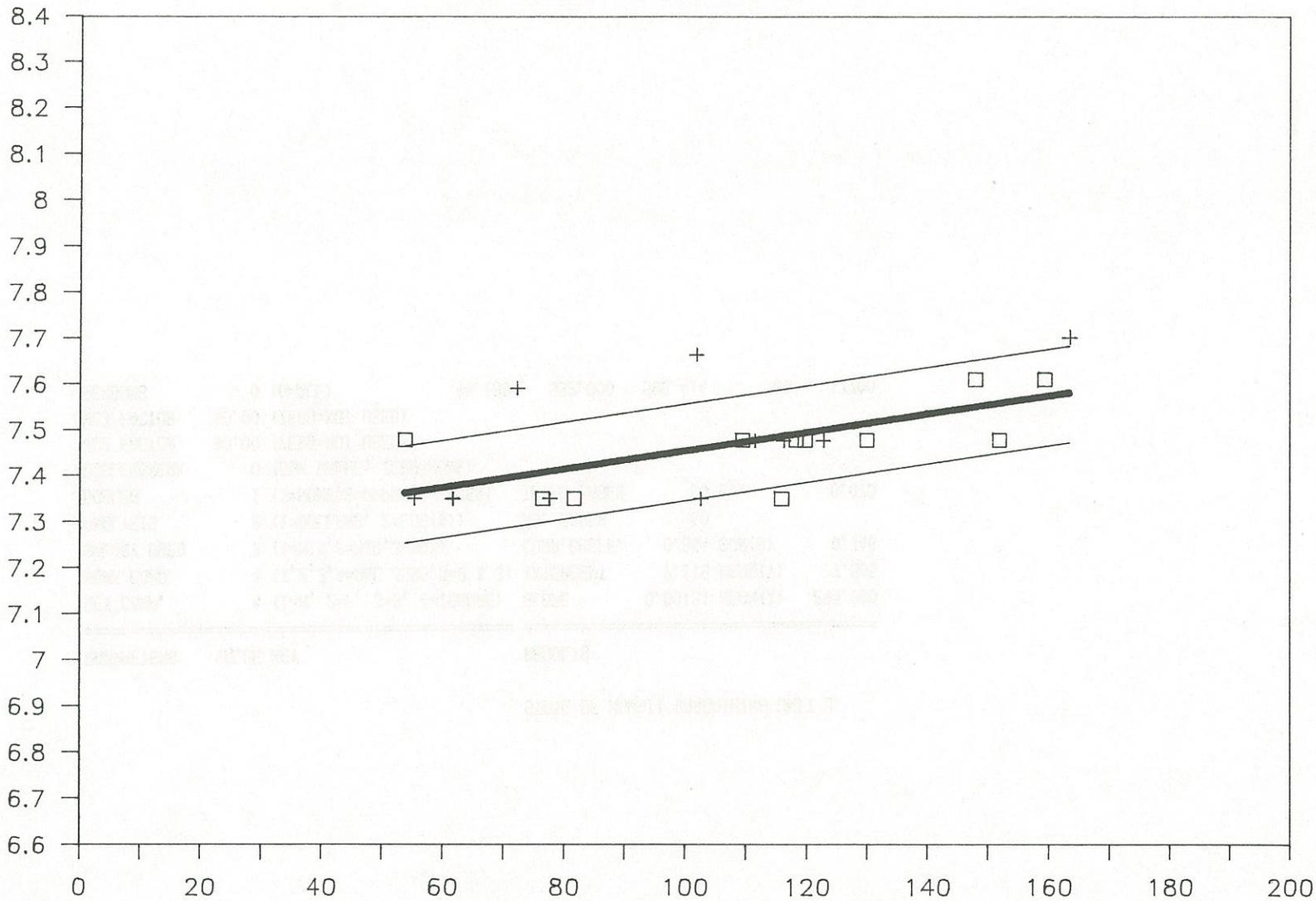
STATE OF HAWAII BARGAINING UNIT 3

PARAMETERS	VALUE KEY	RESULTS			
SEX COMP.	4 (1=M, 2=F, 3=B, 4=IGNORE)	SLOPE	0.00131	MEAN(X)	295.000
WORK.COND.	4 (1,2,3,4=ALL JOBS,5=2 & 3)	INTERCEPT	7.119	MEAN(Y)	7.505
SALARY USED	3 (1=MIN,2=MID,3=MAX)	CORR.COEFF.	0.864	SQR(R)	0.746
ANALYSIS	2 (1=DOLLARS, 2=LOG(\$))	NO. CASES	60		
DOGLEG	1 (1=NONE, 2=UPPER, 3=LOWER)	TOTAL CASES	60	Syx	0.075
DOGLEGBREAK	0 (DBM VALUE; ZERO=NONE)				
WC2 FACTOR	\$0.00 (ZERO=NOT USED)				
WC3 FACTOR	\$0.00 (ZERO=NOT USED)				
PERSONS	0 (0=ALL)	44.188	592.000	592.414	60 17700

# STATE OF HAWAII

PC POINTS vs LOG VALUES

A-46  
LOG MINIMUM MONTHLY SALARY



PC POINT VALUES - BU #9-#13  
□ MALE + FEMALE

STATE OF HAWAII

PARAMETERS	VALUE KEY	RESULTS				
SEX COMP.	4 (1=M, 2=F, 3=B, 4=IGNORE)	SLOPE	0.00200	MEAN(X)	105.000	
WORK. COND.	4 (1,2,3,4=ALL JOBS, 5=2 & 3)	INTERCEPT	7.258	MEAN(Y)	7.468	
SALARY USED	1 (1=MIN, 2=MID, 3=MAX)	CORR. COEFF.	0.607	SQR(R)	0.369	
ANALYSIS	2 (1=DOLLARS, 2=LOG(\$))	NO. CASES	22			
DOBLEG	1 (1=NONE, 2=UPPER, 3=LOWER)	TOTAL CASES	22	Syx	0.091	
DOLEGBREAK	0 (POINT VALUE; ZERO=NONE)					
WC2 FACTOR	\$0.00 (ZERO=NOT USED)					
WC3 FACTOR	\$0.00 (ZERO=NOT USED)					
PERSONS	0 (0=ALL)	15.157	166.000	166.880	22	2310

A-47

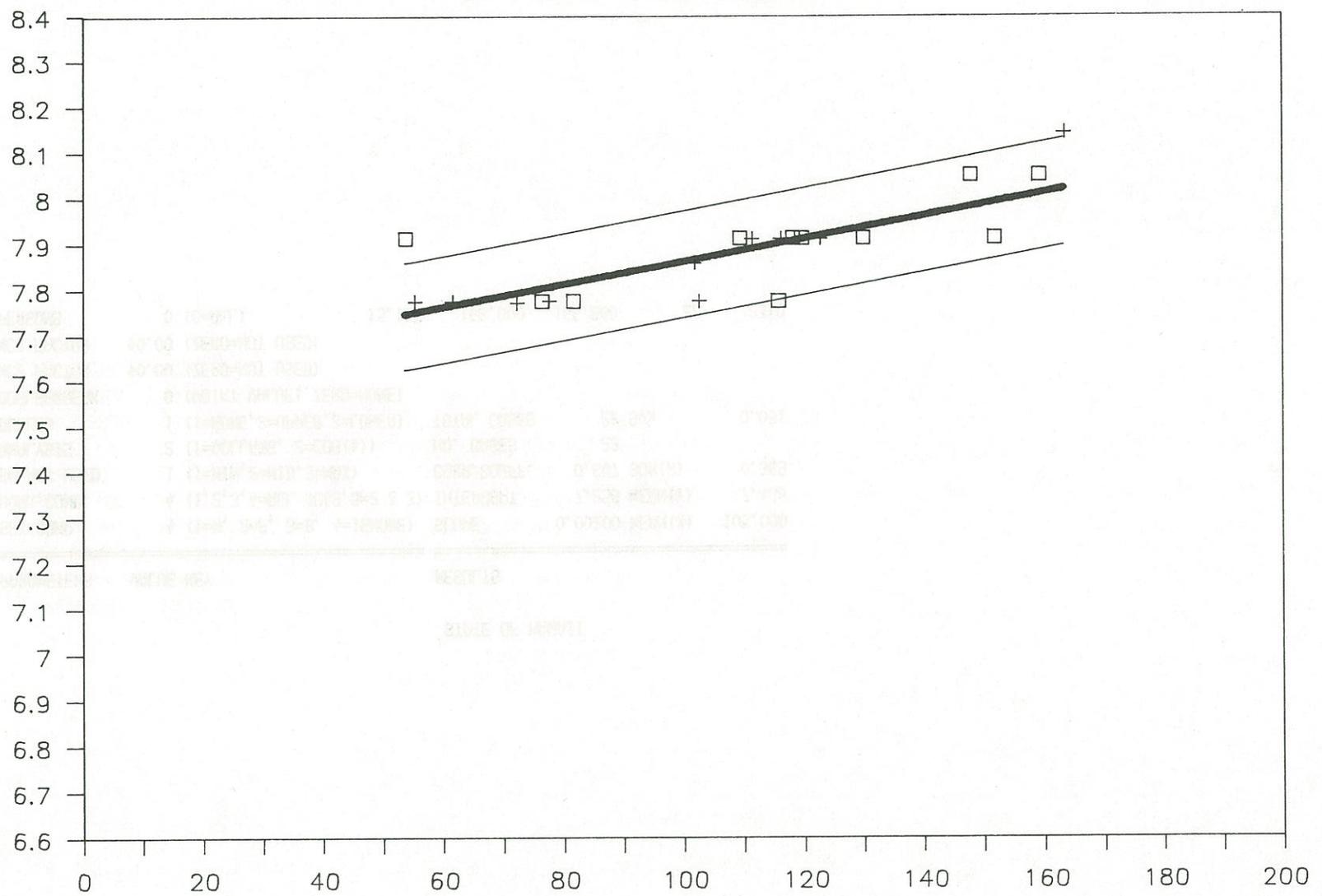
# STATE OF HAWAII

PC POINTS vs LOG VALUES

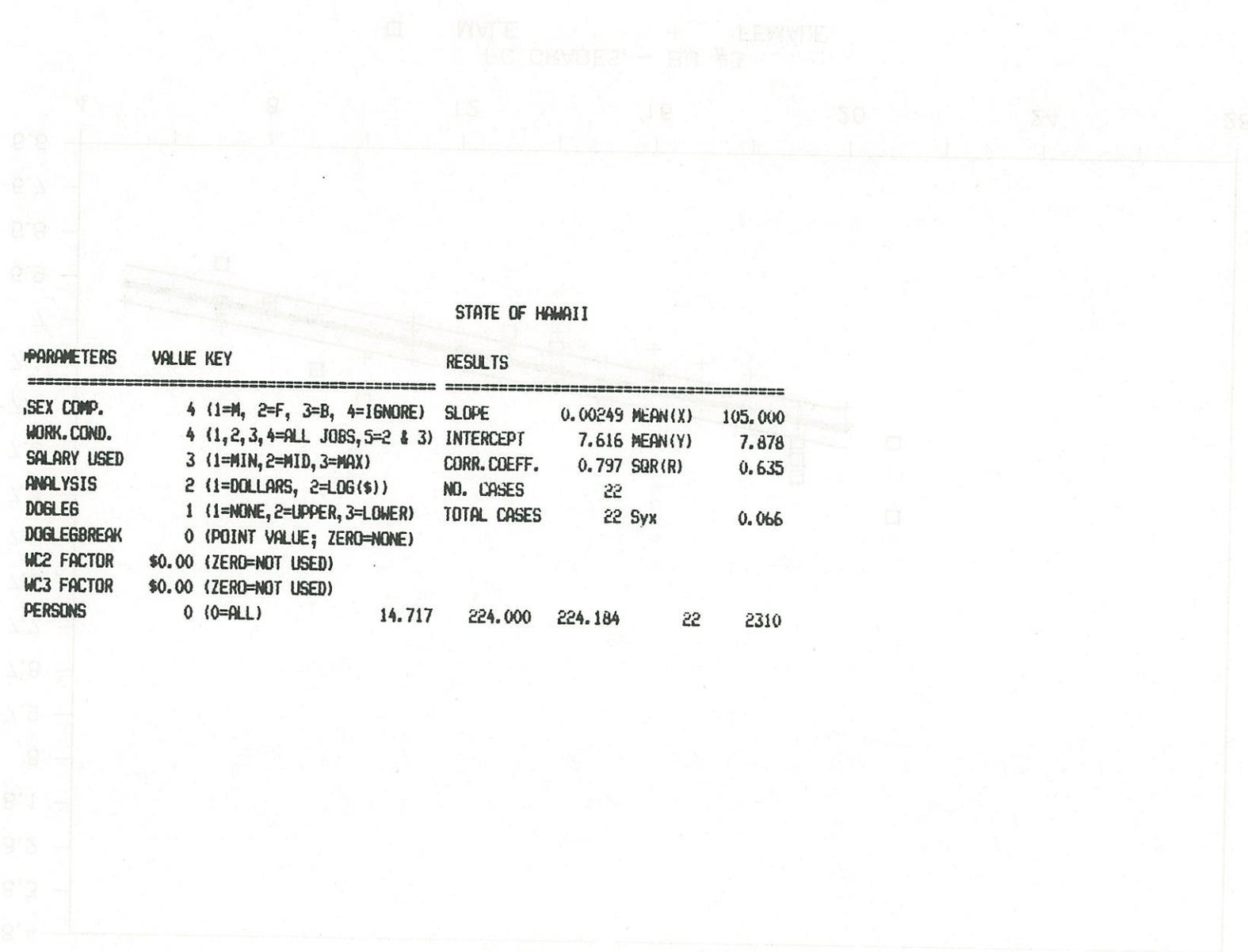
PC POINTS - BU # 9 - 13 - MIN

05 10 0 0000

A-48  
LOG MAXIMUM MONTHLY SALARY



PC POINT VALUES - BU #9-#13  
 □ MALE      + FEMALE



STATE OF HAWAII

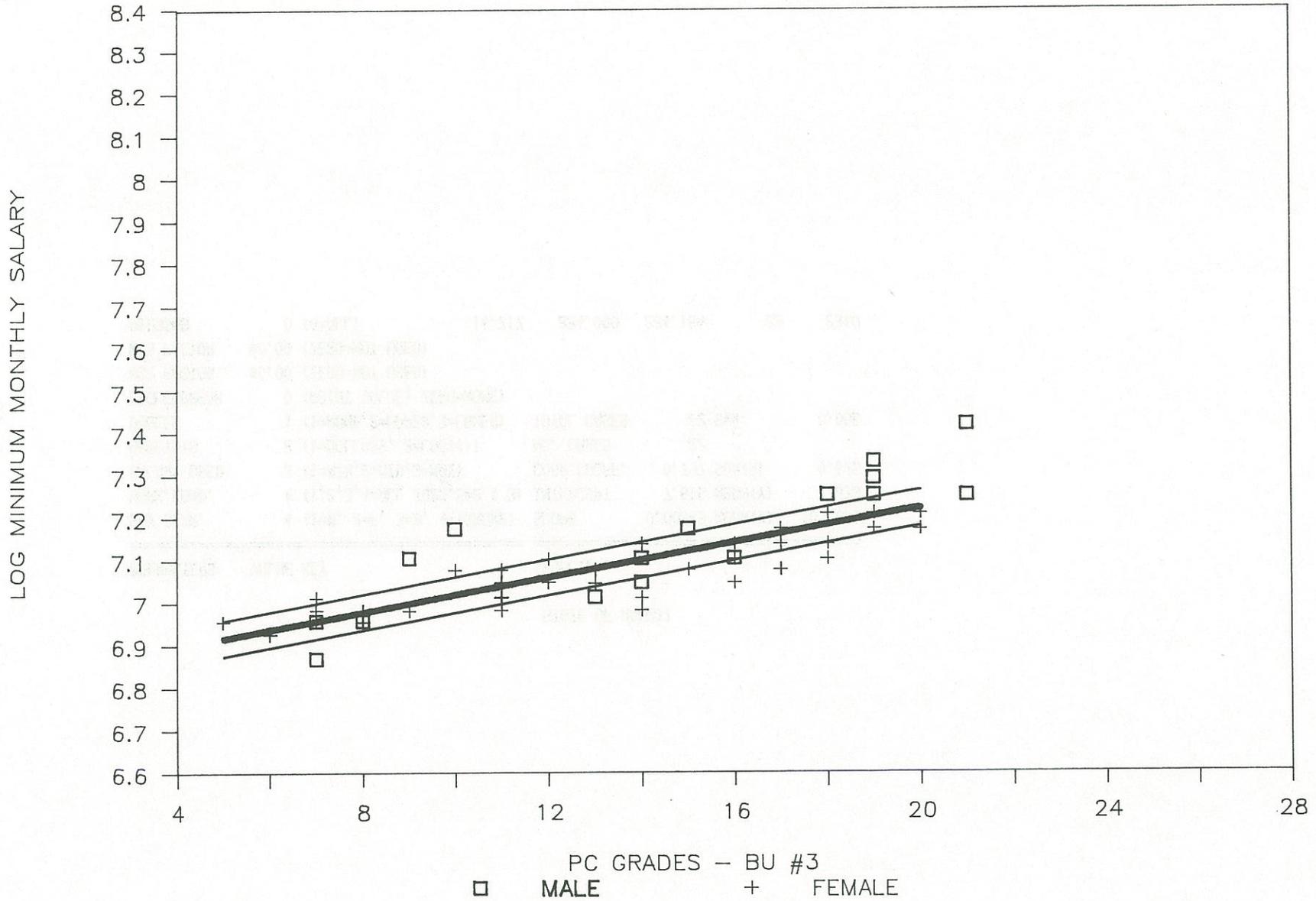
PARAMETERS	VALUE KEY	RESULTS
SEX COMP.	4 (1=M, 2=F, 3=B, 4=IGNORE)	SLOPE 0.00249 MEAN(X) 105.000
WORK. COND.	4 (1,2,3,4=ALL JOBS, 5=2 & 3)	INTERCEPT 7.616 MEAN(Y) 7.878
SALARY USED	3 (1=MIN, 2=MID, 3=MAX)	CORR. COEFF. 0.797 SQR(R) 0.635
ANALYSIS	2 (1=DOLLARS, 2=LOG(\$))	NO. CASES 22
DOGLEG	1 (1=NONE, 2=UPPER, 3=LOWER)	TOTAL CASES 22 Syx 0.066
DOGLEGBREAK	0 (POINT VALUE; ZERO=NONE)	
WC2 FACTOR	\$0.00 (ZERO=NOT USED)	
WC3 FACTOR	\$0.00 (ZERO=NOT USED)	
PERSONS	0 (0=ALL)	14.717 224.000 224.184 22 2310

# STATE OF HAWAII

## PC GRADES vs LOG VALUES

SC 207222 - RE 9 P 73 - 1973

A-50



A-51

STATE OF HAWAII BARGAINING UNIT 3

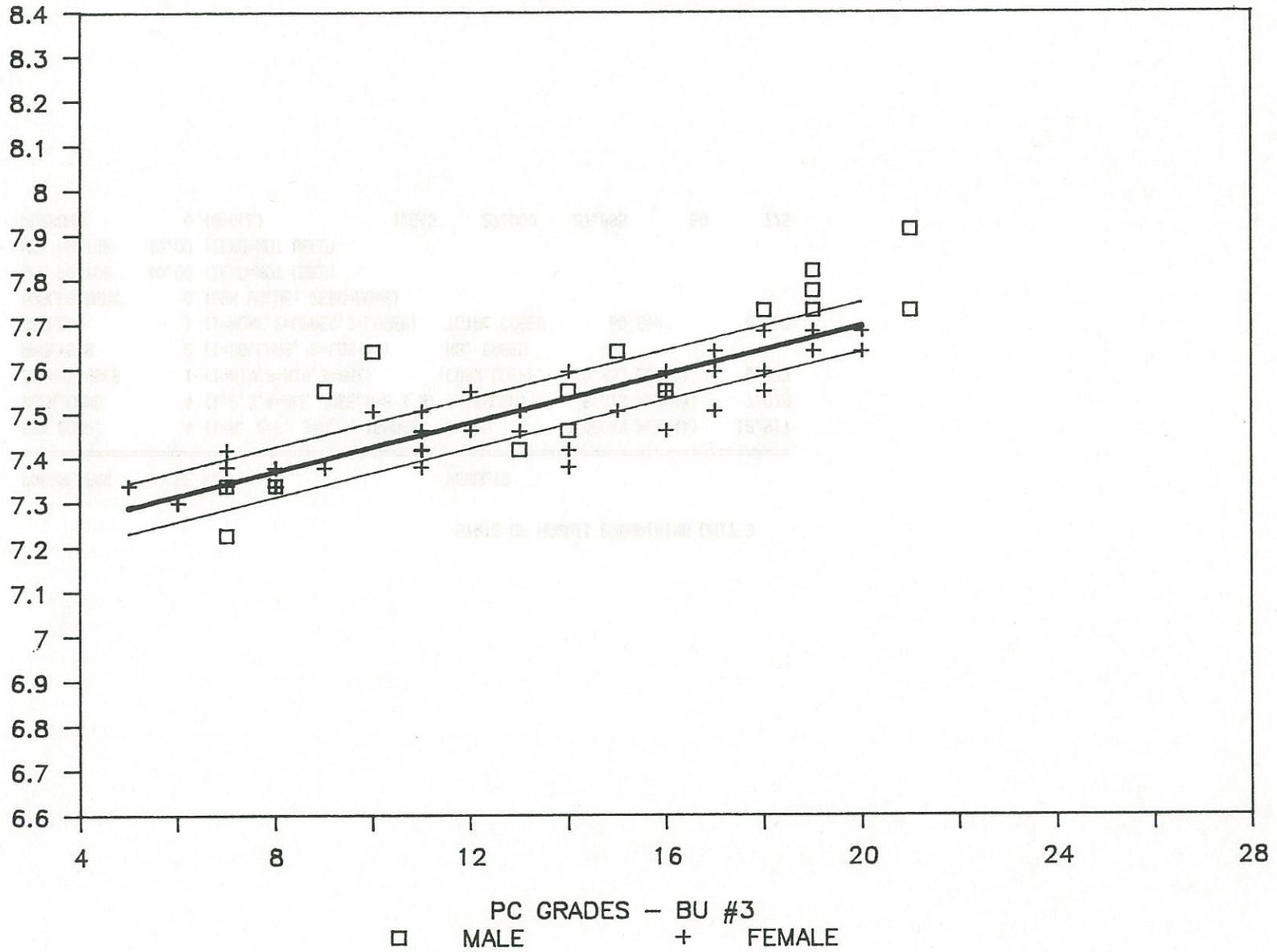
PARAMETERS	VALUE KEY	RESULTS				
SEX COMP.	4 (1=M, 2=F, 3=B, 4=IGNORE)	SLOPE	0.02049	MEAN(X)	12.917	
WORK. COND.	4 (1,2,3,4=ALL JOBS, 5=2 & 3)	INTERCEPT	6.813	MEAN(Y)	7.078	
SALARY USED	1 (1=MIN, 2=MID, 3=MAX)	CORR. COEFF.	0.853	SQR(R)	0.727	
ANALYSIS	2 (1=DOLLARS, 2=LOG(\$))	NO. CASES	60			
DOGLEG	1 (1=NONE, 2=UPPER, 3=LOWER)	TOTAL CASES	60	Syx	0.059	
DOGLEGBREAK	0 (DBM VALUE; ZERO=NONE)					
WC2 FACTOR	\$0.00 (ZERO=NOT USED)					
WC3 FACTOR	\$0.00 (ZERO=NOT USED)					
PERSONS	0 (0=ALL)	1.645	27.000	27.895	60	775

# STATE OF HAWAII

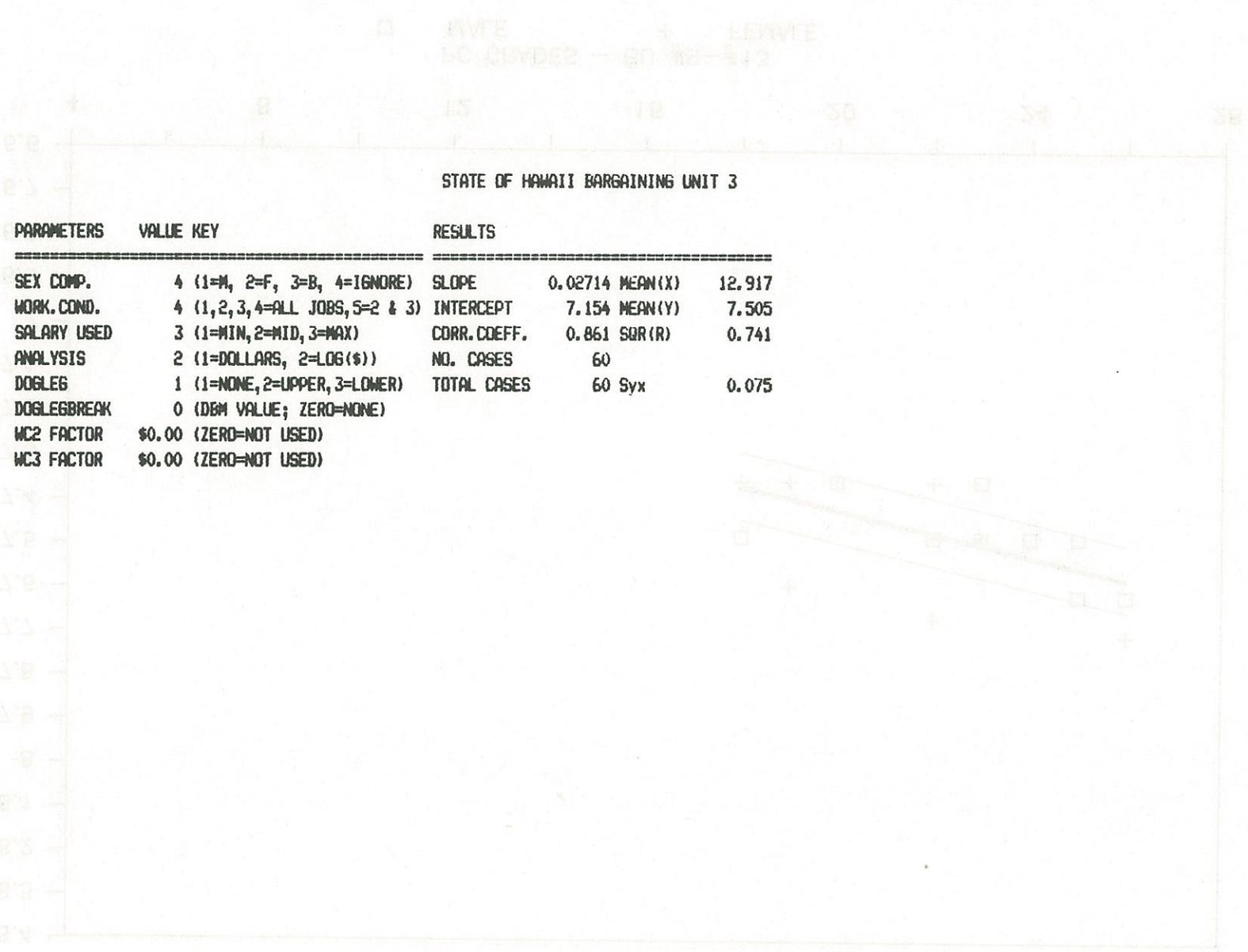
LC 017DE - B12 - W12

## PC GRADES vs LOG VALUES

LOG MAXIMUM MONTHLY SALARY



A-52



STATE OF HAWAII BARGAINING UNIT 3

PARAMETERS	VALUE KEY	RESULTS
SEX COMP.	4 (1=M, 2=F, 3=B, 4=IGNORE)	SLOPE 0.02714 MEAN(X) 12.917
WORK.COND.	4 (1,2,3,4=ALL JOBS, 5=2 & 3)	INTERCEPT 7.154 MEAN(Y) 7.505
SALARY USED	3 (1=MIN, 2=MID, 3=MAX)	CORR. COEFF. 0.861 SQR(R) 0.741
ANALYSIS	2 (1=DOLLARS, 2=LOG(\$))	NO. CASES 60
DOGLEG	1 (1=NONE, 2=UPPER, 3=LOWER)	TOTAL CASES 60 Syx 0.075
DOGLEGBREAK	0 (DBM VALUE; ZERO=NONE)	
WC2 FACTOR	\$0.00 (ZERO=NOT USED)	
WC3 FACTOR	\$0.00 (ZERO=NOT USED)	

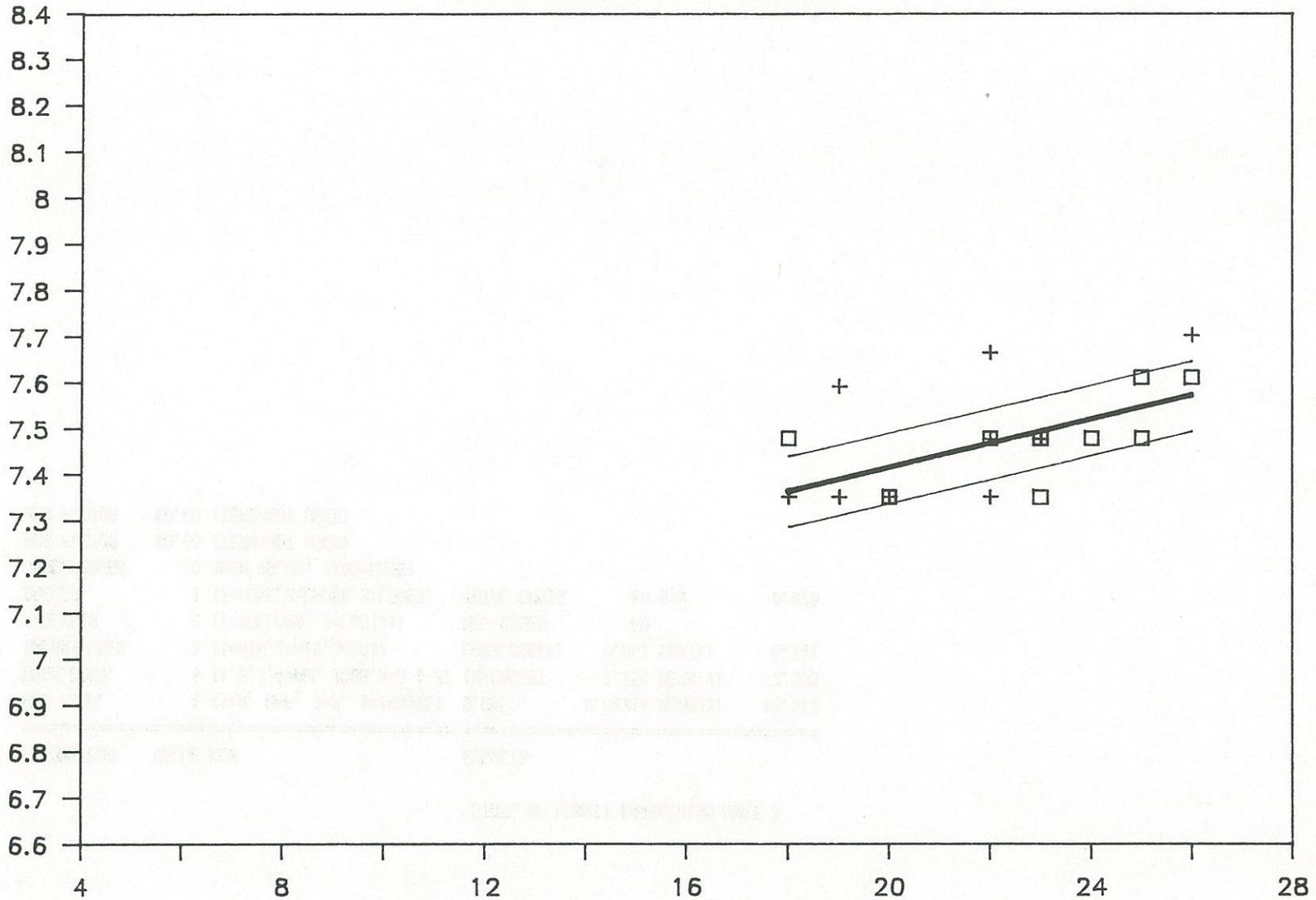
PC GRADE - BU3 - MAX

# STATE OF HAWAII

DC OFFICE - 883 - 87X

## PC GRADES vs LOG VALUES

A-54  
LOG MINIMUM MONTHLY SALARY



PC GRADES - BU #9-#13  
□ MALE + FEMALE

A-55

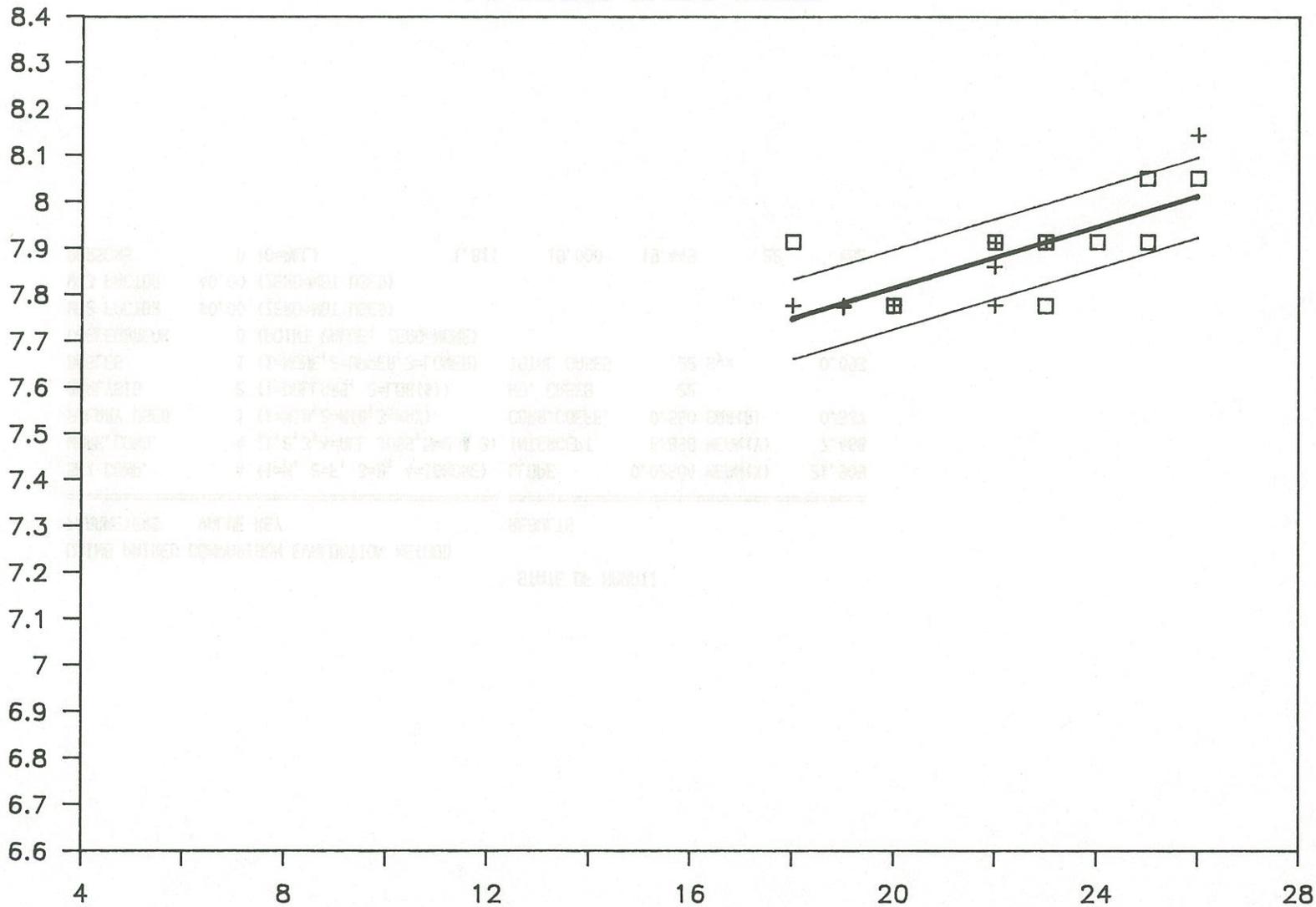
STATE OF HAWAII					
USING PAIRED COMPARISON EVALUATION METHOD					
PARAMETERS	VALUE KEY	RESULTS			
SEX COMP.	4 (1=M, 2=F, 3=B, 4=IGNORE)	SLOPE	0.02604	MEAN(X)	21.909
WORK. COND.	4 (1,2,3,4=ALL JOBS,5=2 & 3)	INTERCEPT	6.898	MEAN(Y)	7.468
SALARY USED	1 (1=MIN, 2=MID, 3=MAX)	CORR. COEFF.	0.580	SQR(R)	0.337
ANALYSIS	2 (1=DOLLARS, 2=LOG(\$))	NO. CASES	22		
DOGLEG	1 (1=NONE, 2=UPPER, 3=LOWER)	TOTAL CASES	22	Syx	0.093
DOGLEGBREAK	0 (POINT VALUE; ZERO=NONE)				
WC2 FACTOR	\$0.00 (ZERO=NOT USED)				
WC3 FACTOR	\$0.00 (ZERO=NOT USED)				
PERSONS	0 (0=ALL)	1.811	19.000	19.449	22 482

# STATE OF HAWAII

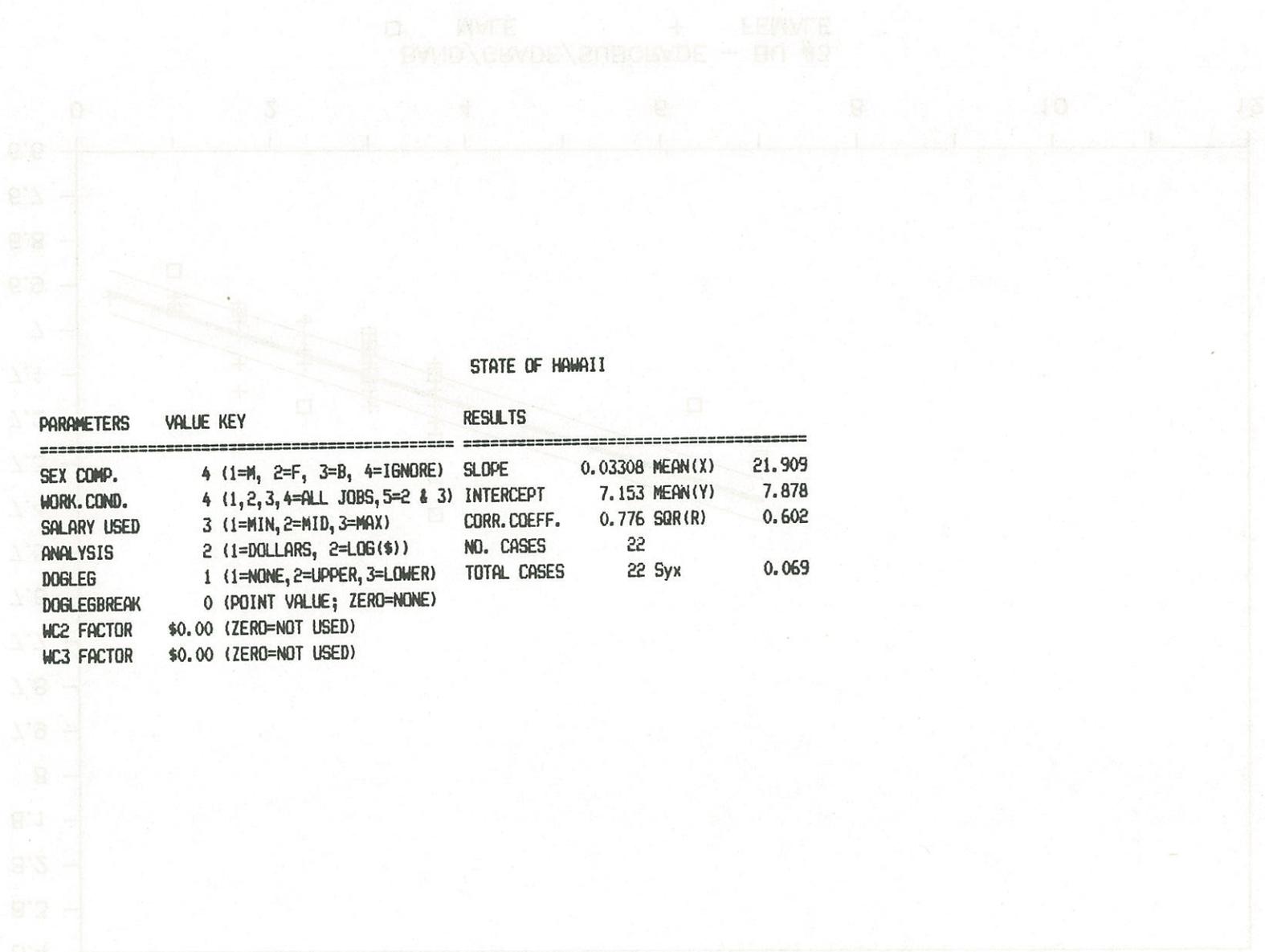
## PC GRADES vs LOG VALUES

BC GRADE - PD 8 & 13 - HIA

A-56 LOG MAXIMUM MONTHLY SALARY



□ PC GRADES - BU #9-#13  
 + MALE FEMALE



STATE OF HAWAII

PARAMETERS	VALUE KEY	RESULTS
SEX COMP.	4 (1=M, 2=F, 3=B, 4=IGNORE)	SLOPE 0.03308 MEAN(X) 21.909
WORK. COND.	4 (1,2,3,4=ALL JOBS,5=2 & 3)	INTERCEPT 7.153 MEAN(Y) 7.878
SALARY USED	3 (1=MIN,2=MID,3=MAX)	CORR. COEFF. 0.776 SQR(R) 0.602
ANALYSIS	2 (1=DOLLARS, 2=LOG(\$))	NO. CASES 22
DOGLEG	1 (1=NONE,2=UPPER,3=LOWER)	TOTAL CASES 22 Syx 0.069
DOGLEGBREAK	0 (POINT VALUE; ZERO=NONE)	
WC2 FACTOR	\$0.00 (ZERO=NOT USED)	
WC3 FACTOR	\$0.00 (ZERO=NOT USED)	

# STATE OF HAWAII

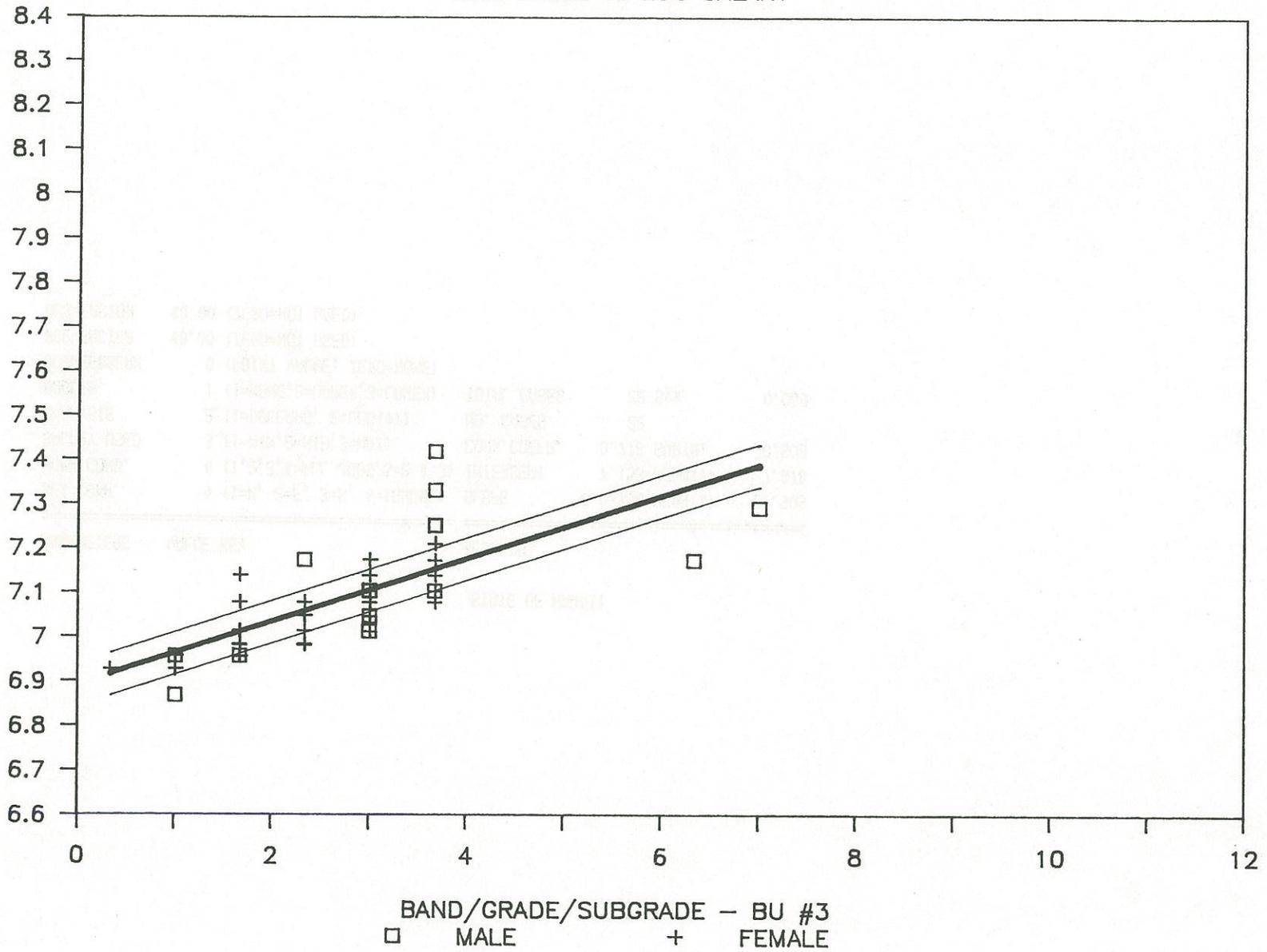
DBM VALUE vs LOG SALARY

DC - CIVIL - BU 3 - 12 - 1994

DC - CIVIL - BU 3 - 12 - 1994

A-58

LOG MINIMUM MONTHLY SALARY



STATE OF HAWAII BARGAINING UNIT 3

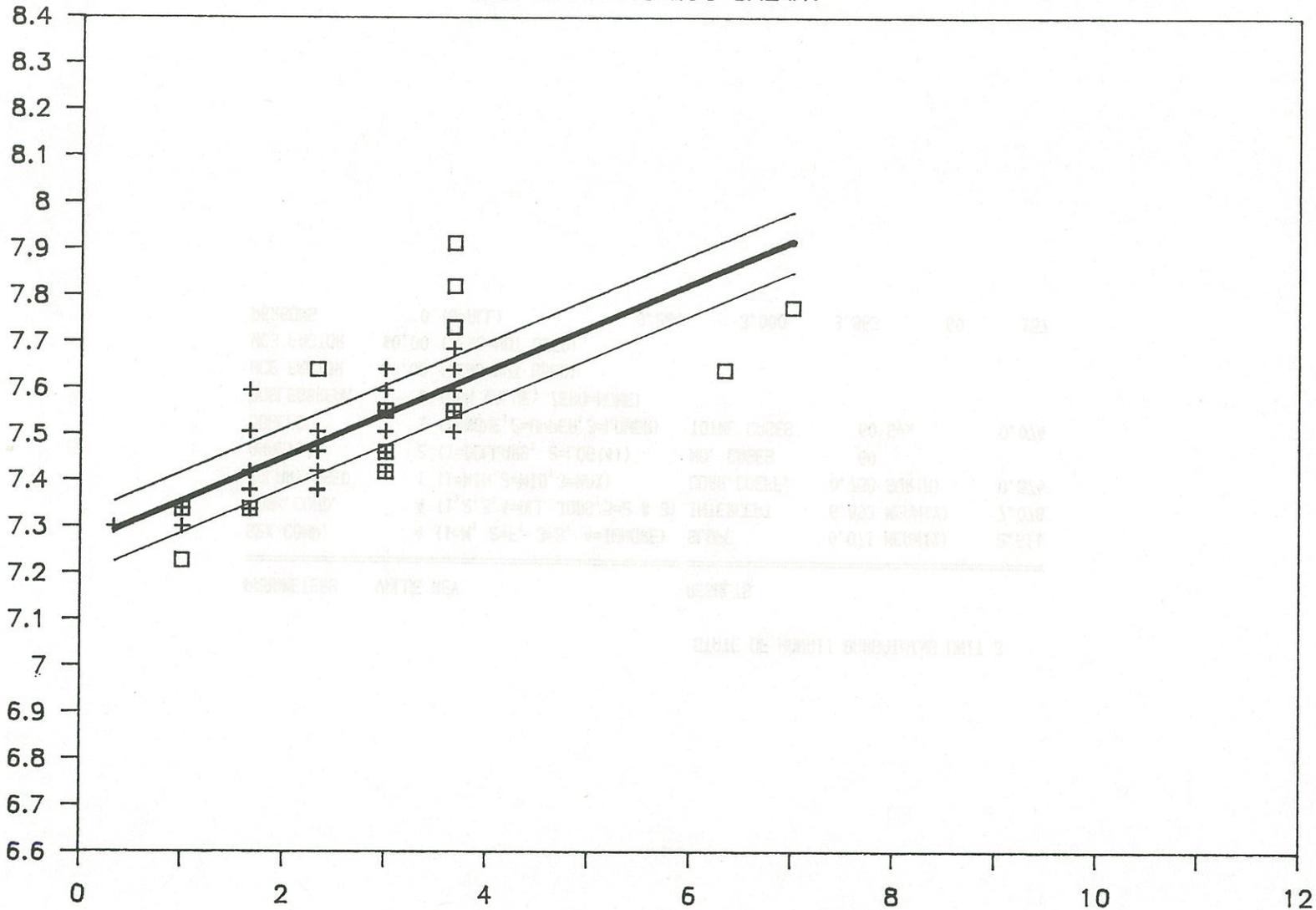
PARAMETERS	VALUE KEY	RESULTS				
SEX COMP.	4 (1=M, 2=F, 3=B, 4=IGNORE)	SLOPE	0.071	MEAN(X)	2.611	
WORK. COND.	4 (1,2,3,4=ALL JOBS, 5=2 & 3)	INTERCEPT	6.893	MEAN(Y)	7.078	
SALARY USED	1 (1=MIN, 2=MID, 3=MAX)	CORR. COEFF.	0.758	SQR(R)	0.574	
ANALYSIS	2 (1=DOLLARS, 2=LOG(\$))	NO. CASES	60			
DOGLEGBREAK	1 (1=NONE, 2=UPPER, 3=LOWER)	TOTAL CASES	60	Syx	0.074	
DOGLEGBREAK	0 (DBM VALUE; ZERO=NONE)					
WC2 FACTOR	\$0.00 (ZERO=NOT USED)					
WC3 FACTOR	\$0.00 (ZERO=NOT USED)					
PERSONS	0 (0=ALL)	0.284	3.000	3.863	60	157

# STATE OF HAWAII

## DBM VALUE vs LOG SALARY

A-60

LOG MAXIMUM MONTHLY SALARY



BAND/GRADE/SUBGRADE - BU #3  
 □ MALE + FEMALE

LOG MINIMUM MONTHLY SALARY

DBM - BU3 - MAX

STATE OF HAWAII BARGAINING UNIT 3

PARAMETERS	VALUE KEY	RESULTS
SEX COMP.	4 (1=M, 2=F, 3=B, 4=IGNORE)	SLOPE 0.094 MEAN(X) 2.611
WORK.COND.	4 (1,2,3,4=ALL JOBS,5=2 & 3)	INTERCEPT 7.260 MEAN(Y) 7.505
SALARY USED	3 (1=MIN,2=MID,3=MAX)	CORR.COEFF. 0.767 SQR(R) 0.588
ANALYSIS	2 (1=DOLLARS, 2=LOG(\$))	NO. CASES 60

STATE OF HAWAII

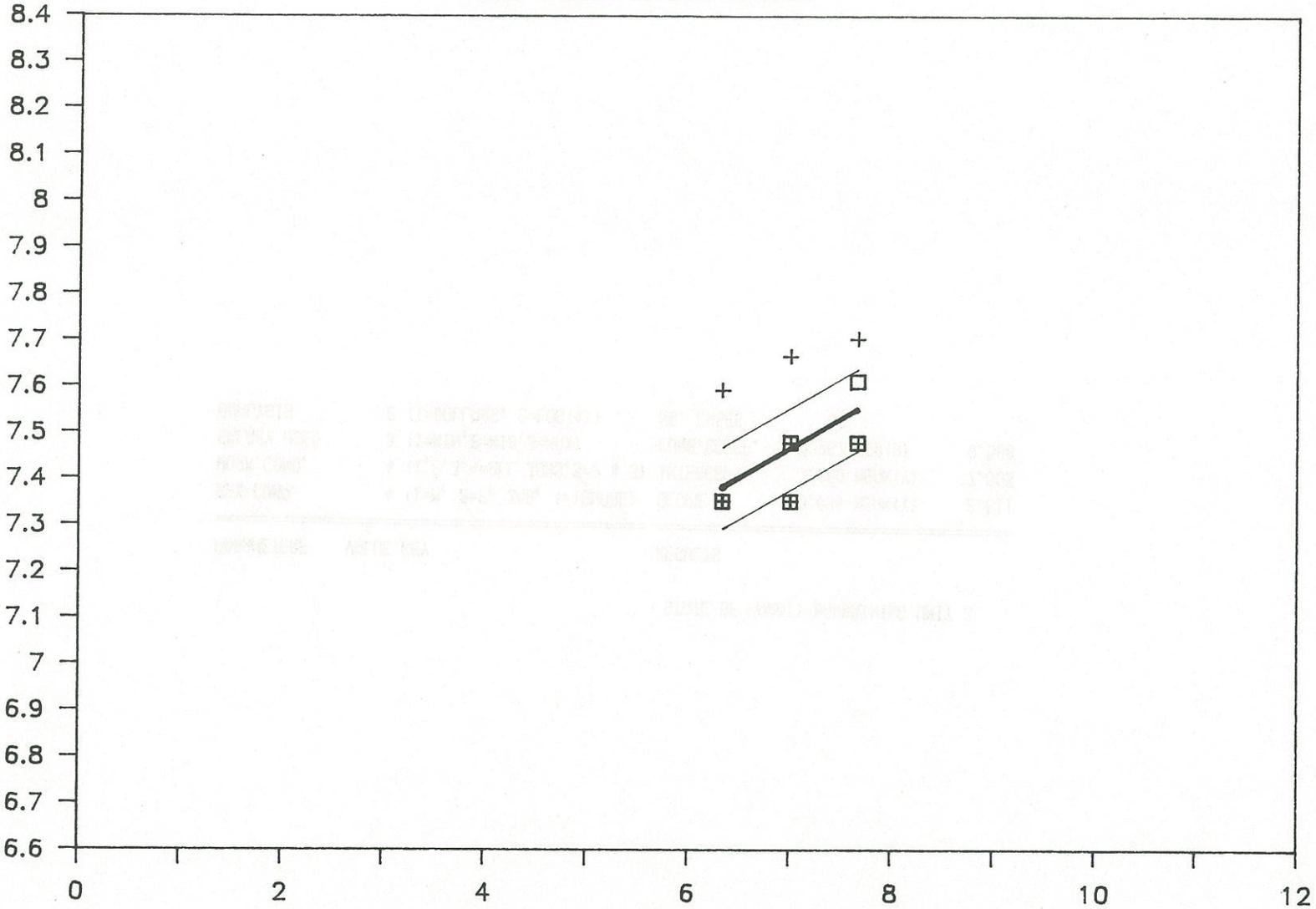
DBM - BU3 - MAX

# STATE OF HAWAII

DBM - B13 - RYK

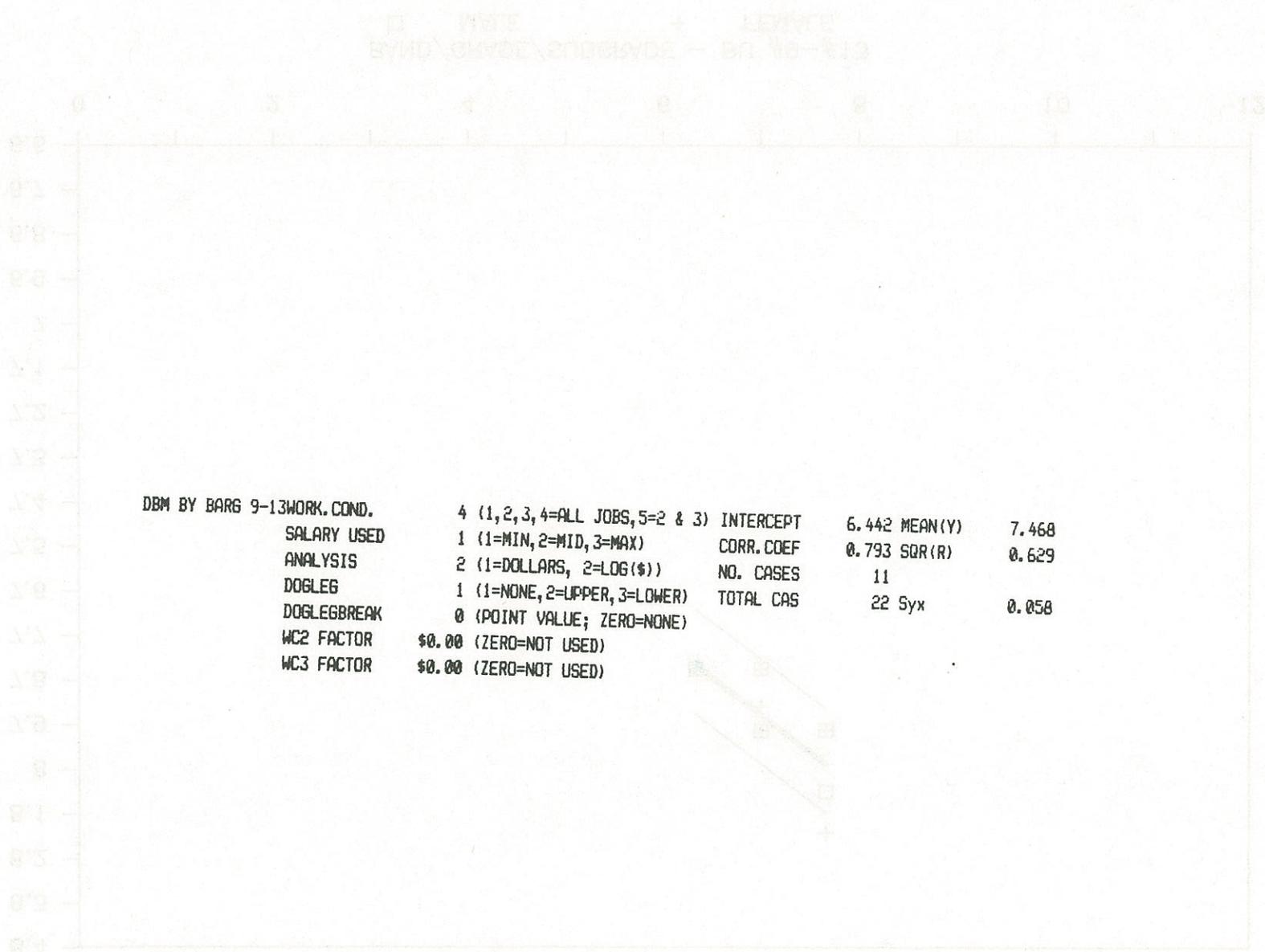
## DBM VALUE vs LOG SALARY

A-62  
LOG MINIMUM MONTHLY SALARY



BAND/GRADE/SUBGRADE - BU #9-#13  
□ MALE + FEMALE

FOUR MONTHLY SALARY



DBM BY BARG 9-13 WORK COND.

SALARY USED

ANALYSIS

DOGLEG

DOGLEGBREAK

WC2 FACTOR

WC3 FACTOR

4 (1,2,3,4=ALL JOBS,5=2 & 3)

1 (1=MIN,2=MID,3=MAX)

2 (1=DOLLARS, 2=LOG(\$))

1 (1=NONE,2=UPPER,3=LOWER)

0 (POINT VALUE; ZERO=NONE)

\$0.00 (ZERO=NOT USED)

\$0.00 (ZERO=NOT USED)

INTERCEPT

CORR. COEF

NO. CASES

TOTAL CAS

6.442 MEAN(Y)

0.793 SQR(R)

11

22 Syx

7.468

0.629

0.058

STATE OF HAWAII

# STATE OF HAWAII

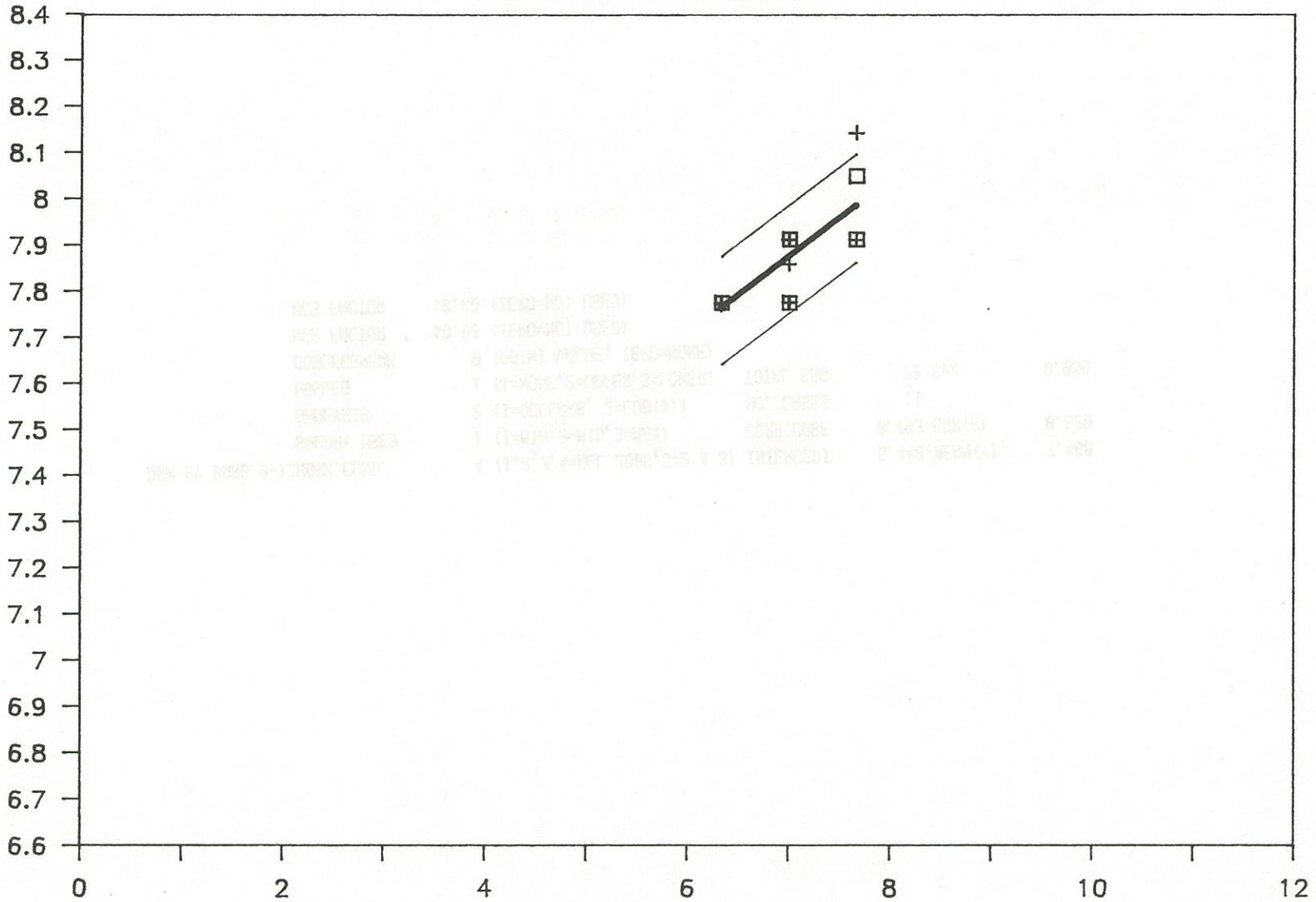
DBM VALUE vs LOG SALARY

DBM - B08 F 13 - NTH

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LOG MAXIMUM MONTHLY SALARY

A-64



BAND/GRADE/SUBGRADE - BU #9-#13  
 □ MALE + FEMALE

SEX COMP.	4 (1=M, 2=F, 3=B, 4=IGNORE)	SLOPE	0.16647	MEAN(X)	7.000
DBM BY BARG 9-13WORK.COND.	4 (1,2,3,4=ALL JOBS,5=2 & 3)	INTERCEPT	6.712	MEAN(Y)	7.878
SALARY USED	3 (1=MIN,2=MID,3=MAX)	CORR. COEF	0.792	SQR(R)	0.626
ANALYSIS	2 (1=DOLLARS, 2=LOG(\$))	NO. CASES	22		
DOGLEG	1 (1=NONE,2=UPPER,3=LOWER)	TOTAL CAS	22	Syx	0.066
DOGLEGBREAK	0 (POINT VALUE; ZERO=NONE)				
WC2 FACTOR	\$0.00 (ZERO=NOT USED)				
WC3 FACTOR	\$0.00 (ZERO=NOT USED)				

## PC CORRIDOR LIMITS BY ANALYSIS

	Salaries	
	<u>Minimum</u>	<u>Maximum</u>
<u>PC Points</u>		
Bargaining Unit 3	±5.6%	±7.95%
Bargaining Units 9 and 13	±10.6%	±11.60%
<u>PC Grade</u>		
Bargaining Unit 3	±4.2%	±5.6%
Bargaining Units 9 and 13	±5.2%	±6.8%

Note: The above corridors and those on the next page are determined by the standard error which is statistically computed from the data for each analysis. The error will vary for each analysis based upon the distribution of data points for the analysis and whether procedures used in certain analyses could be employed to reduce the error. For example the corridors are widest for Bargaining Units 9 and 13 PC Points analyses due to the inclusion of the two RPN classes in Unit 9 within the analyses of the classes in Unit 13. The corridor for the PC Grade Analyses for the same bargaining units is not as wide because procedures in these analyses resulting in grouping points together into ranges, thus reducing possible error attributed to any one point.

## DBM CORRIDOR LIMITS BY ANALYSIS

	SALARIES	
	<u>MINIMUM</u>	<u>MAXIMUM</u>
Bargaining Unit 3	±4.8%	±6.5%
Bargaining Units 9 and 13	±8.8%	±11.7%

## **Appendix B**

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**Factor: PECAB/CONFERENCE**

Sources: Department of Personnel Services;  
Hawaii Government Employees Association;  
Honolulu County Committee on Status of Women;  
Librarian Association of Hawaii;  
Hawaii Nurses Association;  
Hawaii Commission on Status of Women; and  
Industrial Relations Center - U.H.

Rationale for factor offered by sources:

Assertion 1: The members of PECAB more readily agree with the rationales of the employers for adjusting or not adjusting class allocations to salary ranges because the board is appointed by the Governor.

Assertion 2: The Board and Conference have not adjusted female dominated classes as often as they have adjusted the male dominated classes and, PECAB has generally been ineffective and not had much of an impact on the overall correction of pricing inequities.

Assertion 3: The Board and Conference have not adjusted those classes with a larger number of employees as often as they have those classes with less employees, due to the effect on the overall state budget.

Assertion 4: The PECAB meets every two years and, thus, there are concerns regarding the inconsistency of its members. In addition, the Board may not be able to attract the most qualified people because of the commitment on a nonrecurring basis.

Assertion 5: The PECAB rule which restricts class relationships from being established between bargaining units is an artificial barrier that distorts logical and reasonable comparisons of classes across bargaining units.

Therefore: PECAB and/or the Conference of Personnel Directors have not provided an effective mechanism for correcting inequities.

## Analysis

The Conference of Personnel Directors (CPD) is an administrative body composed of the Personnel Directors of the State, the Counties and the Judiciary. The Conference is required by law to review the compensation plan and submit any recommendations for adjustment to the Public Employees Compensation Appeals Board (PECAB). Requests for review of the pricing of a class may only be submitted by the State and County executive departments, the Judiciary and the unions. If more than one request is received for the same class in one department, the requests are often consolidated by the departments prior to submission to the CPD.

PECAB is an appellate body of lay personnel who are Civil Service Commissioners (one from each County, the Judiciary and the State). Its task is to decide if an appealed class is properly priced. PECAB is limited by law to hearing appeals from the State and County Departments, employee unions or individual employees -- it can only act on an appeal. If an adjustment is recommended by the CPD, and there is no appeal of the adjustment, the recommendation automatically goes into effect. Adjustments to classes can be made by PECAB without an appeal only if the classes are related to an appealed class that was actually adjusted by PECAB and the adjustment is necessary to maintain proper relationship.

As of 1963, by law, PECAB is required to prepare a written report of their actions on each appeal. In addition, from 1963-1979 the State (i.e., the Department of Personnel Services (DPS)) did not participate in PECAB's appeal process. Since 1979, DPS has been able to participate in the process providing their rationale for certain actions. However, DPS does not itself submit appeals to PECAB. In 1983, the Counties began writing appeal memos providing PECAB with their rationale for actions on appeals. Prior to 1979 and 1983, PECAB based its decisions on its own rationale or those of the appellants as they had no input from neither the State nor the counties.

All analyses of actions taken by PECAB and the Conference regarding male and female dominated classes are based on the information available. It is our understanding that there is no reliable historical data maintained on male and female employment by class within the State, except for isolated years to meet specific requirements. An assumption was, therefore, made that those classes identified as male or female dominated in 1986, for which such data was available, have been consistently male or female dominated in past years. Classes are considered dominant if the class size exceeds ten and the percentage of males or females is 70% or greater. In addition, our analysis of assertions 2 and 3 was limited to data for bargaining units 3, 4, 9 and 13.

Assertion 1: The members of PECAB more readily agree with the rationales of the employers for adjusting or not adjusting class allocations to salary ranges because the board is appointed by the Governor.

This assertion indicates the belief that the employers, i.e., the department of personnel in the State, the counties and the Judiciary unduly influence decisions made by PECAB boards. The employers do not submit appeals to PECAB although in more recent years they do present "their case" to the board when it is considered necessary or desirable. Appeals are only brought forward to PECAB by the State and County departments, unions and employees. The source of the appeal was not always clearly identified in the earlier years of PECAB. DPS has been keeping a separate record of the appeals filed as the reports prepared by PECAB generally do not identify the party submitting the appeal. Relatively complete records are available from 1973 and, thus, the following analysis will only include PECAB actions from 1973 to 1986, and excluding the City and County of Honolulu appeals in 1986 for which information was not available.

The following table presents the distribution of appeals submitted to PECAB and adjusted over the fourteen year period from 1973 to 1986. The figures do not include affected classes as those were not appealed, even though they were reviewed by PECAB because a related class had been adjusted.

**APPEALS SUBMITTED TO PECAB AND ADJUSTED  
1973 TO 1986**

(Table 1)

<u>Category</u>	<u>Appeals submitted</u>	<u>% sub- mitted by category</u>	<u>Appeals adjusted</u>	<u>% adjusted</u>
Department	84	14	13	15
Unions	233	40	45	19
Employees	<u>268</u>	<u>46</u>	<u>40</u>	15
Total	<u>585</u>	<u>100</u>	<u>98</u>	<u>16.8*</u>

\* Percentage of all appeals adjusted to those submitted.

Table 1 shows that the unions have had the largest percentage of their appeals adjusted however, the percentage adjusted is not significantly larger than the percentages for the departments and employees. The departments, on the other hand, have had a comparable percentage of their appeals adjusted although they have submitted the smallest number of appeals.

Since 1973, the number of appeals submitted to each session of PECAB by the departments does not follow a consistent pattern. Our review also does not indicate the existence of a consistent trend regarding the number of appeals submitted by the departments which were adjusted. Neither did our review indicate a consistent trend during this period in which the Board adjusted the appeals of the unions and employees.

Of the appeals acted upon by PECAB, it could not be determined based on a review of their reports whether PECAB concurred with the rationale of one party or another in making their decisions. Prior to 1979, PECAB received no input from either the State or counties. As mentioned previously, the State became an active participant in 1979 and the counties made their appeals memos available from 1983. However, there is no clear documentation as to PECAB's concurrence with any rationales received from the employers. It does seem, however, that the small per-

percentages of appeals that actually resulted in adjustments would indicate that PECAB has generally acted to maintain existing class relationships rather than make substantial numbers of adjustments each year.

Conclusion: There is no conclusive evidence that the assertion is correct. It could not be determined whether PECAB agrees more readily with the employers as the basis for their decisions do not always clearly document if they are concurring with positions stated by either party. It is possible to more closely make this determination by reviewing material in individual files for each class, but such a review of so large a number of classes would be outside the scope of this analysis. It would appear that when viewing all appeals received by PECAB, they more readily agree with those submitted by the unions. On the other hand, the departments' submitted appeals represent only 14% of those PECAB has reviewed and had about the same percentage adjusted as the other parties. In addition, at least since 1973, no consistent trend can be found in the proportion of departments' appeals submitted that were adjusted. The small number of adjustments that have been made by PECAB in relation to the appeals submitted would tend to indicate either greater agreement with the employers or the existing relationships developed by the employers, but no hard data can be found within the scope of this study to substantiate this interpretation. It is just as likely the case that each of the different boards have considered the existing plan correct, and the arguments for appeals insufficient to make changes.

Assertion 2: The Board and Conference have not adjusted female dominated classes as often as they have adjusted the male dominated classes and, PECAB has generally been ineffective and not had much of an impact on the correction of pricing inequities.

It should be first understood that sources making this assertion presumed that a substantial number of inequities currently exist and have for some time. Data on which classes were appealed and the action taken was available for 1963-1986. The determination of a class as

male or female dominated was again made with the assumption that classes determined to be male or female dominated in 1986 have been so dominated in previous years. Our analysis is based on data for bargaining units 3, 4, 9 and 13 in the State and all counties.

Table 2 is based on the actions of PECAB and the Conference and presents the percentage of dominated and unisex classes adjusted during this period. The adjustments made by PECAB are on appeals from the Departments, unions and individual employees while adjustments made by the Conference are on requests from the Departments, unions or on the Conference's actions on its own initiative.

**Percentage of Dominated and Unisex Classes Adjusted  
1963 TO 1986 (State and Counties)**

(Table 2)

Category	PECAB		CONFERENCE	
	Number adjusted (1)	% adjusted in each category to appeals submitted in each category (2)	Number adjusted (3)	% adjusted in each category to requests submitted in each category (4)
Female dominated classes	21	17.4	10	7.2
Male dominated classes	4	7.7	3	7.9
Unisex classes	<u>327</u>	<u>21.7</u>	<u>483</u>	<u>30.3</u>
Total all classes	<u>352</u>	<u>20.9</u>	<u>496</u>	<u>28.0</u>

In columns 1 and 3 of Table 2, the large difference in the numbers of unisex classes adjusted to dominated classes adjusted is largely due to the fact that dominated classes represented only 10% of those submitted to either the PECAB or Conference. Column 2 indicates that on a % basis female dominated classes are adjusted almost as often as unisex classes by PECAB and both are adjusted significantly more often than male dominated classes. Column 4 indicates, however, that the Conference adjusts male and female dominated classes almost equally in fre-

quency, but considerably less often than unisex classes.

**Conclusion:** It appears the assertion is not correct. PECAB has adjusted female dominated classes more often than male dominated classes, and almost as often as unisex classes, and the Conference has adjusted male and female dominated classes almost equally. It is also the case, however, that very few of the appeals submitted to PECAB have resulted in adjustments, as almost 80% of those submitted to either body have not resulted in adjustments. If one assumes there are substantial inequities in the present compensation plan, then this would seem to indicate that neither body has had much impact on their correction. Alternatively, if one assumes no such inequities exist, it would appear that PECAB has, in effect, been validating the correctness of the existing plan.

Assertion 3: The Board and Conference have not adjusted those classes with a larger number of employees as often as they have those classes with less employees, due to the effect on the overall state budget.

An overall average class size was calculated for the dominated classes adjusted from 1963-1986. The analysis was done for bargaining units 3, 4, 9 and 13 in the State and all counties. The calculation was made by multiplying each adjusted class by the size of the class, summing all class amounts and dividing the total for all classes by the total number of adjustments made to obtain a weighted average class size. The same was done for the dominated classes not adjusted.

**Weighted Average Class Size**

(Table 3)

	PECAB		Conference	
	Male	Female	Male	Female
Average size adjusted	21	120	30	90
Average size not adjusted	25	96	25	96

Based on Table 3, the average sizes of those classes adjusted tends to be comparable or larger than those not adjusted for the male and female dominated classes. Over the years, there appears to be no consistent pattern for either PECAB or the Conference regarding the average size of the female and male dominated adjusted classes.

A review of the actions of PECAB for years in intervals of ten years: 1966, 1976 and 1986 and three corresponding years for the Conference: 1965, 1975 and 1985 was performed to determine the frequency with which different class sizes were adjusted. Table 4 below includes those classes in bargaining units 3,4,9 and 13 for the State only categorized by class size. The "Unknown" amount includes those classes in the earlier years which have been abolished and are no longer in existence in 1986 thus, their size is not known.

### Class Size of Dominated State Classes Adjusted

(Table 4)

	1966			1976			1986		
	Total submitted	Adjusted Total	%	Total submitted	Adjusted Total	%	Total submitted	Adjusted Total	%
<u>PECAB</u>									
Class size:									
1-10	10	4	40.0	24	1	4.2	13	2	15.3
11-50	3	1	33.3	12	1	8.3	12	1	8.3
51+	3	0	0	15	2	13	8	5	62.5
Unknown	<u>77</u>	<u>27</u>	N/A	<u>17</u>	<u>3</u>	N/A	<u>0</u>	<u>0</u>	N/A
	<u>93</u>	<u>32</u>	<u>34.4*</u>	<u>68</u>	<u>7</u>	<u>10.3*</u>	<u>33</u>	<u>8</u>	<u>24.2*</u>

\* Annual average for all classes

	1965			1975			1985		
	Total submitted	Adjusted Total	%	Total submitted	Adjusted Total	%	Total submitted	Adjusted Total	%
<u>Conference</u>									
Class size:									
1-10	15	2	13.3	23	3	13.0	8	5	62.5
11-50	3	0	0	13	0	30.0	11	0	0
51+	3	0	0	16	0	0	4	0	0
Unknown	<u>75</u>	<u>4</u>	N/A	<u>18</u>	<u>1</u>	N/A	<u>0</u>	<u>0</u>	N/A
	<u>96</u>	<u>6</u>	<u>0.1*</u>	<u>70</u>	<u>4</u>	<u>0.1*</u>	<u>23</u>	<u>5</u>	<u>21.7*</u>

\* Annual average for all classes

As Table 4 indicates, if both PECAB and Conference actions are combined, 20 out of a total of 147 (13.6%) classes with less than 50 incumbents were adjusted as opposed to 7 out of 49 (14.3%) classes with greater than 50 incumbents. For PECAB, it seems to be that a greater proportion of the larger classes submitted have been adjusted than for the Conference, which appears generally less likely to adjust larger classes. It should be noted, however, that the majority of larger classes adjusted by PECAB were all in one year, so that there does not appear to be a definite trend.

Conclusion: The assertion appears to be largely incorrect. Overall, when all actions for both bodies are considered, larger classes have been adjusted almost as often as smaller classes. Based on a review of the actions of PECAB and the Conference at 10 year intervals, however, it appears that the Board is more likely to adjust larger classes than the Conference. There also does not appear to be any difference between the size of the classes adjusted versus those not adjusted for either female or male dominated classes.

Assertion 4: The PECAB meets every two years and, thus, there are concerns regarding the inconsistency of its members. In addition, the Board may not be able to attract the most qualified people because of the commitment on a nonrecurring basis.

The members of PECAB meet every two years for one week each month in July, September and October. The PECAB participant must be a Civil Service Commission member, however, there are no other statutory requirements concerning the qualifications needed to be a participant. Each Civil Service Commission (the State, each county and the Judiciary) selects one person to represent them on PECAB. The recommended appointees are then submitted to the Governor who has the final approval. The DPS and Conference have no involvement in the selection of PECAB members.

There have been 13 meetings of PECAB with five members at each meeting which provides for a total of 65+ possible participants. There

is a possibility of having more than 65 participants as there are alternates selected by each Commission who can vote in the place of the regular members. However, each Board has had at least one member who is a repeat participant. One member has sat on the Board for 8 out of 13 meetings and another 5 out of 13. A total of thirty-six people have sat on the 13 Boards. Of the 36, 17 or 47% of the members have sat on the Board for more than one meeting.

Information to assess the qualifications of the past participants is generally unavailable. However, for those who served most frequently and those who were on the most recent Board, the following was found showing that the members background represent a broad range of occupations.

- The member who served 8 times, including the most recent, is the Vice President and General Manager for Mass Transit Lines.
- The member who served 5 times is a retired officer with an insurance company.
- The members who served on the most recent Board are an office supervisor of a private sugar plantation, a legal administrative coordinator of a development company, a practicing attorney, a secretary for a sheet metal company, and a retired personnel director for a sugar company.

Conclusion: This assertion appears to be largely incorrect as the Board has had at least one repeat participant on each Board. PECAB has had 36 different people sit on the Board. Of the 36 individuals, 47% have served on a previous Board session. The percentage of repeat participants does appear to provide for some consistency from meeting to meeting as there generally has been at least one repeat member on each Board. We were unable to assess the qualifications of the Board participants but, it appears that the members have a broad range of occupational backgrounds. What could not be determined, however, is whether they have sufficient familiarity with the very complex job evaluation system to feel confident in making decisions regarding class assignments, and thus may look to what are perceived to be "ex-

perts" (i.e., the employers) in considering appeals.

Assertion 5: The PECAB rule which restricts class relationships from being established between bargaining units is an artificial barrier that distorts logical and reasonable comparisons of classes across bargaining units.

In 1982, the PECAB rule regarding current pricing policies was established as stipulated in S14-35-1(c), Administrative Rule. The rule requires that "Salary range or wage board assignments for the various classes of work in each compensation part of the plan shall be set in proper relationship to one another..." The aforementioned "compensation part", as defined in S14-31-5, refers to classes in a bargaining unit within the white or blue collar compensation plans. PECAB's pricing policies only permit comparisons to be made between classes of the same bargaining unit within the same (either blue or white collar) compensation plan. Therefore, relationships between classes that existed prior to 1982 can no longer be considered in job evaluations. Although the rule was established in 1982, guidelines for PECAB to follow were not established until 1985.

There are certain bargaining units which contain only one occupation. An example would include bargaining Unit 9 which includes only nurses and the bargaining units containing only firefighters or police. Given the structure of the bargaining units, it may seem illogical for such a rule to be applied. A number of class relationships which traditionally have been compared can no longer be compared following institution of the rule. Examples of such would be the previous comparison of Nurses (bargaining unit 9) and Professional and Scientific classes (bargaining unit 13) such as Microbiologists, Supervisory and Nonsupervisory classes in white collar compensation plans, and inspector classes in white collar compensation plans. Prior to the enactment of the rule, the professional classes in the health area such as therapists were considered related to the nurses. Following the establishment of the rule, a classification study was conducted and it was determined that the previous longstanding relationship between the therapists and nurses was no longer applicable and the therapists were

to be included in another bargaining unit with other white collar classes. Nurses, therefore, can now only be compared to nurses as there are no other occupations within their bargaining unit.

Given the restrictions placed on the processes we could use in performing the study, we could not compare all classes across the bargaining units. Thus, we cannot verify whether the rule actually contributes to more inequitable classes.

Conclusion: There is no conclusive evidence that the assertion is correct or incorrect. The PECAB rule was adopted recently (1982), thus class relationships previously established between bargaining units cannot be considered. We were restricted from comparing classes across bargaining units, so were unable to determine whether this ruling has contributed to more or less inequities.

Therefore: Based upon the evidence gathered for each assertion, we cannot conclude that PECAB and the Conference have been ineffective in correcting perceived inequities, only that they appear to have adjusted a relatively small proportion of the classes submitted for review, and the adjustments made do not seem unduly affected by the sex dominance and size of the class. The relatively small portion of classes that have been adjusted can be interpreted based on those different points of view. The first view is that the compensation plan does not have sex based inequities and the low percentage of classes adjusted reflects this. There should not be a significant number of adjustments made if the existing plan is equitable. In addition, one could suggest that the appeals and requests submitted to PECAB and the Conference have largely been without merit, however, it was not our purpose or intention to assess the decisions made by either body. The second view is that historically the compensation plan may have included sex based inequities. If the compensation plan includes class pay inequities, then the relatively small number of adjustments made will have had little effect on correcting them.

**Factor: History of Compensation Plan**

Source: Hawaii Government Employees' Association  
Commission on Status of Women  
Honolulu Committee on Status of Women  
Librarian Association of Hawaii  
Joyce Husted, Hawaii Commission on Status of Women,  
Monitor  
Joyce Najita, Director of the Industrial Relations  
Center, University of Hawaii

Rationale for factor offered by source:

Assertion 1: Prior to 1933, pay inequities were evident in the public and private sectors which were dominated by a group of large businesses. These businesses also influenced the development of the first State classification plan in 1933.

Assertion 2: No subsequent major legislative and administrative changes have occurred which address any pay inequities which may have been in the 1933 classification.

Therefore: There were inequities in the first classification and compensation plans implemented in 1933 which had not been addressed nor corrected through 1961 when PECAB and the Conference of Personnel Directors were established, and which still exist today.

**Analysis**

Assertion 1: Prior to 1933, pay inequities were evident in the public and private sectors which were dominated by a group of large businesses. These businesses also influenced the development of the first State classification plan in 1933.

In 1933, the primary industry in the Territory of Hawaii was agriculture and our research indicates that there were pay inequities by sex on the sugar and pineapple plantations, which comprised the bulk of the agricultural industry. For instance, in 1929, women's average earnings per day on sugar plantations, including bonuses, were lower than corresponding earnings by men for all categories of work.

(Labor Conditions in the Territory of Hawaii 1929-1930, U.S. Department of Labor, p. 50) This, however, was not unusual at that time and there were no laws then to forbid such practises, in fact, in a widely publicized case the Westinghouse Corporation had separate male and female compensation plans until the 1960's.

Our research shows that although private sector wages were considered in the first classification of all government service positions in 1933, they were not as great an influence as other factors. It is necessary to look at events prior to 1933 to better understand how the first classification was conducted.

By 1933, a group of private businesses, informally referred to as the "Big Five", exerted financial control in Hawaii via interlocking directorates of key business and industrial organizations. A report by the Attorney General to the U.S. Congress in 1932 described how these businesses dominated both the private and public sectors in Hawaii. (Attorney General S. W. Richardson) One legislator noted in a published report that these large business interests had motivation to maintain public workers' wages lower than that of private sector workers in order to keep the "best" workers. (Hanna, Hal p. 23-24) There is evidence that the "Big Five" may have exerted its influence on the position classification and compensation of territorial public employees through an organization called the "Hawaii Bureau of Governmental Research."

Despite its name, the Hawaii Bureau of Governmental Research was not a governmental entity but a private corporation established in 1928, concerned about government expenditures and which strived to encourage government to spend money economically and efficiently. However, the Hawaii Bureau of Governmental Research was not composed of ordinary citizens as most of its officers and trustees were directors of large businesses.

A report issued by the Hawaii Bureau of Governmental Research, asserted that public sector compensation in Hawaii prior to 1933,

involved the process of assigning salary and wage rates to incumbents of positions, resulting in wage disparity among workers performing the same job. (Hawaii Bureau of Governmental Research, Report on Classification of Positions and Standardization of Salaries in the Social and Health Agencies Financed from the United Welfare Fund, p. 4) Despite the existence of this practice of unequal pay for equal work, the question of classification had been before the legislature several times prior to 1933.

In 1931 and 1932, the Hawaii Bureau of Governmental Research was requested to: (1) study the qualifications necessary for the various territorial positions; (2) classify the employees according to such qualifications; (3) establish equitable rates of pay for the various qualification standards set up by comparison with federal, commercial, county and territorial rates of pay; and (4) submit a report concerning the aforementioned subjects to the 1933 Legislature.

In 1932, a special holdover committee was appointed to cooperate with the Hawaii Bureau of Governmental Research in developing a plan for personnel classification and salary standardization for the Territory of Hawaii. The Senate Holdover Committee decided on a classification patterned after the Federal Personnel Classification Board because most positions in the territorial service were comparable to similar positions in the Federal Field Service.

In 1933, the legislature did not adopt the Hawaii Bureau of Governmental Research's classification proposal but attached a rider to the general appropriations bill (Act 188, SL 1933, Section 4) which mandated the Governor to classify all offices and positions in the Territorial service by the end of 1934. On June 28, 1933, the Governor issued Executive Order No. I-CL which authorized and directed the Director of the Bureau of the Budget to prepare and submit to the Governor, a classification of all government positions in the Territory and corresponding compensation schedules. The Order stated that rates of pay should reflect "...equal pay for equal work under comparable employment conditions, irrespective of the sex of

the incumbents...". (emphasis added)

A request was made and granted for turning over the Hawaii Bureau of Governmental Research's classification materials to the Bureau of the Budget. On October 1, 1933, the Director of the Budget submitted to the Governor a "Report on Classification of Certain Positions in the Government of the Territory of Hawaii" which contained a classification plan for the standardization of salaries and a compensation schedule. The Governor approved the plan and the effective date was July 1, 1933.

A subsequent 1934 report by the Hawaii Bureau of Governmental Research, states "...since nearly one-half of the salaried employees of the Territorial Government are teachers in the elementary grades and since those positions were already on a classified and standardized salary basis (as of 1921), it was natural that the average salary paid to elementary school teachers should be taken as the basic salary of the territorial standardized compensation scale." (Hawaii Bureau of Governmental Research, Report on Classification of Positions and Standardization of Salaries in the Social and Health Agencies Financed from the United Welfare Fund, p. 9). It thus appears the rationale for using elementary school teachers as the "base" for the plan was due to the size of this class, which was the largest single group of public employees. It is also the case, however, that this class was among the lowest paid in the state and approximately 88% female. Using this as a base, then, could have had a generally depressing affect on the State's compensation plan.

The purpose, therefore, was not only to properly classify all positions and establish a standardized compensation schedule for similar classes of positions, but to establish the proper relationship between these classified rates and the salaries paid in 1933 to school teachers (who were on a classified basis as of 1921) so that a uniform salary reduction or increase in salary could be accomplished with fairness and equity to all classes of employees. The classification plan was to establish a standardized base (benchmark) which

could be raised or lowered, yet retain the proper relationship with respect to equal pay for equal service under comparable working conditions.

The 1933 Order required the Director of the Bureau to make subjective decisions regarding "...differences in character, importance, difficulty, responsibility, and employment conditions of the work involved." Whether intentional or unintentional, according to an analysis of the 1933 classification conducted by a historian retained by HGEA, these subjective judgements appear to have resulted in consistently undervaluing work performed by female dominated classes, resulting in these classes being consistently assigned to the lower service levels and grades. The historian found that the relative positions of female dominated to male dominated classes shows that women were segregated into a few job categories which were priced at the lower end of the wage scale.

An example cited by the HGEA historian is that the Professional Service consisted of 45 classes of which 4 were clearly dominated by women. These four classes were part of the Librarian series and each was 100% female. In comparison to other male dominated (e.g. Engineer and Land Appraiser) series in the Professional Service, however, the Librarian series was at the lower end of the salary scale.

Although the 1933 classification used the Federal grading plan, job specifications, and service titles as a guide, it was found necessary to deviate from the Federal 'class' and 'grade' specifications in order to adjust the compensation of some positions due to local conditions. Although an analysis of the federal classification plan is outside the scope of this study, it appears to the HGEA historian, that it too served to segregate classes dominated by women into the lower wage ranges.

Conclusion: The assertion appears to be substantially correct. Pay inequities were most evident in the private sector, and specifi-

cally the agricultural industry, at the time the first compensation plan was developed in 1933. We have found evidence that a small group of large business interests appear to have played an important role in establishing the original classification and compensation plan through a private organization known as the Bureau of Governmental Research such that there is reason to believe that patterns of inequity in the private sector were incorporated into the plan. It is true, however, that what appears to have been a reasonable approach to developing the plan was taken, i.e., using the Federal system as a guide and making adjustments for local conditions. While it was not possible for us to conduct a formal job evaluation of female and male dominated classes that existed in 1933, research by others has indicated that this approach resulted in female dominated classes appearing at the lower end of salary scales, resulting in a general pattern of sex-based inequity in the original 1933 plan. We recognize that it is possible that there may be other information which may prove this research to be incorrect, but it is outside the scope of this project to conduct a complete independent historical analysis.

Assertion 2: No subsequent major legislative and administrative changes have occurred which address any pay inequities which may have been in the 1933 classification.

There have been a number of classification and compensation laws since 1933. The most important have occurred in the following years:

In 1941, the Hawaiian Compensation Schedule was adopted and enacted into law (Act 88, Session Laws of 1941) which specified the annual rates for each service and grade and were integrated into a single schedule. This law also established a Personnel Classification Board with the authority to divide the grades of the compensation schedule into appropriate classes and declare minimum and maximum salary rates as the board deemed proper.

From 1942, the Hawaii Defense Act Rules were in force and the salary schedule was not changed until 1951 with the passage of the "Salary Standardization Law" (Act 320, Session Laws of 1951) which included the General Schedule, or

**MAJOR LEGISLATION AND ADMINISTRATIVE ACTIONS  
AFFECTING CLASSIFICATION AND JOB EVALUATION**

<u>Legislation</u>		<u>Administrative Actions</u>
1921	Teachers Classified	
1933	First Comprehensive Classification Plan	
1941	Hawaiian Classification Plan	
1942	Hawaii Defense Act	
1951	Salary Standardization Law	
1953	Equal Pay for Substantially Equal Work	
1955	Salary Range System Replaces Federal Salary Range System	
1961	Department of Personnel Services Organized Under Director (not the Civil Service Commission); Conference of Personnel Directors and Public Employee Compensation Appeals Board Created	
	Overall Review of Compensation Plan Following Statehood	1961-1962
	Classification Studies and/or Repricing for Professional Classes in Relation to Professional Pricing Pattern	1964-1970
	Classification Study of Hospital Support Classes	
1967	Blue Collar Compensation Plan Established;	
	Blue Collar Realignment	1967
1970	Collective Bargaining Enacted	
	Classification Study of Clerical Classes	1974-1976

"GS" salary range system.

In 1953, the principle of equal pay for substantially equal work was established for determining rates of compensation (Act 278, Session Laws of 1953).

In 1955, the "GS" salary range system was replaced by the "SR" system (Act 274, Session Laws of 1955). Act 274 also prescribes that the Director of the Department of Civil Service of the Territory "shall maintain the compensation plan by assigning new classes to appropriate salary ranges whenever internal salary relationships are disrupted by modifications or revisions to an existing class or classes or whenever review of the plan discloses a need for salary adjustments for a class or classes."

In 1961, the Conference of Personnel Directors and the Public Employment Compensation Appeals Board (PECAB) were established (Act 188, Session Laws of 1961) and are still in operation today.

In 1967, a separate Blue Collar Compensation Plan was established (Act 302, Session Laws of 1967).

Our research of the legislation from 1933 to 1961 concerning classification and compensation show no evidence of intent to change the overall structure and internal relationships of the 1933 classification. Rather, this legislation was primarily intended to provide general salary increases for all classes. Although not mandated by law, however, research conducted by DPS shows that the conversion from the "GS" to "SR" salary range system in 1955 included a major review of all the classes in the compensation plan at that time resulting in nearly one-half of all the classes being adjusted.

Since 1961, several developments have occurred. PECAB appears to have reviewed the entire classification and compensation plan in 1961 and took action on 538 classes. PECAB has also been meeting on a biennial basis since 1963 and making adjustments to individual classes on appeal by individuals, employee associations and the employers. PECAB's adjustments will be more fully discussed in the PECAB Factor discussion.

In addition to the complete reviews of all classes in 1955 and 1961, a number of special studies have been undertaken, the most signifi-

cant of which were from:

1961 to 1962 - DPS, with the assistance of a consultant, conducted a complete review of the classification of all state positions because of major reorganization of the Executive Branch as a result of Statehood.

1964 to 1970 - Classification surveys were conducted on the Social Worker, Librarian, Purchasing, Personnel Management and several other professional - technical series of classes. A hospital support survey was also completed. From these surveys, a professional pricing pattern was established which resulted in the revision and/or realignment of all professional classes. In addition, related sub-professional support occupations were concurrently revised.

1974 to 1976 - A clerical survey and study was conducted which established the basic pattern for these classes. According to data provided by DPS, the survey covered 72% of the positions in Occupational Group I (Clerical and Allied) with an additional 13% of this group covered in subsequent studies.

All of the developments after 1961 described above indicate a recognition that ameliorative steps should be taken.

Conclusion: The assertion does not appear to be correct. Although not mandated by law, major reviews resulting in a substantial number of repricing actions were conducted by DPS in 1955 and 1961. Also, in 1961, PECAB reviewed the entire classification and compensation plan resulting in actions being taken on 538 classes which also affected internal alignments. In 1967, the legislation which mandated the establishment of a separate compensation plan for blue collar positions resulted in the review of each class and substantial changes in the internal alignment.

Therefore: There may have been inequities present in the original 1933 classification plan, however, subsequent ameliorative legislative and administrative actions have significantly changed the pricing of a significant number of classes resulting in substantial changes to the internal alignment of most but not all classes.

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**Factor: Market Conditions**

Sources: Hawaii Government Employees Association;  
Hawaii Commission on Status of Women;  
Honolulu County Committee on Status of Women;  
Librarian Association of Hawaii

Rationale for factor offered by source:

Assertion 1: A larger percentage of women work in Hawaii than nationally and have over a long period of time which indicates a need for women to work in Hawaii.

Assertion 2: There is a widespread belief in Hawaii that women are "second wage earners," so that they tend to be crowded into a limited number of jobs considered less important than those dominated by males -- resulting in an oversupply of labor in these few occupations and thus, lower wages for these occupations.

Assertion 3: Hawaii's economy is based upon a relatively small number of industries -- tourism, agriculture and government, and does not appear to be growing, so that a buyer's market for labor is created as people accept lower wages to stay in Hawaii and/or come here to live.

Therefore: The market in Hawaii distorts the value of occupations dominated by women because a large number of women work yet they are crowded into a small number of lesser-paying occupations, and the economy offers a limited number of opportunities.

It should be understood that this factor was identified as a general condition that may be influencing decisions regarding State and County compensation even though neither the State nor the Counties have officially used prevailing wage rates in evaluating white collar classes since the early 1960's. Even at that time, according to the DPS, prevailing wage surveys were not used to set the pricing of individual classes. Instead, the surveys were made of selected benchmark classes to determine if there had been an overall change in wages in the market. If a general increase was found to have

occurred, the entire compensation schedule for all classes was adjusted accordingly. The internal alignment of classes was not affected. Since collective bargaining, all general increases for white collar classes have resulted from negotiations .

Our research has indicated, though, that market conditions, specifically prevailing wages, were sometimes considered in the past in pricing new classes in conjunction with internal alignments if the classes belong in a new occupation with which the State had little experience. Prevailing wages have also been used successfully as an argument in appeals to PECAB and requests to the Conference of Personnel Directors. Thus while the State and County departments of personnel do not directly use prevailing wages to make adjustments to individual classes, their influence may be a factor in initial pricings and appeals.

Even more generally, it is argued that market conditions may indirectly affect how a class is regarded by those developing position descriptions and ultimately how the class should be priced. If for example, an occupation is defined by the market as having certain characteristics, individuals within a department developing a position descriptions for that occupation and/or the DPS personnel developing a class specification may include or reference the same characteristics. Previous interviews with both department and DPS personnel, indicated it is not unusual for them to contact private sector companies with certain occupations to obtain information on duties, responsibilities, etc. for these purposes. The evaluation of such characteristics form the basis for pricing recommendations. Thus, the influence of market conditions may be more indirect in this instance.

Finally, market perceptions regarding an occupation can generally influence attitudes regarding its relative importance internally within any organization, and the State and Counties as well as PECAB are probably not an exception. If the market places a high value on computer programmers, for example, the jurisdictions will probably

concur. While the PECAB evaluation criteria are the official basis for pricing classes in relation to other classes within the jurisdiction, the market perception may be indirectly influencing how those criteria are actually applied during the pricing process. It is interesting to note, however, that State pricing is generally not as responsive to market conditions in those cases where wages decline given an increase in supply in an occupation -- once an internal alignment is made, a class is rarely downgraded.

### Analysis

In our analysis of these assertions we have utilized the most current data that is available from the most reliable sources, e.g., the U.S. Census Bureau, the U.S. Department of Labor, etc. We recognize that there may be other sources of data such as surveys and analyses commissioned by other groups that are more current, however, we have chosen to use official sources so as to avoid the possibility of bias in the data.

Assertion 1: A larger percentage of women work in Hawaii than nationally and have over a long period of time which indicates a need for women to work in Hawaii.

Based on data gathered by the U.S. Census Bureau and the U.S. Bureau of Labor Statistics, Tables 1 and 2 were developed to indicate the proportion of women in the work force. Table 1 represents the female labor force as a percentage of the total labor force. Table 2 represents the females employed as a percentage of the total female labor force. Labor force is defined as the potential number of workers age 14 and over in 1950 and age 16 and over thereafter which meet other labor force criteria.

**Percentage of Employed Females in the  
Total Employed Labor Force**

**(Table 1)**

	<u>Hawaii</u> % of total	<u>Nationally</u> % of total
1950	28	30
1960	35	33
1970	41	38
1980	46	42

Sources: State of Hawaii Data Book, 1985 edition (Table 325), Statistical Abstract of the United States, 1986 edition (Table 658).

**Percentage of Females in the Labor Force  
to all Females of Employment Age**

**(Table 2)**

	<u>Hawaii %</u>	<u>% Increase From Prior Period</u>	<u>National %</u>	<u>% Increase From Prior Period</u>
1950	33	-	34	-
1960	42	27	38	12
1970	49	17	43	13
1980	58	18	51	19

Sources: State of Hawaii Data Book, 1985 edition (Table 325), Statistical Abstract of the United States, 1986 edition (Table 658).

More and more women have entered the work force since 1950 both in Hawaii and nationally as shown in Table 1. In addition, Table 1 shows that the percentage of women in the total employed labor force has been consistently higher in Hawaii than nationally since 1960. The consistently larger percentage of females in the labor force in Hawaii since 1960 as seen in Table 2 may be interpreted as indicating a financial need for females in Hawaii to work. This interpretation is also supported by observing the percentage increase in female labor force participation from each of the above years. Hawaii's largest increase (27%) came between the years 1950 and 1960, whereas nationally, there was only a 12% increase. Between

1950 and 1960, it was also not as commonly accepted for women to be working. Hawaii's increases in subsequent years have been relatively stable (between 17% and 16%), whereas, nationally, a large increase (from 13% to 19%) occurred between 1970 and 1980. This would seem to indicate that female participation in the labor force in Hawaii has been consistently higher than nationally over time, while nationally, major growth only occurred more recently. The national increase can be interpreted as due to a change in attitudes toward female employment such that women choose to work, whereas in Hawaii the trend would seem to indicate women have always had to work.

These statistics are consistent with the fact that especially in the past, the average wage for an individual in Hawaii has been lower than the national average while the cost of living in Hawaii is generally known to be higher than the cost of living in mainland cities. The gap between the average wage in Hawaii and nationally has been increasing and so has the percentage of working females in Hawaii. Therefore, this data lends further support to the interpretation that women in Hawaii have had a need to work

Conclusion: The assertion appears to be correct. Since 1960, both the percentage of the total employed labor force that is female as well as of potential female workers that are actually employed, have been higher in Hawaii than nationally. This combined with the lower average wages and higher cost of living seem to indicate a greater need for females in Hawaii to work.

Assertion 2: There is a widespread belief in Hawaii that women are "second wage earners," so that they tend to be crowded into a limited number of jobs considered less important than those dominated by males -- resulting in an oversupply of labor in these few occupations and thus, lower wages for these occupations.

The U.S. census has established six occupational groups:

- Managerial and professional specialty;
- Technical, sales and administrative support;
- Services;
- Farm, forestry and fishing;
- Precision production, craftsmen and repair; and
- Operators, fabricators and laborers.

The figures in Table 3 represent the percentage of men and women in each occupational group and Table 4 represents the percentage of employed men and women in each occupational group.

**Percentage Distribution By Sex  
Within Occupation Groups**

**(Table 3)**

<u>Occupation</u>	<u>Hawaii</u>		<u>U.S.</u>	
	<u>% Male</u>	<u>% Female</u>	<u>% Male</u>	<u>% Female</u>
Technical, sales and administration	33	67	36	64
Services	44	56	41	59
Managerial and professional	57	43	59	41
Farm, forestry and fishing	80	20	85	15
Precision production	92	8	92	8
Operators, fabricators	79	21	73	27

Sources: State of Hawaii Data Book, 1985 edition (Table 338). Statistical Abstract of the United States, 1986 edition (Table 677).

**Percentage Distribution of the Employed Males/Females  
Throughout Occupational Groups**

(Table 4)

<u>Occupation</u>	<u>Hawaii</u>		<u>U.S.</u>	
	<u>% Male</u>	<u>% Female</u>	<u>% Male</u>	<u>% Female</u>
Technical, sales and administration Services	19	47	19	45
Managerial and professional	25	22	23	21
Farm, forestry and fishing	5	2	4	1
Precision production Operators, fabricators	20	2	21	2
	17	5	24	13
	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>

Sources: State of Hawaii Data Book, 1985 edition (Table 338). Statistical Abstract of the United States, 1986 edition (Table 677).

Based on the information in Table 3, women make up over 50% of the first two occupational groups and close to 50% in the third for both Hawaii and nationally. Based on Table 4, it is in these same three groups in which 91% of the working women are employed in Hawaii and 84% in the U.S. The percentages of the male labor force working in each group is more evenly distributed among the six categories and not as concentrated in only a few occupational groups as are the percentages of the female labor force. There appears to be "crowding" of women into these three occupational groups in Hawaii and nationally, and the percentage of women in these groups for Hawaii is higher than the national percentages. The largest difference in the percentages of the three groups between Hawaii and the U.S. is in the services group which is probably because Hawaii's economy is based more on services than manufacturing or production.

Table 4 above shows that 66% of the women in Hawaii are working in the following two occupational groups: technical, sales and administration; and managerial and professional. Table 5 below shows that

these two occupational groups had the highest average wages for women based on the 1980 census done by the U.S. Department of Commerce. The average wages for the women in all of the groups, however, are significantly lower than the average wages for the men in each group. Therefore, women appear to fill the lower paying jobs within each occupational group. However, Table 5 also shows the gap between male and female wages (reflected by female/male wage ratios) for these two occupational groups is smaller in Hawaii than nationally.

### Hawaii Average Wages and Female/Male Wages Ratios

(Table 5)

Occupation	Hawaii Average Wages		% Female to Male Wages	
	Male	Female	U.S.	Hawaii
Technical, sales and administration	\$17,521	\$10,562	58	60
Services	\$12,247	\$ 8,597	59	70
Managerial and professional	\$21,422	\$14,227	59	66
Farm, forestry and fishing	\$11,558	\$ 9,184	61	79
Precision production	\$19,033	\$ 9,600	61	50
Operators, fabricator	\$14,326	\$ 7,877	59	55

Source: Detailed Characteristics, Hawaii - 1980 Census of Population (Table 222).

It is difficult to find information regarding attitudes in Hawaii. Perhaps most illustrative of opinions regarding the role of women in the work force is a survey performed in 1976 sponsored by the Governor's Intergovernmental Personnel Act (IPA) Advisory Committee and funded by the U.S. Civil Service Commission Intergovernmental Personnel Program Grant. As part of this survey, specific questions were asked regarding the role of women to a sample of State employees. It should be remembered the survey was conducted ten years ago and the results may not necessarily reflect current attitudes.

With respect to the assertion, the following three findings from the survey appear most relevant:

1. Of those who expressed an opinion, 77% of the men and 59% of the women agreed that the husband's career should come first before the wife's.
2. Of those who expressed an opinion, 65% of the men and 49% of the women surveyed agreed that the careers of married women should be secondary to their families.
3. Of those who expressed an opinion, 40% of the men and 34% of the women agreed that women are not motivated to seek management careers.

A review of the results of the survey indicates that the men employed within the State government feel more strongly than the women employed by the State about the importance of husbands' careers over their wives' careers. A somewhat surprisingly majority (59%) of the women who expressed an opinion, however, indicated they considered the husband's career more important than their own. Approximately two-thirds of the men and half of the women who expressed opinions considered the wife's career to be secondary to her family's concerns. These data would clearly indicate a fairly strong belief that wives' careers are secondary to their husbands' careers.

Conclusion: The assertion appears to be substantially correct. The survey indicates that men and to a large extent women, basically view women as "second wage earners". There appears to be a concentration of females into three occupation groups in Hawaii and nationally, whereas, the male work force is more evenly disbursed among the six groups. Of the three occupational groups in which women are concentrated, two are the ones with the highest average wages. However, women earn lower average wages than men in all the occupational groups. This seems to indicate that women are working in the lower paying jobs in each occupational group. What we have not been able to determine given available data is whether females have been forced into these occupations through "crowding" or have chosen these occupations freely for other reasons.

Assertion 3: Hawaii's economy is based upon a relatively small number of industries -- tourism, agriculture and government, and it does not appear to be growing, so that a buyer's market for labor is created as people accept lower wages to stay in Hawaii and/or come here to live.

Traditionally, economic sectors have been established by the Census Bureau which do not include tourism as a separate sector. However, the Department of Planning and Economic Development (DPED) has developed an estimate of the labor force in tourism based upon those employed in the retail and services sectors. The DPED and Department of Labor estimate that in 1984, 21% of Hawaii's work force were employed in tourism, 3% in agriculture, and 20% in government. The combined total of these three sectors was 44% of Hawaii's work force in 1984 and has been constant since 1975 based on available data. The remaining 56% in 1984 was distributed among other sectors with no one sector found to make up more than 7% of the total work force. Tourism and government, then, each have about three times as many workers as the next largest sector of the economy. The trend since 1975 has generally been an increasing percentage of employment in tourism and a decreasing percentage in agriculture and government as shown in Table 6.

**Percentage of Employment in Selected Occupational Groups for Hawaii**

(Table 6\*)

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1984</u>
Tourism	15.9	17.0	17.1	17.4	18.0	18.3	21.5
Agriculture	4.2	4.0	3.9	3.9	3.5	3.4	3.2
Government	21.5	21.9	21.5	20.9	19.9	20.1	20.2

\* Information for the years 1981, 1982 and 1983 for tourism is not available.

The average wage in the tourism industry is not calculated by either the DPED or Department of Labor. The average wages for the retail

and service sectors however, have been used to approximate the average wage for tourism. Data was available from the U.S. Bureau of Economic Analysis for the years 1975, 1980, 1982, and 1983 and a comparison of Hawaii to national wages is shown in Table 7.

**Percentage of Hawaii's Average Wage to the  
U.S. Average Wage for Selected Occupational Groups**

(Table 7)

	<u>1975</u>	<u>1980</u>	<u>1982</u>	<u>1983</u>
Retail	78%	76%	76%	76%
Services	84	84	83	82
Agriculture	166	141	126	132
Government	85	104	103	102
All sectors	97.5	94.2	92	92

Sources: Employment and Payrolls in Hawaii, 1975, 1980, 1982 and 1983 editions. State of Hawaii Data Book, 1985 edition (Table 348).

Although the average Hawaii wage in agriculture is higher than nationally, the percentage of the work force in agriculture in Hawaii is very low (between 3% and 4% for the four years) thus there is little overall positive impact on the economy. The average wage for government in Hawaii has increased to above the national average, but the percentage difference has been relatively small (only 4% at its maximum in 1980). It also should be noted that the average wage for government workers in Hawaii includes federal workers who receive a substantial cost of living allowance (COLA). The average wages for retail and services were lower than the national average for all four years. The overall average wage in Hawaii for all economic sectors has consistently been lower than the national average. This can most likely be attributed to the fact that Hawaii's economy is principally based upon the retail and service sectors. Hawaii's overall average wage from 1975 to 1983 ranged from 2.5% to 8% lower than the national average.

The Department of Labor and the U.S. Bureau of Labor Statistics develop information on the number of people employed each year in Hawaii and nationally. A percentage was calculated to determine the annual increase in employment from 1975 to 1984 for which information was available (see Table 8). As far as economic growth in Hawaii, we have chosen this increase in employment each year over the previous year as the means to measure such growth in the State. Table 9 shows that the Hawaii economy in terms of employment has been growing at a rate generally faster than the nation. In addition, Hawaii's significantly lower unemployment rate since 1979 indicates that there may have been a tighter job market in Hawaii than the U.S. as a whole.

**% Increase (Decrease) in Civilian Employment  
and % Unemployment**

(Table 8)

	% Change in Civilian Employed		Unemployment Rate %	
	Hawaii	U.S.	Hawaii	U.S.
1975-1976	5.4	3.3	9.8	7.6
1976-1977	4.9	3.3	7.3	6.9
1977-1978	0.0	4.2	7.7	6.0
1978-1979	1.8	2.8	6.3	5.8
1979-1980	5.6	.5	4.9	7.0
1980-1981	2.2	1.1	5.4	7.5
1981-1982	.9	(.8)	6.7	9.5
1982-1983	2.8	1.3	6.5	9.5
1983-1984	.9	4.0	5.6	7.4

Sources: State of Hawaii Data Book, 1985 edition, (Table 329).  
Statistical Abstract of the United States, 1986 edition  
(Table 658).

There is widespread belief that people accept lower wages to stay or come to live in Hawaii -- the so called "price of living in paradise" argument. Such an argument also suggests that a "buyers market" for labor may exist, although more recently there has been growing concern that Island born residents are leaving to work on the Mainland in larger numbers. Based on discussions with the U.S.

Department of Labor, the Economic Development Corporation of Honolulu, the First Hawaiian Bank's Economics Department and the University of Hawaii, statistical information which would either support or refute this latter belief is not available.

The Department of Labor and DPED have developed some data on the interstate movement of the civilian resident population. The result shown by the data is a net influx of Mainland people to Hawaii. The DPED calculated that the annual average net migration of civilians (excluding military dependents) from 1970-1980 was +10,602 and from 1980 to 1984 was +6,800. A positive migration figure indicates that more people have moved to Hawaii than have left.

The DPED also developed data on the characteristics of the civilian noncollege population of Hawaii in 1980. The data was developed by obtaining information in 1980 and analyzing it based on place of residence in 1975. The results are as follows:

- 11,000 college educated mainland residents moved to Hawaii
- 10,280 college educated Hawaii residents moved to the mainland
- 8,560 managerial and professional specialty workers moved from the mainland to Hawaii
- 8,280 managerial and professional specialty workers moved from Hawaii to the mainland.

These figures again indicate a small net migration to Hawaii. The data also show that the median age of those who left Hawaii was 26.5 years and of those who arrived in Hawaii was 29 years.

The Department of Labor computes a ratio which compares the number of people coming here from the Mainland to work and those leaving Hawaii to work on the Mainland. The data used by the Department of Labor is based on the number of Hawaii workers seeking work or filing for unemployment benefits on the Mainland and Mainland workers

filing claims for unemployment insurance and registered to work with the Hawaii State Employment Service. If the ratio exceeds 100, the result is a net inflow of people coming to Hawaii to work rather than an outflow of people leaving. From 1975 to 1979, the ratio ranged from 112 to 145. From 1980 to 1982, the ratio decreased below 100 and ranged from 80 to 95. In 1983 and 1984, the ratio once again exceeded 100 at 106 and 102, respectively. The overall effect is that from 1975 to 1984, 59,862 people have come to Hawaii to work and 54,101 people have left Hawaii to work on the Mainland resulting in a ratio of 111 which indicates that more people have come to Hawaii to work than have left Hawaii to work elsewhere.

People have remained and come to Hawaii to work even though the average overall wage in Hawaii has been lower than the national average. Hawaii's average wage from 1975 to 1983 ranged from 2.5% - 8.0% lower than the national wage. In addition, our research indicates that since 1979, based on the data available, the cost of living in Hawaii as compared to 21 other cities in the U.S. has been at least 20% higher than the average. The fact that more people have come to Hawaii than left Hawaii despite lower wages and a higher cost of living further indicates a desire to stay in and/or come to Hawaii. This fact would suggest that people in Hawaii are willing to accept lower wages.

Conclusion: The assertion appears to be at least partially correct. Hawaii's economy is based upon a relatively small number of industries -- primarily tourism and government, with agriculture a small percentage of total employment and becoming smaller. No other industry sector has greater than a third of the employment as either tourism or government. The Hawaii economy in terms of employment has been growing, however, and except for the most recent year data was available, generally at a faster rate than the U.S. as a whole. It does seem that people do accept lower wages to stay in Hawaii and/or come here, as the number leaving Hawaii is more than balanced by the number arriving, despite lower average wages and a higher cost of living than on the mainland.

Therefore: While it is not clear whether the market is distorting the value of work performed by women, it is clear that women are paid significantly less than men in every occupational group within the market and nationally. Whether this is a result of "crowding" of women into a fewer number of jobs within each occupational group and therefore depressing wages in those occupations, or some other reason cannot be determined from the data available. Given the fact that women have comprised a significant portion of the labor force for a long period of time, we tend to consider the traditional view that women are more recent labor force entrants as not appropriate. We are not necessarily suggesting, however, that there has been intentional discrimination against women in the Hawaii market. It is entirely possible that women have voluntarily chosen to work in jobs that are known to be lesser paid, especially since a significant number appear to have agreed with the belief that their career is not as important as their husband's career or their family. While the State and Counties do not directly base internal pricing adjustments on market conditions, it does appear that indirect uses of market conditions in developing initial pricing and/or appeals should be carefully considered due to possible distortions.

**Factor: Existing Job Evaluation Method**

Sources: Hawaii Government Employees Association  
Honolulu Committee on the Status of Women  
Hawaii Commission on the Status of Women  
Hawaii Nurses Association

Rationale for factor offered by sources:

Assertion 1: The existing job evaluation method is too subjective in relation to alternative methods.

Assertion 2: The existing classification method does not provide a straight-forward method of evaluating similar classes in relation to each other which can be easily explained to personnel.

Therefore: The existing job evaluation method does not provide sufficient assurance that classes have been evaluated equitably in relation to each other.

**Analysis**

Assertion 1: The existing job evaluation method is too subjective in relation to alternative methods.

There has been a broad consensus among experts in the field of human resources over many years that all methods of job evaluation are subjective and based on human judgement.

In 1962 and 1963 the U.S. Congress ultimately enacted a standard in its Equal Pay Act requiring equal pay for men and women performing "equal" work. It considered and eventually rejected proposed language calling for equal pay for "work of comparable character on jobs the performance of which requires comparable skills," because it concluded it would not be feasible to try to impose a legal standard requiring equal pay for "comparable" work because job evaluation was not a sufficiently uniform or precise science to serve as a basis for a legally imposed comparable worth standard for all employers. ( A Closer Look at Comparable Worth, p.52)

Almost twenty years later, the National Academy of Sciences in its landmark report, *Women, Work and Wages* in 1981 concluded:

The concept of intrinsic job worth -- whether it exists, on what it should be based, whether there is a just wage -- has been a matter of dispute for centuries. We do not believe that the value -- or worth -- of jobs can be determined by scientific methods. Hierarchies of job worth are always, at least in part a reflection of values. (*Women, Work and Wages*, pp. 9-10.)

More recently after probably the most exhaustive hearings ever conducted on comparable worth, including hearings on every form of job evaluation, the United States Commission on Civil Rights in 1985 essentially confirmed the earlier view:

Job evaluation studies, which would play an important role in the implementation of comparable worth doctrine, are inherently subjective. They cannot establish the "value" or "worth" of a job. Rather, they are used to establish rational pay-setting policies within an organization, satisfactory to the organization's employees and management. Further, they work only with reference to the external market of labor supply and demand, as well as internal factors. (*Comparable Worth*, p. 71)

Finally, in a report prepared by the National Foundation for the Study of Equal Employment Policy in 1984, the subjective nature of job evaluation is perhaps most concisely stated:

(Job evaluation) is merely a composite of judgemental decisions reflecting the relationship of a particular job to a particular organization's current scale of values at a particular point in time. (*A Closer Look at Comparable Worth*, p.56)

The issue then, appears to be not whether the existing method used by the State and the Counties of Hawaii is subjective, but the degree of its subjectivity in relation to other methods. Sources identifying this factor, generally compared the existing method to other job evaluation methods. In analyzing this issue, one must

remember however, that all methods are considered inherently subjective.

Probably the most common method of job evaluation found in State governments is the classification method, which is the foundation for one of the two major components of the overall job evaluation system in Hawaii -- the assignment of positions to classes. The component in which classes are evaluated uses a different method which can best be described as a factor comparison method, where jobs are evaluated and on a one to one basis on each factor.

According to one survey (State of Virginia, 1985), at least twenty-one (21) states use the classification method in one form or another for at least some of their jobs. (A number of states like Hawaii, have modified what might be considered a "pure" classification method, and some states use more than one method for different types of jobs). The next most common form of job evaluation among State governments according to this survey is the point factor method, in use in seventeen (17) states. The remaining states use either of two traditional methods which have been used for many years -- the whole job method and the factor comparison method, or more recently, have begun using newer methods such as the Decision Band Method (Utah) or the Job Factor Assessment Compensation System (JFACS) (New York).

The classification method and the whole job method are generally categorized as nonquantified methods. The point factor, factor comparison and JFACS methods are quantified methods. The Decision Band Method is a hybrid of both nonquantified and quantified systems. The whole job method is generally considered the least sophisticated, and would generally be considered a step backward for the State and Counties from their current method. The factor comparison method in its generic, quantified form is generally considered a cumbersome method, particularly in large organizations. In Hawaii, the method is not quantified as no points or weights are formally assigned to the factors. The remainder of this analysis

will focus on the classification and point factor methods as these were discussed most frequently by our sources, they have been mentioned most often in the literature related to comparable worth, and therefore seem most appropriate to study. Since a modified version of the factor comparison method is also used in Hawaii for evaluation, we will examine the use of this variation of the method in conjunction with the classification method. The newer evaluation methods will not be examined here because there is less experience to fully evaluate them in a State setting in comparison to the classification and point factor methods.

There has been a substantial volume of literature produced comparing the relative advantages and disadvantages of these methods. In reviewing the literature to determine relative subjectivity, it is clear that a distinction must be made between the intent and the implementation of each method. The theory or approach that forms the basis for a method may appear very solid, although in actual experience the procedures may be manipulated or distorted. The following represents a general synthesis in brief form of what has been found in the literature regarding each of the methods.

### **Classification and Factor Comparison Method**

Intent: Under a typical classification method, all aspects of a job (its content) are analyzed using the position description. Individual jobs are allocated to established classes of jobs by comparing the position descriptions to detailed class specifications which set the parameters for jobs within the class. Classes are allocated to a salary range within an overall schedule on the basis of the class' importance to the employer's overall operations and/or with reference to market conditions. Factor comparison methods can become quite complex in that their most typical form involves calculating separate point scores for a series of factors based upon one-to-one comparisons between all jobs within an organization. The sum of the scores for each factor for one job are then totalled to determine its overall relative value. This method is different than a point system (discussed below) where there is a predefined range of points

for a specific factor rather than by comparing factor-to-factor job-by-job to determine relative points and ratings.

In Hawaii, the classification method used in allocating positions to classes is not substantially different from the generic classification method just described. The factor comparison method used in Hawaii for job evaluation is substantially different than the generic method in that it does not use points, and classes are compared only to a benchmark class considered the most relevant and possibly a limited number of other classes considered closely related to the class being evaluated. We discussed the use of the Hawaii method more fully in Chapter 1 of the report thus will not repeat that discussion here.

Implementation: Two major subjective aspects of these methods identified in the literature are presented below, and we have assessed the existing form of the methods used by the State and Counties in relation to these two aspects.

- As far as the classification method used in Hawaii, class specifications are not adequately written to serve as effective means of distinguishing to which class a position should be allocated.

Our assessment of the Hawaii class specifications we have reviewed for this project indicate that in general, they are of an unusually high level of quality and precision in comparison to those we have reviewed in other states and organizations. There are, however, individual specifications that could be improved. The most problematical aspect of the specifications was the lack of detail regarding the frequency and relative importance of certain tasks and duties in relation to factors such as contacts and guidelines, as well as the level of judgement and complexity of contacts and guidelines with which a class is involved. A much larger majority of the factors, the remaining seven, were considered relatively objective and specific, and class specifications contained detailed information regarding the extent and/or nature of the factors. The general criticism of a lack of specificity, then, does not appear to be as valid in Hawaii.

- As far as the factor comparison method as it is used in Hawaii, the rationale for class allocations to salary ranges are not sufficiently explicit, such that equity questions arise.

The nine factor enhancement in Hawaii provides a basis for an explicit rationale not only for the allocation of classes to salary range, but also if carried through, the allocation of a position to a class. (The allocation of a position to an established class automatically allocates the position to the corresponding salary range, so there is a direct relationship between the position and the nine factors.)

There are two aspects of the Hawaii implementation of this method, however, which result in a greater degree of subjectivity than might be considered desirable. One aspect is that the nine factors are not uniformly applied to all classes, instead, the classifier determines which factors appear to apply to the class, and only considers those in the allocation. The consideration of the other factors may or may not change the allocation, but not considering them adds another subjective step in the process -- the subjective selection of factors, rather than the more "objective" consideration of all factors.

The second aspect is there are no documented guidelines on how the factors are to be applied by the classifier or specifications indicating the relative "value" associated with the individual salary ranges. Once the classifier has analyzed a class in relation to the factors, there is no clear procedure on how to actually allocate the class to a salary range. Instead, the classifier essentially selects the existing benchmark and other class(es) "most like" the class being considered and compares those classes in relation to the factors. In short, the individual class is not really evaluated in the context of the entire compensation plan, but the classifier subjectively chooses a limited number of classes and does a subjective comparison. If the State and Counties were to develop explicit specifications for the salary ranges based upon the nine factors, similar to those for the classes or more brief descriptions similar to the PECAB factors, the allocation of a class to a range would be based upon relatively more objective criteria for each salary range in relation to the plan as a whole. A classifier would still presumably compare classes within the salary range to the class being classified to verify the allocation, but the basis for the selection of the comparative classes would be less subjective than the current practise, and moreover, there would be a more firm foundation for the alloca-

tion as a whole. This aspect of the method identified in the literature, then, does appear to apply in Hawaii.

In addition to the above two aspects of the methods discussed in the literature, there is at least one other aspect of the State's use of this method which should be considered. The State of Hawaii has been using the classification method for a long time. When organizations have used the same system for a number of years, individual classifiers tend to develop a common understanding of definitions, factors and other features of the system that provides a greater assurance of consistency and reliability. That such understandings have developed in Hawaii is reflected by the comment made by DPS that it takes approximately three years for a classifier to become fully competent in the existing system which is considerably longer than the more normal training period of six months generally experienced in private and public sector organizations using a variety of methods. On the other hand, one could interpret this extended period to achieve competency as evidence of the existing system being more subjective than those found elsewhere. A more objective system would be expected to require considerably less time in which to develop competency.

### **Point Factor Method**

Intent: A limited number of factors are selected on which all jobs will be evaluated. Categories within each factor are selected indicating a range of degree for each factor. A rating (point) scale is constructed for each factor and subsequently for the range within each factor. Weights are attached to each factor if one factor is considered more important than other factors. Each job is then evaluated in relation to the factors by an evaluator and point values assigned to each job. The point values themselves do not determine the wage rate, they only serve as a basis for comparing one job to another and for allocating the job into an established compensation plan.

Implementation: The most fundamental weakness of point factor systems according to the literature is that they are in reality no more objective than the classification method, but the numerical scoring gives the impression of greater scientific validity and a "false sense of security." The assignment of points is once again essentially a subjective selection made by the evaluator. In practise, there is often a lack of precise guidelines or justification for the selection between small increments in points. Once the individual points are added and weighted, even small point distinctions may become significant. If more than one evaluator is involved, as is usually the case, the introduction of a numerical rating by itself may be subject to biases among evaluators regarding "how many" points should be assigned (i.e., some people are more generous by nature than others). If committees are used to assign points, as is often done, such biases can be compounded and the assignments can become even more distorted depending upon the number of committees involved and their composition.

An additional criticism of point factor methods is that they reduce the entire scope of all jobs to the consideration of only a few (i.e., usually four) factors which may not adequately consider unique aspects of individual jobs.

Conclusion: The assertion does not appear to be correct. There appears little doubt based upon a review of the literature that all job evaluation methods are considered inherently subjective. Our assessment of the methods as practised by the State and Counties of Hawaii suggests that if certain deficiencies were corrected, subjectivity could be reduced and the rationale for classification actions more clear and understandable to those affected. Our assessment of the point factor method suggests that it does not seem to offer any significant advantages in reducing subjectivity than the method currently practised by the State and Counties, especially if the suggested enhancements were made to the existing system. The

point factor method, could in fact possibly create new and different problems for the State and Counties in its implementation and maintenance. We cannot say, then, that either is clearly more or less subjective than the other.

It should be pointed out that this conclusion addresses only the relative subjectivity of the existing method versus other methods, notably the point factor method. This conclusion should not be taken to infer any superiority of the existing method on the basis of other criteria such as susceptibility to inequity, efficiency of operation, or other criteria on which job evaluation systems may be evaluated.

Assertion 2: The existing method does not provide a straight-forward method of evaluating similar classes in relation to each other which can be easily explained to personnel.

As part of this engagement Arthur Young utilized certain features of the State's existing method to compare selected classes to determine if there were inequities. This experience would indicate that comparisons between classes using this method are more tedious and difficult to explain what are essentially matters of judgement, than would be the case if a point factor method which resulted in easily compared scores was used. We would expect that our experience was probably not unlike that experienced by the State and County classifiers. The difficulty again is in the lack of documented guidelines as to how the factors should be considered, the lack of specifications or guidelines as to how the individual salary ranges should be considered, as well as in evaluating individual factors as previously mentioned.

Not only is the comparison difficult, there is no straight-forward method of comparing individual classes. At best, the salary ranges to which the classes are allocated can be compared, but again, there is no solid, documented rationale for the distinctions between the ranges which can be explained to lay personnel. Such comparisons

form the basis for a variety of important decisions such as repricing of existing classes and the pricing of new classes.

In addition, current State and County policy, as we understand it, discourages comparisons of classes except within occupational group. PECAB rules more explicitly specify that classes cannot be compared across bargaining units, although there are classes which previously have been historically related but now cannot be compared (e.g., inspectors (13) and the crafts (1 and 2), nurses (09) and other health related professionals (13)). In addition, there are classes in different bargaining units for which it would seem logical that comparisons should be able to be made (e.g., supervisory (02/04) and nonsupervisory (01/03) personnel). The PECAB policy restricting comparisons across bargaining unit can also be seen as being more unfair to certain occupations (i.e., nurses, firefighters, police officers) who are in units which contain only their own classes -- effectively prohibiting them from comparing themselves to any other classes than those in their own professional group. While there may be technical reasons for restricting such comparisons, from our interviews it appears the restrictions are perceived as possible artificial barriers to achieving greater equity among all classes.

Conclusion: The assertion appears to be substantially correct. Unlike the point factor method which results in a single numerical score for a job or class which is easily compared to other jobs and classes, the classification method as practised by the State and Counties does not offer a simple and easily explained means of comparing one job or class to another. PECAB rules and other policies restrict comparisons across bargaining units which are perceived as contributing to some inequities. Both characteristics of the existing system appear to be creating a perception that the existing system is more subjective and tend to lead lay personnel affected by the system to regard it with some suspicion.

Therefore: It appears that the existing system, like all job evaluation systems is inherently subjective due to their reliance on human

judgement. We cannot say for certain that it is more or less subjective than the point factor method to which it has been compared most often. It is apparent that the existing method does not provide an easily understood means of determining whether classes are evaluated equitably in relation to each other which is possibly leading to a lack of credibility for the entire system. However, there is no reason to believe that the existing method, based upon this review, is itself actually contributing to inequities more or less than would be the case under any other method.

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**Factor: Collective Bargaining**

Source: Department of Personnel Services  
Honolulu Committee on Status of Women  
Joyce Husted, Hawaii Commission on Status of Women, Monitor  
Joyce Najita, Director of the Industrial Relations Center,  
University of Hawaii

Rationale for factor offered by source:

Assertion 1: Separate salary schedules exist for each of the thirteen bargaining units. Each bargaining unit also negotiates separately and this has resulted in differences between the salary schedules.

Assertion 2: Pay equity cannot be achieved through collective bargaining.

Assertion 3: Pay equity cannot be maintained once established given separate negotiations for 13 different bargaining units.

Therefore: Collective bargaining and pay equity are incompatible processes for establishing and maintaining class relationships.

**Analysis**

Assertion 1: Separate salary schedules exist for each of the thirteen bargaining units. Each bargaining unit also negotiates separately and this has resulted in differences between the salary schedules.

The number of salary rate schedules has gone from one in 1961 to the current thirteen schedules:

- In 1961, Act 188 was passed by the legislature which established procedures for PECAB to review the compensation plan. At that time, there was a single salary schedule for all white collar and blue collar classes.

- In 1967, Act 302 was enacted which provided for a compensation plan consisting of two parts: blue collar and white collar, each with its own salary schedule.
- In 1970, the Legislature enacted the Collective Bargaining Law, Act 171, which established 13 bargaining units, each having its own salary schedule.

In 1967 the white and blue collar salary schedules were separated, resulting in the first major structural change. The original salary schedule in 1961 consisted of 31 salary ranges and ten steps within each range. The white collar schedule retained this structure, but the blue collar schedule was "compressed" so that there are only two steps within each salary range, or wage grade today. The white collar salary schedules have kept the same salary range step structure except for Unit 09, registered professional nurses, which more recently compressed the number of steps to three. Because white and blue collar salary structures are different, as well as the compression of Bargaining Unit 09, complicated comparisons of classes between the units, resulting in PECAB adopting a rule prohibiting such comparisons.

The Collective Bargaining Law stipulates that the "...employer and exclusive representative (for each bargaining unit) shall meet at reasonable times, including meetings in advance of the employer's budget making process, and shall negotiate in good faith with respect to wages, hours, and other terms and conditions of employment which are subject to negotiation..." The law further provides that "the amount of wages to be paid in each range and step...shall be negotiable." The law requires the assignment of all classes subject to collective bargaining to the bargaining unit considered most appropriate and also prescribes that negotiation be conducted for an entire bargaining unit thereby precluding bargaining by class.

It took approximately three years to organize the 13 bargaining units, so that it was not until 1973 that the amount of wages to be paid in each range and step within each bargaining unit were first

negotiated as mandated by the Collective Bargaining Law.

A table prepared by the Labor Relations Division (Exhibit 1) shows the history of average pay increases from the implementation of collective bargaining in 1973 to January 1985. Exhibit 1 illustrates the difficulty in achieving equity across the bargaining units due to the different approaches to determining pay increases which were negotiated. The bottom row of the table lists total percentage increases in both nominal and real (compounded) terms. Compounded percentages take into consideration the timing of pay increases and are more appropriate for comparisons across bargaining units. The total percentage increases range from 122.83% (Unit 7) to 163.47% (Unit 11).

Although the pay increases differ in amount and by unit each year, annual trends in pay increases are consistent. For example, pay increases from 1979 through 1982 were considerably larger for all bargaining units than in previous or subsequent years.

Pay increases have generally been based on a percentage increase but sometimes a fixed dollar amount or a combination of percentage and fixed dollar increases have been negotiated. Percentage increases and fixed dollar increases have differing effects on wage differentials between bargaining units. The fact that some units have received percentage increases and others fixed dollar increases further complicates comparison across bargaining units. Thus, the same salary range, SR-15 Step B for example, may pay as little as \$16,272 annually in Bargaining Unit 3 to as much as \$20,580 in Bargaining Unit 9. An increase based upon a percentage causes wage differentials to widen within a bargaining unit since higher salaries increase by a larger dollar amount than lower salaries. In contrast, a fixed dollar increase maintains wage differentials in a given bargaining unit but may reduce the percentage gap by giving lower paid employees the equivalent of a larger percentage pay increase.

HISTORY OF PAY INCREASES SINCE COLLECTIVE BARGAINING

(Prepared by the Office of Collective Bargaining, State of Hawaii)

DATES	Unit 1 Blue Collar	Unit 2 Blue Collar Supervisors	Unit 3 White Collar	Unit 4 White Collar Supervisors	Unit 5 Teachers	Unit 6 Educational Officers	Unit 7 UH-College Faculty	Unit 8 UH-College Non-Faculty	Unit 9 Nurses	Unit 10 Hospital & Institutional	Unit 11 Firefighters	Unit 12 Police	Unit 13 Prof. & Scientific
7/1/72	7.0%						I						
9/1/72					5.5% + I	5.5% + I							
12/29/72		7.0%											
1/1/73			5.5% + I	5.5% + I					5.5% + I	5.5% + I	5.5% + I		
2/1/73								5.5% + I					5.5% + I
4/1/73												5.5% + I	
7/1/73	5.5%	5.5%	5.5% + I	5.5% + I			I	7.5%	5.5% + I	5.5% + I	5.5% + I	5.5% + I	5.5% + I
9/1/73					6.0% + I	5.5% + I							
7/1/74	\$36/mo. 5.52%	3.0%	3.0% + I	7.0%			I	6.0%	3.0% + I	7.0%	8.5% + I	5.5% + I	3.0% + I
9/1/74					7.0% + I	7.5% + I							
11/1/74							\$79/mo. (9) \$92/mo. (11) 8.0%						
1/1/75		4.0%	4.0%						4.0%				4.0%
3/1/75							6.0%						
7/1/75	\$40/mo. 6.13% + I	3.5% + I	3.5% + I	7.0% + I			7.5% + I	6.0% + I	3.0% + I	8.5% + I	\$110/mo. 9.85% + I	5.5% + I	3.5% + I
9/1/75					8.5% + I	7.0% + I							
1/1/76		3.5%	3.5%						4.0%				3.5%
7/1/76	\$105/mo. (NT) 120/mo. (T) 15.69%	1.5% + \$70 8.39%	1.5% + \$70 9.96%	1.5% + \$70 7.08%			3.75%+\$712 3.75%+ 833 7.92%	1.5% + \$70 7.24%	\$94/mo. 8.03%	1.5% + \$70 9.54%	\$105/mo. 8.5%	\$205/mo. 18.1% (\$115/mo.)	1.5% + \$70 6.66%
9/1/76					8.5% + I	7.0% + I							
10/1/76													(\$30/mo.)
1/1/77													(\$30/mo.)
4/1/77													(\$30/mo.)
7/1/77	6.13%	4.76%	5.76%	4.86%	4.62% (9/1)	4.3% (9/1)	4.02%	4.09%	4.66%	5.15%	4.4%	4.35%	4.77%
7/1/78	3.97%	4.7%	4.69%	4.8%	4.3% (9/1)	4.3% (9/1)	4.0%	4.0%	4.7%	4.7%	4.2%	4.24%	4.71%
7/1/79	11.9%	8.7%	9.1%	8.4%	8.3% (9/1)	8.0% (9/1)	8.2%	8.4%	8.6%	9.3%	7.0%	8.0%	8.4%
7/1/80	10.8%	9.8%	8.9%	8.3%	8.2% (9/1)	7.9% (9/1)	8.1%	8.3%	8.4%	8.9%	10.5%	9.0%	8.3%
7/1/81	3.6% Comp. + 6.1% Incr. (9.7%)	\$105 + 2.3% Comp. (9.8%)	variable* (9.91%)	8.3%	\$100 or 8% (8.1%)	8.0%	7.5% .5% Merit (8.0%)	\$100 or 8% (8.1%)	7.0% + 2.89% Comp. (9.89%)	\$100 or 8% (9.36%)	Eff. 3/82 13.8%	5% + 340 (8.1%)	\$100 or 8% (8.1%)
7/1/82	2.35% Comp. + 6.0% Incr. (8.35%)	\$115 + 2.1% Comp. (9.87%)	variable* (9.24%)	9.2%	10.0%	10.0%	9.5% .5% Merit (10.0%)	10.0%	9.0% + 1.85% Comp. (10.85%)	\$100 or 8% (8.68%)	Eff. 10/82 12.3%	(10.0%)	(10.0%)
4/1/84	3.06%	3.0%	3.1%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%		3.0%*	3.0%
7/1/84											2.88%		
1/1/85	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%		2.0%*	2.0%
TOTALS w/I (comp.)	97.75% (155.0%)	89.52% (137.08%)	95.66% (151.92%)	86.94% (132.11%)	94.02% (148.44%)	90.0% (139.30%)	82.74% (122.83%)	84.13% (125.73%)	93.13% (146.00%)	93.2% (145.94%)	100.93% (163.47%)	96.79% (153.33%)	88.94% (136.71%)

\*\$90/mo. or less (\$115); \$906-\$1400/mo. (\$110); \$1468/mo. or more (7.5%). Notes: I = increments, which are costed at an average of 2% with Employer's proposal

Conclusion: This assertion appears to be correct. The Collective Bargaining Law has resulted in the development of 13 bargaining units with different salary schedules, and varying amounts of pay increases have been negotiated since 1973. Negotiations for individual classes are prohibited so that negotiations may only be conducted for entire bargaining units. Different approaches used in collective bargaining negotiations however, have resulted in different wage amounts within the same salary ranges (e.g., SR-04, SR-06) between the different white collar bargaining units have may have altered differentials between SR's within bargaining units.

Assertion 2: Pay equity cannot be achieved through collective bargaining.

There have been basically three means of achieving pay equity where sex-based inequities have been found: legislation, collective bargaining, and litigation. The experience with each of these three is briefly summarized as follows:

1. State laws have been enacted by Minnesota and California with Alaska in the early stages of adopting statutes while other states like New Jersey are trying to pass legislation instituting pay equity. Some states such as Maine, Maryland, Michigan, Massachusetts, Pennsylvania, Idaho and Wisconsin do have equal pay laws and/or laws that call for payment by standards of comparable worth. However, these laws do not and have not guaranteed that measures are taken to identify and remedy inequities should they exist.
2. Other jurisdictions have made adjustments for inequities through negotiations or collective bargaining with no legal requirements or legislation enacted other than those enacted that require a study of the situation be done. Some states in which collective bargaining brought about adjustments include Connecticut, Maine, Massachusetts, New York, Iowa, Illinois, and Wisconsin.
3. Another means used to achieve pay equity has been litigation. Such states as New York, Connecticut, Wisconsin, California, Illinois, and Michigan in addition to Hawaii have had lawsuits brought against them. Lawsuits are often used in connection with other methods of achieving pay equity.

The actions of various jurisdictions and their results follow.

Connecticut: Three pieces of legislation were enacted from 1979-1981 authorizing the study of wage disparity and job segregation. The criteria used in the studies were knowledge and skill, effort, accountability, and working conditions. Each job title was given a point total by the staff of the new job evaluation unit of the Personnel Department with the Compensation Division establishing the salaries. Implementation of the adjustments was by collective bargaining between the unions and the State. In 1982, clerical workers negotiated for a \$2.1 million fund to be used to make adjustments to selected classes found to have inequities in addition to across-the-board increases for all employees. In 1985, a tentative \$5.6 million contract was agreed to for pay equity adjustments for 9,000 state employees.

Maine: Maine had already adopted "comparable worth" legislation in 1965, but had not used nor enforced it. Jobs had been previously given point totals and fitted onto a salary scale. The State appropriated money for a study and the union asked for legislation in the 1983 session to broaden the scope of bargaining to include classification and reclassification. The union was to have presented bargaining proposals in October 1986 to get pay equity adjustments for 13,500 state workers.

Massachusetts: A bill was passed in 1982 which was to determine the positions in which compensation was not commensurate with its comparable value. The criteria used consisted of knowledge and skill, working conditions, responsibility, accountability, and interpersonal skills. In 1986, Council 93 negotiated pay upgrades of 5%-20% for all state bargaining unit titles with 10 or more employees and which have over 60% female incumbents.

New York: New York has an equal pay for equal work law, but it does not have a law calling for equal pay for comparable worth. A study was conducted to examine sex- and race-based wage differentials and was done by examining jobs held by white males and determining the value placed on the characteristics of those jobs. The state government employees achieved a \$36 million pay equity agreement. Wage floors for lower paying jobs held basically by women were also set in addition to the pay equity adjustments.

Illinois: A study was done in 1982 to determine if sex discrimination existed in the classification system. Prior to the study, in 1981, Council 31 got pay increases for word processing equipment operators. In 1984, the bargaining began for the classes determined to need adjustment based on the study and a tentative agreement with Chicago City was reached in 1985. In 1986, 3,500 city employees in

Chicago in 79 female dominated jobs received 5% pay equity upgrades totaling about \$37 million. A study of the entire classification system will be performed recommending any possible further adjustments.

California: In September 1981, the legislature amended its Government Code by adopting an act that established a comparable worth policy for state salaries. The act addresses only female dominated state jobs where at least 70% of the employees are women. The salaries are to be determined by negotiation between the unions and the State once the discrepancies are determined.

In Los Angeles, a 1980 ratified contract gave 3,000 clerical workers an adjustment for pay inequities in addition to the general increase in their salaries. In 1981, senior clerical workers also received a 5.5% inequity adjustment on top of a 10% general across-the-board raise. The librarians' wages were also adjusted.

In San Mateo, 40% of the one unit who work in female dominated classes have received adjustments of 1.5%-5% in addition to the 6% general increase for all workers. In Belmont, a pay equity adjustment was negotiated for its city workers. In San Carlos, the pay gap was reduced by a contract giving the females a 3%-4% wage increase above those given to other city employees. And in 1986 and 1987, 1,000 San Jose workers will get pay adjustments of 1.5%-4%.

Minnesota: The State of Minnesota passed a law in 1982 which requires that part of the funds appropriated for salary adjustments for state workers be used to adjust the pay inequities for female dominated jobs. The law was enacted after a study found that female dominated jobs were paid less than comparable male dominated jobs. As a result, \$11.8 million has been appropriated out of a \$40 million four-year plan which covers 9,000 state employees in female dominated jobs.

Wisconsin: Wisconsin has no comparable worth legislation, but its fair employment law prohibits discrimination in compensation for equal or similar work in terms of working conditions. A study was done in 1978 which showed underpayment of female dominated jobs. As a result, \$9.1 million was approved to adjust pay inequities for 10,000 state employees in female dominated jobs.

Of the state actions examined above, it appears that pay equity has frequently been achieved through collective bargaining. The agreements achieved do not necessarily equally affect comparable classes across the bargaining units. In some instances, adjustments have

been made to all female dominated classes. In other states, adjustments were made if the class exceeds a certain size (Massachusetts set the size at 10) and is made up of a certain percentage of females. However, in other cases only specific classes have been adjusted. For example, in Connecticut and Los Angeles only the clerical workers received adjustments. In all the above instances, adjustments were not necessarily made to all female dominated classes that may have had inequities, only those considered the most severe, or the adjustments to larger numbers of classes were phased-in over time.

Our research indicates that a number of cities and states have passed pay equity legislation and appropriated funds to address pay inequities, however, very few jurisdictions have progressed to the point of disbursing the funds to classes of workers which have been identified as being paid inequitably. By examining these jurisdictions which have implemented pay equity adjustments, a general approach can be derived.

The process begins with a study, mandated by the appropriate legislative body, which incorporates a quantitative method of evaluating occupations. All classes (across all or some number of bargaining units) are evaluated and scored according to the methodology chosen. The purpose of the study is to identify the classes, if any, which are being paid inequitably, by comparing classes with comparable points with an appropriate "average" salary line.

The intent of legislators has been to examine the findings of such studies and enact legislation to address any inequities which are found. The legislators then appropriate funds for making pay adjustments, with adjustments usually phased in over a number of years. At this point, collective bargaining frequently plays the role of determining how quickly identified classes should be adjusted given the level of appropriated funds. The negotiation of funds' distribution is conducted through the normal collective bargaining process with the exception that unions are allowed to nego-

tiate different adjustments for specific classes as part of the one-time adjustment process. Typically, across the board pay increases are bargained for in addition to the pay adjustments for selected classes. The salaries of any new classes are established by utilizing a similar, if not the same, quantitative method of evaluation used in the aforementioned pay equity study which is presumed to be sex neutral.

Usually the bargaining units are represented by one union so that the negotiated pay increases are the same for all classes. However, even in jurisdictions where several unions are involved in the negotiations, pay equity can be initially achieved although different rates of adjustments may be negotiated.

Conclusion: It appears this assertion is not correct. There have clearly been cases where collective bargaining has been used to make adjustments over time to correct pay inequities once inequities have been identified.

Assertion 3: Pay equity cannot be maintained once established given separate negotiations for 13 different bargaining units.

Most of the literature that has been written on the subject of pay equity and comparable worth has been on the subject of initially achieving pay equity. The principle concern has been the elimination of sex bias from the process of job evaluation. Some of the sources we have interviewed, however, have expressed concern that once established, pay equity will be difficult to maintain. The concern is that once equitable relationships are established among classes (assuming they do not already exist), the relationships may become misaligned again if one bargaining unit negotiates a different increase than another unit. This concern is only relevant if comparisons across bargaining units are allowed which is not now the case. It should also be remembered that under existing State laws, separate negotiations cannot be conducted for individual classes

within a bargaining unit -- all negotiations affect the bargaining unit as a whole.

If the current PECAB rules prohibiting comparisons across bargaining units are retained, equitable relationships within a bargaining unit should always be maintained if the same amount of a percentage increase is applied to all classes. As previously mentioned, if a flat dollar rather than percentage increase is negotiated, this could tend to distort to some extent relationships within a bargaining unit. A flat dollar increase tends to be more beneficial to those at the lower levels of a unit than the higher levels, and in effect, causes a shrinking of the difference between the two if this practice consistently occurs over time. The use of dollar and/or dollar percentage increases have been rare in white collar units as opposed to being more common in blue collar units. In white collar units, dollar increases have always been combined with percentage increases which would not cause as much distortion than if dollar only increases had been negotiated. Further, even if the different negotiating strategies are used, it is not likely that they would result in significantly serious alterations in existing relationships between amounts paid in each SR, or the employee organization membership would complain. Therefore, due to the fact that dollar only increases have never been negotiated for the white collar units and that dollar and percentage negotiations have occurred so rarely, it would seem there has been only a limited effect on SR relationships within these bargaining units.

If the current PECAB rule prohibiting comparisons across bargaining units is not retained, then the concern for maintaining equity is more relevant. According to representatives contacted at the American Federation of State, County and Municipal Employees (AFSCME), the national employee union which has been most involved in the issue of pay equity, their position appears to be that pay equity only involves eliminating sexual discrimination from the relationships of comparable classes and the job evaluation method. Once discrimination is eliminated in these ways, the negotiation of in-

creases through collective bargaining is seen as free of sex bias, as negotiations for a unit affect all members of the unit. If differences occur between units, that is seen as inevitable but unlikely to be influenced by sex biases. Only if an entire unit is sex dominated would sex biases be possible to occur. While we do not have data to indicate all of the units that are entirely sex dominated it is clear that Unit 9 (registered professional nurses) is dominated by females, and it is generally thought that Units 5 (teachers - female), 11 (firefighters - male) and 12 (police officers - male) are sex dominated. It may be possible then, in Hawaii for negotiations to be influenced by sex bias if negotiators on both sides are not careful to prevent this from occurring.

The State Department of Personnel Services has raised another concern, if comparisons across bargaining units is allowed. They are concerned that if negotiations result in different amounts of increases for different units there may be a continual "ratcheting" effect, that is an increase in one unit will be used as a basis for arguing an increase in another unit to maintain "equity." We have not been able to find any State or jurisdiction with enough experience with pay equity to determine whether this is likely to occur. Most states and jurisdictions are either still in or have just completed their initial implementation of pay equity.

To some extent this concern is not as serious here because at least since the mid-1970's as Exhibit 1 indicates, the white collar units have all negotiated essentially the same average increase each year. Unit 9, however, has negotiated a substantially different salary schedule. It does seem possible, though, that if any legislation or rules are adopted regarding pay equity, that provisions can be included to prevent increases in one unit being used as the basis for "equity increases" in another unit.

The other aspect of the maintenance of pay equity involves the job evaluation method and in Hawaii's case the review (Conference of Personnel Directors) and appeals (PECAB) process as well. If the

job evaluation method used by the State is shown to be free of sex bias, then with continued sensitivity to this issue, it would be expected to remain bias free. If the job evaluation method is found to be influenced by sex bias, then it may be necessary to either improve or replace the job evaluation method.

In regards to the review and appeal process, our preceding analysis of their actions found no conclusive evidence that their actions have created sex-based inequities. Once again, if there is continued sensitivity to this issue, it does seem possible that sex biases could continue to be precluded from influencing their actions.

Conclusion: This assertion does not appear relevant under existing State laws and PECAB rules. Under existing State laws, negotiations are limited to general increases affecting the entire schedule within a bargaining unit and different increases cannot be negotiated for individual classes within a unit. In those rare cases where negotiations could have created distortions between amounts paid within a bargaining unit, in reality this does not seem to have significantly occurred. Existing PECAB rules do not allow comparisons of classes across bargaining units, thus if one unit negotiates a different amount or type of general increase than another unit it will have no effect on how comparisons are currently made. If changes are made to PECAB rules to allow comparisons across bargaining units, this assertion may become relevant, but only if measures are not also taken to eliminate or ameliorate the potential problems.

Therefore: It does not appear that pay equity and collective bargaining are inherently incompatible. Collective bargaining has appeared to contribute to differences in the amounts of salary ranges between bargaining units and to a much lesser extent within a bargaining unit which complicates achieving equity only if comparisons of classes and their salary ranges across bargaining units are allowed which is not now the case. At the same time, however, col-

lective bargaining has been used to correct inequities and the process is not itself considered discriminatory.

If state laws and PECAB rules are changed to either allow negotiations by class and/or comparisons of classes across bargaining units, then it will be necessary to also enact protective measures to ensure pay equity is maintained.

## REFERENCES

1. Cook, Alice H., Comparable Worth: The Problem and States' Approaches to Wage Equity, Industrial Relations Center, University of Hawaii at Manoa, 1983.
2. AFSCME Leader, Pay Equity Gains Nationwide, Vol. 1, No. 32, September 15, 1986.
3. BNA, Government Employees Relations Report, No. 1123, July 29, 1985.
4. American Federation of State, County and Municipal Employees, Winning the Fight for Pay Equity, 1984.
5. Interviews with Marilyn DePay, national AFSCME coordinator for pay equity.

# Appendix C

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APPENDIX C-1

The following letter was prepared by the Hawaii Government Employees Association (HGEA) upon completion of their review of the final draft of this report.

Arthur Young did not consider it necessary to respond to comments contained in HGEA's letter.

December 24, 1986

HAND DELIVERY

Mr. Edward Andrew  
Director of Management Services  
Arthur Young & Company  
700 Bishop Street, Suite 800  
Honolulu, Hawaii 96813

Dear Ed:

We have reviewed the Final Draft Report on the Job Evaluation Study and would like to make the following comments.

We had expressed concerns in our letter of December 12, 1986 and will take this opportunity to further elaborate on them. Of particular concern was the statement that journeyworker classes found inequitable will "probably" affect all classes within their class series, and "possibly" other classes not in the series to which they have been evaluated. From a technical and practical standpoint, any adjustment to the journeyworker level in a series will affect all classes within the series. To not adjust those other classes in the series will seriously disrupt internal relationships and deny recognition of progressively more difficult and responsible work reflected by the level of classes of that series.

In addition, any adjustment to those journeyworker classes will have an impact on other related classes/series. Under the current job evaluation system, a class or series may be directly priced in relation to a designated benchmark or a selected reference class or classes/series. To not adjust those "related" classes would seriously disrupt external relationships which may be longstanding. These relationships among and between classes/series is well documented within the central personnel agencies of the jurisdictions. We, therefore, recommended that "probably" and "possibly" be deleted from that sentence on page 79 of the Preliminary Draft Report. In response to this concern, we appreciate the recognition of our recommendation and the amendment on page 99 of the Final Draft Report.

Also stated in the Preliminary Draft Report was the method of adjustment which recommends the movement of these classes to within the corridors established by this study. We suggested your incorporation of a more definite guideline by which these classes could be brought within these corridors. This guideline may include a specific dollar or percentage adjustment or a set of proposed salary range adjustments which parallel the recommended corridors.



In response to this suggestion, it is indicated on pages 99 and 100 of the Final Draft Report that it will be necessary to undertake a series of "what if" adjustments taking into account all classes in the study and all related classes not in the study. It is, however, initially important to identify the parameters of these corridors in order to meaningfully discuss the various topic areas and to arrive at variable options for the resolution of these problem areas.

Recommendation 2 as contained in the Preliminary Draft Report also suggested caution in adjusting related classes so as not to cause future inequities and a study of the lower and upper ends of the professional pricing pattern. We emphasized that the current job evaluation system has been in existence for over 25 years and has received high marks by your study for its stability and effectiveness. We, therefore, believed that priority discussions with the employers should commence to develop a plan of adjustments for the "lower than expected" classes listed in Exhibit 8. We proposed to first adjust in 1987 those classes identified on the lower than expected lists and those within their respective series. Secondly, we proposed to adjust those classes/series related to those on the lower than expected lists. In addition, we indicated that these discussions should include the review of the professional pricing pattern and a review of those classes not evaluated by this study.

In response to our concerns, we were encouraged to find on page 97 of the Final Draft Report the recommendation to examine the professional pricing pattern and other classes not included in the study, and on page 98 that the resolution of the inequities found will require joint action and temporary relaxing of specific practices which may now restrict corrective action. We, however, are concerned that this examination should be conducted before any adjustments to any inequitable classes are considered. We had proposed that our discussions with the employers include these topics, but our priority is focused on adjusting those classes on the lower than expected lists in Exhibit 8 and those within their respective series as soon as possible.

In addressing those classes on the "higher than expected" lists, three courses of action were suggested on pages 98 and 99 of the Final Draft Report. We would support this or another proposal which suggests the reduction of the salary range (SR) but where appropriate, adding a market (i.e. shortage) differential in addition to the compensation associated with the SR. And, if a net reduction in compensation would result from this approach, the State could either incrementally phase down the market adjustment over some number of years, or once again grandfather incumbents and apply the new SR/differential to new entrants.

Lastly, Recommendation 3 as contained in the Preliminary Draft Report referenced a "statutory restriction which prevents progression of workers from one step to the next when there is a negotiated adjustment for the bargaining unit." The enactment of Act 156, SLH 1986, removed that particular restriction and now permits the negotiation of incremental movements up to the steps on salary ranges. The passage of this Act recognized the wide disparity (50 to 75% differential) between the minimum and maximum steps on salary ranges and that the statutes at that time precluded incremental movements from one step to the

Mr. Edward Andrew  
December 24, 1986  
Page 3

next. As such, we sought reconsideration of the statements contained in this recommendation and your support of our negotiations to remedy this disparity by recommending the reduction of the number of steps on a salary schedule and the progression of workers from one step to the next on salary ranges.

In response to this concern, we are interested in your recommendation as described on pages 100 to 102 of the Final Draft Report to simplify salary administration by utilizing "seniority and competency progression" rather than progression through classes in order to reduce the number of class levels within each series. We believe that this recommendation should also be added to the topics to be discussed with the employers.

We appreciate the opportunity to review and express our comments on the Final Draft Report.

Sincerely,



Russell K. Okata

RKO:em  
cc: Legislative Auditor  
Director of Personnel Services

December 17, 1988

**APPENDIX C-2**

MEMORANDUM TO: JAMES H. TAKUSHI, Director of Personnel Services

FROM: DIANE H. RAABU, Chief, Classification and Compensation Review Division

Staff of the Department of Personnel Services prepared the following memorandum to its Director upon completion of their review of the final draft of this report. The Director at that time, Mr. James Takushi, concurred with the report and requested it be included in the final report.

Arthur Young's response to the comments made by the Department of Personnel Services is found in Appendix C-3 on page C-22.

SUMMARY OF FINDINGS AND ASSESSMENT

It is gratifying that the lack of sex-bias in the current state civil service system has been confirmed. The consultant did not find a pattern of sex-based wage discrimination.

While we agree with the basic research performed and most of the factual findings, there are several aspects of the report, as it is currently written, that are of significant concern.

The report virtually ignores the fact that the job evaluation system of the state and counties is based on fundamental comparable worth and pay equity principles. The concept of valuing jobs based on their content, with jobs reflecting equal skills, responsibility, judgment, etc., being valued equally, regardless of work specialty.

The report incorrectly states, and then highlights, a finding of sex-based "differences." The technical findings in the report (Chapter 3) are that female dominated jobs are more likely to be valued correctly in bargaining Unit 3, and male jobs are more likely to be valued correctly in bargaining Unit 12, and also that there is no evidence that the basis for this difference is sex. However, later in the report, in the

December 29, 1986

MEMORANDUM TO: JAMES H. TAKUSHI, Director of Personnel Services

FROM: DIANA H. KAAPU, Chief, Classification and Compensation Review Division.

SUBJECT: FINAL DRAFT OF ARTHUR YOUNG REPORT ON JOB EVALUATION STUDY

#### BACKGROUND

Act 157 authorized a study to determine if there is sex based wage inequity in civil service jobs in certain bargaining units.

The Act also provided that, if such inequity exists, the factors and conditions contributing to the inequity should be determined and corrective action might be recommended.

The Act specified that the parameters of the study were to be bargaining units 3, 4, 9, and 13 and classes in which 70% or more of the incumbents were of the same sex.

Arthur Young was selected to conduct the study and has now submitted a final draft of the study findings.

The study covered 82 male and female dominated classes in bargaining units 3, 9 & 13.

#### SUMMARY OF FINDINGS AND ASSESSMENT

It is gratifying that the lack of sex-bias in the current State civil service system has been confirmed: the consultant did not find a pattern of sex-based wage discrimination.

While we agree with the basic research performed and most of the factual findings, there are several aspects of the report, as it is currently written, that are of significant concern.

1. The report virtually ignores the fact that the job evaluation system of the State and Counties is based on fundamental comparable worth and pay equity principles, i.e., the concept of valuing jobs based on their content, with jobs reflecting equal skills, responsibility, judgment, etc., being valued equally, regardless of work speciality.
2. The report incorrectly states, and then highlights, a finding of sex-based "differences." The technical findings in the report (Chapter 3) are that female dominated jobs are more likely to be valued correctly in Bargaining Unit 3, and male jobs are more likely to be valued correctly in Bargaining Unit 13, and also that there is no evidence that the basis for this difference is sex. However, later in the report, in the

discussion (Chapter 4) and in the conclusion (Chapter 5) these differences are attributed to sex, in contradiction to the technical findings.

3. The final draft of Arthur Young's report recognizes that wages for State workers are set through collective bargaining negotiations, and thus is a marked improvement over previous drafts which omitted this significant pay setting factor. However, it continues to state that negotiations have had little impact on the relative pay of jobs. Inasmuch as collective bargaining increases for some of the jobs studied exceed those for others by as much as 47% (in the same bargaining unit) this reflects a serious error. The significance of this error is further compounded by the problems identified in 4 and 5, below.

4. The report identifies 21 classes as "over" or "under" compensated. It attributes all of these "inequities" to the job evaluation system (contending that collective bargaining on rates has had no material influence) despite the fact that the consultant's own assessment shows a majority of these classes (15 of the 21) to be "valued" correctly by the existing job evaluations system, but "paid" inappropriately.

5. Finally, the report recommends specific pay range adjustments for these classes based on the same erroneous compilation of job evaluation and collective bargaining results. It also fails to indicate that any such adjustment must also be assessed for propriety in relation to the remaining classes in the bargaining units (which were not studied due to their lack of sex dominance and/or small size). The report then compounds these key erroneous interpretations by recommending pay range adjustments for other classes not studied.

6. The report continues to contain other methodological and editorial inadequacies, in part because this draft contains much new material not submitted in the earlier drafts.

#### DETAILED FINDINGS AND ASSESSMENT

The report fails to describe the underlying "pay equity" principles that govern the State civil service method of job evaluation.

It is unfortunate that a report over a hundred pages long virtually ignores the long-standing focus of Hawaii's civil service legislation, regulations and administrative efforts to provide a system based on pay equity principles. In the report, comparable worth is defined as an approach which "requires jobs of equivalent value to the employer to be paid at the same rate even if the jobs are dissimilar in nature and may command different salaries in the general labor market."

This specific principle has been the foundation of the State civil service job evaluation system for over thirty years. The civil service law of 1955 established the foundation of the present merit system and included the principle "that employees shall be compensated in accordance with the relative levels of the work they do and that throughout the territory work of substantially equal difficulty and complexity will be compensated for in a uniform manner... ." (S.L.H. 4-4, 1955).

This principle continues to the present and has been the primary thrust of the ongoing job evaluation endeavors of the State and Counties. In the report, these matters are relegated to a few paragraphs buried in an appendix containing an exhaustive list of other statutes of dubious relevance and omitted in the descriptive and analytical portions.

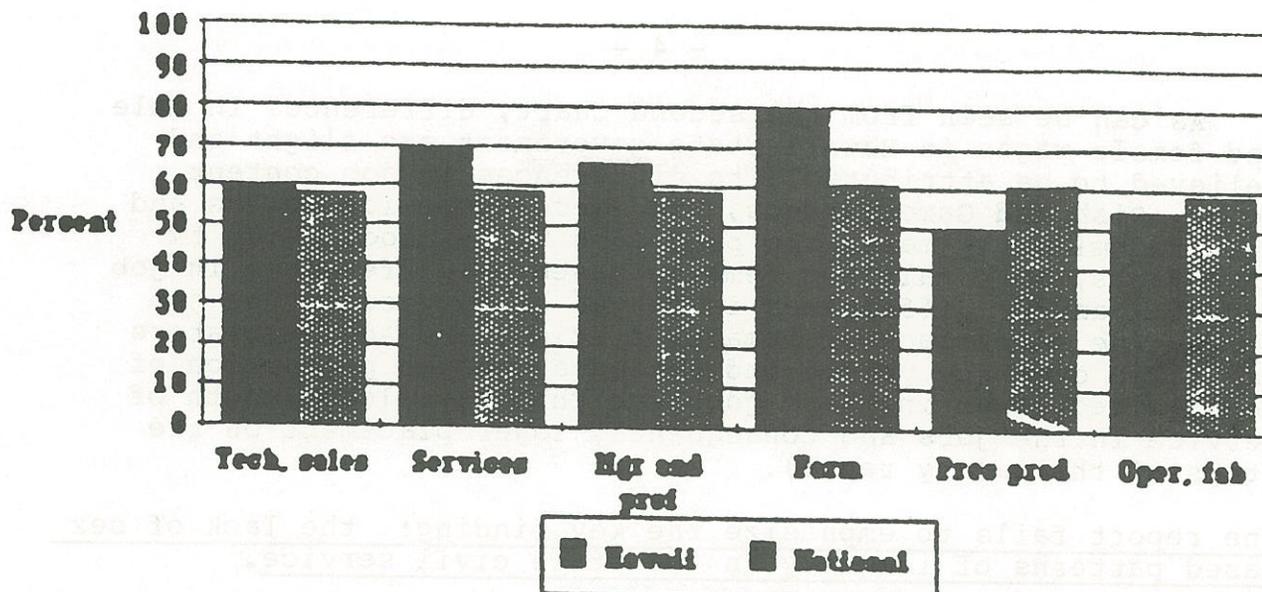
Hawaii's government has an enviable record of commitment to pay equity since as early as 1955, as noted above, and of having devoted extensive efforts to achieve that end. The results of these efforts are clear. The patterns of pay for our government workers show that male and female wages are extremely close, and that they are identical for similar jobs except for differences due to job content or longevity. These results have been totally ignored in the Arthur Young report which was intended to address this specific issue.

The report fails to show that women in state government jobs are substantially better paid, in relation to men, than women in the private sector.

The report contains a chart of nationwide and statewide data showing that women receive substantially lower wages than men (generally 60% of male wages). However, the report lacks the pertinent comparative data on State government employment which shows that within Hawaii State government women are not earning 60 cents on the dollar nor are they relegated to the lower-paying jobs in all occupational areas. Instead, in two areas, including the traditional male-dominated area of skilled crafts, their average wages exceed those of men.

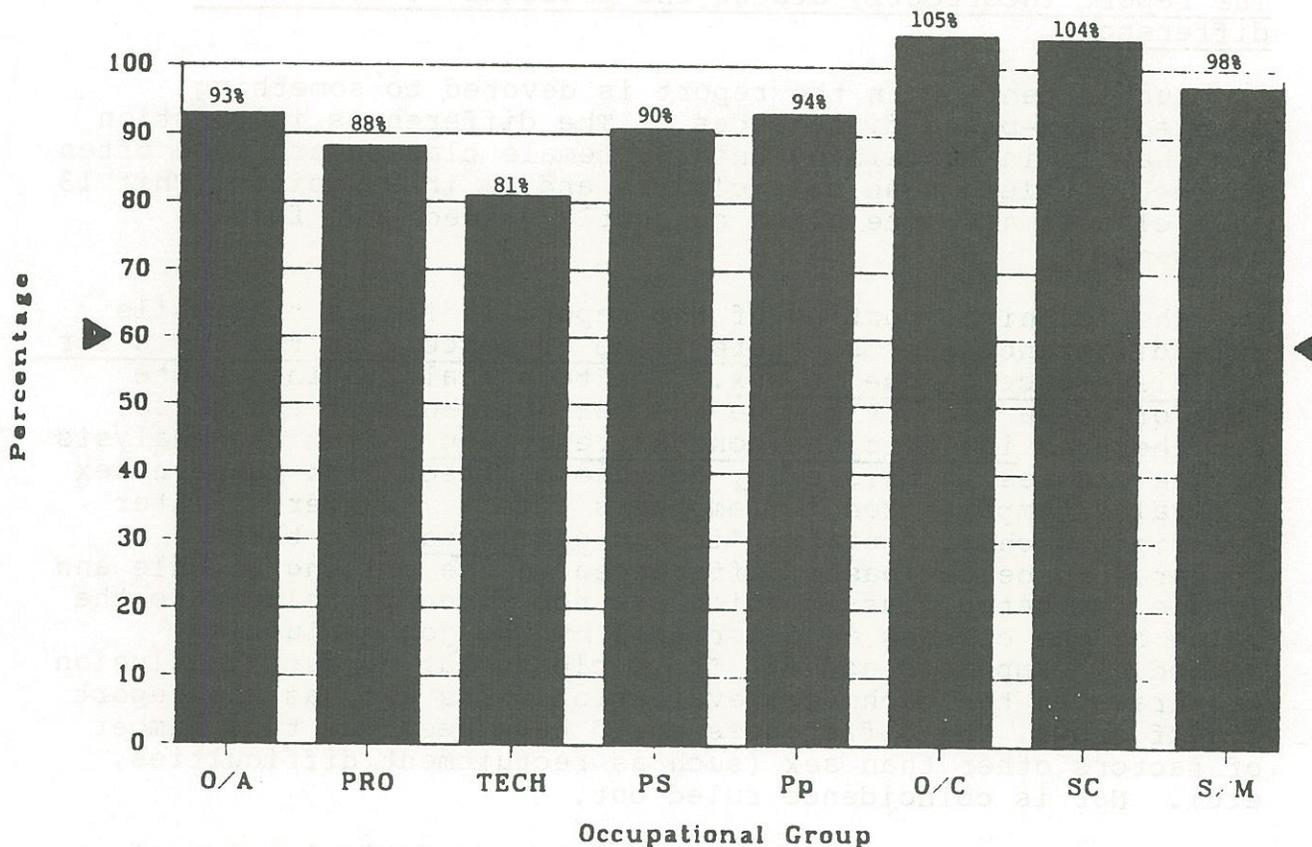
The Arthur Young chart is shown on the next page, followed by pertinent data on Hawaii State government civil service workers.

**Percentage of Female to Male Average Wages  
(Graph 7)**



**% OF FEMALE TO MALE AVERAGE WAGES**

**State of Hawaii Civil Service Workers**



O/A - Officials & Administrators      PS - Protective Services      SC - Skilled Craft  
 PRO - Professionals                      Pp - Paraprofessionals      S/M - Service & Maintenance  
 TECH - Technicians                        O/C - Office & Clerical

Note: Male wages equal 100% in both charts.

As can be seen from the second chart, differences in male and female wages in Hawaii State government are slight and believed to be attributable to differences in job content (e.g., Fish and Game Wardens, who exercise police powers and are predominantly male, are paid more than School Security Attendants, both male and female, based on differences in job content) and/or differences in length of service in the job (e.g., the percentage of female Officials and Administrators has risen over the years, indicating a greater proportion of newly hired women in these jobs who thus have less length of service in the jobs and consequently lower placement on the steps of the salary range).

The report fails to emphasize the key finding: the lack of sex based patterns of inequity in the state civil service.

Little attention is devoted in the report to the fact that no pattern of sex-based pay inequities was found. This finding confirms our original belief that the state's civil service job evaluation system does not contain inherently discriminatory features nor has it been applied in a discriminatory manner.

The report incorrectly states the presence of sex-based differences.

Much attention in the report is devoted to something labeled "sex-based differences." The differences in question are that 1) in Bargaining Unit 3, female classes are more often correctly valued than male classes and 2) in Bargaining Unit 13 male classes are more often correctly valued than female classes.

The technical portion of the report indicates that while this difference exists, there is no evidence that the basis for the difference is due to sex. The technical findings state "one of these factors may be the sex dominance of the class, but there is insufficient conclusive evidence from the analysis of the classes in this study to make a direct link between sex and value/compensation." (emphasis added). However, a later descriptive chapter states "it was concluded that there appeared to be sex-based differences in the pricing of male and female dominated classes which are not directly related to the value of the classes as determined by the job evaluation method." (Emphasis added) It is clear that no such conclusion was drawn in the technical evaluation. Instead, as the report itself shows, the differences could have been due to a number of factors other than sex (such as recruitment difficulties, etc). Nor is coincidence ruled out.

Finally, and most importantly from a practical point of view, it is not sufficiently emphasized in the report that these "differences" include "over-compensated" as well as "under-compensated" classes. For example, in Unit 13, the

"overly variable" female classes include 3 female-dominated classes which are compensated "higher than expected" and only 2 female-dominated classes which are compensated "lower than expected."

The report fails to correctly assess the impact of collective bargaining on wages.

The final draft of the report does, at last, recognize that actual wages for State government workers are set through collective bargaining.

However, the report dismisses the impact of negotiated wages on the assumption that wages, within a bargaining unit, have been negotiated equally for all: "Collective bargaining negotiations generally provide across the board increases within a unit. It is possible [for] ... certain SR's within a unit to receive slightly different amounts of increase, ... however, this has rarely occurred." (emphasis added). A review of actual pay schedules, however, clearly shows that this is not correct: within a single bargaining unit wages have not increased either equally or proportionally since the advent of collective bargaining. For example, the report shows that Bargaining Unit 3 received an average wage adjustment of 152% and apparently concludes that this is what was accorded to all employees at all SRs and steps. What the report ignores is the changes to the relative compensation of the classes with the bargaining unit. For example, some rates in some salary ranges have actually been increased 47% more than others in BU 3. The point, of course, is not whether the old rates or the new rates are more appropriate: it is merely that collective bargaining has resulted in significantly different relative pay rates within a single bargaining unit.

Because negotiated wages are assumed to affect all equally, the report fails to distinguish between the impact of collective bargaining on wages and the impact of the merit system on "valuing."

The compensation of employees in State government is based on two separate processes. First, job evaluation or "valuing." This process, which involves numerous parties and activities results in a single Salary Range assignment for all employees in the same class of work. This Salary Range is set in accordance with the principle (shown above and also contained in the Personnel Rules of the State) of placing jobs of equal value at the same Salary Range, those of greater value at higher Salary Ranges, and those of lesser value at lower Salary Ranges.

The second process, which has been the exclusive determinant of actual wages since 1973, is collective bargaining. The collective bargaining process involves negotiations between the exclusive representative for the particular bargaining unit and the employer. These

negotiations determine the actual pay rates for each Salary Range, as well as the number of steps (pay rates) in the range, and the dollar amount of each step. Separate schedules are negotiated for each bargaining unit. All such cost packages are then approved by the legislature.

It is disturbing that, although the report recognizes these fundamentally different processes (which have different objectives as well as methodologies), it continues to jumble the findings on Salary Range valuing and negotiated pay rates. This confuses rather than illuminates their impact. The design methodology proposed by the consultant, approved by the Steering Committee, and incorporated in the study, provides specific and different assessments of these two different aspects of the overall compensation system (valuing and wage setting). However, the narrative material in this report treats the two different processes as a single one. Further, it labels this composite as "the job evaluation system" which, elsewhere in the report, is used to refer to the relative valuing system, but not to negotiating wages.

The report contends that this is appropriate because there has been a constant interaction between real wages and "valuing" (which is not supported by the evidence in the sense it is used here) and because wages have been presumed to be negotiated "equally for all."

The report incorrectly attributes all instances of purported under and over compensation to the job evaluation system, without regard to the impact of negotiated wages.

As a result of the incorrect apprehension of the impact of collective bargaining on wage schedules, the consultant continues to insist that "insufficient" or "excessive" dollar differentials exist between classes, and that these are caused by "some aspect of the job evaluation system" (but not collective bargaining). Since some of the consultant's judgments on "improper differentials" are based on variations as low as 4.8%, the range of collective bargaining differentials, which is as high as 47%, is obviously significant.

This inappropriate consolidation is the direct cause of the consultant's conclusion that several professional classes are inequitably paid. All but one of these determinations have been identified exclusively through the consultant's "wage analysis", although the consultant's "valuing analysis" clearly shows that all professional classes are equitably valued.

The report then extends this inappropriate finding to the equally inappropriate conclusion that there are "problems" with the "professional pattern." The "professional pattern" is a supplementary guideline, developed during the massive overhaul of the classification plan that took place during the late

'60's, which is designed to ensure that all professional jobs (regardless of occupational specialty) are evaluated/valued consistently based on the intrinsic job difficulty and responsibility. The "problems" within the existing "professional pattern" as identified by the consultant are: (1) there is a greater proportion of female-dominated classes than male-dominated classes at the lowest salary range level and, conversely, a greater proportion of male-dominated classes at higher salary range levels, and (2) "only 3 or 4 salary range levels" are used for these classes. However, the Arthur Young job evaluation results, based on the Arthur Young DBM methodology (represented as free of sex bias) results in (1) twice as many female-dominated classes as male-dominated classes at the lowest level, and twice as many male-dominated classes as female-dominated classes at the highest level. These proportions are identical to those found in the existing State system. Further, the same Arthur Young system (2) "crowds" all of these same professional jobs into 3 "DBM levels," much as the State system does. For the consultant to contend that the Hawaii system is faulty because of these parallel results is absurd.

The report recommends inappropriate salary range adjustments for some of the classes studied.

The report recommends adjustments of Salary Ranges for all 21 classes. We are certainly desirous of taking appropriate action to eliminate any genuine inequity. However, the recommended actions must be approached carefully and the appropriate mechanism must be used. First, contrary to the assertions in the report, adjustment of Salary Range assignment is clearly not appropriate in over three quarters of the cases where the Arthur Young analysis shows that the current salary range is appropriate, although the negotiated pay rate may be "higher" or "lower" than expected. To insist that such adjustments must be made through the Salary Range assignment process is akin to recommending that the "valuing" be changed to match the going pay rate in the community. For the State to blindly adjust the salary range assignment in order to achieve a different pay rate under such circumstances would

- 1) disregard the basic tenet of pay equity, appropriate relationships based on job content,
- 2) negate the effect of the current, legitimately negotiated, salary schedules, and
- 3) likely require further readjustments whenever new salary schedules are negotiated.

Second, the report fails to make clear the essential point that the recommendations are based on the "wage lines" developed in the study. A "wage line" is simply a hypothetical line on a graph which shows the relationship between wage rates and measures of value. The wage lines

developed in this study are, of course, dependent on the classes included in the study. Nevertheless, any responsible adjustments must take into account proper relationships with the 92% of the classes in the same bargaining units which were not studied. This must be clarified because the imprecise cautionary notes in the report fail to address this fundamental point.

However, the consultant recommends that all "inequitable classes be adjusted to fit "within the corridors." (The consultant has properly provided corridors, sandwiching the proposed "wage lines," in order to account for a margin of error in the analysis.) Such a recommendation is clearly unwarranted and inappropriate for the basic reasons cited above (correcting negotiated wages through job evaluation adjustments and the limitations of the wage lines and corridors created in the study) but also for additional reasons.

The "corridors" merely reflect statistical bands chosen as appropriate to the wage lines and methodologies used in the study. As noted by the consultant, the wage lines (and thus the corridors) might change if more classes were studied. Further, the width of the corridors themselves is not an absolute truth but merely a statistical reflection of the work done on these particular classes. The fact that the "corridors" should not be viewed as independent, absolute "truths" is illustrated by the fact that had two of the classes covered in the study, one currently female dominated and one male dominated, not been included in the study, use of the consultant's own methodology would have changed the findings on 12 (60%) of the remaining 20 classes in the group. It is thus apparent that no such statistical treatment can be purported as being the absolutely correct answer to equitable pay or even the only way of arriving at this desired result. It is thus also clear that the findings can be viewed, and should be presented, as indicative of areas requiring consideration but not as absolute answers nor as an appropriate basis for extensive changes in the pricing of other classes.

The report recommends unwarranted adjustments for classes not studied.

As noted above, even for the classes studied, the kind of "corrective adjustment" recommended (reducing or increasing the salary range assignment) is inappropriate in the majority of the cases. Unfortunately, the report also recommends parallel adjustments for "all of the classes in the series and other classes to which they have been used in evaluations"(sic). The inappropriateness of this recommendation is clear when the consultant's analysis is reviewed. That analysis, in a few cases, did cover more than one class in a series. For example,

four classes in the Library Asssistant/Technician series were studied. Only one was found to be "priced differently than expected." Obviously, "all of the classes in the series" should not be adjusted as is recommended.

The recommendation that other classes in other series also be adjusted is also faulty. All of the wage line determinations were based solely on the 82 classes studied. Since these represent only 92% of the 1,080 classes in the bargaining units covered, it is inconceivable that the "wage lines", and thus appropriate salary range assignments, would not change if the remaining 92% of the classes were included. Thus, to recommend action on the greater whole based on this small sample is clearly unwarranted and totally extraneous to the purpose of the study.

The earlier documents prepared by the consultant clearly state "we have never intended that the report could be generalized to the entire civil service system. The findings can be generalized to the sex-dominated classes in bargaining units 3, 4, 9 and 13." Consequently, the recommendation to adjust other related classes must be viewed with substantial caution as a matter worthy of consideration but not as an absolute mandate.

The report erroneously concludes that "salary range assignment" and negotiated "wage rates" are so inextricably intertwined that they cannot be separated.

This assertion is absurd. The consultant has performed two separate analyses: one to determine whether the "salary range" (value indicator) is appropriate and the other to determine whether the "pay rate" (as negotiated) is appropriate.

For example, through its "valuing" analysis, the consultant has determined that the class Clinical Psychologist VI should be "valued" highest of all of the classes studied and that its current salary range assignment of SR 26 (highest of all studied classes) is appropriate. Through its "pay rate" analysis, the consultant has determined that this same class is "paid" higher than expected. Thus, the consultant's contention that the two aspects cannot be distinguished is clearly not supported by the evidence.

However, in other portions of the report, the consultant ignores these findings and distinctions and concludes that the class is "overcompensated," should be moved to a lower salary range, and that the reason for the overcompensation is due to some aspect of the job evaluation (valuing system), specifically a PECAB action on a precursor class in 1964 which may have taken into account recruitment difficulty.

It is clear, from the consultant's own research, that the "too high" wage rate is a result of the negotiated wage rates for Salary Range 26 and the wage lines developed by the consultant in the study.

Further, the consultant's attribution of the current "over compensation" to "market conditions (i.e., higher wages in the private sector) which appeared to be the cause of PECAB's action" ignores the consultant's own analysis and is incorrect.

This failure to distinguish between different causes and effects contaminates all of the "assessments of causes of inequities" as well as the conclusions and recommendations.

The report erroneously concludes that market conditions have had a substantial effect on the valuing of state classes

The consultants have done a fair amount of historical research on the 21 classes identified as over and undercompensated, although in some cases they have inexplicably ignored the information in the key source documents. For a few of these classes, there is some indication that market conditions were cited as one (although not necessarily the only) factor considered by PECAB in upgrading the salary range assignment of the class. However, it is important to note that this is not the only factor cited, even for these 21 classes. For example, nurses were upgraded by PECAB in 1982 in order to "recognize it's stature and importance to State medical care" (the Board concurrently rejected comparison with wages in the private sector). From this very limited (and faulty) research, the consultant has leapt to the conclusion that the PECAB does not reprice classes based on their "value" or internal relationships but "has only adjusted classes upward when external factors are used as the basis for the argument for adjustment." Even if this were true, and the example above indicates it is not, the generalization that it is true of all other PECAB actions is obviously unwarranted. 932 classes have been appealed and 214 classes have been repriced since 1961. Even entirely accurate research on 21 classes is unlikely to provide a true picture of a group this much larger. Further, our detailed review of the 36 repricing adjustments actually made during the last 6 years indicates that all of the actions taken were based on internal alignment and none were based on external considerations.

The report fails to integrate the findings of the job evaluation study into the assessment of factors perceived as causing inequities.

One major aspect of the study was to identify and analyze the significance of factors perceived as causing inequities in

the State system. We earlier pointed out to the consultant that the analysis of these factors, which was prepared prior to completion of the job evaluation portion of the study, should be modified to take into account the actual findings of the job evaluation study, where they are pertinent to the perception. Arthur Young has informed us that this would be inappropriate since the factor study was intended to represent perceptions. We certainly agree that "perceptions" exist independent of actual facts. Nevertheless, the report was also expected to obtain relevant factual information and analyze that information in order to reach a fact-based judgment on whether the perception was valid or invalid. While the difficulties encountered by the consultant in integrating the findings of two geographically separated study teams are understood, pertinent information must be integrated if this portion of the report is to fulfill its stated purpose.

Act 157 did not authorize a study of nationwide pay practices, nor even those of the private sector in Hawaii, nor was its intent solely to collect opinions. The purpose of the study was to determine whether there are sex based inequities in the job evaluation and pay systems of Hawaii's State and County governments, and if such were found, to identify the causes of the inequities. The consultant's proposal specifically undertook to determine the reasonableness of each perceived factor, gather relevant data, and thus determine the accuracy/impact of each such factor.

It is thus clear that if there is a perception that "an oversupply of females in the labor market results in depressed wages" it is pertinent to find out 1) whether there is an oversupply of female applicants for State and County jobs and 2) whether females in State and County jobs are actually undervalued and underpaid as a result. No research on availability of applicants was conducted in the study, however, our experience has been that numerous female dominated classes are in short supply. Further, the consultant's own findings are that, in Hawaii state government, females do not consistently receive lower wages than males. The consultant's contention that this finding cannot be considered relevant to the "perception" because it is "not always possible to generalize," misses the point.

This perception is not a "general" one but quite specific (i.e., having to do with wages for female dominated jobs). The job analysis conducted was on female-dominated classes and is thus directly related to the perception. It is this failure to integrate directly relevant information that is of concern.

Numerous methodological concerns indicate that the findings and recommendations need to be conditioned rather than presented as "absolute truths."

1. The sample size is too small to warrant any general conclusions about the system as a whole, specific pay adjustments, and/or appropriate wage lines.

The legislature authorized a study of male and female dominated classes in specific bargaining units to determine whether there was sex-based wage inequity in the existing system. As a result, only 82 classes were studied. This represents only 7.6% of the 1,080 classes in the designated bargaining units. The sample of classes studied is obviously appropriate to the issue: compensation of sex-dominated classes. However, any generalizations about the system as a whole must be approached with extreme caution and appropriately qualified in the report. This is particularly true of any pay rate recommendations.

Recommended pay adjustments are based on the wage lines developed in the course of studying these 82 classes. Wage lines may, correctly, have different slopes. (The "slope" of the wage line determines what actual dollar rate will match each value point.) Slight changes in the "slope" can result in markedly different pay rates for the same value points. The wage lines developed in the study are based on the extremely small percentage of classes in the bargaining units studied (due to the fact that most classes are not sex-dominated or have too few employees for inclusion in the study). As noted in earlier documents prepared by the consultant "the slope [of the wage line] may change as a result of the inclusion of a larger number of classes." Should the slope of the wage line change, different actions on different classes might well be required. This limitation is not adequately presented in the report.

Generalizations from any sample are appropriate only when the sample is known to be representative of (e.g., has been randomly chosen from) the group as a whole. The sample in this case (i.e., sex dominated, journey worker, not less than 10 incumbents) has clearly not been selected randomly from, and probably is not representative of, the group as a whole.

2. The results of the Paired Comparison assessment have been applied in an inappropriate manner.

The Paired Comparison Methodology was selected in order to test whether the existing system was bias free and whether it was being applied in a non-discriminatory manner. It involves comparing each class of work with every other class in order to determine whether they are "equal to," "greater than," or "less than" each other for each of the compensable factors used by the State. While our review indicates some reservations about how the comparisons were made, we believe the final ranking of

classes from low to high represents a reasonable hierarchical ranking of jobs based on these factors with one or two exceptions. Had the consultant stopped this analysis at this point, and merely reached a conclusion that the Arthur Young ranking did or did not correspond with the State ranking, we would have little concern.

However, the subsequent treatment of the data is questionable and the conclusions drawn from that extension are unwarranted. First, the scores from the comparisons were divided into equal bands. For this to be appropriate, one must presume that all "less than" and all "more than" ratings have the same value: an obvious impossibility since "more than" reflects the difference between two very close classes but also is the difference between classes that are genuinely far apart in their value to the employer. For example, Clerk Steno II and Secretary IV are both "more than" Clerk Typist II. However, the fact that the Secretary is much further away from the Clerk Typist than the Clerk Steno does not show up in the analysis and thus is not accounted for in the equal division into bands.

Second, these bands were then directly converted to the available SR's. Contrary to the description of the process in the report (which states that they were divided into equal bands for each SR) the top and bottom bands were actually divided in half prior to conversion to the SRs, for no apparent reason. (Such division might be appropriate if a new system were being developed and extra room was left at the top and bottom for other classes. It is not appropriate where all of the classes being studied and evaluated are known in advance.) This treatment, in and of itself, has had a substantial and unwarranted impact: it affects the recommended salary range (and wage rates) for the majority of the professional classes and one third of the white collar classes.

Finally, 5 separate ratings were constructed from the Paired Comparison ratings: one compared the current SR with the expected SR, and four (using 2 different methodologies) compared the current minimum and maximum pay rates with the projected minimum and maximum pay rates. Common sense would indicate that if five of the six ratings showed that the class was equitably priced/paid, one could be reasonably well assured that this was true. The consultant has chosen to disregard this common sense approach and to decide that if one of the six ratings shows a disparity the class is then unqualifiedly "incorrectly compensated." It would seem that results based on a single rating should be considered and presented as "possible" rather than "absolute" inequities.

3. The recommended wage lines and adjustments for Bargaining Unit 13 classes appear unduly influenced by the different salary schedule in effect for Bargaining Unit 9.

The Steering Committee agreed that nurses could be combined with professional jobs in Unit 13 in making comparative "valuing" assessments. The study, however, has combined actual wage data as well. However, the negotiated wage schedule for nurse differs radically from the negotiated wage schedule for Unit 13, having substantially shorter ranges, higher minimum pay rates and lower maximum pay rates. While specific data requested has not been received, it appears that the "correct" minimum wage line constructed in the study is actually a composite of the Units 9 and 13 schedules. Such combination cannot but result in the finding that Unit 9 classes are overpaid (higher than the composite line) and Unit 13 classes are underpaid (lower than the composite line). Whether or not this is a legitimate conclusion, it is inappropriate to use deviations from the composite line as a basis to recommend repricing. For example, registered nurses, currently at SR 19, would have to be dropped 3 SR's (far below their correct "value" SR) in order to be reduced the \$300-\$400 necessary to achieve their "correct" pay rate "within the corridor."

Various substantive material is inadequately and/or incorrectly reported.

1. The "Reasons for Inequity" are inappropriately documented.

Exhibit 11 which lists "reasons for inequity", raises two concerns: first, the nature of the inequity, i.e., salary range assignment, minimum/maximum wage rate is not shown. This is essential information which can only be identified by searching through other tables. Second, DPS's reasons have been incorrectly stated: in several cases, analysis of the study results clearly illustrates that it is the peculiarities of the existing, negotiated, salary schedules and/or the wage lines constructed in the study that have resulted in the "inequity" finding. In these instances, we had indicated "negotiated schedule" as our reason not the vague and misleading term "collective bargaining."

2. The report incorrectly asserts that actions of the CPD and PECAB are "often influenced by external as well as internal considerations."

This assertion is apparently based on the review of the history of the 21 "inequitable" classes. Our review indicates that the actual facts do not correspond to the findings. Even if they did, however, the sample is far too small (and, by definition, not representative) to warrant this type of generalization.

3. The report contends that the class specifications do not describe the job content data relative to the PECAB factors.

The Minnesota team of job analysts reported, in the worksheets, that with a few exceptions the factors were well described.

4. The report recommends that the PECAB ruling restricting across unit comparisons be revised.

We believe the proposal is insufficiently precise and should permit comparisons only between related classes.

5. The report recommends deleting various classes in favor of horizontal movements across steps.

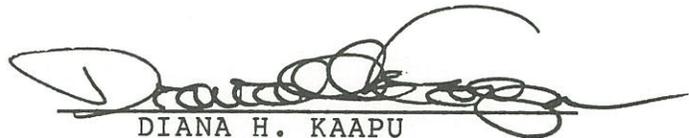
The series used to illustrate this recommendation does not match any existing class structure.

Further, the recommendation assumes that all occupations have entry, journey and senior worker concepts and that all employees, regardless of work assignment, progress through these three phases. This is not the case. We thus see little advantage to the recommended practice but several areas in which increased complexity and confusion might result.

6. The report contends that the State has in the past, responded to market shortages by adjusting the SR for a class.

Contrary to the assertion, the State uses a mechanism of premium pay known as "shortage category." There are currently over a hundred classes, including several of the study classes, for which this premium pay is currently in effect.

7. Additional editorial concerns are shown on the annotated draft, enclosed.

  
DIANA H. KAAPU

Approved/Disapproved:

  
JAMES H. TAKUSHI

12/29/86  
Date



ANNOTATED COPY WITH ARTHUR YOUNG RESPONSES

December 29, 1986

MEMORANDUM TO: JAMES H. TAKUSHI, Director of Personnel Services

FROM: DIANA H. KAAPU, Chief, Classification and Compensation Review Division.

SUBJECT: FINAL DRAFT OF ARTHUR YOUNG REPORT ON JOB EVALUATION STUDY

BACKGROUND

Act 157 authorized a study to determine if there is sex based wage inequity in civil service jobs in certain bargaining units.

The Act also provided that, if such inequity exists, the factors and conditions contributing to the inequity should be determined and corrective action might be recommended.

The Act specified that the parameters of the study were to be bargaining units 3, 4, 9, and 13 and classes in which 70% or more of the incumbents were of the same sex.

Arthur Young was selected to conduct the study and has now submitted a final draft of the study findings.

The study covered 82 male and female dominated classes in bargaining units 3, 9 & 13.

SUMMARY OF FINDINGS AND ASSESSMENT

It is gratifying that the lack of sex-bias in the current State civil service system has been confirmed: the consultant did not find a pattern of sex-based wage discrimination.

While we agree with the basic research performed and most of the factual findings, there are several aspects of the report, as it is currently written, that are of significant concern.

1. The report virtually ignores the fact that the job evaluation system of the State and Counties is based on fundamental comparable worth and pay equity principles, i.e., the concept of valuing jobs based on their content, with jobs reflecting equal skills, responsibility, judgment, etc., being valued equally, regardless of work speciality.

**Arthur Young Response:** Nowhere could we find in legislation or operational procedures any indication that "comparable worth and pay equity principles" were ever considered in the development

of the State and County system. Further, comparable worth principles indicate that all jobs within an organization must be considered in evaluation. Current State practices restrict evaluation to only comparisons of jobs within a bargaining unit as well as other restrictions, therefore, one of the most fundamental comparable worth principles is not in evidence. One could construe from current practices that the existing system does reflect some aspects of comparable worth/pay equity principles, but the essential purpose of the study was to test whether the existing system was in fact consistent with those principles. For such a test to be requested by the Legislature, it would appear there was some doubt as to whether the existing system reflected comparable worth principles.

2. The report incorrectly states, and then highlights, a finding of sex-based "differences." The technical findings in the report (Chapter 3) are that female dominated jobs are more likely to be valued correctly in Bargaining Unit 3, and male jobs are more likely to be valued correctly in Bargaining Unit 13, and also that there is no evidence that the basis for this difference is sex. However, later in the report, in the discussion (Chapter 4) and in the conclusion (Chapter 5) these differences are attributed to sex, in contradiction to the technical findings.

**Arthur Young Response:** The finding of sex-based differences results from the actual value/compensation of jobs of one sex being more frequently found to differ from what would be expected. If a significant percentage of one sex's classes are found to be valued/compensated differently than expected, it may be that sex is one factor contributing to the difference. These differences were found in both of the major bargaining units studied. While we clearly stated in the report that the sex of the class may not be the only reason for the differences, statistical tests of significance for this finding indicated with a 99% confidence level in one bargaining unit and as high as a 90% confidence level in the other unit that sex was a factor.

3. The final draft of Arthur Young's report recognizes that wages for State workers are set through collective bargaining negotiations, and thus is a marked improvement over previous drafts which omitted this significant pay setting factor. However, it continues to state that negotiations have had little impact on the relative pay of jobs. Inasmuch as collective bargaining increases for some of the jobs studied exceed those for others by as much as 47% (in the same bargaining unit) this reflects a serious error. The significance of this error is further compounded by the problems identified in 4 and 5, below.

**Arthur Young Response:** The issue of the impact of collective bargaining on the "relative pay of jobs" is a highly complex one which DPS continues to attempt to treat in a simplistic manner. The salary schedules which exist today are an outgrowth of a

long history of development and reflect relationships originally established by succeeding legislatures prior to collective bargaining. It is true wage negotiations have had an effect on the schedules in more recent years, but for reasons which are explained in detail in the report (pages 84 to 85). We disagree with DPS that such negotiations are the principal cause for all but two classes found to be inequitable. Rather we believe the internal integrity of the salary range hierarchy has been maintained and no random distortions (e.g., 47%) as implied by DPS have occurred.

4. The report identifies 21 classes as "over" or "under" compensated. It attributes all of these "inequities" to the job evaluations system (contending that collective bargaining on rates has had no material influence) despite the fact that the consultant's own assessment shows a majority of these classes (15 of 21) to be "valued" correctly by the existing job evaluations system, but "paid" inappropriately.

**Arthur Young Response:** First, as mentioned above, we did find collective bargaining was a principal cause of two classes being identified as over-compensated, thus their first statement is incorrect. Secondly, we believe there is a distinction between the methods used to identify classes and the causes of the inequity. Relatively straightforward methods were used to identify classes over-or under-compensated in relation to the "value" of the class as determined by the State's job evaluation method, and the "amount compensated" (i.e., dollars). Determining what caused the over- or under- compensation, however, is not that straightforward, as there has been an interaction between value and compensation in the past whose effects cannot be as easily separated out today as DPS suggests. We attribute the inequities for only 6 out of 21 classes (not all as was suggested), to some aspect of the job evaluation "system" as a whole, and only when we could not precisely determine what was the specific cause of the inequity. This was in keeping with our basic assumption that if no other clear cause could be found, some aspect of the system must be the cause of an inequity.

5. Finally, the report recommends specific pay range adjustments for these classes based on the same erroneous compilation of job evaluation and collective bargaining results. It also fails to indicate that any such adjustment must also be assessed for propriety in relation to the remaining classes in the bargaining units (which were not studied due to their lack of sex dominance and/or small size). The report then compounds these key erroneous interpretations by recommending pay range adjustments for other classes not studied.

**Arthur Young Response:** On page 99 we state: "...it will be necessary to undertake a series of "what if" adjustments taking

into account all classes in the study and all related classes not in the study." (emphasis added). In addition, we stated that the inequitable classes in the study were journeyworker and benchmark classes which the State has used to establish relationships with other classes. Thus, those classes which are related to the inequitable journeyworker/ benchmarks would be affected by adjustments to them, and may also have to be adjusted. We have not recommended adjustments for all other classes not studied. We have clarified the language in this recommendation.

6. The report continues to contain other methodological and editorial inadequacies, in part because this draft contains much new material not submitted in the earlier drafts.

**Arthur Young Response:** As these are not identified, we consider this a gratuitous comment, and note our disagreement.

#### DETAILED FINDINGS AND ASSESSMENT

The report fails to describe the underlying "pay equity" principles that govern the State civil service method of job evaluation.

It is unfortunate that a report over a hundred pages long virtually ignores the long-standing focus of Hawaii's civil service legislation, regulations and administrative efforts to provide a system based on pay equity principles. In the report, comparable worth is defined as an approach which "requires jobs of equivalent value to the employer to be paid at the same rate even if the jobs are dissimilar in nature and may command different salaries in the general labor market."

This specific principle has been the foundation of the State civil service job evaluation system for over thirty years. The civil service law of 1955 established the foundation of the present merit system and included the principle "that employees shall be compensated in accordance with the relative levels of the work they do and that throughout the territory work of substantially equal difficulty and complexity will be compensated for in a uniform manner...." (S.L.H. 4-4, 1955).

This principle continues to the present and has been the primary thrust of the ongoing job evaluation endeavors of the State and Counties. In the report, these matters are relegated to a few paragraphs buried in an appendix containing an exhaustive list of other statutes of dubious relevance and omitted in the descriptive and analytical portions.

Hawaii's government has an enviable record of commitment to pay equity since as early as 1955, as noted above, and of having devoted extensive efforts to achieve this end. The results of these efforts are clear. The patterns of pay for our government workers show that

male and female wages are extremely close, and that they are identical for similar jobs except for differences due to job content or longevity. These results have been totally ignored in the Arthur Young report which was intended to address this specific issue.

**Arthur Young Response:** As stated previously, we found no evidence that specific comparable worth or pay equity principles were considered in the development of State policies and procedures. In addition, the excerpt from the civil service law cited by DPS calls attention to the confusion among many people in the field between "equal pay for equal work" and comparable worth. The courts in a number of cases have indicated the equal pay standard is considerably more restrictive than a comparable worth standard -- the former requires that two jobs must be "equal" in job content in order to receive the same pay (i.e., basically the same job although possibly titled differently); comparable worth requires that jobs that are not equal in content but are of similar value to the employer be paid comparably. DPS' citation clearly indicates the equal pay standard, as does other provisions in the HRS summarized in Exhibit 1 of the report.

More important, however, is that a fundamental tenet of comparable worth as it has been understood across the country is that all jobs must be evaluated on the same criteria and using the same weighting of those criteria. In Hawaii, evaluations are limited to within each bargaining unit, the nine standard criteria may or may not be applied uniformly and, as we were told by DPS, the weighting used is not the same for all jobs. It is, thus, incorrect to infer that the State of Hawaii's job evaluation system is based upon comparable worth or pay equity principles. It is true that some practises within the existing system do reflect those advocated by comparable worth, although it is not clear that these were developed with comparable worth principles in mind.

Finally, DPS indicates that patterns for males and females in the State government as a whole are "extremely close" and due to only "differences in job content or longevity." First, as will be discussed in our response to DPS' next comment below, the data upon which DPS bases this assertion is suspect and misleading. Second, the fact that differences in pay are cited as due to differences in job content further indicates that comparable worth principles are not in evidence. Third, a recent survey conducted for the Temporary Commission on Comparable Worth, indicated longevity should not be considered a cause of wage differences in Hawaii state government. We have not addressed the patterns of males and females for the State as a whole because the Act authorizing this study clearly did not request this type of analysis, and instead only requested a review of selected classes which met several defined criteria and were included in only four bargaining units.

The report fails to show that women in state government jobs are substantially better paid, in relation to men, than women in the private sector.

The report contains a chart of nationwide and statewide data showing that women receive substantially lower wages than men (generally 60% of male wages). However, the report lacks the pertinent comparative data on State government employment which shows that within Hawaii State government women are not earning 60 cents on the dollar nor are they relegated to the lower-paying jobs in all occupational areas. Instead, in two areas, including the traditional male-dominated area of skilled crafts, their average wages exceed those of men.

The Arthur Young chart is shown on the next page, followed by pertinent data on Hawaii State government civil service workers.

As can be seen from the second chart, differences in male and female wages in Hawaii State government are slight and believed to be attributable to differences in job content (e.g., Fish and Game Wardens, who exercise police powers and are predominantly male, are paid more than School Security Attendants, both male and female, based on differences in job content) and/or differences in length of service in the job (e.g., the percentage of female Officials and Administrators has risen over the years, indicating a greater proportion of newly hired women in these jobs who thus have less length of service in the jobs and consequently lower placement on the steps of the salary range).

**Arthur Young Response:** DPS has taken the chart used in our report out of context and suggested we are remiss in not examining the State government as a whole even though the Act authorizing the study clearly restricted us to studying only Bargaining Units 3, 4, 9 and 13. First, the chart used in our report was in response to an assertion regarding the Hawaii market as a whole, not specifically State government. Second, we were only authorized to assess jobs in four bargaining units, that were sex-dominated by at least 70% and could be "reasonably compared" -- not the entire State. Third, and probably most important, we believe the chart DPS presents is misleading due to the manner in which the calculations of percentages were made. DPS has based their calculations on data from an EEO table for permanent full-time employees in 1986. The distribution of males and females within the wide, unequal salary ranges in this table is not known, thus all of the males could be at the high end and the females at the lower end or vice versa. The major problem is that due to the varying widths of the ranges and the fact that male/female distribution within the range is unknown, the resulting average percentages calculated by DPS could be in error by as much as 50%. As an example, female wages in the officials and administrators category could be as high as 93% of males but they could also be as low as 65% of males. In order to correctly identify such percentages, actual salaries for females and males would have to be compiled, averaged and com-

pared which was not done. We believe their assertion that actual female/male wage differences are "slight" cannot be accurately substantiated from the data they utilized.

The report fails to emphasize the key finding: the lack of sex based patterns of inequity in the state civil service.

Little attention is devoted in the report to the fact that no pattern of sex-based pay inequities was found. This finding confirms our original belief that the state's civil service job evaluation system does not contain inherently discriminatory features nor has it been applied in a discriminatory manner.

**Arthur Young Response:** In both Chapter 3 and Chapter 5 we clearly state that a consistent pattern of sex-based pay inequity was not found which we believe is sufficient emphasis. However, we also clearly state, that another type of pattern was found, that it was related to sex, and that it was found to be statistically significant in one bargaining unit (99% certain) and significant to a reasonable extent ( as high as 90%) in the other bargaining unit. This second pattern is discussed in more detail in our response to DPS' next comment.

The report incorrectly states the presence of sex-based differences.

Much attention in the report is devoted to something labeled "sex-based differences." The differences in question are that 1) in Bargaining Unit 3, female classes are more often correctly valued than male classes and 2) in Bargaining Unit 13 male classes are more often correctly valued than female classes.

The technical portion of the report indicates that while this difference exists, there is no evidence that the basis for the difference is due to sex. The technical findings state "one of these factors may be the sex dominance of the class, but there is insufficient conclusive evidence from the analysis and value/compensation." (emphasis added). However, a later descriptive chapter states "it was concluded that there appeared to be sex-based differences in the pricing of male and female dominated cases which are not directly related to the value of the classes as determined by the job evaluation method." (Emphasis added) It is clear that no such conclusion was drawn in the technical evaluation. Instead, as the report itself shows, the differences could have been due to a number of factors other than sex (such as recruitment difficulties, etc.). Nor is coincidence ruled out.

Finally, and most importantly from a practical point of view, it is not sufficiently emphasized in the report that these "differences" include "over-compensated" as well as "under-compensated" classes. For example, in Unit 13, the "overly variable" female classes include 3 female-dominated classes which are compensated "higher than expected" and only 2 female-dominated classes which are

compensated "lower than expected."

**Arthur Young Response:** First, in this comment DPS has taken several statements in the report out of context. The dispersion analysis results in the finding that one of the factors is the sex dominance of the class, but there is insufficient conclusive evidence to indicate it is the only factor. As previously stated, sex dominance was found to be a statistically significant finding which definitely rules out the possibility of "coincidence." In order to ensure a proper interpretation, we have clarified the relevant language in the report. Regardless of the number of classes in the study, the fact that a strong statistical relationship (i.e., correlation) was found is significant.

The report fails to correctly assess the impact of collective bargaining on wages.

The final draft of the report does, at last, recognize that actual wages for State and government workers are set through collective bargaining.

However, the report dismisses the impact of negotiated wages on the assumption that wages, within a bargaining unit, have been negotiated equally for all: "Collective bargaining negotiations generally provide across the board increases within a unit. It is possible (for) ... certain SR's within a unit to receive slightly different amounts of increase, ... however, this has rarely occurred." (emphasis added). A review of actual pay schedules, however, clearly shows that this is not correct: within a single bargaining unit wages have not increased either equally or proportionally since the advent of collective bargaining. For example, the report shows that Bargaining Unit 3 received an average wage adjustment of 152% and apparently concludes that this is what was accorded to all employees at all SR's and steps. What the report ignores is the changes to the relative compensation of the classes with the bargaining unit. For example, some rates in some salary ranges have actually been increased 47% more than others in BU 3. The point, of course, is not whether the old rates or the new rates are more appropriate: it is merely that collective bargaining has resulted in significantly different relative pay rates within a single bargaining unit.

**Arthur Young Response:** As previously stated we disagree with DPS regarding the impact of collective bargaining negotiations on "relative compensation." DPS' comment above suggests that negotiations have resulted in some distortion in the relationships between salary ranges within a single bargaining unit, such that one salary range may have increased by as much as 47% more than another on a random basis. Following our analysis of the data DPS used in coming to their conclusion, we find just the opposite. There have not been random amounts of increase, rather while the SR's have not received the same percentage increase, there has been a uniform pattern of increases from

1970 (prior to collective bargaining) to the present where each lower SR has received a slightly larger percentage increase than the next highest SR. What this means is that the integrity of the salary range hierarchy has been maintained. Moreover, the overall effect of these negotiated increases has been to narrow the overall range in dollars from the lowest to highest SR. What this suggests is that the differences in the amount of compensation between each SR has become compressed although the relationships between ranges still essentially reflect the relationships that existed in 1970.

Finally, DPS suggests that collective bargaining has altered the compensation relationships and this is the reason that certain classes were found to be over- and under-compensated. Since the regression analysis used reflects the relative differences in pay and value, the changes brought about by collective bargaining have already been accounted for in the analysis. If DPS' argument is valid, one would expect to find a greater number of classes paid higher than expected at the upper-most ends of the regression lines, which is not the case. We found a general distribution of both over- and under-payment throughout the range of job value. For all of these reasons, we continue to discount the impact of collective bargaining as a primary cause of the over- and under-compensated classes.

Because negotiated wages are assumed to affect all equally, the report fails to distinguish between the impact of collective bargaining on wages and the impact of the merit system on "valuing."

The compensation of employees in State government is based on two separate processes. First, job evaluation or "valuing." This process, which involves numerous parties and activities results in a single Salary Range assignment for all employees in the same class of work. This Salary Range is set in accordance with the principle (shown above and also contained in the Personnel Rules of the State) of placing jobs of equal value at the same Salary Range, those of greater value at higher Salary Ranges, and those of lesser value at lower Salary Ranges.

The second process, which has been the exclusive determinant of actual wages since 1973, is collective bargaining. The collective bargaining process involves negotiations between the exclusive representative for the particular bargaining unit and the employer. These negotiations determine the actual pay rates for each Salary Range, as well as the number of steps (pay rates) in the range, and the dollar amount of each step. Separate schedules are negotiated for each bargaining unit. All such costs packages are then approved by the legislature.

It is disturbing that, although the report recognizes these fundamentally different processes (which have different objectives as well as methodologies), it continues to jumble the findings on Salary Range valuing and negotiated pay rates. This confuses rather than illuminates their impact. The design methodology proposed by

the consultant, approved by the Steering Committee, and incorporated in the study, provides specific and different assessments of these two different aspects of the overall compensation system (valuing and wage setting). However, the narrative material in this report treats the two different processes as a single one. Further, it labels this composite as "the job evaluation system" which, elsewhere in the report, is used to refer to the relative valuing system, but not to negotiating wages.

The report contends that this is appropriate because there has been a constant interaction between real wages and "valuing" (which is not supported by the evidence in the sense it is used here) and because wages have been presumed to be negotiated "equally for all."

**Arthur Young Response:** Once again we make a distinction between methodology and causes. The Act and the steering committee established certain parameters within which the study had to be conducted. These parameters were used as the basis for developing a methodology for conducting the study. The methodology involved identifying inequitable classes based upon two approaches: value and compensation. The methodology itself involved a relatively straightforward approach of comparing our independently derived expected value and compensation for each class, to their actual value and compensation as determined by the State. It is possible to determine over-or under-valued classes, separately from over-or-under compensated classes. What we have determined to be not possible is to simply accept that the only cause of the inequity is due to how it has been valued or its compensation. The present value and compensation of most of these classes have been derived over a history that predates collective bargaining and in some cases the current practises used by DPS in determining their value. Over this history a number of influences have been involved in determining both value and compensation. In addition, both DPS and HGEA have suggested a variety of such influences as having had an effect. We thus believe it would be irresponsible for us to suggest such a simplistic rationale as all classes found to be inequitable on a compensation analysis are only due to negotiated wages. We believe it more realistic to assume a possibility of multiple causes for each inequity which is why, once the class was identified, we have examined all possible causes.

The report incorrectly attributes all instances of purported under and over compensation to the job evaluation system, without regard to the impact of negotiated wages.

As a result of the incorrect apprehension of the impact of collective bargaining on wage schedules, the consultant continues to insist that "insufficient" or "excessive" dollar differentials exist between classes, and that these are caused by "some aspect of the job evaluation system" (but not collective bargaining). Since some of the consultant's judgments on "improper differentials" are based on variations as low as 4.8%, the range of collective bargaining

differentials, which is as high as 47%, is obviously significant.

This inappropriate consolidation is the direct cause of the consultant's conclusion that several professional classes are inequitably paid. All but one of these determinations have been identified exclusively through the consultant's "wage analysis", although the consultant's "valuing analysis" clearly shows that all professional classes are equitably valued.

The report then extends this inappropriate finding to the equally inappropriate conclusion that there are "problems" with the "professional pattern." The "professional pattern" is a supplementary guideline, developed during the massive overhaul of the classification plan that took place during the late '60's, which is designed to ensure that all professional jobs (regardless of occupational specialty) are evaluated/valued consistently based on the intrinsic job difficulty and responsibility. the "problems" within the existing "professional pattern" as identified by the consultant are: (1) there is a greater proportion of female-dominated classes than male-dominated classes at the lowest salary range level and, conversely, a greater proportion of male-dominated classes at higher salary range levels, and (2) "only 3 or 4 salary range levels" are used for these classes. However, the Arthur Young job evaluation results, based on the Arthur Young DBM methodology (represented as free of sex bias) results in (1) twice as many female-dominated classes as male-dominated classes at the lowest level, and twice as many male-dominated classes at the highest level. These proportions are identical to those found in the existing State system. Further, the same Arthur Young system (2) "crowds" all of these same professional jobs into 3 "DBM levels," much as the State system does. For the consultant to contend that the Hawaii system is faulty because of these parallel results is absurd.

**Arthur Young Response:** This comment is largely repetitive of previous comments. Our response is the same here: once classes were identified as inequitable we looked at all possible causes for the inequity and for 15 of the 21 classes found other influences (including collective bargaining) to be a significant cause, rather than only the job evaluation system as stated by DPS. DPS again suggests there has been random variation in negotiated salary ranges which we have previously concluded is inaccurate. The comparison between a relative percentage (4.8%) that "moves" along a line is inappropriate with a fixed wage percentage (47%), especially when the latter is considered to be derived from inappropriate calculations from the data.

DPS further questions our suggestion that the professional pricing pattern may warrant attention, by comparing it to one of the methods used in the study (Decision Band Method). First, their comparison to DBM is not relevant in this case as the existing State method is the issue, not DBM. Second, they have misrepresented the comparison between DBM and the professional pricing pattern in one essential way: the three DBM levels are contiguous and represent a natural progression from one level to the

next where each level is more than or less than the next level; the State's professional pricing pattern's levels (i.e., SR's 18, 21, 24, 26) are not contiguous and instead result in a predetermined relative relationship between jobs. The fact that there is a predetermined pattern suggests that all professional classes must be fitted into the pattern regardless of what their actual value may be (e.g., a class that might actually be valued at SR 19, could be forced down to an SR 18 or upward to a 21). For this reason, we have suggested that the pattern should be further considered and examined.

The report recommends inappropriate salary range adjustments for some of the classes studied.

The report recommends adjustments of Salary Ranges for all 21 classes. We are certainly desirous of taking appropriate action to eliminate any genuine inequity. However, the recommended actions must be approached carefully and the appropriate mechanism must be used. First, contrary to the assertions in the report, adjustment of Salary Range assignment is clearly not appropriate in over three quarters of the cases where the Arthur Young analysis shows that the current salary range is appropriate, although the negotiated pay rate may be "higher" or "lower" than expected. To insist that such adjustments must be made through the Salary Range assignment process is akin to recommending that the "valuing" be changed to match the going pay rate in the community. For the State to blindly adjust the salary range assignment in order to achieve a different pay rate under such circumstances would (1) disregard the basic tenet of pay equity, appropriate relationships based on job content, 2) negate the effect of the current, legitimately negotiated, salary schedules, and 3) likely require further readjustments whenever new salary schedules are negotiated.

Second, the report fails to make clear the essential point that the recommendations are based on the "wage lines" developed in the study. A "wage line" is simply a hypothetical line on a graph which shows the relationship between wage rates and measures of value. The wage lines developed in this study are, of course, dependent on the classes included in the study. Nevertheless, any responsible adjustments must take into account proper relationships with the 92% of the classes in the same bargaining units which were not studied. This must be clarified because the imprecise cautionary notes in the report fail to address this fundamental point.

However, the consultant recommends that all "inequitable classes be adjusted to fit "within the corridors." (The consultant has properly provided corridors, sandwiching the proposed "wage lines," in order to account for a margin of error in the analysis.) Such a recommendation is clearly unwarranted and inappropriate for the basic reasons cited above (correcting negotiated wages through job evaluation adjustments and the limitations of the wage lines and corridors created in the study) but also for additional reasons.

The "corridors" merely reflect statistical bands chosen as appropriate to the wages lines and methodologies used in the study. As noted by the consultant, the wage lines (and thus the corridors) might change if more classes were studied. Further, the width of the corridors themselves is not an absolute truth but merely a statistical reflection of the work done on these particular classes. The fact that the "corridors" should not be viewed as independent, absolute "truths" is illustrated by the fact that had two of the classes covered in the study, one currently female dominated and one male dominated, not been included in the study, use of the consultant's own methodology would have changed the findings on 12 (60%) of the remaining 20 classes in the group. It is thus apparent that no such statistical treatment can be purported as being the absolutely correct answer to equitable pay or even the only way of arriving at this desired result. It is thus also clear that the findings can be viewed, and should be presented, as indicative of areas requiring consideration but not as absolute answers nor as an appropriate basis for extensive changes in the pricing of classes.

**Arthur Young Response:** We believe the recommendation to adjust salary ranges for these 21 classes is legitimate because: 1) there is no clear-cut evidence that classes identified only on compensation analyses are in fact solely caused by negotiated wages, that instead a variety of influences have been identified as causes; 2) we are suggesting adjustments to achieve internal alignment, which is not at all the same as attempting to achieve external alignment with the market as has been suggested; 3) it represents the only practical means of correcting the inequity as it seems unreasonable and dangerous to change the amount of an entire salary range to which many classes have been assigned on the basis of only a limited number of inequitable classes; 4) the classes identified were found to be inequitable based on very conservative rules such that they were found on not one but multiple analyses, and the corridors which were established were generous; 5) we clearly stated that a series of trial adjustments should be made before a final action taken so that we were not suggesting any "absolute truths," only that these classes clearly warrant consideration and a general process that should be used in their adjustment. In addition, it should be pointed out that we studied 33% of the journeyworker classes in Bargaining Units 3 and 4, and 11% of those in Units 9 and 13; the 8% which has been suggested is misleading because of the guidelines established by the committee and other study parameters.

The report recommends unwarranted adjustments for classes not studied.

As noted above, even for the classes studied, the kind of "corrective adjustment" recommended (reducing or increasing the salary range assignment) is inappropriate in the majority of the cases. Unfortunately, the report also recommends parallel adjustments for "all of the classes in the series and other classes to which they have been used in evaluations"(sic). The inappropriateness of this

recommendation is clear when the consultant's analysis is reviewed. That analysis, in a few cases, did cover more than one class in a series. For example, four classes in the Library Assistant/Technician series were studied. Only one was found to be "priced differently than expected." Obviously, "all of the classes in the series" should not be adjusted as is recommended.

The recommendation that other classes in other series also be adjusted is also faulty. All of the wage line determinations were based solely on the 82 classes studied. Since these represent only 92% of the 1,080 classes in the bargaining unit covered,, it is inconceivable that the "wage lines", and thus appropriate salary range assignments, would not change if thee remaining 92% of the classes were included. Thus, to recommend action on the greater whole based on this small sample is clearly unwarranted and totally extraneous to the purpose of the study.

The earlier documents prepared by the consultant clearly state "we have never intended that the report could be generalized to the entire civil service system. The findings can be generalized to the sex-dominated classes in bargaining units 3, 4 9 and 13." Consequently, the recommendation to adjust other related classes must be viewed with substantial caution as a matter worthy of consideration but not as an absolute mandate.

**Arthur Young Response:** The above quotation taken from page 99 deletes the first portion of the sentence which only suggests that classes in the series would be "affected", not necessarily that "parallel adjustments" would be required. Later in their comment DPS suggests we recommend adjustments to classes in other series. A key word, however, was deleted. We suggested that if adjustments were made to journeyworker and benchmark classes which have been used by the State and Counties in establishing relationships between classes, then adjustments to related classes must be considered. We never suggested there was an "absolute mandate" to make such adjustments to all classes.

The report erroneously concludes that "salary range assignment" and negotiated 'wage rates" are so inextricably intertwined that they cannot be separated.

This assertion is absurd. The consultant has performed two separate analyses: one to determine whether the "salary rage" (value indicator) is appropriate and the other to determine whether the "pay rate" (as negotiated) is appropriate.

For example, through its "valuing" analysis, the consultant has determined that the class Clinical Psychologist VI should be "valued" highest of all of the classes studied and that its current salary range assignment of SR 26 (highest of all studied classes) is appropriate. Through its "pay rate" analysis, the consultant has determined that this same class is "paid" higher than expected. Thus, the consultant's contention that the two aspects cannot be

distinguished is clearly not supported by the evidence.

However, in other portions of the report, the consultant ignores these findings and distinctions and concludes that the class is "overcompensated," should be moved to a lower salary range, and that the reason for the overcompensation is due to some aspect of the job evaluation (valuing system), specifically a PECAB action on a precursor class in 1964 which may have taken into account recruitment difficulty.

It is clear, from the consultant's own research, that the "too high" wage rate is a result of the negotiated wage rates for Salary Range 26 and the wage lines developed by the consultant in the study.

Further, the consultant's attribution of the current "over compensation" to "market conditions (i.e., higher wages in the private sector) which appeared to be the cause of PECAB's action" ignores the consultant's own analysis and is incorrect.

This failure to distinguish between different causes and effects contaminates all of the "assessments of causes of inequities" as well as the conclusions and recommendations.

**Arthur Young Response:** Once again we distinguish between the process by which classes were determined to be inequitable and the cause(s) of the inequity, and the comment is essentially repetitive of previous comments. We believe we have sufficiently explained this distinction earlier, and our reasons for the distinction. We do not believe this approach led to any "contamination", rather it was the only responsible approach which could have been taken. The fact that there were cases where a class was found to be inequitably valued but not inequitably compensated and vice versa, as we have suggested in the report, indicates both DPS and HGEA must together consider the most appropriate adjustment for each class.

The report erroneously concludes that market conditions have had a substantial effect on the valuing of state classes

The consultants have done a fair amount of historical research on the 21 classes identified as over and undercompensated, although in some cases they have inexplicably ignored the information in the key source documents. For a few of these classes, there is some indication that market conditions were cited as one (although not necessarily the only) factor considered by PECAB in upgrading the salary range assignment of the class. However, it is important to note that this is not the only factor cited, even for these 21 classes. For example, nurses were upgraded by PECAB in 1982 in order to "recognize it's stature and importance to State medical care" (the Board concurrently rejected comparison with wages in the private sector]. From this very limited (and faulty) research, the consultant has leapt to the conclusion that the PECAB does not reprice

classes based on their "value" or internal relationships but "has only adjusted classes upward when external factors are used as the basis for the argument for adjustment." Even if this were true, and the example above indicates it is not, the generalization that it is true of all other PECAB actions is obviously unwarranted. 932 classes have been appealed and 214 classes have been repriced since 1961. Even entirely accurate research on 21 classes is unlikely to provide a true picture of a group this much larger. Further, our detailed review of the 36 repricing adjustments actually made during the last 6 years indicates that all of the actions taken were based on internal alignment and none were based on external considerations.

**Arthur Young Response:** We would like to point out that in our interviews with DPS, they suggested various types of market conditions as causes for a number of the classes identified as over/under-compensated, including the nurses which they used as an example. We conducted our own independent review of material made available by DPS which in most cases corroborated these causes identified in their statement. For DPS to now suggest that these are not the correct causes, we consider to be highly suspect and not in keeping with the generally high level of cooperation and assistance they have provided us throughout the course of this study. We cannot comment on the conclusions they have drawn from the "six years" of PECAB decisions they reviewed, nor even on what basis these years were selected. Our results have only been "generalized" to the 21 classes, and not the State as a whole.

The report fails to integrate the findings of the job evaluation study into the assessment of the factors perceived as causing inequities.

One major aspect of the study was to identify and analyze the significance of factors perceived as causing inequities in the State system. We earlier pointed out to the consultant that the analysis of these factors, which was prepared prior to the completion of the job evaluation portion of the study, should be modified to take into account the actual findings of the job evaluation study, where they are pertinent to the perception. Arthur Young has informed us that this would be inappropriate since the factor study was intended to represent perceptions. We certainly agree that "perceptions" exist independent of actual facts. nevertheless, the report was also expected to obtain relevant factual information and analyze that the perception was valid or invalid. While the difficulties encountered by the consultant in integrating the findings of two geographically separated study teams are understood, pertinent information must be integrated if this portion of the report is to fulfill its stated purpose.

Act 157 did not authorize a study of nationwide pay practices, nor even those of the private sector in Hawaii, nor was its intent solely to collect opinions. The purpose of the study was to deter-

mine whether there are sex based inequities in the job evaluation and pay systems of Hawaii's State and County governments, and if such were found, to identify the causes of the inequities. The consultant's approach specifically undertook to determine the reasonableness of each perceived factor, gather relevant data, and thus determine the accuracy/impact of each such factor.

It is thus clear that if there is a perception that "an oversupply of females in the labor market results in depressed wages" it is pertinent to find out 1) whether there is an oversupply of female applicants for State and County jobs and 2) whether females in State and County jobs are actually undervalued and underpaid as a result. No research on availability of applicants was conducted in the study, however, our experience has been that numerous female dominated classes are in short supply. Further, the consultant's own findings are that, in Hawaii state government, females do not consistently receive lower wages than males. The consultant's contention that this finding cannot be considered relevant to the "perception" because it is "not always possible to generalize," misses the point.

This perception is not a "general" one but quite specific (i.e., having to do with wages for female dominated jobs). The job analysis conducted was on female-dominated classes and is thus directly related to the perception. It is this failure to integrate directly relevant information that is of concern.

**Arthur Young Response:** Our reasons for separating the perceived factors and actual causes are the perceived factors were identified from a number of interviews where those interviewed were asked what general aspects of the existing overall job evaluation system might be contributing to inequities. As DPS has frequently suggested, the classes studied represent only a sample of the total classes within the State and were selected on a series of legislated and other criteria. We have thus agreed that it is not possible to generalize results found for this study sample to the system as a whole. The perceived factors were researched separately from the causes of the 21 classes, and conclusions reached solely on that research. To attempt to integrate the results of the two, as DPS suggests, we believe is inappropriate.

Numerous methodological concerns indicate that the findings and recommendations need to be conditions rather than presented as "absolute truths."

1. The sample size is too small to warrant any general conclusions about the system as a whole, specific pay adjustments, and/or appropriate lines.

The legislature authorized a study of male and female dominated classes in specific bargaining units to determine whether there was sex-based wage inequity in the existing system. As a result, only

82 classes were studied. This represents only 7.6% of the 1,080 classes in the designated bargaining unit. The sample of classes studied is obviously appropriate to the issue: compensation of sex-dominated classes. However, any generalizations about the system as a whole must be approached with extreme caution and appropriately qualified in the report. This is particularly true of any pay rate recommendations.

Recommended pay adjustments are based on the wage lines developed in the course of studying these 82 classes. Wage lines may, correctly, have different slopes. (The "slope" of the wage line determines what actual dollar rate will match each value point.) Slight changes in the "slope" can result in markedly different pay rates for the same value points. The wage lines developed in the study are based on the extremely small percentage of classes in the bargaining units studied (due to the fact that most classes are not sex-dominated or have too few employees for inclusion in the study). As noted in earlier documents prepared by the consultant "the slope (of the wage line) may change as a result of the inclusion of a larger number of classes." Should the slope of the wage line change, different actions on different classes might well be required. This limitation is not adequately presented in the report.

Generalization from any sample are appropriate only when the sample is known to be representative if (e.g., has been randomly chosen from) the group as a whole. The sample in this case (i.e., sex dominated, journey worker, not less than 10 incumbents) has clearly not been selected randomly from, and probably is not representative of, the group as a whole.

**Arthur Young Response:** First, DPS has misrepresented the sample used in the study. The initial sample parameters were established by Act 157. Journeyworker and benchmark classes were then selected as the focus of the study for the explicit reason that the State and Counties have used these classes to develop relationships to other classes within their series, and a number of other classes as well in the case of benchmark classes. To imply that only a small number of classes was studied as DPS has, is thus not entirely correct, as these classes are in effect a sub-sample of all of their related classes, and as such results found for this sub-sample can be generalized to a much larger sample of classes within the overall bargaining unit. We have, however, taken a more conservative approach, and only suggested that results from our sample of 82 classes should be considered in relation to the related classes.

The classes selected for the study sample are representative of other sex-dominated classes in these bargaining units. Thus, this is a sufficient basis on which to draw our conclusions and generalize results to all other sex-dominated classes in these units. Furthermore, while all statistical sampling requires some estimation process, we believe and have suggested that this evidence of sex-based differences warrants further examination of classes not studied as stated on page 56.

2. The results of the Paired Comparison assessment have been applied in an inappropriate manner.

The Paired Comparison Methodology was selected in order to test whether the existing system was bias free and whether it was being applied in a non-discriminatory manner. It involves comparing each class of work with every other class in order to determine whether they are "equal to," "greater than," or "less than" each other for each of the compensable factors used by the State. While our review indicates some reservations about how the comparisons were made, we believe the final ranking of classes from low to high represents a reasonable hierarchical ranking of jobs based on these factors with one or two exceptions. Had the consultant stopped this analysis at this point, and merely reached a conclusion that the Arthur Young ranking did not correspond with the State ranking, we would have little concern.

However, the subsequent treatment of the data is questionable and the conclusions drawn from that extension are unwarranted. First, the scores from the comparisons were divided into equal bands. For this to be appropriate, one must presume that all "less than" and all "more than" ratings have the same value: an obvious impossibility since "more than" reflects the difference between two very close classes but also is the difference between classes that are genuinely far apart in their value to the employer. For example, Clerk Steno II and Secretary IV are both "more than" Clerk Typist II. However, the fact that the Secretary is much further away from the Clerk Typist than the Clerk Steno does not show up in the analysis and this is not accounted for in the equal division into bands.

Second, these bands were then directly converted to the available SR's. Contrary to the description of the process in the report (which states that they were divided into equal bands for each SR) the top and bottom bands were actually divided in half prior to conversion to the SR's, for no apparent reason. (Such division might be appropriate if a new system were being developed and extra room was left at the top and bottom for other classes. It is not appropriate where all of the classes being studied and evaluated are known in advance.) This treatment, in and of itself, has had a substantial and unwarranted impact: it affects the recommended salary range (and wage rates) for the majority of the professional classes and one third of the white collar classes.

Finally, 5 separate ratings were constructed from the Paired Comparison ratings: one compared the current SR with the expected Sr, and four (using 2 different methodologies) compared with the current minimum and maximum pay rates with the projected minimum and maximum pay rates. Common sense would indicate that if five of the six ratings showed that the class was equitably priced/paid, one could be reasonably well assured that this was true. The consultant has chosen to disregard this common sense approach and to decide

that if one of the six ratings shows a disparity the class is then unqualifiedly "incorrectly compensated." It would seem that results based on a single rating should be considered and presented as "possible" rather than "absolute" inequities.

**Arthur Young Response:** It has been suggested that we should have stopped our paired comparison after we had arrived at a hierarchical ranking and compared it to the state ranking. Methodologically, this is not possible. Some grouping of raw data points had to be made in order to compare SR's to the point distribution. We did this by dividing the points into groups which assumes that equal groupings are superior methodologically than any other possible grouping. Further, since a corridor of  $\pm 2$  SR groupings was used to determine if a class was inequitably valued, this provides sufficient variation to account for differences in "cut points" which DPS suggests should have been made.

While it has been suggested that we should have used a greater number of analyses to identify if a class was inequitably priced/paid, and that our decision rules resulted in "absolute" inequities, rather than "possible" inequities. We believe the data charts and decision rules that were applied and the basic methodological approach taken are sound. This called for two different methods to be used. Then, we separated the inequities found from valuing, from the inequities found from compensation. The decision rules used identified that 2 out of 3 value comparisons (at least one on DBM and one on PC) or 2 out of 3 dollar comparisons (one on DBM and at least one on PC) had to show the class as inequitable before the class was included on the list of inequitable classes. This is an extremely conservative set of decision rules, thus, our results are not based on a single rating as DPS alleges, nor were they suggested as "absolute" inequities, but inequities found on the basis of the classes studied.

3. The recommended wage lines and adjustments for Bargaining Unit 13 classes appear unduly influenced by the different salary schedule in effect for Bargaining Unit 9.

The Steering Committee agreed that nurses could be combined with professional jobs in Unit 13 in making comparative "valuing" assessments. The study, however has combined actual wage data as well. However, the negotiated wage schedule for nurse differs radically from the negotiated wage schedule for Unit 13, having substantially shorter ranges, higher minimum pay rates and lower maximum pay rates. While specific data requested has not been received, it appears that the "correct" minimum wage line constructed in the study is actually a composite of the Units 9 and 13 schedules. Such combination cannot but result in the finding that Unit 9 classes are overpaid (higher than the composite line) and Unit 13 classes are underpaid (lower than the composite line). Whether or not this is a legitimate conclusion, it is inappropriate to use deviations from

the composite line as a basis to recommend repricing. For example, registered nurses, currently at SR 19, would have to be dropped 3 SR's (far below their correct "value" SR) in order to be reduced the \$300-\$400 necessary to achieve their "correct" pay rate "within the corridor."

**Arthur Young Response:** DPS suggests that we should not have included Unit 9 jobs with Unit 13 jobs for the compensation analysis and as a result the wage lines are unduly influenced by the higher wages for the RPN's. Contrary to DPS' assertion, we provided additional regression lines, excluding the RPN's, for the PC point analysis. We found no difference in the Unit 13 classes found to be paid inequitably. This finding indicates that the inclusion of the two Unit 9 classes would not materially affect the results.

Various substantive material is inadequately and/or incorrectly reported.

1. The "Reasons for Inequity" are inappropriately documented.

Exhibit 11 which lists "reasons for inequity", raises two concerns: first, the nature of the inequity, i.e., salary range assignment, minimum/maximum wage rate is not shown. This is essential information which can only be identified by searching through other tables. Second, DPS' reasons have been incorrectly stated: in several cases, analysis of the study results clearly illustrates that it is the peculiarities of the existing, negotiated, salary schedules and/or the wage lines constructed in the study that have resulted in the "inequity" finding. In these instances, we had indicated "negotiated schedule" as our reason not the vague and misleading term "collective bargaining."

**Arthur Young Response:** While we acknowledge DPS' comments, we do not believe their concerns are material, and that our documentation is appropriate.

2. The report incorrectly asserts that actions of the CPD and PECAB are "often influenced by external as well as internal considerations."

This assertion is apparently based on the review of the history of the 21 "inequitable" classes. Our review indicates that the actual facts do not correspond to the findings. Even if they did, however, the sample is far too small (and, by definition, not representative) to warrant this type of generalization.

**Arthur Young Response:** We have had no way of evaluating DPS' review of this limited number of years of data and especially its relevance to the 21 classes. We believe that the findings regarding PECAB are legitimate, and sufficient to warrant "consideration" of alternatives. In addition, from our interviews

with knowledgeable individuals in the community, it is very apparent that PECAB is widely regarded as having a lack of credibility, even among individuals within DPS. Because it has such an important role, its credibility should not be so questionable. For this reason alone, we believe PECAB should be more carefully examined.

3. The report contends that the class specifications do not describe the job content data relative to the PECAB factors.

The Minnesota team of job analysts reported, in the worksheets, that with a few exceptions the factors were well described.

**Arthur Young Response:** It is true we found the job content well described, however, we found it extremely difficult if not impossible in many cases to audit how the content was related to the nine factors in order to arrive at their final evaluation decision. The fact that there is no description of how the decision is derived and DPS has stated it takes 3 years for someone to become competent in their method (an excessively long time period), suggests that improvements could be made.

4. The report recommends that the PECAB ruling restricting across unit comparisons be revised.

We believe the proposal is insufficiently precise and should permit comparisons only between related classes.

**Arthur Young Response:** We believe our recommendation is sufficiently precise for the purposes of this report. DPS can of course suggest further clarification they believe to be important.

5. The report recommends deleting various classes in favor of horizontal movements across steps.

The series used to illustrate this recommendation does not match existing class structure.

Further, the recommendation assumes that all occupations have entry, journey and senior worker concepts and that all employees, regardless of work assignment, progress through these three phases. This is not the case. We thus see little advantage to the recommended practice but several areas in which increased complexity and confusion might result.

**Arthur Young Response:** The example was not designed to duplicate an existing class series, but illustrate the basic nature of such series. We never suggested the recommended approach should be applied to every class, but that they should review

the various series' structures and determine where it would be appropriate to reduce levels that could result in greater system efficiency.

6. The report contends that the State has in the past, responded to market shortages by adjusting the SR for a class.

Contrary to the assertion, the States uses a mechanism of premium pay known as "shortage category." There are currently over a hundred classes, including several of the study classes, for which this premium pay is currently in effect.

**Arthur Young Response:** DPS is correct in saying that there are currently shortage categories. However, this "mechanism" was not established until only recently. As represented to us by DPS in numerous discussions, prior to this mechanism, adjustments were made to SR's in response to market shortages. We, therefore, believe our statements are correct.

