

JUSTIFICATION FOR NON-COMPETITIVE PROCUREMENT

COMPLETE THIS SECTION IF NEW CONTRACT, TERM AGREEMENT OR PURCHASE ORDER

For contract(s) or purchase order, answer applicable questions in each of the 4 major subject areas below in accordance with the Instructions for Preparation of Non-Competitive Procurement Form on the reverse side.

Request that negotiations be conducted only with Jeanneret & Assoc. for the product and/or services described herein.

This is a request for: _____ (One-Time Contract or P.O. per Requisition # _____, copy attached) or _____ Term Agreement or _____ Delegate Agency (Check one). If Delegate Agency, this request is for "blanket approval" of all contracts within the _____ program. (Attach List)

COMPLETE THIS SECTION IF AMENDMENT OR MODIFICATION TO CONTRACT

Describe in detail the change in terms of dollars, time period, scope of services, etc., its relationship to the original contract and the specific reasons for the change. Indicate both the original and the adjusted contract amount and/or expiration date with this change, as applicable. Attach copy of all supporting documents. Request approval for a contract amendment or modification to the following:

Contract #: T 1924 2008-01 Company or Agency Name: Jeanneret & Assoc.

Specification #: B1924 2008 Contract or Program Description: Police & Fire Exams
Mod #: _____ (Attach List, if multiple)

Adrienne Bryant 7-7311 Adrienne Bryant Personnel 5-12-05
Originator Name Telephone Signature Department Date

Indicate SEE ATTACHED in each box below if additional space needed:

() PROCUREMENT HISTORY	see attached
() ESTIMATED COST	\$1,257,300.00
() SCHEDULE REQUIREMENTS	ASAP
() EXCLUSIVE OR UNIQUE CAPABILITY	see attached
() OTHER	

APPROVED BY: A. Bryant 5-12-05
DEPARTMENT HEAD OR DESIGNEE DATE BOARD CHAIRPERSON DATE

INTEROFFICE MEMORANDUM

TO: Stephanie Thibodeaux
Office of Procurement

FROM: Adrienne L. Bryant, 
Managing Deputy Commissioner

DATE: May 12, 2005

RE: Sole Source Modification Request for Jeanneret & Associates

I am requesting a modification to the sole source contract between the City of Chicago and Jeanneret & Associates- Specification B19242008, Contract # T19242008-01. A modification is necessary to add new services and additional funding. The work will include development of an examination for the ranks of Chicago Police Department Sergeant and Lieutenant and the selection of an instrument for a Chicago Fire Department firefighter entrance examination. Attached is a scope of services for the Chicago Police Department examinations and a scope for the instrument selection.

The Department of Personnel expects to offer examinations for the rank of police sergeant and lieutenant by the first quarter of 2006. The entrance examination for firefighter is expected to be administered second quarter 2006.

Since 1993, the City of Chicago has utilized Jeanneret & Associates for the development of promotional exams for the Chicago Police Department. They are responsible for developing the Detective exam (1993, 1999 and 2004/5), Sergeant exam (1998 and 2001/2), Lieutenant exam (1998 and 2001/2) and the Captain selection process (2000 and 2005). As part of the promotion process, Jeanneret also created a merit selection component for the Sergeant and Lieutenant ranks.

Their role has expanded based on their demonstrated ability to develop exams that are valid, delivered timely manner, provide a secure test development process, use senior police personnel in an efficient manner and create training materials for candidates and supervisors. Their ability to conduct a comprehensive analysis of police ranks, identify entry level requirements for those ranks and propose various assessment strategies that allow candidates a fair and equitable opportunity to demonstrate their ability is a valuable asset to the City.

Jeanneret has an understanding of the inner workings of the Chicago Police Department and of the unique climate in which exams must be developed. They have a solid track record based on past performance. With this amendment that expertise will be used for the selection of an instrument for a new firefighter examination in 2006.

The cost each process is:

\$932,800 Sergeant/Lieutenant

\$324,500 Firefighter/EMT-B

The total cost of the amendment will not exceed \$1,257,300.00.

If you have any questions, please call me at 7-7311.

CITY OF CHICAGO POLICE DEPARTMENT

**PROPOSED SCOPE OF SERVICES FOR
DEVELOPMENT OF PROMOTIONAL PROCESSES FOR
THE RANKS OF:**

LIEUTENANT AND SERGEANT

**Prepared by
Jeanneret & Associates, Inc.**

AMOUNT
932,800
pages 38/39

SCOPE FOR
SET / LT

February 2005

TABLE OF CONTENTS

INTRODUCTION..... 1
 Outline of Key Project Components and Activities2
OVERVIEW OF JEANNERET & ASSOCIATES AND PROJECT TEAM4
 Background of the Firm4
 Key Project Staff.....4
PLAN OF WORK.....7
 Work Step 1: Project Initiation.....7
 Job Analysis8
 Overview8
 Work Step 2: Review Job-Relevant Information.....8
 Work Step 3: Conduct Search for Alternatives.....9
 Work Step 4: Conduct Focus Group Reviews.....9
 Work Step 5: Update Lists of Tasks, KSAPs, and References10
 Work Step 6: Collect and Analyze Job Analysis Questionnaire Data.....10
 Work Step 7: Review Results of Job Analysis Questionnaire10
 Work Step 8: Collect and Analyze Task and KSAP Linkages10
 Work Step 9: Review Linkage Results and Collect Critical Incidents11
 Work Step 10: Prepare Job Analysis Report.....11
Lieutenant—Job Knowledge Test Modules11
 Overview11
 Work Step 11-L: Develop and Review Test Plan for Modules.....13
 Work Step 12-L: Develop Job Knowledge Test Modules13
 Work Step 13-L: Review Test Modules with Sr. SMEs.....14
 Work Step 14-L: Develop Test Module Communication Package.....15
 Work Step 15-L: Implementation of Job Knowledge Test Modules15
 Work Step 16-L: Score and Analyze Test Module Results.....16
Sergeant—Written Qualifying Test16
 Overview16
 Work Step 11-S: Develop and Review Test Plan.....16
 Work Step 12-S: Develop Written Qualifying Test.....17
 Work Step 13-S: Review Written Qualifying Test with Sr. SMEs18

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

Work Step 14-S: Develop WQT Communication Package..... 19

Work Step 15-S: Assist in WQT Test Administration..... 19

Work Step 16-S: Score and Analyze Written Qualifying Test Results.....20

Assessment Exercises—Lieutenant and Sergeant.....20

 Overview20

Work Step 17: Develop Assessment Exercises20

Work Step 18: Review Assessment Exercises with Sr. SMEs21

Work Step 19: Develop Assessment Exercises Communication Package.....22

Work Step 20: Assist in Administration of Assessment Exercises22

Work Step 21: Score and Analyze Assessment Exercises Results and Prepare
Data File.....22

Merit Selection Process.....23

 Work Step 22: Develop and Review Merit Dimensions and Process23

 Work Step 23: Develop Merit Communication Package.....24

 Work Step 24: Train Candidate Nominators.....24

 Work Step 25: Prepare Final Technical Report.....25

OPTIONAL ACTIVITIES26

 Optional Work Step 1: Analyze Information about Candidates' Study Practices 26

 Optional Work Step 2: Develop Study Group Curriculum and Guidelines.....26

 Optional Work Step 3: Develop Streaming Video on the Testing Process27

QUALITY CONTROL AND SECURITY.....28

RESOURCE REQUIREMENTS AND ANTICIPATED SCHEDULE29

PROJECT COSTS36

REFERENCES.....40

APPENDIX A: RESUMES OF KEY PROJECT TEAM MEMBERS

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

INTRODUCTION

This proposed scope of services is submitted by Jeanneret & Associates, Inc., to the City of Chicago to assist in developing procedures for identifying qualified candidates for promotion into the ranks of Lieutenant and Sergeant in the Chicago Police Department. Specifically, the plan of work addresses the need for an updated job analysis resulting in the documentation of entry-level requirements for promotion to Lieutenant and Sergeant positions. This plan also incorporates test development activities designed to identify qualified candidates by considering alternative selection strategies that will allow individuals to demonstrate their qualifications in a fair and equitable manner. The plan also addresses procedures to allow for selection of qualified candidates based on merit.

The plan of work is built around several key decision points, during which the consultants, City, and Department representatives will work closely together to review progress and reach conclusions prior to commencing a new work step. Further, the project entails extensive consultant presence to assist in overcoming perceptions among affected groups that the promotional processes may be unfair or that personal favoritism or politics may be involved. In addition, the project includes activities designed to keep candidates informed of the entire process through communications and to enhance their performance in the promotional examination components through preparation and training. The plan includes strategies to address issues that have been raised in the past and is designed to foster both the reality and the perception of objectivity, fairness, and professionalism in the overall promotion process.

Optional work steps have been proposed to include development of a study group curriculum and guidelines to assist candidates in preparing for the various test components. Another option is a streaming video designed to provide information and address candidate questions about the testing process in a format that can be presented to all Department members, including Lieutenant and Sergeant candidates. In addition, an option to collect and analyze information from candidates about their study efforts and other test preparation practices is proposed to identify methods that, if shared more broadly, may help to reduce differential test performance among subgroups of candidates.

Project objectives include a review and update of previous job analysis results designed to ensure that the information obtained in previous analyses about the duties, responsibilities, and requirements for the Lieutenant and Sergeant jobs is accurate and current. In addition, various examination components will be developed as part of the promotional processes, including some form of qualifying measure (i.e., Job Knowledge Test Modules for Lieutenant candidates and a Written Qualifying Test for Sergeant candidates), as well as Assessment Exercises for both ranks to be used in determining final rank-ordered lists. Finally, a Merit Selection Process will be developed as an alternative means of selecting qualified candidates for promotion to Lieutenant and Sergeant positions.

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

All project activities will be conducted in a manner consistent with: (a) relevant statutes (e.g., the Civil Rights Acts of 1964 and 1991); (b) regulatory guidelines, including the *Uniform Guidelines on Employee Selection Procedures* (Equal Employment Opportunity Commission, 1978); and (c) professional standards, including the *Principles for the Validation and Use of Personnel Selection Procedures* (Society for Industrial and Organizational Psychology, 2003) and the *Standards for Educational and Psychological Testing* (American Education Research Association, American Psychological Association & National Council on Measurement in Education, 1999).

An outline of the key project activities related to each component of the process is presented below. The specific work steps required to complete the project are discussed in detail in the Plan of Work section of this proposal.

OUTLINE OF KEY PROJECT COMPONENTS AND ACTIVITIES

Project Initiation and Administration

- Meeting with City and Department project oversight personnel to finalize plans for project schedule, deliverables, contacts, etc.
- Ongoing interface with Department liaison and other appropriate City and Department representatives

Job Analysis

- Review relevant background information about the assignments
- Analyze test data from previous CPD selection processes
- Conduct review of literature to search for alternative selection procedures
- Collect current resource materials
- Conduct focus groups with incumbents and supervisors
- Update task, KSAP, and reference lists and critical incidents
- Collect and analyze job information to guide overall test planning
- Prepare job analysis report

Job Knowledge Test Modules (for Lieutenant Promotional Process only)

- Develop test plans for modules
- Item review and update with SMEs
- Final review and difficulty ratings with Sr. SMEs
- Develop candidate communications about the process
- Provide input to computerized administration and testing guidelines
- Score Job Knowledge Test Modules and analyze results

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

Written Qualifying Test (for Sergeant Promotional Process only)

- Develop test plan
- Item writing and review with SMEs
- Conduct final review and development of cutoff score with Sr. SMEs
- Develop candidate preparation materials
- Assist in test administration
- Score WQT and analyze results

Assessment Exercises (both promotional processes)

- Develop exercises, items, and related materials with SMEs
- Conduct final review and development of scoring guidelines with Sr. SMEs
- Develop candidate preparation materials
- Assist in test administration
- Score assessment exercises and analyze results
- Prepare rank-ordered list of candidates
- Prepare final technical report

Merit Selection Process (both promotional processes)

- Develop and review process and materials for merit nominations
- Develop communication package for candidates
- Train Exempt members in the Merit Selection nomination process
- Prepare final technical report

Optional Activities

- Collect and analyze information on candidates' study practices
- Develop study group curriculum and guidelines
- Develop streaming video regarding test development and scoring

OVERVIEW OF JEANNERET & ASSOCIATES AND PROJECT TEAM

BACKGROUND OF THE FIRM

Jeanneret & Associates, Inc., is an interdisciplinary consulting Firm established to apply a combination of science and practical experience to assist organizations in solving a wide range of human resource management problems. The Firm was founded in 1981 and is incorporated in Texas. Jeanneret & Associates is located at 601 Jefferson Street, Suite 3900, Houston, Texas, 77002 (Phone: 713-650-6535).

The Firm currently has 20 employees and has sufficient resources to accomplish the proposed project. The professionals at Jeanneret & Associates have formal training in the disciplines of industrial/organizational psychology, statistics, business administration, public administration, and survey research. All staff members are certified and/or licensed at the appropriate level in compliance with applicable state regulatory agencies. The Firm and individuals associated with the Firm are members of the American Psychological Association, American Psychological Society, the American Society of Training and Development, and the Society for Human Resource Management. The Firm and its staff adhere to the published ethical standards of these organizations as they apply to the professional practice of management consulting.

KEY PROJECT STAFF

The consulting team assembled to conduct the proposed project is extremely well qualified and has extensive experience working with the City of Chicago and the Chicago Police Department, as well as numerous other public safety organizations. Jeanneret & Associates and its project team members have conducted well over 100 test development and validation projects. Members of the Firm also will be joined by a Chicago-based practitioner of industrial and organizational psychology, Rafael Haddock-Chavez, Ph.D., who can provide additional expertise and efficiency in conducting on-site project activities. Dr. Haddock-Chavez's firm is certified as a Minority Business Enterprise by the City of Chicago.

Brief overviews of the qualifications and relevant experience of key project team members are presented below; resumes are contained in Appendix A. These individual consultants have conducted previous selection and validation projects for the City of Chicago Police Department, including the 1998 and 2001 promotional examinations for the ranks of Sergeant and Lieutenant; the 1994, 1999, and 2004 selection processes for D-2 assignments; and the 2000 and 2003 selection processes for the Captain (SES) position. The Firm recently also conducted a study of the entry-level job requirements for Police Officers in the Chicago Police Department, focused on the essential functions of the position and the knowledge, skills, abilities, and personal characteristics required to perform the Patrol Officer job.

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

S.M. McPhail, Ph.D., is a Principal of Jeanneret & Associates and will serve as Principal-in-Charge of the proposed project. He is a licensed industrial and organizational psychologist and has been in practice as a management consultant for over 25 years. He has conducted research and provided consulting services in a wide array of practice areas, including job analysis, selection, validation, job evaluation, performance appraisal, individual assessment, and management development. His doctorate was conferred by Colorado State University in 1978. Dr. McPhail has authored publications and presented numerous papers and symposia at professional meetings. Dr. McPhail also serves as adjunct faculty in the Departments of Psychology at the University of Houston and Rice University. He has served as expert counsel and provided expert testimony in numerous matters of litigation, including those involving equal employment opportunity, selection, promotion, and termination issues, as well as statistical analyses of large data sets.

Dr. McPhail has served as Principal-in-Charge of numerous selection and validation projects in both the public and private sectors. Dr. McPhail served as the Principal-in-Charge for the City of Chicago Police Department's previous promotional examinations for Sergeant and Lieutenant, as well as the selection processes developed for Captain (SES) and D-2 assignments and the Firm's study of the entry-level Police Officer job requirements. Dr. McPhail also helped develop and teaches a module on selection testing as part of the Department's Management Development Program. He is well acquainted with the organizational structure of the Department and the issues that affect the organization.

A.F. Jackson is a Senior Consultant with Jeanneret & Associates and will serve as Project Manager for the proposed Lieutenant promotional process. She has a bachelor's degree in English and Legal Studies from Rice University. She has been a management consultant with the Firm for over 10 years. Ms. Jackson has managed project activities for the City of Chicago Police Department's promotional processes for Lieutenant and Sergeant and the most recent Detective selection process. She also managed development of the Captain (SES) selection process. She participated in all aspects of the Department's previous D-2 selection projects conducted by the Firm and worked on the Police Officer study. Ms. Jackson has managed and participated in numerous other job analysis and selection validation projects for various law enforcement agencies. She served as Project Manager for the development of promotional and performance appraisal systems for the Sergeant position in the Nebraska State Patrol. She also served as Project Director for the Los Angeles County Sheriff's Department Sergeant promotional examination development and administration project.

S.L. Koelzer, M.A., is a Senior Consultant with Jeanneret & Associates and will serve as Project Manager of the proposed Sergeant promotional process. She has been a management consultant with the Firm for 20 years. She has a master's degree in administration and a certificate in public administration. Ms. Koelzer has

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

directed project activities for the City of Chicago Police Department's promotional examinations for Sergeant and Lieutenant and D-2 selection processes. She also managed the Police Officer study and has provided job analysis and test development support for the Captain (SES) promotional processes. Ms. Koelzer has managed test development activities for the U.S. Marshals Service and participated in various other projects in law enforcement, including validation of entry-level examinations for the positions of Deputy and Detention Officer for the Harris County Sheriff's Department, validation of entry-level cognitive and physical ability tests for Troopers in the Texas Department of Public Safety, and a job analysis project for the Department of State Bureau of Diplomatic Services Special Agent position.

R.A. Haddock-Chavez, Ph.D., is the president of R.A. Haddock-Chavez Associates, a management consulting company that specializes in organizational and management development. Dr. Haddock-Chavez's firm is certified as a Minority Business Enterprise by the City of Chicago. He received his doctoral degree in organizational psychology in 1970 from Purdue University, where he was a contemporary of Dr. P. R. Jeanneret, the founder of Jeanneret & Associates, Inc. Dr. Haddock-Chavez has been working in the field of industrial and organizational psychology since the 1970s.

Dr. Haddock-Chavez's areas of practice encompass all aspects of human resource management, including job analysis, employment test development and validation, management assessment for selection, succession planning and executive development, team building, and leadership conferences and retreats. He serves many large companies, as well as small- to medium-sized companies, in the Chicago area and nationwide. Dr. Haddock-Chavez will have an active role in all aspects of the proposed plan of work, including job analysis data collection, test development and scoring, Merit process training, and development and review of candidate communications and preparation materials.

Additional Consultants and Research Associates also may be assigned to this project. All have training in industrial and organizational psychology programs and are experienced in job analysis, data collection, test development, and validation. They will perform a variety of technical, analytical, and administrative support activities for the proposed project.

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

PLAN OF WORK

The following plan of work details the activities required to complete the Lieutenant and Sergeant promotional projects and meet the Department's objectives. The job analysis work steps are essentially similar for the two positions. However, the proposed testing strategy for the Lieutenant rank is different than has been developed in the past. The work steps related to test development identify the different methods and project activities associated with the testing process proposed for each rank. The work outlined below will result in highly job-relevant and effective selection systems that comply with the provisions of applicable legal and regulatory requirements and accepted professional practice. Further, they are designed to serve the Department's interest in using fair, efficient, and impartial selection procedures. This Plan of Work assumes that the test development and validation effort for both ranks will be integrated to obtain cost savings and to coordinate these efforts efficiently.

Work Step 1: Project Initiation

The objectives of this first work step of the project include: (a) joint planning by the consultants and key representatives from the City of Chicago and the Chicago Police Department, as well as representatives from the City's test administration firm, if appropriate; (b) obtaining updated information about the Lieutenant and Sergeant positions; (c) developing a schedule for project activities and deliverables (e.g., data collection, communications, test development and review, test administration dates, etc.); and (d) identifying appropriate individuals to serve as subject matter experts (SMEs) and senior subject matter experts (Sr. SMEs) for the project activities.

During this step, a number of activities will be undertaken to ensure the efficiency of the overall project. Expectations and requirements will be clarified regarding the need for incumbents in the target jobs (i.e., Lieutenants and Sergeants) and their supervisors, to provide job information at various stages in the project. Additionally, appropriate communications about the project will be discussed for individuals who will be involved with or will be contributing to one or more of the project activities. This initial planning will allow sufficient time for the City and the Department to make the necessary arrangements for the project. Further, it will allow Department representatives to identify conflicts with project milestones (e.g., data collection, review of test materials, etc.) and to work with consultant staff to implement a schedule that meets the Department's operational needs. Preliminary plans for the implementation of the selection process also will be discussed at this step, enabling the consultants to better understand the Department's needs and constraints and to proceed most efficiently in conducting subsequent project activities.

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

JOB ANALYSIS

Overview

The job analysis work steps consist of several interrelated activities designed to identify the specific job requirements of the Lieutenant and Sergeant ranks. The job analysis activities will include task/duty analysis, identification of entry-level knowledge, skill, ability, and personal characteristic (KSAP) requirements, analysis of relevant source materials within the Department, critical incidents, and other important behavioral dimensions for the target jobs. To obtain accurate, reliable information, the proposed job analysis methodology will use existing data, information from a broad sample of incumbents, input and review by SMEs, and a multi-level review process.

When analyzing the target jobs during the 2001-2002 promotional processes, Jeanneret & Associates conducted a completely original job analysis, largely due to changes in the Lieutenant job that occurred after the Captain (SES) position was reinstated to assume the role of Watch Commander. Because that job analysis effort was completed approximately 3 years ago, the consultants believe that it is reasonable to predicate the proposed analyses on them, rather than conducting all of the job analysis activities in the same level of detail at this time. Even so, we recognize that the importance of quality job analysis information cannot be overemphasized; it is central to the development of useful, defensible content-valid tests and selection procedures. The consultants will ensure that the job analysis activities conducted for this promotional process will be sufficient to obtain thorough and accurate information about the job tasks and related KSAPs that are required for the Lieutenant and Sergeant jobs as they are performed currently.

Work Step 2: Review Job-Relevant Information

The results of previous job analyses conducted for the CPD Lieutenant and Sergeant jobs will be reviewed. The consultants also will review other existing information, such as training materials, manuals, and reference materials in order to gain a current understanding of the target jobs. The focus will be on identifying changes to the rank-specific duties and related job requirements that have occurred since the last complete job analysis. A review will be conducted of current Department directives or other written materials and current statutes, laws, and legal mandates that relate to the target jobs. Department experts will be consulted to obtain up-to-date copies of all of the various source materials (e.g., General and Special Orders, Department Notices, fax messages and legal bulletins, Patrol Division directives, Illinois Compiled Statutes, Municipal Code, etc.) from which incumbents obtain the required job knowledge.

An analysis of the previous promotional examinations developed for the Department will be conducted to identify item structures and content that most accurately and fairly assess job knowledge levels of the test-takers. Consultants will conduct

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

various analyses to assess whether certain item stimuli or formats are more effective. They will compare items requiring extensive scoring procedures to those that were easier to score, and use this and other information to create testing components that are valid for the prediction of high performing Lieutenants and Sergeants, while being as efficient and cost-effective as possible to administer and score.

Work Step 3: Conduct Search for Alternatives

The consultants will conduct a search for alternative selection procedures, including a review of the literature on commercially available procedures and other more customized procedures, as well as research related to the validation and implementation of such procedures. This search will focus on identifying the most appropriate selection methods based on validity, utility, fairness, and feasibility in light of organizational variables and constraints (e.g., the need to handle large numbers of candidates efficiently, particularly during the early stages of the process; the need for test security; the development and administration costs relative to other procedures; and other administrative issues). After the literature on selection procedures is reviewed, the research associated with relevant alternative selection procedures will be discussed with appropriate representatives from the Department and the City to determine the final plan for development of the components of the Lieutenant and Sergeant promotional processes.

Work Step 4: Conduct Focus Group Reviews

As noted above, a thorough job analysis of the Department's Lieutenant and Sergeant positions was conducted in 2001. Based on preliminary discussions with Department personnel, it is not anticipated that the duties and job requirements for these positions have changed substantially since that job analysis was completed. Therefore, the consultants will begin by conducting focus groups with representative incumbent Lieutenants and Sergeants to review the results of the previous job analysis. They will review the lists of tasks, KSAPs, and reference materials and revise them, as necessary, to ensure that they reflect the current duties, responsibilities, and requirements of the target jobs. To the extent that any activities have changed considerably, the consultants may determine that it is necessary to interview individual incumbents in various districts and observe these aspects of the job as well.

Additional discussion topics will focus on changes that have occurred in the job environment (e.g., changes in laws and Department directives, increased use of computers and other technology, restructuring of roles related to community policing initiatives, etc.). Such changes may impact job requirements and expectations, including the nature of the tasks and activities involved in the job, sources of information used on the job, communication methods, personal interactions, psychological and physical stresses imposed by the job, equipment used on the job,

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

hazards encountered, specialized educational or training requirements, and other specific and general job demands.

Work Step 5: Update Lists of Tasks, KSAPs, and References

Using the job analysis information collected during the initial review and the focus groups, the consultants will update the lists of tasks; knowledge, skills, abilities, and personal characteristics (KSAPs); and reference materials for the Lieutenant and Sergeant jobs. The consultants then will review the updated lists with supervisory SMEs who are familiar with the target jobs to ensure that they reflect the jobs as they are currently performed. Revisions will be made to the task, KSAP, and reference lists, as appropriate, following the supervisory review.

Work Step 6: Collect and Analyze Job Analysis Questionnaire

Data

The final lists of tasks and KSAPs will be formatted into a Job Analysis Questionnaire (JAQ) to facilitate the collection of additional job analysis information. The JAQ will survey a representative sample of incumbents from each the Lieutenant and Sergeant jobs to provide ratings for tasks performed as a part of their jobs. In order to promote the timely collection and accuracy of the data, this activity will be performed during scheduled group meetings and facilitated by a consultant. The JAQ ratings will assess the frequency and importance of each task to the individual assignment. Incumbents also will rate the importance of each KSAP to overall job performance and the acquisition period of each KSAP. The acquisition period will be used to identify those KSAPs that are fully required at entry; those that are required at a general level at entry, but developed on the job; and those that are fully developed on the job. The JAQ data will be analyzed to identify as "critical" tasks or KSAPs with rating results that meet or exceed specified thresholds.

Work Step 7: Review Results of Job Analysis Questionnaire

The consultants will review the critical tasks and important KSAPs with SMEs (i.e., Lieutenants, Sergeants, and supervisors) to further verify the accuracy and thoroughness of the job analysis information and to identify any anomalies in the results. Revisions to the lists of critical tasks and important KSAPs will be made, as appropriate, based on SME comments.

Work Step 8: Collect and Analyze Task and KSAP Linkages

The critical tasks and KSAPs will be cast into a linkage matrix format. Representative samples of incumbents in each of the targeted assignments will rate the relevance of each KSAP to the performance of each critical task using a linkage rating form with explicit instructions and examples. In order to promote the timely collection and accuracy of the data, this activity will be performed during scheduled

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

group meetings and facilitated by a consultant. Analysis of the linkage data will allow the consultants to identify the specific KSAPs that will become the focus for the design of the components of the overall promotional process for each rank.

Work Step 9: Review Linkage Results and Collect Critical Incidents

The consultants will review the results of the task/KSAP and reference/KSAP linkages with incumbent and/or supervisory SMEs to establish agreement that they are descriptive of the target jobs. Revisions will be made, as appropriate, based on SME judgments. In addition, during these meetings, the consultants will work with the SMEs to collect critical incident information because work behaviors relevant to successful job performance are not always adequately described by tasks and KSAPs. These critical incidents will be taken into consideration in developing realistic test items and scenarios for use in assessing the application of job knowledge and the for development of assessment exercises included as components of the promotional processes.

Work Step 10: Prepare Job Analysis Report

Upon completion of all job analysis activities, the consultants will prepare a job analysis report. The report will comply with professional standards and the provisions of the *Uniform Guidelines*. It will include a description of project activities and a compilation of all job analysis activities.

LIEUTENANT—JOB KNOWLEDGE TEST MODULES

Overview

The first component of the promotional process for the Lieutenant rank will be a measure of job knowledge that candidates must "pass" in a specified time period to become qualified to participate in the Assessment Exercises and/or be considered in the Merit Selection Process. The consultants propose that a series of Job Knowledge Test Modules be used to assess candidates' knowledge and application of knowledge across the domain of job knowledge that is important for Lieutenant job performance. The Job Knowledge Test Modules will differ with respect to administration format and purpose from the Written Qualifying Test (WQT) that was used in past promotional processes.

As used previously, the WQT included approximately 100–125 multiple-choice test items measuring job knowledge across the entire domain of important job knowledge, which was typically divided into 12–15 specific knowledge areas. The WQT was administered on one date to all candidates who met fairly nominal application requirements (i.e., active status, relatively short time in grade, education, nominal fee, etc.). The WQT was used as a pass/fail measure, typically screening out few, if any, lieutenant candidates.

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

As currently proposed, the Job Knowledge Test Modules will consist of a series of shorter tests, each focused on a subset of the important knowledge domain. The subsets will consist of logical groupings or divisions of the knowledge areas typically defined for the WQT (e.g., Department General Orders, Illinois Compiled Statutes, communication systems, contract provisions, etc.), based on the context of the Lieutenant job. For example, Modules might cover knowledge groupings such as supervision, Patrol operations, community policing, and so forth. By creating separate test modules, each module can include more items that measure different aspects of the important knowledge areas.

Another distinction from the WQT is the multi-step approach for administering the Job Knowledge Test Modules. The WQT was a one-time only pass/fail event, where all candidates were gathered together for paper-pencil testing at a specified time and place. Any candidate who did not pass the WQT was not allowed to continue in the promotional process. Alternatively, the Job Knowledge Test Modules will be electronically administered via the Department's Intranet. Candidates can take the Modules in any order on a more flexible schedule. Within the time frame set prior to the application period, candidates must pass all of the Modules. However, failing any of the Modules does not automatically deny a candidate further participation in the promotional process. Rather, candidates will be allowed to re-test on the Modules, as needed, to demonstrate mastery of the knowledge tested (i.e., pass), as long as they are able to complete all Modules in the allotted time period.

This departure from previous practice is proposed to address several concerns. First, during the most recent promotional process, none of the candidates failed the Lieutenant Written Qualifying Test. This indicates that candidates (i.e., Sergeants) do possess basic knowledge about the information contained in the directives, statutes, and other job-relevant resources when assessed at a fairly broad level upon substantive preparation. Second, the promotional process has become a "high stakes" selection scenario, meaning that a very large number of candidates are competing for a much smaller number of promotions. The Job Knowledge Test Modules will assist the Department in addressing these issues by: (a) verifying that candidates for promotion to Lieutenant actually do possess extensive knowledge across all important areas, (b) requiring more commitment and preparation on the part of candidates to compete in the promotional process, and (c) potentially reducing the negative effects often attributed to high stakes testing by reducing the number and leveling the initial qualifications of candidates who are able to participate in the rank-ordered selection component.

There are several other advantages to the Module testing approach. It is expected that any candidate with adequate job knowledge could eventually meet all of the requirements (i.e., pass all of the Test Modules). In addition, the multi-step testing process serves as a proxy for direct evaluation of some of the personal characteristics (e.g., initiative, organizational commitment, perseverance) that are commonly identified as important for the Lieutenant job, but are difficult to measure

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

using written, content-valid assessment tools. If implemented over the long-term, the process would have the beneficial effect of improving the level of knowledge across the incumbent population in general, as Sergeants study for and complete the Job Knowledge Test Modules, regardless of their participation in the current promotional process.

Work Step 11-L: Develop and Review Test Plan for Modules

A test plan is a written blueprint that specifies the number, type, and content domain of the items that make up a test. It will be used as a development guide when test items are written and later selected as part of the module for each knowledge domain. In the test plan, the number of items dealing with each Test Module will be proportional to the importance of the various parts of the knowledge domain being assessed.

Prior to developing the Modules, a test plan will be developed based on job analysis data. The first step in developing the preliminary test plan will be to identify the logical groupings of relevant job knowledge areas and to provide a "weight," or percentage of total items, for each knowledge domain to be included in the individual Test Modules. The weights will be developed such that the proportional contribution of items addressing each knowledge domain is generally representative of the importance of the related knowledge as required for successful job performance in the Lieutenant assignment. The consultants will meet with a group of SMEs to develop the individual knowledge areas into logical groupings and determine the final weights to be attributed to each broad domain of job knowledge to be included in the Lieutenant Test Modules.

Work Step 12-L: Develop Job Knowledge Test Modules

The consultants will start by compiling all of the job knowledge items that have been developed for Written Qualifying Tests for past Lieutenant promotional processes, including items that were developed but not used on any exam. In addition, some of the items developed for past Sergeant and Detective tests may be relevant for consideration. These items will be categorized into the knowledge domains that will be included in the Test Modules.

A group of SMEs will be assembled to assist in the further development of items to be included in the job knowledge Test Modules. SMEs will be chosen based upon their expertise in the knowledge to be tested, writing skills, and availability to participate in test development. It is recommended that the item-writing and review process include members of relevant protected subgroups.

The consultants will train the SMEs in the item review and writing process. The training will include an overview of test development practices and will emphasize the need for test (and item) security. The consultants will introduce SMEs to the test plan and will instruct them in the development of high quality test items based

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

upon appropriate content, format, and level of difficulty. The consultants will direct the SMEs in conducting a review of the available test items to ensure that they still measure important job knowledge and are updated with respect to current Lieutenant job activities and possible changes in Department directives, statutes, and so forth. In addition, the SMEs will be asked to write additional items, as needed, to address gaps in the test plan for the Modules and to ensure that new or changed knowledge areas are appropriately assessed. The consultants will carefully monitor the item review and writing process to ensure timely progress and conformance to the test plan.

Work Step 13-L: Review Test Modules with Sr. SMEs

The consultants will review the items developed for the job knowledge Test Modules with a panel of Sr. SMEs. These Sr. SMEs will be selected based on their expertise in the requirements for the Lieutenant position and their knowledge of the related Department structure and policies. It is important that the Sr. SMEs be individuals whose credentials and reputation will lend credibility to the testing process and whose association with the development activities will enhance acceptance of the Lieutenant promotional process as one that is relevant and fair. They will be responsible for final review and approval of all communications and materials related to the job knowledge Test Modules and candidate preparation for the process.

Additionally, the Sr. SMEs will provide item-level judgments that will be used to determine appropriate cutoff scores that candidates will be required to meet to pass each of the Modules. Cutoff scores will be determined and recommended using modifications of criterion-referenced procedures proposed by Angoff (1971) and Nedelsky (1954) based on item ratings provided by the Sr. SMEs, who will estimate the performance of minimally competent individuals (Lieutenant job incumbents) on individual test items. In setting the cutoff scores, the consultants will consider the psychometric properties of the Test Modules.

Final versions of the Job Knowledge Test Modules will be assembled by the consultants based on the input of the Sr. SMEs. If the entire knowledge domain is divided into subsets or logical groupings of knowledge areas, approximately five or six different Test Modules will be identified. It is anticipated that two or three (depending on the number of times that candidates will be allowed to re-test) versions of each Test Module will be prepared. The Modules may include 30-50 items, with some items overlapping between versions. Alternatively, if it is preferred that the knowledge domain is measured as a whole, it would be possible to create four or five overlapping versions of a 80-100 item test. The consultants will review the finalized versions of the Modules to ensure their consistency with the test plan. The Test Modules and related instructions may be reviewed by one of the Sr. SMEs prior to their final delivery to the appropriate City/Department representatives for implementation.

Work Step 14-L: Develop Test Module Communication Package

When the details of the Lieutenant promotional process have been finalized, the consultants will prepare a candidate communication package, working closely with Department and City representatives. As in past promotional processes, it is anticipated that a study guide will be published at the time that the job analysis activities and development of the test plan for the Job Knowledge Test Modules are completed. This study guide will provide information about the overall promotional process, general learning methods and study suggestions, the lists of critical tasks and KSAPs, and the Recommended Reading List that applies to the Lieutenant Test Modules. Similar to previous practice, the references on the Lieutenant Recommended Reading List likely will be identified as "refer" or "recall," depending on the context in which the information is typically used on the job (i.e., can be looked up when needed or must be recalled from memory). The City, possibly through the test administration contractor, will be responsible for all costs associated with producing and distributing the communication package.

Work Step 15-L: Implementation of Job Knowledge Test Modules

The consultants will work with the City's test administration contractor, designated Department technical specialists, and/or external vendors, as appropriate, to develop procedures for the administration of the Job Knowledge Test Modules. One option is that the Test Modules will be administered to candidates using the Department's Intranet. Potential concerns with this method include test security, verification of candidate identity, and consistency in administration. Another option is to contract with an external vendor in the City who has specialized facilities for proctored test administration (e.g., Kaplan, E-Predicts, etc.). We will work with City and Department project oversight representatives to determine the most effective and efficient method of administering and tracking the results of the Job Knowledge Test Modules.

Regardless of the test administration facilitator, candidates would report to proctored sites and would need to log into the secured server using specific passwords or other means to verify the identity of the candidate. Candidates will be given access to appropriate reference materials (e.g., copies of the Illinois Compiled Statutes, relevant Department directives on CD, etc.) at the testing site for use during the exams. Time limits for each Module will be set generously to allow candidates sufficient time to finish all items and refer to the reference materials as needed. Given the number of candidates likely to participate in the Lieutenant promotional process, specific details will be worked out as to the accessibility of the Job Knowledge Test Modules from various sites, the timeframes in which they are available for testing, test proctoring and administration guidelines, and methods for tracking candidates' test versions, scores, and so forth.

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

Work Step 16-L: Score and Analyze Test Module Results

The Test Modules will be designed so that each Module is scored electronically at the time that the candidate completes taking the test. Candidates will know immediately whether they have passed the Module or need to re-test on another version. Candidates will not be allowed to re-test immediately. There will be a limit set (e.g., one week) for the soonest that candidates can come back to take another version of any Module that they did not pass, so that they have time to study the relevant material.

The consultants will analyze the test results data and monitor Modules for psychometric properties. Appropriate changes will be made to the scoring procedures, if necessary. The final results of the Job Knowledge Test Modules will be presented to the City.

SERGEANT—WRITTEN QUALIFYING TEST

Overview

The first component of the selection process for Sergeant rank is planned to be a Written Qualifying Test (WQT). The Written Qualifying Test will be developed to be a content valid assessment of the knowledge domain required at entry for Sergeants and to be used as the preliminary hurdle in screening candidates seeking a promotion to a Sergeant position.

The test development and review process will require the participation of both SMEs and Sr. SMEs. The SMEs will be used for the initial item development and review activities. These individuals must be job experts, such as Lieutenants, Captains, and Commanders who have specific knowledge about and experience with Sergeant position. A panel of Sr. SMEs also will be used. These individuals will be senior command personnel or other individuals deemed appropriate by the Department who have expert knowledge of the Sergeant position and of the Department. The Sr. SMEs will be responsible for final review and approval of all communications and materials related to the testing, candidate preparation, and merit components of the process. Additionally, they will provide item-level judgments that will be used to determine an appropriate cutoff score for the Written Qualifying Test. The Sr. SMEs must be highly qualified, credible, and trustworthy individuals; the content validity, effectiveness, and security of the testing process will depend significantly on these individuals.

Work Step 11-S: Develop and Review Test Plan

A test plan is a written blueprint that specifies the number, type, and content domain of the items that make up a test. It will be used as a development guide when test items are written and later selected to construct a test. In the test plan, the number

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

of items dealing with each major facet of the test will be proportional to the importance of the various parts of the knowledge domain being assessed.

Prior to developing the Written Qualifying Test, a test plan will be developed based on job analysis data. The first step in developing the preliminary test plan will be to identify a hierarchy of relevant job knowledge areas to be tested and to provide a "weight," or percentage of total items, for each knowledge area to be included in the test. The weights will be developed such that the proportional contribution of items addressing each job knowledge area is generally representative of the importance of the knowledge area required for successful job performance in the sergeant position. Recognizing the need to administer the test to a large number of candidates and to provide timely results, the consultants will develop a plan for scannable test forms and computerized scoring.

Work Step 12-S: Develop Written Qualifying Test

SMEs will be assembled to prepare and review test items. SMEs will be chosen based upon their expertise in the knowledge to be tested, writing skills, and availability to participate in test development. It is recommended that the item-writing and review process include members of relevant protected subgroups.

The consultants will train the SMEs in the item-writing process. The training will include an overview of test development practices and will emphasize the need for test (and item) security. The consultants will introduce SMEs to the test plan and will instruct them in how to write high quality test items based upon appropriate content, format, and level of difficulty. Instructions concerning how to document the content/knowledge area against the test plan and the source materials also will be provided. Accordingly, at the end of item preparation, each knowledge area will be linked to relevant reference sources. Item writers will be given regular feedback on the items they prepare. Interim items will be reviewed and edited by the consulting staff for grammar, punctuation, and conformance with acceptable format and test item characteristics (e.g., response parallelness, stem construction, distractor development). The consulting staff also will review the item pool for any indications of ethnic, gender, socioeconomic, or age bias in individual items. Each item will be subsequently reviewed by SMEs (other than the item authors) for readability, logic, and content, and to ensure that there is an unequivocally correct answer. The consultants will carefully monitor the item-writing process to ensure timely progress and conformance to the test plan.

The consultants also will be responsible for test security during the development of the test items. Item writers and reviewers will perform all activities under close consultant supervision, and SMEs will not be permitted to keep copies of the test items or the test plan. Each item writer and reviewer will have access to only a portion of test items. The test development activities will result in more items (approximately two to three times more) than will be used on the final test. In addition to addressing concerns for test security, this number will allow for greater

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

flexibility in selecting the best test items. When a sufficient pool of items is available, the consultants will select items to fit the test plan as potential items to appear on the final Written Qualifying Test. Copies of these items for final review will be prepared under close consultant supervision and will be numbered to verify test security.

Work Step 13-S: Review Written Qualifying Test with Sr. SMEs

The consultants will review the selected test items with the panel of Sr. SMEs. These Sr. SMEs will be selected based on their expertise in the requirements for the Sergeant position and their knowledge of the related Department structure and policies. It is important that the Sr. SMEs be individuals whose credentials and reputation will lend credibility to the testing process and whose association with the development activities will enhance acceptance of the Sergeant promotion process as one that is relevant and fair.

The consultants will review the Written Qualifying Test items with the Sr. SMEs. They will be asked to conduct a review of the test items, including response alternatives and scenarios, by assessing issues such as:

- Are the item stem and alternatives stated in a clear and understandable manner consistent with Department language?
- Is the correct alternative correct in all situations (e.g., across different districts) throughout the Department?
- Are other multiple-choice alternatives clearly incorrect, but plausible?
- Is the source material supporting the correct or best response current and consistent with other relevant sources?
- Does the situation present enough information to formulate a response?
- Is the question a good measure of the knowledge area being assessed?
- Is the knowledge area assessed by the item required for the Sergeant position?
- Are the situation and alternatives free from cues that might be misunderstood or misleading?
- Is the knowledge required to answer the question required at entry to the Sergeant position (i.e., not developed during training or learned on the job)?
- Is there anything about the item that would make it more likely for a certain subgroup (i.e., race, sex, age, religion, etc.) to choose an alternative other than the correct response?
- Would candidates with the knowledge to answer the question correctly or choose the highest point value alternative likely be more effective performers in the Sergeant position?

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

The Sr. SMEs will be asked to carefully consider the test items for potential scoring or other test-related issues. The Sr. SMEs also will provide item ratings that will be used to determine an appropriate cutoff score for the Sergeant Written Qualifying Test.

A final version of the Written Qualifying Test will be assembled by the consultants based on the input of the Sr. SMEs. The consultants will review the finalized version of the Written Qualifying Test to ensure its consistency with the test plan. The final Written Qualifying Test and related instructions and reference materials will be reviewed by one of the Sr. SMEs prior to delivery to the test administration contractor for printing.

In addition, on the day of the test administration, the consultants will meet with the Sr. SMEs to obtain ratings in order to set an appropriate cutoff score for the Written Qualifying Test. The cutoff score will be determined and recommended using modifications of criterion-referenced procedures proposed by Angoff (1971) and Nedelsky (1954) based on item ratings provided by the Sr. SMEs. The methods to be used require the Sr. SMEs to estimate the performance of minimally competent individuals (Sergeant incumbents) on individual test items. In setting the cutoff score, the consultants will consider the psychometric properties of the test.

Work Step 14-S: Develop WQT Communication Package

When the details of the Sergeant promotional process have been finalized, the consultants will prepare candidate communication packages, working closely with Department and City representatives. As in past promotional processes, it is anticipated that one study guide will be published, which will provide information about the overall promotional process, general learning methods and study suggestions, the lists of Sergeant critical tasks and KSAPs, and the Recommended Reading List. The candidate communication also will include the actual test instructions and sample items and reference materials similar to those that will be presented in the Written Qualifying Test. The Recommended Reading List will be specifically tie individual reference materials to particular sections of the Written Qualifying Test (i.e., Reference Knowledge vs. Recall Knowledge). The City, possibly through the test administration contractor, will be responsible for all costs associated with producing and distributing the communication packages. (See the Optional Work Steps presented in a following section of this proposal for a discussion of possible additional test preparation materials, such as computerized, interactive versions of the study and practice guides and/or publication of previous test items.)

Work Step 15-S: Assist in WQT Test Administration

The consultants will work with the test administration contractor to develop procedures for the administration of the Written Qualifying Test, taking into

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

consideration the large number of candidates likely to participate and the number of sites to be used for test administration. Consultant representatives will be available during test administration to monitor procedures and to answer test-related questions from candidates.

Work Step 16-S: Score and Analyze Written Qualifying Test Results

To ensure accurate scoring, the consultants will verify a percentage of the scanned data and/or data-entry activities required for the Written Qualifying Test. Candidate test data files received from the test administration contractor will be scored and verified by the consultants. Test results will be maintained by the consultants until items have been analyzed for psychometric properties and any candidate appeals have been resolved. Should any items be identified with inadequate psychometric properties or other fault, those items will be removed from test results for all candidates. The consultants will review any challenges submitted by candidates regarding test items and make recommendations for resolving the challenges that will be reviewed with Sr. SMEs. Appropriate changes will be made to the scoring procedures, if necessary. The final results of the Written Qualifying Test will be presented to the City.

ASSESSMENT EXERCISES—LIEUTENANT AND SERGEANT

Overview

Candidates who pass the first hurdle in the promotional processes (i.e., Lieutenant Job Knowledge Test Modules; Sergeant Written Qualifying Test) will be eligible to participate in the Assessment Exercises component. The Assessment Exercises will be developed to be content valid for use as a second hurdle for the Lieutenant and Sergeant promotional processes. As with the preliminary tests, SMEs will assist in the development of Assessment Exercises, and the same panel of Sr. SMEs will be asked to review the final test items and related materials and develop scoring guidelines.

Work Step 17: Develop Assessment Exercises

The focus of the Assessment Exercises will be on evaluation of a broader base of skills, abilities, and personal characteristics (as well as the application of job knowledge) that are important for performance as a Lieutenant or Sergeant. The test plan for the Assessment Exercises will be developed based on the weights identified for the various KSAPs from the job analysis, along with consultant and SME judgments about how individual skills, abilities, and personal characteristics combine to form contextual job-requirements. The consultants also will evaluate the need to include an oral component in the Lieutenant Assessment Exercises and are sensitive to related fairness concerns expressed by members of the Department.

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

Based on the job analysis results, the consultants will work with SMEs familiar with the Lieutenant and Sergeant ranks to identify appropriate job-related scenarios and background information to serve as stimuli (e.g., crime scene information, reports, personnel management issues, etc.) for the Assessment Exercises. The SMEs will identify source materials relevant to the job-related situations developed. The source materials may include example reports completed by Lieutenants, Sergeants, or their subordinates; daily activity logs; letters or memos; Department notices and orders; radio or telephone messages; and so forth. Working under the close supervision of the consultants, the SMEs will prepare appropriate test stimuli and test items. As described previously, item writers and reviewers will perform all activities under close consultant supervision, and SMEs will not be permitted to keep copies of the stimuli or test items. More stimuli and test items will be prepared than will be used in the final versions of the Assessment Exercises.

Items for the written exercises likely will be developed in several formats, including multiple-choice and open-ended. To the extent possible, the consultants will attempt to develop items in a fixed or selected response format to allow for ease of scoring, keeping in mind the numbers of candidates that are likely to take part in the Assessment Exercises. In addition, the consultants will review items from previous promotional processes to identify item types that performed best with respect to adverse impact, scoring issues, reliability, and so forth.

Work Step 18: Review Assessment Exercises with Sr. SMEs

The consultants will review the Assessment Exercises and items with the Sr. SMEs. They will be asked to conduct a review of the test materials by assessing issues such as:

- Are the scenarios realistic situations representative of those a new Lieutenant or Sergeant would be expected to encounter on the job within the first 6 months after appointment?
- Do test items assess KSAPs that are important at the time of promotion?
- Are questions clear, understandable, and free from cues that are misleading?
- Are multiple-choice question alternatives stated clearly and provide plausible responses to the situation?
- Are open-ended questions stated clearly, so that plausible responses can be provided?
- Are the items and related exercise materials fair to all groups (e.g., race/ethnicity, gender, religious, etc.)?
- Would candidates with the required KSAPs to answer the question correctly or to obtain the highest point value likely be more effective performers in the Lieutenant or Sergeant position?

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

Test items and scenarios will be revised as necessary to meet these criteria. The Sr. SMEs also will assist in the development of scoring guidelines, including point values for specific components of the items to conform to the test plan. The consultants will assemble the final version of the Assessment Exercises. The final test booklet and related materials will be reviewed by one of the Sr. SMEs prior to delivery to the test administration contractor for printing.

Work Step 19: Develop Assessment Exercises Communication Package

After the materials have been reviewed by the Sr. SMEs, and when the details of the Assessment Exercises administration have been finalized, the consultants will prepare a candidate communication package regarding the process. This practice guide will contain the actual test instructions and samples of the various scenarios, test items, and related materials that will be included in the Assessment Exercises. Examples of good responses to the sample questions also will be provided, along with explanations when appropriate. This practice guide will provide detailed information about the test format, as well as guidance on how to prepare for and approach this type of test. The communication package also will include a schedule of activities and further details regarding the overall Lieutenant or Sergeant promotional process.

It is proposed that the Assessment Exercises practice guide include a copy of the original Recommended Reading List for the overall promotional process. In addition, any new Department directives related specifically to the Assessment Exercises may be included in an updated Reading List. The original designations of Recall versus Reference assigned to the various knowledge areas for the Written Qualifying Test will *not* be relevant for the items on the Assessment Exercises. This information will be re-emphasized in the Assessment Exercises practice guide, as it was explained in detail in the initial candidate communication package.

Work Step 20: Assist in Administration of Assessment Exercises

The consultants will work with the test administration consultants to develop procedures for the administration of the Assessment Exercises, taking into consideration the number of candidates likely to participate and the conditions at the testing facilities. Consultant representatives will be available during test administration to monitor procedures and to answer test-related questions from candidates.

Work Step 21: Score and Analyze Assessment Exercises Results and Prepare Data File

The Assessment Exercises will be scored by the consultants using the scoring guidelines developed with the Sr. SMEs. A variation to the scoring process is recommended for this project, as compared to previous Lieutenant and Sergeant

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

promotional processes, including some additional participation on the part of the Department Sr. SMEs. It is proposed that members of the consulting team meet for approximately 3 days with the Sr. SMEs to jointly score and discuss a 10% sample of the candidate responses, prior to the start of actual scoring. (Previously this sample scoring has been accomplished solely by the consultants, with the results presented to the Sr. SMEs for review and possible modification of the scoring guidelines.) As always, the 10% sample will be randomly selected and reintegrated with the remaining pool of candidate tests prior to any actual scoring taking place. Note that no identification other than SS# appears on the test booklets.

Although the proposed method requires additional meeting time with the Sr. SMEs initially, it will provide them with a more comprehensive scope of the range of possible answers. This greater knowledge will help to eliminate occurrences experienced previously, which tend to slow down the scoring process, such as multiple meetings required with the Sr. SMEs, changes to the guidelines later in the scoring process, items that need to be re-scored or reconciled on all candidates' tests, and so forth. It is anticipated that this activity will increase the efficiency of the overall scoring process and the consultants' ability to determine the final scores in a timely manner, given the large number of expected candidates.

For each candidate's test, final scores for every Assessment Exercises item will be agreed upon by two independent scorers (all members of the consulting staff; no actual scores will be assigned by Department SMEs). All test results will be maintained by the consultants until items have been analyzed for psychometric characteristics, using the scoring guidelines finalized with the Sr. SMEs.

Once all item analyses have been completed, the consultants will prepare a data file containing Assessment Exercises test scores for all Sergeant candidates. The data file will be provided to the City, which is responsible for informing candidates of their final rank order status.

MERIT SELECTION PROCESS

Work Step 22: Develop and Review Merit Dimensions and Process

The third component of the promotional processes for the Lieutenant and Sergeant ranks will be a Merit Selection Process. This process will involve identification of candidates to be recommended by CPD exempt personnel for consideration for appointment based on their prior work histories, performance, and skills. Candidates who pass the Lieutenant Job Knowledge Test Modules or the Sergeant Written Qualifying Test will have an opportunity to be nominated for Merit selection. The candidates will be nominated by members of the Merit Selection Nominating Committee.

Nominations will be reviewed by the Department's Merit Board. In addition to the documentation provided by the nominators, the members of the Merit Board will be

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

provided with other relevant Department information (e.g., disciplinary records, performance evaluations, assignment history, and confirmation that all other eligibility requirements have been met). The Merit Board will submit a list of candidates to the Superintendent for consideration for Merit selection.

The consultants will work with the Sr. SMEs to develop the dimensions on which the Merit Selection nominators will evaluate the candidates whom they choose to nominate. These dimensions and their specific definitions will be based on the critical KSAPs determined by the job analysis results. The dimensions likely will include KSAPs that are important to job performance in the Sergeant position, but less suitable for testing in a written format, although some overlap with the Assessment Exercises is expected. The consultants also will prepare instructions, forms, and other materials for use by the Merit Selection nominators in submitting the relevant information to the Merit Board.

Work Step 23: Develop Merit Communication Package

All candidates who meet or exceed the qualifying scores on the preliminary test component of the Lieutenant and Sergeant promotional processes will be provided information regarding the Merit Selection Process. A communication package will be created by the consultants that will include an explanation of the Merit Selection Process and the requirements to be eligible for Merit selection. The package also will contain the assessment dimensions upon which the candidates will be evaluated and the definitions of these dimensions. An explanation of the process by which the dimensions were identified and defined will be included.

Work Step 24: Train Candidate Nominators

The consultants will provide training in the Merit Selection Process for any nominators who have not previously been trained. Nominator training will include discussion of the Merit Selection Process assessment dimensions (and related critical tasks) and methods for identifying potential merit candidates. Training will emphasize the need to identify and appropriately document behaviors that would support an individual's consideration for Merit selection to the Lieutenant or Sergeant position.

Another option the Department may wish to consider is having all Exempt members re-trained on the Merit Selection Process as currently implemented for the Lieutenant and Sergeant ranks, as well as the Detective assignments. The performance dimensions on which candidates are evaluated have been modified over several processes. New training would update all Exempt members on the importance of the process and inform them of any changes that may result from new job analysis information.

Work Step 25: Prepare Final Technical Report

Upon completion of test development and implementation activities related to the Lieutenant and Sergeant promotional processes, the consultants will prepare a Test Development Report. The report will comply with professional standards and the provisions of the *Uniform Guidelines*. It will include a description of project activities and a compilation of all relevant validity evidence, as well as a summary of job analysis results, a description of the methods used during test development, and a presentation of the evidence supporting the content validity of the tests. The Merit Selection Process for each position also will be documented by the consultants in the final report. The report will include a description of the actual process used, documentation of the validity (or relatedness) of the evaluation dimensions, and analysis of any results available at the time the report is prepared. The final report (including the Job Analysis and Test Development and Merit Selection Process sections) will document each phase of the promotional process for each rank. The final report will be submitted to the City in draft form for review. At the conclusion of the project, the consultants will edit the report based on this review and any suggested changes, and will submit the final Technical Report documenting of all the activities conducted for the Lieutenant and Sergeant Promotional Processes.

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

OPTIONAL ACTIVITIES

The following optional work steps outline additional activities that the City and the Department may want to consider including in the proposed plan of work. They are not necessary as part of the overall development and validation of the Lieutenant and Sergeant promotional processes. However, they may be extremely valuable in addressing concerns that have arisen in past selection and promotional processes. The activities presented in the optional work steps are intended to increase the opportunity for all candidates to be better and more equally prepared to participate in the Lieutenant and Sergeant promotional processes. Additional cost estimates are provided separately for these optional work steps in the final section of this scope of work.

Optional Work Step 1: Analyze Information about Candidates' Study Practices

In the past, concerns have arisen regarding candidates' opportunities to prepare for the written examinations, including differential ability to participate in study groups, the consistency and quality of the training provided across different study groups, and the cost and relevance of training offered by outside vendors. Identifying the extent to which these differences affect candidates' test performance may help the City and the Department develop methods that can help minimize the impact of this situation in the future. One way to obtain information about how candidates prepare for promotional exams and what they consider helpful is to directly survey them about their study habits, participation in study groups, and so forth. This information can be collected from candidates by including survey questions that candidates may respond to voluntarily at the end of the preliminary test component. In order to maximize the response rate, candidates might be provided with some incentive to complete the survey (e.g., additional point added to test score, paid parking on test day, reimbursement of portion of application fee, etc.).

Optional Work Step 2: Develop Study Group Curriculum and Guidelines

Another approach to address the concern about candidates' differential opportunities to participate in study groups would be to develop a curriculum and guidelines that could be used to conduct effective study groups. Separate materials would be developed related to the Job Knowledge Test Modules, the Written Qualifying Test, and the Assessment Exercises. This information could be used by facilitators in setting up formal study groups. It also could be used by the Lieutenant or Sergeant candidates themselves to organize their own study groups without an outside leader. In either case, the study group materials would include information such as strategies for developing practice test items, methods for group review of materials, a timeframe for study activities and sessions, procedures for test time management, and so forth.

Optional Work Step 3: Develop Streaming Video on the Testing Process

Another concern raised in the past relates to candidates' understanding of the testing process, particularly with regard to: (a) not providing Written Qualifying Test scores immediately upon leaving the testing session; (b) pass rate on the Written Qualifying Test; and (c) length of time needed to obtain the final results after the Assessment Exercises component is administered. The Department has expressed a desire to be more open in sharing information about the test development and scoring process to alleviate such concerns. The intended outcome of this optional work step is to increase candidates' understanding (and decrease suspicion) about the testing process and to emphasize the integrity of the overall selection process to all Department members.

To address the issues of concern, we propose to work with the Department in developing a streaming video that can be presented during roll calls or in other appropriate venues. Topics to be covered in the video would include:

- Overview of job analysis activities and resulting test plans
- Discussion of test validity and the specific validation process used
- Test item development with Department SMEs
- Role of the Sr. SMEs, including item review, cutting score process, scoring guidelines development, etc.
- Scoring procedures, including answer sheet scanning, candidate challenges, item analyses, scoring open-ended items, etc.

We understand that the level of detail and specific language used to convey the information is of extreme importance in the event the promotional process is challenged. Consideration also must be given to the extent to which the procedures discussed in the video may set precedent for the Department's other selection and promotional processes. The content of the video would be developed using extensive review and input from appropriate project oversight personnel, including representatives from the Chicago Police Department, the City Department of Personnel, and the City Department of Law. It is anticipated that Dr. McPhail and Dr. Haddock-Chavez would present the information on the video. The streaming video itself would be produced using internal Department technical resources.

QUALITY CONTROL AND SECURITY

Jeanneret & Associates' approach to quality control is designed to maintain the highest quality standards by implementing specific procedures to monitor, review, and audit the progress of all technical work. Checkpoints are included during all phases of the project, applying to work developed or conducted by all levels of project staff. Each deliverable will be reviewed by other team members for quality, appearance, and suitability. A final review of all project products (focused on accuracy, completeness, content, conformance with project requirements, and adherence to Department policies and formats) will be made by the Project Manager before they are submitted. Overall project management flows directly to the Principal-in-Charge, and an important role for the Principal is quality control. Each project plan and technical product also will be reviewed by the Principal-in-Charge.

Jeanneret & Associates is dedicated to providing service of the highest quality. In order to maximize the Firm's ability to meet the special demands of the City of Chicago Police Department and to accomplish this particular project in a timely manner, our quality control procedures are flexible and designed to solicit active participation and input from the City and Department oversight and other appropriate personnel throughout the process.

Security always remains an important part of maintaining quality for selection projects. Strict security measures will be adhered to during all stages of test development and administration. Jeanneret & Associates is dedicated to maintaining the confidentiality of all information relating to project work performed for clients. The procedures and related materials developed for the Lieutenant and Sergeant promotional processes are proprietary to the City of Chicago Police Department. All members of the Firm are required to sign confidentiality agreements upon employment.

In addition, all Department SMEs, including test development SMEs and Sr. SMEs responsible for review and approval of all project-related materials will be required to sign confidentiality agreements and agree not to conduct or participate in any study groups for candidates preparing for the Lieutenant and Sergeant promotional processes. The need to maintain confidentiality and appropriate security procedures will be emphasized to the SMEs. While working with Department personnel, the consultants will be vigilant at all times to protect the security of test-related materials. At no point will any Department personnel, other than the single Sr. SME conducting final review, have access to the complete final examination.

RESOURCE REQUIREMENTS AND ANTICIPATED SCHEDULE

Described in Table 1 below are the resource requirements expected to be provided by the City and the Department related to the various components of the Lieutenant and Sergeant promotional processes. Such resources include requirements for representative samples of incumbents needed for review and collection of job analysis data, number and availability of SMEs and Sr. SMEs needed for test and Merit development activities, copies of current job-related materials, Department directives, and legal references, workspace for meetings when appropriate, and so forth.

Table 1 also presents a realistic time line for accomplishing the proposed project activities. As outlined below, the Lieutenant and Sergeant promotional processes could be completed within 12–15 months from project initiation. We have assumed project initiation date in the last quarter of 2005, but can be flexible in scheduling project activities to accommodate the Department's targeted dates for the administration of the testing components and the timeframe for the final rank-ordered lists to be made available. In particular, we are sensitive to the need for adequate time to be allowed for candidates to complete the Lieutenant Job Knowledge Test Modules, including time for re-testing. The schedule for this component will be determined through discussion with City and Department project oversight representatives. Whenever possible, project activities (e.g., job analysis, Merit development and training, etc.) will be conducted simultaneously for the two ranks to increase efficiency and reduce overall project expenses.

The anticipated schedule was developed based on past experience (i.e., the schedule of project activities conducted during the 2001 Lieutenant and Sergeant promotional processes) and reasonable expectations regarding availability of Department personnel; time required for review, preparation, and distribution of materials; availability of testing venues; Department operational needs due to holidays, festival seasons, and so forth. Meeting this schedule, or possibly accelerating it, depends on the ability of the City and the Department to make available the required resources in a timely manner.

We realize that the actual test dates will depend on the ability of the City's test administration contractor to schedule suitable facilities, given the large number of expected candidates. If the weeks proposed in Table 1 for test administration dates are not practical, the schedule for related project activities (e.g., publication of candidate communications and preparation materials, delivery of test results, etc.) would be adjusted accordingly.

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

**Table 1
Resource Requirements and Anticipated Schedule**

CPD 2005-2006 Lieutenant and Sergeant Promotional Process	City and Department Resource Requirements	Anticipated Schedule
Project Initiation		
Work Step 1: Project Initiation	<ul style="list-style-type: none"> • Chicago Police Department Liaison (Project Activity Coordinator) appointed • Meeting with Project Planning Personnel for approximately 2 hours: <ul style="list-style-type: none"> ◦ CPD Patrol representative ◦ CPD Personnel Division representative ◦ CPD Liaison ◦ City Department of Personnel representative ◦ City Department of Law representative ◦ Test Administration Firm representative ◦ Consultant Principal-In-Charge ◦ Consultant Project Manager 	Week 1
Job Analysis—Lieutenant and Sergeant		
Work Step 2: Review Relevant Information	<ul style="list-style-type: none"> • Copies of current reference materials (e.g., General and Special Orders, Department Notices, Fax Messages, Legal Bulletins, Illinois Compiled Statutes, Chicago Municipal Code, etc.) 	Week 1
Work Step 3: Conduct Search for Alternatives	<ul style="list-style-type: none"> • Discussion with project oversight representatives 	Weeks 1-2
Work Step 4: Conduct Focus Group Reviews	<ul style="list-style-type: none"> • Meeting space at CPD Academy (or other City facilities) • Four separate 4-hour meetings with: <ul style="list-style-type: none"> ◦ total of 10-12 Sergeants ◦ total of 10-12 Lieutenants 	Week 2
Work Step 5: Update Lists of Tasks, KSAPs, and References	<ul style="list-style-type: none"> • Meeting space at CPD Academy (or other City facilities) • Two separate 6-hour meetings with: <ul style="list-style-type: none"> ◦ 5 Lieutenants ◦ 5 Captains 	Weeks 3-4

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

CPD 2005-2006 Lieutenant and Sergeant Promotional Process	City and Department Resource Requirements	Anticipated Schedule
Work Steps 6: Collect and Analyze Job Analysis Questionnaire Data	<ul style="list-style-type: none"> • Meeting space at CPD Academy (or other City facilities) • Multiple 3-hour meetings to complete questionnaires with: <ul style="list-style-type: none"> ◦ 8-10% of the Sergeant incumbents ◦ 8-10% of the Lieutenant incumbents 	Weeks 5-6
Work Step 7: Review Results of Job Analysis Questionnaire	<ul style="list-style-type: none"> • Meeting space at CPD Academy (or other City facilities) • Two separate 4-hour meetings with: <ul style="list-style-type: none"> ◦ 5-6 Lieutenants ◦ 5-6 Captains 	Weeks 7-8
Work Step 8: Collect and Analyze Task and KSAP Linkages	<ul style="list-style-type: none"> • Meeting space at CPD Academy (or other City facilities) • Two separate 3-hour meetings with: <ul style="list-style-type: none"> ◦ 10-15 Sergeants ◦ 10-15 Lieutenants 	Weeks 9-10
Work Step 9: Review Results of Linkages and Collect Critical Incidents	<ul style="list-style-type: none"> • Meeting space at CPD Academy (or other City facilities) • Two separate 6-hour meetings with: <ul style="list-style-type: none"> ◦ 5 Lieutenants ◦ 5 Captains 	Week 11
Work Step 10: Prepare Job Analysis Report	<ul style="list-style-type: none"> • Members of the Oversight Committee for review 	Weeks 12-17
Lieutenant—Development of Job Knowledge Test Modules		
Work Step 11-L: Develop and Review Test Plan for Modules	<ul style="list-style-type: none"> • Meeting space at CPD Academy (or other City facilities) <ul style="list-style-type: none"> ◦ 5-6 Captains 	Week 13
Work Step 12-L: Develop Job Knowledge Test Modules	<ul style="list-style-type: none"> • Meet with SMEs to review and develop Job Knowledge Test Module items: • One 3-day meeting with: <ul style="list-style-type: none"> ◦ 6 Captains ◦ 6 Commanders 	Weeks 14-18

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

CPD 2005-2006 Lieutenant and Sergeant Promotional Process	City and Department Resource Requirements	Anticipated Schedule
Work Step 13-L: Review Test Modules with Sr. SMEs	<ul style="list-style-type: none"> • Meet with Sr. SMEs to review test modules • One 3-day meeting with: <ul style="list-style-type: none"> ◦ 5 Sr. SMEs • One 6-hour meeting with: <ul style="list-style-type: none"> ◦ 5 Sr. SMEs to collect ratings for cutoff score determination 	Weeks 18-20
Work Step 14-L: Develop Test Module Communication Package	<ul style="list-style-type: none"> • Department Liaison • Department Research and Development representative for reference verification • Sr. SMEs for content review • City representatives for final review of communications and distribution to candidates 	Weeks 18-20
Work Step 15-L: Implementation of Job Knowledge Test Modules	<ul style="list-style-type: none"> • One day meeting with City's test administration contractor, Department technical specialists, and/or outside vendor to develop procedures for Test Module administration • Adequate period of time for candidate testing (and re-testing, as needed) 	To be determined
Work Step 16-L: Score and Analyze Test Module Results	<ul style="list-style-type: none"> • Data files of Job Knowledge Test Module candidate item responses and scores • Members of the Oversight Committee to review results 	To be determined
Sergeant—Development of Written Qualifying Test		
Work Step 11-S: Develop and Review Test Plan for WQT	<ul style="list-style-type: none"> • Meeting space at CPD Academy (or other City facilities) <ul style="list-style-type: none"> ◦ 5-6 Lieutenants 	Week 13
Work Step 12-S: Develop Written Qualifying Test	<ul style="list-style-type: none"> • Meet with SMEs to review and develop WQT items: • One 3-day meeting and one 2-day meeting with: <ul style="list-style-type: none"> ◦ 6 Lieutenants ◦ 6 Captains 	Weeks 14-18

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

CPD 2005-2006 Lieutenant and Sergeant Promotional Process	City and Department Resource Requirements	Anticipated Schedule
Work Step 13-S: Review Written Qualifying Test with Sr. SMEs	<ul style="list-style-type: none"> • One 3-day meeting with: <ul style="list-style-type: none"> ◦ 5 Sr. SMEs 	Weeks 19-22
	<ul style="list-style-type: none"> • One 4-hour meeting with: <ul style="list-style-type: none"> ◦ Designated Sr. SME for final review 	Weeks 23-24
Work Step 14-S: Develop WQT Communication Packages:	<ul style="list-style-type: none"> • Department Liaison • Department Research and Development representative for reference verification • Sr. SMEs for content review • City representatives for final review of communications and distribution to candidates 	Practice Guide & WQT Specific Reading List Week 24 (8 weeks to WQT)
Work Step 15-S: Assist in WQT Administration	<ul style="list-style-type: none"> • Copies of actual test materials, radio, etc., from test administration contractor • One 4-hour meeting with: <ul style="list-style-type: none"> ◦ 5 Sr. SMEs to collect ratings for final cutoff score analysis 	Week 32
Work Step 16-S: Score and Analyze Written Qualifying Test Results	<ul style="list-style-type: none"> • Data file of scanned WQT answer sheets • Members of the Oversight Committee to review results 	Weeks 33-38
Development of Assessment Exercises—Lieutenant and Sergeant		
Work Step 17: Develop Assessment Exercises	<ul style="list-style-type: none"> • 8-hour meetings on 6 days (over 2 weeks) <ul style="list-style-type: none"> ◦ 6-8 SMEs (supervisors of targeted position) 	Weeks 22-27
Work Step 18: Review Assessment Exercises with Sr. SMEs	<ul style="list-style-type: none"> • One 3-day session (for each targeted position) with: <ul style="list-style-type: none"> ◦ 5 Sr. SMEs 	Weeks 30-34
	<ul style="list-style-type: none"> • One 1-day meeting (for each targeted position) with: <ul style="list-style-type: none"> ◦ 1 of the Sr. SMEs for final review 	Week 35-36

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

CPD 2005-2006 Lieutenant and Sergeant Promotional Process	City and Department Resource Requirements	Anticipated Schedule
Work Step 19: Develop Assessment Exercises Communication Package	<ul style="list-style-type: none"> • Department Liaison • Sr. SMEs for content review • City representatives for final review of communication and distribution to candidates 	Practice Guide with Overall Reading List Available Week 38 (6 weeks to AE)
Work Step 20 : Assist in Administration of Assessment Exercises	<ul style="list-style-type: none"> • Copies of actual test materials, radio, etc., from test administration contractor 	Week 44
Work Step 21: Score and Analyze Assessment Exercises Results and Prepare Data File (based on 3,000 candidates for Sergeant and 600 for Lieutenant)	<ul style="list-style-type: none"> • Copies of Assessment Exercises answer booklets for all candidates • One 3-day session to score 10% sample and review scoring guidelines (for each targeted position) with: <ul style="list-style-type: none"> ◦ 5 Sr. SMEs 	Weeks 45-56
Merit Selection Process—Lieutenant and Sergeant		
Work Step 22: Develop and Review Merit Dimensions and Process	<ul style="list-style-type: none"> • One 4-hour meeting (for each targeted position) with: <ul style="list-style-type: none"> ◦ 5 Sr. SMEs 	Weeks 33-38
Work Step 23: Develop Merit Communication Package	<ul style="list-style-type: none"> • Department Liaison • Sr. SMEs for content review • City representatives for final review of communication and distribution to candidates 	Available with Assessment Exercise Practice Guide Week 38
Work Step 24: Train Candidate Nominators	<ul style="list-style-type: none"> • Meeting space at CPD Headquarters • Multiple 2-hour meetings scheduled over 1 or 2 weeks with: <ul style="list-style-type: none"> ◦ Nominators for the Sergeant or Lieutenant positions not previously trained (or all Exempt Members) 	As Needed
Final Report		
Work Step 25: Prepare Final Technical Report	<ul style="list-style-type: none"> • Members of the Oversight Committee for review 	Weeks 57-60

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

CPD 2005-2006 Lieutenant and Sergeant Promotional Process	City and Department Resource Requirements	Anticipated Schedule
Optional Activities		
Work Step 1: Analyze Information about Candidates' Study Practices	<ul style="list-style-type: none"> Members of the Oversight Committee for input and review of survey 	Weeks 18-36
Work Step 2: Study Group Curriculum and Guidelines	<ul style="list-style-type: none"> Members of the Oversight Committee for input and review 	Weeks 1-20
Work Step 3: Streaming Video on Testing Process	<ul style="list-style-type: none"> Members of the Oversight Committee for input and review Department technical resources for video production 	Weeks 1-20

*- not using these options
A. Bryant*

PROJECT COSTS

Table 2 presents the costs associated with the various components for the development of promotional processes for the Lieutenant and Sergeant ranks. The costs are presented separately for professional fees and expenses. Professional fees include actual time spent on project work by members of the consulting team. Expenses (e.g., travel, long distance, secure courier delivery, data entry, document production, etc.) are billed as incurred without burden for overhead. Whenever feasible, the consultants will schedule project activities in order to save on the individual consultant fees and travel-related expenses.

These cost estimates assume that the City and Department resource commitments, as outlined in the previous section of this proposal, will be fulfilled. To the extent that any of these resources (e.g., timely availability of SMEs, scheduling of rooms at the CPD Academy or other City facilities, production of the video, Intranet accessibility, etc.) cannot be provided, the costs would be adjusted accordingly.

Overall costs reflect the conduct of two separate projects for the development and validation of promotional processes for the Lieutenant and Sergeant ranks. Costs are presented across the two projects for components that are common for the two ranks (i.e., project initiation, job analysis, Merit Process, and final report), but have been broken down by rank for the test development and scoring activities because the processes and the numbers of expected candidates differ by rank. Costs are presented for the following project components:

- Project Initiation, Project Administration, and Technical Reports for Lieutenant and Sergeant Ranks
- Job Analysis for Lieutenant and Sergeant Ranks
- Development of Job Knowledge Test Modules for Lieutenant
- Development of Written Qualifying Test for Sergeant
- Assessment Exercise Development and Scoring for Lieutenant
- Assessment Exercise Development and Scoring for Sergeant
- Development of Merit Selection Process and Training of Nominators for Lieutenant and Sergeant Ranks

Presented in Table 3 are the costs associated with conducting the three optional work steps, including the following:

- Optional Analysis of Information about Candidates' Study Practices
- Optional Development of Study Group Curriculum and Guidelines
- Optional Development of Streaming Video on the Testing Process

DEVELOPMENT OF PROMOTIONAL PROCESSES FOR LIEUTENANT AND SERGEANT

The costs provided in this proposal are made based on certain assumptions regarding the various components of the project. In particular, costs for scoring the Assessment Exercises have been estimated assuming a maximum of 3,000 candidates who would participate in that portion of the Sergeant promotional process, and 600 candidates who would participate in that portion of the Lieutenant promotional process.

Costs for the Merit Selection Process have been estimated assuming that development of the two processes (Sergeant and Lieutenant) and sets of materials and the associated training would encompass both assignments. Past experience indicates that the level of effort required (and associated costs) for some of the proposed activities (e.g., Merit training) may be reduced depending on Department needs at the time. We will be willing to discuss any issues and make adjustments as necessary.

~~Finally, the costs presented for the optional work activities are high-end estimates, in the event that the more complex alternatives for computerized test preparation materials are developed. If other options are selected, the costs would be reduced accordingly.~~

A. Bryant

**Table 2
Overall Costs for Project Components**

Project Components	Costs
Project Initiation, Project Administration, and Technical Reports—Lieutenant & Sergeant	
Fees	\$78,960
Expenses	\$6,650
Total	\$85,610
Job Analysis—Lieutenant & Sergeant	
Fees	\$83,310
Expenses	\$11,480
Total	\$94,790
Lieutenant—Job Knowledge Test Modules Development & Scoring	
Fees	\$110,860
Expenses	\$16,140
Total	\$127,000
Sergeant—Written Qualifying Test Development & Scoring	
Fees	\$79,040
Expenses	\$16,460
Total	\$95,500
Lieutenant—Assessment Exercise Development & Scoring (600 candidates)	
Fees	\$175,150
Expenses	\$26,750
Total	\$201,900
Sergeant—Assessment Exercise Development & Scoring (3,000 candidates)	
Fees	\$267,410
Expenses	\$26,790
Total	\$294,200
Merit Selection Process Development—Lieutenant & Sergeant (common training of nominators)	
Fees	\$30,340
Expenses	\$3,460
Total	\$33,800

**Table 2 (continued)
Overall Costs for Project Components**

Total Project Costs—Lieutenant & Sergeant (without Options)	
Fees	\$825,070
Expenses	\$107,730
Total	\$932,800

**Table 3
Costs for Optional Project Activities**

Optional Activities	Costs
Option 1: Analyze Information about Candidates' Study Practices	
Fees	\$6,040
Expenses	\$200
Total	\$6,240
Option 2: Development of Study Group Curriculum and Guidelines	
Fees	\$25,400
Expenses	\$2,900
Total	\$28,300
Option 3: Development of Streaming Video on the Testing Process	
Fees	\$41,100
Expenses	\$3,800
Total	\$44,900

*not using these options
A. Bryan*

CHICAGO FIRE DEPARTMENT

PROPOSAL TO DEVELOP AND VALIDATE A SELECTION SYSTEM FOR THE POSITION OF FIRE FIGHTER/EMT-B

Prepared by

Jeanneret & Associates, Inc.

\$ AMOUNT
324,500
pages 32

SCOPE FOR
FIRE FIGHTER

April 2005

TABLE OF CONTENTS

BACKGROUND OF THE FIRM	1
PROJECT TEAM	2
OVERVIEW OF THE PROJECT	6
OUTLINE OF KEY PROJECT COMPONENTS AND ACTIVITIES.....	8
PLAN OF WORK	9
Work Step 1: Project Initiation Meeting	9
JOB ANALYSIS	10
Work Step 2: Review Relevant Information.....	10
Work Step 3: Conduct Interviews and Observations	11
Work Step 4: Develop Task and KSAP Lists.....	11
Work Step 5: Develop Job Analysis Questionnaire and Collect Data	12
Work Step 6: Analyze and Review Job Analysis Questionnaire Data.....	12
Work Step 7: Collect Task and KSAP Linkages	12
Work Step 8: Analyze and Review Linkage Data and Collect Critical Incidents.....	13
Work Step 9: Prepare Job Analysis Report.....	13
SEARCH FOR SELECTION ALTERNATIVES.....	13
Work Step 10: Review the Research Literature.....	13
Work Step 11: Survey Comparable Fire Departments.....	14
Work Step 12: Assist in Development of Request for Proposals	14
Work Step 13: Review Results of Search for Alternatives	15
CRITERION-RELATED VALIDATION STUDY.....	16
Work Step 14: Develop Sampling Plan	17
Work Step 15: Develop Communications.....	18
Work Step 16: Develop Performance Rating Instrument.....	18
Work Step 17: Develop Test Administration Procedures.....	19
Work Step 18: Collect Test Data	19
Work Step 19: Collect Criterion Data	20
Work Step 20: Analyze Data and Review Results.....	20
IMPLEMENTATION ACTIVITIES.....	21
Work Step 21: Develop Final Test-Related Procedures and Materials	21
Work Step 22: Prepare Final Technical Report.....	21
OPTIONAL ACTIVITIES	22
Work Step 23: Develop Realistic Job Preview.....	22

Work Step 24: Develop Structured Interview.....23
RESOURCE REQUIREMENTS.....24
QUALITY CONTROL AND SECURITY ISSUES.....28
ANTICIPATED SCHEDULE.....29
COSTING31
REFERENCES33

APPENDIX A: REPRESENTATIVE CLIENTS OF JEANNERET & ASSOCIATES, INC.

APPENDIX B: PROJECT TEAM RESUMES

BACKGROUND OF THE FIRM

Jeanneret & Associates, Inc., is an interdisciplinary consulting Firm established to apply a combination of science and practical experience to assist organizations and managers in solving a wide range of human resource management problems. The Firm is headquartered in Houston, Texas. The Firm was founded in 1981 by Drs. P.R. Jeanneret and S.M. McPhail. Dr. Jeanneret was formerly the Managing Principal of the Houston office of LFWF, Inc., a management consulting Firm. He has served as a management consultant since moving to Houston in 1969. Dr. McPhail was a Senior Consultant with LFWF and has worked as a psychologist and management consultant since 1978. Jeanneret & Associates is incorporated in Texas, and is located at 601 Jefferson Street, Suite 3900, Houston, Texas, 77002.

The Firm currently has 18 employees and has sufficient resources to accomplish the proposed project. The professionals at Jeanneret & Associates have formal training in the disciplines of industrial and organizational psychology, clinical psychology, statistics, personnel research, and public administration. Staff members are certified and/or licensed at the appropriate levels in compliance with applicable state regulatory agencies. The Firm and individuals associated with the Firm are members of the Society for Industrial and Organizational Psychology, the American Psychological Association, American Psychological Society, the American Society of Training and Development, and the Society for Human Resource Management. The Firm and its staff adhere to the published ethical standards of these organizations as they apply to the professional practice of management consulting.

The consultants with Jeanneret & Associates and the associated personnel on the project team are skilled in a variety of human resource procedures. They can offer a wealth of experience in service to public safety organizations. The key members of the project team have worked with the City of Chicago to develop promotional processes for the Police Department ranks of Captain (SES), Lieutenant, Sergeant, and Detective assignments. They also have experience in developing and validating selection systems for fire fighting and emergency medical positions, including projects conducted for the Houston Fire Department, the St. Paul Fire Department, and the Henrico County Division of Fire. A representative list of the Firm's clients is included in Appendix A.

PROJECT TEAM

The consulting team assembled to conduct the project is extremely well qualified. Several members of the team have national professional recognition in areas of expertise directly related to the study of jobs and the development of selection procedures. The consulting Firm of Jeanneret & Associates has had experience in successfully directing and implementing applied research projects for city and county governments and a number of municipal agencies, including those involved in law enforcement. The professionals at Jeanneret & Associates have formal training in the disciplines of industrial and organizational psychology, statistics, personnel research, and public administration. Representative examples of project assignments include the development and validation of selection/promotional test batteries for both public and private sector organizations (including fire fighting and emergency medical assistance), the design and implementation of performance appraisal systems, the preparation of management training programs on performance appraisal, the development and installation of public sector job evaluation and compensation systems, and the conduct of psychological assessments. Jeanneret & Associates and its project team members have conducted well over 100 test development and validation projects. Members of the Firm also will be joined by a local individual practitioner of industrial and organizational psychology who can provide additional expertise and efficiency in conducting on-site project activities.

The individuals responsible for the conduct of this project are experienced in both project management and the technical skills of job analysis, development of selection systems, statistical analysis, and validation. All of the team members have participated in and managed job analysis and selection validation projects. Resumes for key members of the project team are included in Appendix B.

S.M. McPhail, Ph.D., is a Principal of Jeanneret & Associates and will serve as Principal-in-Charge of the proposed project. He is a licensed industrial and organizational psychologist and has been in practice as a management consultant for over 25 years. He has conducted research and provided consulting services in a wide array of practice areas, including job analysis, selection, validation, job evaluation, performance appraisal, individual assessment, and management development. His doctorate was conferred by Colorado State University. Dr. McPhail has authored publications and presented numerous papers and symposia at professional meetings. Although he has worked as a consultant throughout his professional career, Dr. McPhail also serves as adjunct faculty in the Departments of Psychology at the

University of Houston and Rice University. He has served as expert counsel and provided expert testimony in numerous matters of litigation, including those involving equal employment opportunity, selection, promotion, and termination issues, as well as statistical analyses of large data sets.

Dr. McPhail has served as Principal-in-Charge of numerous selection and validation projects in both the public and private sectors. His work has included managing large-scale, multi-year, and multi-organization consortium projects, as well as small-scale, rapid turnaround projects. As a result of this work, Dr. McPhail has experience analyzing a broad spectrum of jobs in the world of work for many different purposes. This experience has encompassed jobs ranging from public safety and law enforcement to craft and operative jobs and includes office and clerical, technical (e.g., laboratory, computer software and hardware, and radiation protection technicians), professional (e.g., engineers and architects), and managerial positions. Dr. McPhail served as the Principal-in-Charge for the City of Chicago Police Department's previous promotional examinations for Sergeant and Lieutenant as well as the selection processes developed for Captain (SES) and Detective assignments. Dr. McPhail also has served as the Principal-in-Charge of projects that the Firm has conducted on behalf of the Houston Fire Department and the Henrico County Division of Fire.

R.A. Haddock-Chavez, Ph.D. is the president of R.A. Haddock-Chavez Associates, a management consulting company located in the Chicago area that specializes in organizational and management development. He will have an active role in the validation project proposed for the Chicago Fire Department. He received his doctoral degree in organizational psychology in 1970 from Purdue University, where he was a contemporary of Dr. Jeanneret. Dr. Haddock-Chavez has been working in the field of industrial and organizational psychology since the 1970s. His areas of practice encompass all aspects of human resource management, including job analysis, employment test development and validation, management assessment for selection, succession planning and executive development, team building, and leadership conferences and retreats. He serves many large companies, as well as small- to medium-sized companies, in the Chicago area. Dr. Haddock-Chavez's firm is certified as a Minority Business Enterprise by the City of Chicago.

A.F. Jackson is a Senior Consultant with Jeanneret & Associates and will serve as Project Manager for the proposed project. She holds a bachelor's degree in English and Legal Studies from Rice University. She has been a consultant with the Firm for over 12 years. In her work

with the Firm, she has conducted job analysis interviews and questionnaires, developed selection and promotional exams and scoring guidelines, and prepared job descriptions, assessment materials, manuals, training materials, and project communications. Ms. Jackson has managed and participated in numerous job analysis and selection validation projects for various public sector agencies. Recently, she worked with the Henrico County Division of Fire to validate a selection examination and structured interview process for the Entry-Level Firefighter position. Ms. Jackson was Project Manager of a cognitive and physical abilities test validation study for the St. Paul Fire Department, which included analysis of both fire fighter and emergency medical qualifications. In addition, she assisted with project activities involving development of entry-level reading and math tests for the Houston Fire Department. Ms. Jackson also has managed projects for the City of Chicago Police Department to develop promotional processes for Sergeant, Lieutenant, and Captain (SES) ranks and currently is managing development of a selection process for Detective assignments.

S.L. Koelzer, M.A., is a Senior Consultant with Jeanneret & Associates and will participate in job analysis and validation activities for the proposed project. She has been with the Firm for 20 years. She has a master's degree in administration and a certificate in public administration. Ms. Koelzer has directed project activities for the City of Chicago Police Department promotional examinations for Lieutenant and Sergeant and the D-2 selection process. She managed project activities for the study of Police Officer essential functions that was conducted by the Firm for the Chicago Police Department. She also has provided job analysis and test development support for the Captain (SES) promotional processes conducted by the Firm. Ms. Koelzer also participated in the physical abilities and medical standards project for the Houston Fire Department and analyzed the firefighter position during a job evaluation project conducted for the Metropolitan Washington Airport Authority.

Damian J. Stelly, Ph.D., holds a doctoral degree in industrial/organizational psychology from the University of Missouri–St. Louis. He has been a Consultant with Jeanneret & Associates for 4 years. Prior to joining the firm, Dr. Stelly worked as an internal consultant in private industry for the J.C. Penney Company and Anheuser-Busch Companies. Dr. Stelly has designed and managed a broad range of projects including job analyses, compensation fairness analysis, selection and placement systems, employee attitude surveys, organizational development interventions, and employee development programs. He has consulted with management in variety of functional areas such as selection and promotion, information technology, retail sales, engineering, manufacturing, purchasing and marketing.

J.A. Caplinger, M.A. is a Consultant with Jeanneret & Associates. Ms. Caplinger holds a master's degree in industrial and organizational psychology and human resource management. In her work with the Firm, Ms. Caplinger has participated in projects including small- and large-scale test administration; development and scoring of selection tests; development of job evaluation processes; and various job analysis activities. Ms. Caplinger participated in test development and coordinated scoring activities for the most recent Chicago Police Department selection processes for Lieutenant, Sergeant, and D-2 assignments. She is a licensed psychological associate in the State of Texas.

J.H. Shalhoop, Ph.D. is a Consultant with Jeanneret & Associates. He received his Ph.D. in industrial and organizational psychology from the University of Akron, where his dissertation focused on issues relating to fairness in organizations. Since joining the Firm, he has been involved in a wide range of projects, including job analyses and benchmarking, selection and promotional system design, adverse-impact analyses, and validity transportability studies. Dr. Shalhoop conducted research and analyses related to the recommendation of the entry-level firefighter test for Henrico County. Prior to joining the firm, Dr. Shalhoop was the research coordinator for a large grant that examined the emerging use of the Internet as a recruitment tool for organizations, and as a search tool for job-seekers. Dr. Shalhoop possesses a strong background in research methodology, data management, and statistical analysis, and has experience with the design and implementation of web-based survey tools.

Additional Consultants and Research Associates also may be assigned to this project. All have training in industrial and organizational psychology programs and are experienced in job analysis, data collection, test development, and validation. They will perform a variety of technical, analytical, and administrative support activities for the proposed project.

OVERVIEW OF THE PROJECT

This proposal is submitted to the City of Chicago to assist in identifying and validating procedures for selecting among applicants for hire into the entry-level position of Fire Fighter in the Chicago Fire Department. Specifically, the plan of work addresses the need to confirm and/or supplement previous job analysis efforts, resulting in the comprehensive documentation of entry-level requirements for the Fire Fighter position. Given the City's and the Department's long-term goal that all Fire Fighters will be qualified as EMT-B, the requirements to perform those job duties also will be thoroughly analyzed.

This plan proposes a criterion-related validity study designed to evaluate a battery of commercially published tests in order to identify a valid and suitable testing process to allow the Department to select qualified applicants for the Fire Fighter/EMT-B job, while minimizing to the extent possible disparate impact on protected subgroups. Issues for consideration are presented in the specific work steps described in the Plan of Work section of this proposal.

The overall project plan provides for the development of a selection process that is effective in identifying applicants for the position of Fire Fighter/EMT-B who have the requisite skills, abilities, and personal characteristics to succeed in the Chicago Fire Department. The resulting selection process will be based on job analysis and evidence supporting its validity in the event that it is challenged, and we will make every effort to implement a process that reduces disparate impact to the greatest extent possible. The proposed plan addresses the practical issues associated with the very large number of applicants expected and provides the ability to conduct a timely process for selecting the next candidate pool. Most importantly, the plan will result in a selection process that is fair to all candidates and satisfies the legal and professional requirements governing the use of any procedures for selection of Chicago Fire Department employees, including the *Uniform Guidelines on Employee Selection Procedures* (EEOC, 1978), the *Standards for Educational and Psychological Testing* (APA, 1999), and the *Principles for the Validation and Use of Personnel Selection Procedures* (SIOP, 2003).

The plan of work is built around several key decision points, during which the consultants, members of the Chicago Fire Department, and City representatives (i.e., Legal, Procurement, Personnel) will work closely to review progress and reach conclusions prior to commencing a new work step. Further, the project entails extensive consultant presence to assist in

overcoming concern that the selection process may be unfair or compromised or that personal favoritism or politics may be involved. This plan is designed to foster the reality and perception of objectivity, fairness, and professionalism. The following outline represents the key components and related project activities for developing and implementing the Fire Fighter selection process.

OUTLINE OF KEY PROJECT COMPONENTS AND ACTIVITIES

Project Initiation and Administration

- Meeting with City and Department project oversight personnel
 - Finalize plans for project schedule, deliverables, contacts, etc.
 - Define entry-level Fire Fighter/EMT-B position
 - Discuss relevant issues (e.g., paramedic transfers, litigation, applicant pool, etc.)
- Ongoing interface with Department liaison and other appropriate City and Department representatives

Job Analysis

- Review relevant background information about the Fire Fighter/EMT-B position
- Conduct interviews and observations with incumbents
- Develop task and KSAP lists and critical incidents
- Collect and analyze job analysis data
- Review results with subject matter experts
- Prepare job analysis report

Search for Selection Alternatives

- Review current research literature on alternatives for firefighter and emergency medical personnel selection
- Obtain information from comparable fire departments
- Assist in development of RFP to obtain information from test publishers
- Assist in analyzing responses from test publishers to develop and review comprehensive information about alternatives and identify experimental test battery

Criterion-Related Validation Study

- Develop performance rating instrument
- Test sample of 300-400 incumbents using experimental test battery
- Collect criterion data from supervisors, Academy/training, and test publishers
- Analyze test and performance data to recommend final test battery

Implementation Activities

- Develop final test administration and scoring procedures and manual
- Obtain or develop applicant preparation materials
- Prepare final technical report

Optional Activities

- Develop realistic job preview
- Develop structured interview

PLAN OF WORK

The following plan of work details the activities required to complete the Fire Fighter selection project and meet the Department's objectives. The proposed work will result in a job-relevant and effective selection system that complies with the provisions of applicable legal and regulatory requirements and accepted professional practice. Further, it is designed to serve the Department's interest to use fair, efficient, and impartial selection procedures.

Work Step 1: Project Initiation Meeting

The objectives of this first work step include: (a) joint planning by the consultants and key representatives from the Chicago Fire Department; (b) obtaining current existing information about the Fire Fighter/EMT-B position; (c) developing a schedule to obtain additional information efficiently and to review products; and (d) identifying appropriate individuals to serve as subject matter experts (SMEs) and senior subject matter experts (Sr. SMEs) for the project activities.

During this step, a number of activities will be undertaken to ensure the efficiency of the overall project. Expectations and requirements will be clarified regarding the need for incumbents and their supervisors to provide job information at various stages in the project. Additionally, appropriate communications about the project will be discussed and disseminated to individuals who will be involved with, or will be contributing to, one or more of the project activities. This initial planning will allow sufficient time for the Department to make the necessary arrangements for the project. Further, this step will allow Department representatives to identify conflicts with project milestones (e.g., data collection, review of materials, etc.) and to work with project staff to implement a schedule that meets the Department's operational needs. Preliminary plans for the implementation process also will be discussed at this step, enabling the consultants to better understand the Department's needs and constraints and to proceed most efficiently in conducting subsequent project activities. Another important focus of the project initiation meeting will be to define the current entry-level Fire Fighter position, clarify the extent to which EMT-B qualifications impact selection requirements, and discuss the important issues regarding paramedic transfers.

JOB ANALYSIS

The job analysis work steps consist of several interrelated activities designed to identify the job requirements of the Fire Fighter/EMT-B position. The job analysis activities will include task/duty analysis, identification of entry-level knowledge, skill, ability, and personal characteristic (KSAP) requirements, analysis of relevant source materials within the Department, critical incidents, and other important behavioral dimensions for the job. To obtain accurate, reliable information, the proposed job analysis methodology will begin by examining existing data from previous studies conducted in the Chicago Fire Department. The consultants also will review the research literature for information about firefighter duties and job requirements. In addition, information will be collected from a broad sample of job incumbents, input from SMEs, and a multi-level review process. The importance of high quality job analysis information cannot be overemphasized; it is central to the development of useful, defensible, valid selection procedures.

Subject Matter Expert Requirements. The Fire Fighter selection process will require the participation of Department SMEs for review of job analysis results and development of performance criteria for the validation activities. These individuals must be job experts at ranks higher than the targeted position (e.g., Lieutenants and higher) who have specific knowledge about, and experience with, the Fire Fighter/EMT-B assignment. Individual SMEs should be chosen based upon their expertise and knowledge about the position, their availability to participate in project activities, and their credentials and reputation, so that their association with the process will enhance acceptance of the resulting selection procedures. As a whole, the SME group also should include representatives of different demographic groups (i.e., race, sex, and age) and assignments in the targeted positions.

Work Step 2: Review Relevant Information

The results of previous job analyses conducted for the Fire Fighter position will be extensively reviewed. In particular, if the City elects to conduct the transportability analysis described in the Proposal Addendum, the information obtained in that effort will greatly facilitate the job analysis to be conducted for this project. The consultants also will review other existing information specific to the Fire Fighter/EMT-B job in the Chicago Fire Department, such as training materials, policy and procedure manuals, and other reference materials used on the job in order to ensure a thorough and current understanding of the job. The review will focus on identifying changes to the job that have occurred since the last full job analysis in 1994 (e.g., differences

related to EMT-B certification, increased emphasis on terrorism or other potential disaster events, lessons learned from responses to recent fires or incidents, changes in technology of firefighting, etc.). A review will be conducted of relevant statutes, policies and procedures, training requirements, and other regulations or guidelines that relate to the Fire Fighter/EMT-B position.

Work Step 3: Conduct Interviews and Observations

The consultants will conduct interviews and observations with incumbents in the Fire Fighter/EMT-B position. These incumbents should represent the diverse nature of the population, including representatives of different races, sexes, ages, shifts, and districts throughout the City. The goal of the interviews and observations will be to document thoroughly the current job requirements, including the EMT-B requirement. The types of issues to be discussed during the interview process include the nature of the tasks and activities involved in the job, psychological and physical stresses imposed by the job, equipment used in the job, hazards encountered on the job, specialized educational or licensure requirements, and other specific and general job demands. During the interviews, the consultants will observe the work of incumbents in the targeted positions. Particular emphasis will be placed on observing incumbents performing critical tasks and those tasks and responsibilities that have been added or changed since the previous job analysis. We have conducted job analyses of Fire Fighter and emergency medical positions in the past and are aware that some job activities occur infrequently and at such irregular intervals that there may be no opportunity for the consultants to observe these activities being performed. Therefore, it may be necessary that the past occurrence of these less frequently performed tasks be described for the consultants by the incumbents during interviews.

Work Step 4: Develop Task and KSAP Lists

The consultants will develop preliminary lists of Fire Fighter/EMT-B tasks and related knowledge, skills, abilities, and personal characteristics (KSAPs) based on the job analysis information gathered from previous studies conducted for the Chicago Fire Department, the research literature on firefighter duties and job requirements, and the interviews and observations conducted with current incumbents. After compiling all of the information collected during the previous work steps, the consultants will conduct focus groups with Department supervisors who are familiar with the targeted position (i.e., Fire Fighter/EMT-B). Based on the input of these SMEs, revisions will be made, as appropriate, to preliminary lists of job-related

tasks and the KSAPs required for successful job performance. The final Task and KSAP lists will be used as the basis for data collection and evaluation of the selection test battery. It will be important to define the tasks using a uniform level of specificity and to minimize the degree of overlap in the KSAPs, so that they can be meaningfully compared to the job dimensions measured by various published tests.

Work Step 5: Develop Job Analysis Questionnaire and Collect Data

The final task and KSAP lists will be used to create a Job Analysis Questionnaire for collection of data from a sample of approximately 10% of the incumbent Fire Fighter/EMT-B population. The consultants will work with Department representatives to identify an appropriate sampling plan that takes into account incumbent selection stratified to the extent feasible on race, gender, assignment, location, and tenure on the job. The Job Analysis Questionnaire will be used to collect ratings of the frequency of performance and importance of tasks performed as a part of their jobs. Incumbents also will rate the importance of each KSAP to overall job performance and the acquisition period of each KSAP. The acquisition period will be used to identify those KSAPs that are fully required at entry; those that are required at a general level at entry, but further developed on the job; and those that are fully developed on the job. Any task or KSAP that has ratings that meet or exceed a specified threshold will be deemed "critical" to job performance. These critical job requirements will be used to define the focus of the selection process and may be used to guide relative weighting of the various individual tests included in the battery, if appropriate.

Work Step 6: Analyze and Review Job Analysis Questionnaire Data

The consultants will review the Job Analysis Questionnaire data used to identify the critical tasks and important KSAPs with a focus group of SMEs (incumbents and supervisors) to verify the job analysis data and to identify anomalies in the results. Revisions may be made as appropriate based on SME judgment.

Work Step 7: Collect Task and KSAP Linkages

The critical tasks and KSAPs will be cast into a linkage matrix format. The consultants will work with focus groups of SMEs representing the incumbent Fire Fighter/EMT-B population. These SMEs will rate the relevance of each KSAP to the performance of each critical task using the linkage rating form.

Work Step 8: Analyze and Review Linkage Data and Collect Critical Incidents

The consultants will review the results of the task and KSAP linkages with SMEs (supervisors of the targeted position) to establish agreement that they are descriptive of the Fire Fighter/EMT-B position. Revisions will be made as appropriate based on SME judgment. The resulting list of important KSAPs and their associated weights based on linkage to critical tasks will allow the consultants to identify the KSAPs that will become the focus for components of the selection process and development of job-relevant criteria to be used in the validation phase.

Critical work behaviors relevant to successful job performance may not be adequately described by tasks and KSAPs. During the review of the linkage data, the consultants also will work with the SMEs to develop critical incidents for the Fire Fighter/EMT-B position. Critical incidents are detailed descriptions of specific job-related situations. They include examples of critical work behaviors (i.e., good, average, and poor behaviors) in response to the situations. The critical incidents will be utilized in development of performance dimensions for use as criterion data in the validation analyses.

Work Step 9: Prepare Job Analysis Report

Upon completion of the job analysis activities, the consultants will prepare a job analysis report. The report will comply with professional standards and the provisions of the *Uniform Guidelines* (EEOC, 1978). The report will include a description of project activities and a compilation of the job analysis results.

SEARCH FOR SELECTION ALTERNATIVES

The consultants will conduct several activities to identify an appropriate battery of commercially published tests for use in the selection process for the Fire Fighter/EMT-B position. The objective will be to identify and compare as many tests as possible and evaluate their suitability based on a number of criteria, including validity, utility, fairness, and practicality for use (e.g., security, cost, time, scoring procedures, etc.) in light of organizational variables and constraints, such as the large number of applicants expected.

Work Step 10: Review the Research Literature

The Department and the City would be well served by taking advantage of advances in the body of research regarding Fire Fighters and the requirements that underlie the job. For many years,

public safety positions, including fire fighting and emergency medical assistance, have been the subject of many studies and much experience from the perspective of defining job requirements and developing selection methods and tools. Many of the particular problems inherent in selecting Fire Fighters are well known, though certainly no perfect solutions to those problems have been identified. Nonetheless, there is an existing and growing body of knowledge and practice that has the potential to inform the Department's decisions regarding selection methodologies and instrumentation and to provide substantial efficiencies in identifying valid selection processes. For example, research has suggested that certain personality characteristics, such as conscientiousness, dependability, and reliability, are relevant to success as a firefighter, and that measures of such characteristics are less likely to result in adverse impact against protected subgroups. The consultants will conduct a search for alternative selection procedures, including a review of the literature on commercially available procedures and other more customized procedures, as well as research related to the validation and implementation of such procedures. The focus will be on obtaining up-to-date information on the range of instrumentation available, which may include cognitive measures (potentially of several different types), personality assessment, interest inventories, biographical data, and others. Access to such information will enhance the Department's abilities both to identify good predictors of job performance and to mitigate adverse impact.

Work Step 11: Survey Comparable Fire Departments

The consultants will prepare a written survey to send to selected fire departments nationwide (including the Chicago Fire Department) to investigate the selection procedures they use to select entry-level fire fighters. The survey will ask about: (a) the types of selection instruments used; (b) the advantages and disadvantages with respect to practical issues (e.g., administration, costs, perceptions of fairness, etc.); and (c) the results of implementation (e.g., validity, utility, adverse impact, etc.). The consultants will review the information that is returned and follow up with telephone calls to clarify information or to obtain information directly in cases where surveys are not completed. This information will be used to supplement the data obtained from the literature review.

Work Step 12: Assist in Development of Request for Proposals

The consultants propose to assist the Fire Department in developing a Request for Proposals (RFP) that can be used to obtain information about tests directly from test publishers. Based on the results of the review of the research literature and the survey of comparable departments,

some specific test publishers may be identified to receive the RFP; others may be solicited in the standard manner used by the City's Department of Procurement. The RFP will solicit specific information that will allow the City to compare tests for usefulness as selection measures for entry-level Fire Fighter positions in the Chicago Fire Department. Basic information would include test descriptions (i.e., what KSAPs they measure), methods of administration, scoring options, costs, and available validation and fairness data. Willingness of test publishers to allow their tests to be used in a criterion-related validation project conducted on behalf of the Department is an important factor in determining which tests to include for further study. It would be useful to obtain information regarding the criteria that individual test publishers have used in their own validation studies for possible inclusion (or adaptation) in the proposed criterion-related work steps. In addition, the availability of test-related study guides or other candidate preparation materials is an important item for consideration. Test publishers' responses to the RFP will enable the City and the Department to evaluate specific tests with respect to validity, utility, fairness, efficiency, and cost-effectiveness, given organizational variables and constraints.

Work Step 13: Review Results of Search for Alternatives

After the data from test publishers is gathered using the RFP, the consultants will assist the Department in summarizing and reviewing the results and presenting recommendations to appropriate representatives from the Department and the City. Areas in which our assistance might be particularly useful include interpreting, comparing, and evaluating the quality of the validation data available from test publishers and the criteria that may be useful to incorporate for further research purposes. Specifically, we can help in the review of the technical validation reports for each alternative test and examine a number of factors for comparison between tests to evaluate the quality of each of the tests in terms of validity and risk. Jeanneret & Associates has developed a Risk Assessment Model, which is an audit process to assess risks posed by the use of pre-employment selection practices. The model is composed of two primary components: (1) Exposure factors associated with the likelihood of litigation, and (2) Defensibility, meaning the extent to which there is sufficient validity and other information to support use of the procedure in the event of a challenge.

In addition to conducting such analyses, we also can make recommendations regarding an experimental test battery (two or more individual tests) for use in the validation phase of the study and discuss with the project oversight representatives the advantages and disadvantages

associated with the various tests considered. Recognizing the ultimate need to administer the selection testing process to a large number of applicants and to provide timely results, we would attempt to identify tests with scannable forms and computerized scoring to the greatest extent possible. When agreement upon the experimental test battery is reached, the necessary testing materials to conduct the validation study for the Fire Fighter/EMT-B selection process will be obtained from the test publishers.

CRITERION-RELATED VALIDATION STUDY

The consultants recommend conducting a criterion-related validation study specifically for the Fire Fighter/EMT-B job in the Chicago Fire Department for several reasons. The primary reason that we recommend a criterion-related study is that it provides direct evidence for the validity of a test in the specific context of the Chicago Fire Department. The Department is large enough to have sufficient incumbents (including sufficient members representing protected subgroups) to conduct a criterion-related study, including appropriate fairness analyses. Assuming that the data gathered are reliable, this type of study provides the most compelling and legally defensible evidence that the selection test used: (a) measures the KSAPs that are important for the job as it is specifically performed in the City of Chicago and (b) makes accurate distinctions between candidates' qualifications and predictions of candidates' likelihood of success on the job.

That said, the results of such studies are only as good as the quality of the data collected. If incumbents are not motivated to perform as well as they can on the tests, and/or if supervisors do not provide honest and accurate ratings of incumbents' actual job performance, it is possible that the data may not support the valid use of any of the tests included in the experimental battery. The consultants have extensive experience and success in conducting criterion-related validation studies and are familiar with techniques to help in avoiding such problems (e.g., appropriate communications to participants, support from the bargaining unit, consultant administration of tests, training for supervisors and oversight of performance ratings collection, assurances of anonymity, etc.). However, it is critical for the Department to recognize that the usefulness of this type of study will depend to a large extent on the cooperation of its members, both incumbent Fire Fighters and supervisors.

In order to perform the criterion-related validation study, several activities will be required to determine which of the experimental tests demonstrate the greatest supportive evidence for

their validity and are most useful for inclusion in the final Fire Fighter/EMT-B selection battery. This process will involve testing a sample of incumbents on the experimental test battery, collecting performance ratings from their supervisors on dimensions related to the KSAPs required in training and on the job, collecting additional criteria (e.g., Academy performance, test-specific criteria), and analyzing the test-criterion relationships.

Work Step 14: Develop Sampling Plan

It will be necessary to obtain data from a sufficiently large sample (representative of the incumbent population in the Fire Fighter/EMT-B position) to allow for statistically reliable results. The consultants will work with Department representatives to identify an appropriate sampling plan that takes into account incumbent selection stratified to the extent feasible on race, gender, assignment, location, and tenure on the job. It is estimated that approximately 300-400 incumbents will be identified to participate in the testing in order to obtain the sample size needed for reliable validation results.

It is important to note here the possible constraints on the research imposed by previous selection into the Fire Fighter position with respect to race and gender of the current incumbent population. Also, the parameters for the sampling plan should include limiting tenure of selected incumbents to less than 5 years when possible. If not possible, the analyses may need to take into account tenure as a covariate. The correlations obtained in the validation analyses will necessarily be attenuated due to restriction in range on the predictors and unreliability in the criterion measure. Appropriate statistical corrections for these effects will be made, if the zero-order correlations are significant. Fairness analyses and estimated disparate impact analyses will be conducted if technically feasible given the composition of the obtained sample.

Although the target position will be primarily that of Fire Fighter/EMT-B, a sizeable sample of Fire Fighters also will be sought to participate in the validation study. This separate sample will allow for analysis of the tests' validity under both scenarios (i.e., for Fire Fighter/EMT-B and Fire Fighter assignments), especially as some off-the-shelf tests may have been developed for the Fire Fighter position alone.

We understand that a substantial number of recruits who have less than one year on the job, may be available to participate in the validation data collection process. These recruits provide an opportunity to obtain test and performance data quickly with fewer logistical and

organizational difficulties, and certainly these should be included. However, a total of 300–400 incumbents will likely be needed to obtain a sample large enough for meaningful fairness analyses. It may be necessary (or prudent) to solicit participation from the bargaining unit in this work step to foster cooperation of the incumbents selected.

Work Step 15: Develop Communications

When the details of the validation process have been finalized, the consultants will prepare communication materials to be distributed to the Department personnel who will be participating in the related activities. We will work closely with project oversight representatives to ensure that the communications provide important information about the purpose of the validation study, the steps and specific activities involved, and the Department's goals for and use of the results. Appropriate communications also help to encourage willing and honest participation on the part of both incumbents and supervisors. The City will be responsible for the costs associated with reproducing and distributing the communication packages to affected employees.

The most important role of the project communications is to gain the trust and cooperation of the employees who are asked to participate in the validation effort. As part of this effort, it is critical to ensure that the results of all testing and performance ratings will remain anonymous to anyone in the Department or the City. It will be important to emphasize this fact to the participants (and the bargaining unit) in the communications and then to ensure that there are no leaks of information or any negative consequences for any employee that result from participation in the validation process. In some situations, we have found it necessary to provide incentives to obtain voluntary participation. We will discuss these and other issues with project oversight personnel and determine the best way for the Department to conduct the following activities and to communicate to all affected individuals.

Work Step 16: Develop Performance Rating Instrument

The consultants will work with a panel of Department SMEs to develop job-relevant performance dimensions and evaluation criteria for use by supervisors in providing performance data about the incumbents tested. The critical incidents will be used as the starting point for developing specific job-related behaviors to anchor the rating scales for each dimension. These anchors will promote more consistent interpretation of good, average, and poor performance across the supervisory raters. The dimensions and evaluation criteria will be based on the

results of the job analysis identifying the important KSAPs for the Fire Fighter/EMT-B position. The final Performance Dimension Rating Form will be reviewed with and approved by the appropriate Department and City project oversight representatives prior to its administration.

In addition to the performance rating dimensions developed specifically for this study, it may be appropriate to include other criteria that were used in validation studies conducted by the publishers of tests that are included in the experimental test battery. To the extent that this is feasible or necessary, we will incorporate appropriate criteria, either as part of the Performance Dimension Rating Form or as additional instruments.

Work Step 17: Develop Test Administration Procedures

Based on the tests selected for inclusion in the experimental test battery, the consultants will develop test administration procedures and materials for collection of data from incumbents. These materials will include a test administration manual that provides general instructions about preparing for the testing sessions and specific word-for-word instructions for administering each test. We will work with appropriate Department personnel to identify any specific procedures that may be required based on testing location, sensitivity of test takers to requests for background information, security issues, and so forth.

Work Step 18: Collect Test Data

We will administer the experimental test battery to groups of incumbents. The number of test administration sessions required will depend on the size and make-up of the incumbent sample and the constraints that may be imposed by Department operations (e.g., need to test on incumbents' time off, testing in different locations, etc.). It is not possible to estimate the time each testing session will require without knowing the number of individual tests to be administered and their time limits. However, it is unlikely that the session will take longer than four to six hours. The number of tests included in the experimental test battery will be greater than the number expected to be used in the final Fire Fighter selection process to allow for comparison of results and identification of the most appropriate tests.

We will be responsible for collecting all test data directly and for maintaining all tests and answer sheets. Consultant participation in this step is important to assure incumbents that no one from the Department will see their individual test results. We also will ensure that

administration procedures are followed consistently and will answer questions that may arise during the testing sessions.

Work Step 19: Collect Criterion Data

We will meet with individuals or groups of supervisors to collect performance ratings on the incumbents tested. Using the Performance Dimension Rating Form (PDRF) developed from the job analysis information (and any other relevant criteria used by test publishers), the consultants will explain the purpose for collecting the ratings, discuss some common errors to avoid when providing performance ratings, and guide supervisors through the process. Again, the number of sessions required will depend on the number of supervisors providing ratings and their work schedules and locations. It is anticipated that each session will take approximately two hours to complete. All supervisors of incumbents participating in the test data collection will be asked to rate all of the Fire Fighter/EMT-Bs who serve under their direction.

Alternatively, the PDRFs could be distributed to supervisors and collected by the consultants via mail delivery. While this process could be somewhat less expensive, it is not recommended. Response rates tend to be lower and slower if the ratings are not collected in person. Also, to promote accuracy, it is important to assure the supervisors that their individual ratings are confidential, which is enhanced by direct consultant involvement in the data collection process. Moreover, direct instruction in the process and avoidance of rater errors and bias has shown to be most effective in obtaining accurate criterion ratings.

In addition to the supervisory ratings of on-the-job performance, it will be useful to obtain data from the Academy documenting incumbents' performance in training. Often, Academy or other training data provide a more objective and comprehensive assessment of how an individual performs on some job-related activities. Also, such data can be useful in evaluating how individuals perform on tasks that may not occur frequently enough on the job for supervisors to be able to rate based on experience.

Work Step 20: Analyze Data and Review Results

Individual test results and performance ratings will be maintained exclusively by the consultants. These data will be analyzed to determine which of the experimental tests performed most effectively with respect to predicting successful job performance and minimizing adverse impact. The results of the validation analyses will be presented to appropriate City and Department

representatives in summary fashion. These results will be discussed, and the consultants will recommend a subset of tests to be included in the Fire Fighter/EMT-B selection process. Selection of the final test battery will be left to the decision of the City and the Department.

IMPLEMENTATION ACTIVITIES

Work Step 21: Develop Final Test-Related Procedures and Materials

Based on the tests included in the final Fire Fighter/EMT-B selection test battery, the consultants will develop relevant test administration procedures and materials for use with applicants. These materials will include a test administration manual that provides general instructions about preparing for the testing sessions and specific word-for-word instructions for administering each test. The manual also will provide scoring instructions and guidelines for security precautions and ongoing data collection.

In addition to the test administration and scoring guidelines, the consultants will identify test preparation materials for distribution to applicants. It is likely that some test publishers already have study guides or test preparation materials that can be purchased and distributed to applicants. In the event that none exist for any tests that are selected, the consultants will assist in the development of appropriate materials. Research has shown that providing test preparation materials may help reduce adverse impact by giving all applicants the same information about the test. This tactic may be particularly helpful for individuals who have less experience with testing through formal education and are less “test savvy.” Test preparation materials should provide applicants with background information about the position, an overview of the components of the selection process, and general suggestions about preparing for and taking the tests included in the Fire Fighter/EMT-B selection battery. Such information has been found useful in helping applicants prepare for, and perform in, similar testing processes. The City will be responsible for the costs associated with purchasing or reproducing and making the preparation materials available to applicants.

Work Step 22: Prepare Final Technical Report

At the conclusion of the project, the consultants will prepare a technical report that documents all aspects of the validation study conducted for development of the Fire Fighter/EMT-B selection process. The report will comply with professional standards and the provisions of the *Uniform Guidelines*. It will include a description of project activities and a compilation of all

relevant validity evidence, as well as a summary of job analysis results, a description of the methods used during test battery development, and a discussion of test fairness, if possible.

OPTIONAL ACTIVITIES

The following work steps outline additional activities that the City and the Department may wish to consider including in the proposed plan of work. It would be advantageous to the City and the Department to view the testing procedures as a part of a larger selection context. These optional work steps address various strategies (in addition to use of an off-the-shelf test battery) that could be incorporated into the overall Fire Fighter/EMT-B selection process.

Work Step 23: Develop Realistic Job Preview

Based on the job analysis information about the Fire Fighter/EMT-B position, the consultants can develop a realistic job preview. The consultants will work with Department SMEs to identify those aspects of the position that are most likely to influence individuals' capability and desire to perform the job. The preview would be used to provide applicants with detailed information about the duties performed by Fire Fighters/EMT-Bs, the KSAPs required for successful performance, and the working conditions and demands associated with the position. The dual objectives for providing this information would be: (a) to encourage qualified applicants by promoting a realistic understanding of what it takes to do the job and (b) to increase the likelihood that individuals who are not suited for the position (e.g., not qualified in some dimension, not interested in performing some duties) will not apply. This opportunity for initial self-selection would serve the Department's interests by reducing the applicant pool, thereby saving time and costs associated with processing applicants (and potentially training selected candidates) who ultimately cannot or will not perform certain job requirements.

As part of this work step, we will also develop a pre-screening questionnaire to be completed by potential applicants. The questionnaire will document their willingness and interest in performing the work of a Fire Fighter, including working under the required conditions (e.g., physical demands, work days, etc.). There are many ways that such questionnaires may be utilized, ranging from screening applicants (thus reducing the actual applicant pool) based on answers to incorporating it as part of the realistic job preview. We will work with the Department and its legal counsel to develop and utilize a questionnaire of this type to the City's greatest advantage. Often such questionnaires are administered in an on-line format. If desired, we will work with the City's technical staff to develop an appropriate format.

*not using this option
A. Bryant*

Work Step 24: Develop Structured Interview

The Department may wish to include an interview component as a second hurdle in the selection process for applicants who score at or above the cutoff on the test battery. The interview could be used to evaluate information about applicants on dimensions of behavior that are difficult to assess in a paper-and-pencil format, such as verbal communication, interpersonal and organizational skills, if appropriate. The consultants will work with Department SMEs to develop a structured interview focused on important KSAPs identified in the job analysis of the Fire Fighter/EMT-B position.

Compared to unstructured, "traditional" interviews, research indicates that structured interviews are more strongly correlated with performance, and therefore, result in substantially more reliable and valid interviewing procedures (Huffcutt & Arthur, 1994; Wiesner & Cronshaw, 1988). Furthermore, the standardized nature of structured interviews may ameliorate the potential for bias against protected subgroup members (Campion & Arvey, 1989). In fact, research (Motowidlo et al., 1992) suggests that there is little difference in structured interview evaluations for members of racial and gender subgroups.

The structured interview would include: (a) initial questions to be asked of all applicants relevant to the performance dimensions of interest; (b) appropriate follow-up or probing questions depending on applicants' responses; (c) standardized evaluation criteria (e.g., rating scales and behavioral anchors) to promote consistent evaluation of responses across applicants and interviewers; and (d) materials for use in conducting the interviews (i.e., general instructions, note taking forms, etc.). If a structured interview is developed, the consultants will work with City and Department project oversight representatives to determine how the results will be used in the overall selection process. In addition, the consultants will prepare and deliver structured interview training for designated Department personnel who will be conducting the process. This training could be structured as one or more train-the-trainer sessions, to allow appropriate Department personnel to deliver the training as needed for subsequent rounds of applicant interviews in the ongoing Fire Fighter/EMT-B selection process.

*Not using
this
option
A. Bryant*

RESOURCE REQUIREMENTS

Described in Table 1 below are the resource requirements from the Department and the City that would be needed for each step in the proposed plan of work. Resources include such things as numbers of incumbents and SMEs needed for job analysis activities, numbers of incumbents and supervisors needed for validation data collection, appropriate personnel for review of project communications and deliverables, approximate number of days and length of time needed for meetings, and so forth.

**Table 1
Department and City Resource Requirements**

CFD Fire Fighter/EMT-B Selection Process	Resource Requirements
Project Initiation and Administration	
Work Step 1: Project Initiation Meeting	<ul style="list-style-type: none"> • Department Liaison appointed • Project Oversight Committee appointed: <ul style="list-style-type: none"> - Department operational representatives - Department Personnel Division representative - Department Liaison - Department of Personnel representative - Department of Law representative - Mayor's Office representative • 4- to 6-hour meeting
Job Analysis	
Work Step 2: Review Relevant Information	<ul style="list-style-type: none"> • Previous job analysis information for Fire Fighter position • Current position descriptions • Training materials, manuals, etc.
Work Step 3: Conduct Interviews and Observations	<ul style="list-style-type: none"> • Incumbent Fire Fighter/EMT-Bs (approx. 12-15; various districts and shifts) over 2-3 days
Work Step 4: Develop Task and KSAP Lists	<ul style="list-style-type: none"> • 4-6 SMEs (supervisors of targeted position) • 4-hour meeting

CFD Fire Fighter/EMT-B Selection Process	Resource Requirements
Work Step 5: Develop Job Analysis Questionnaire and Collect Data	<ul style="list-style-type: none"> • 10% sample of incumbents representative of Fire Fighter/EMT-B population • Multiple 3-hour meetings
Work Step 6: Analyze and Review Job Analysis Questionnaire Data	<ul style="list-style-type: none"> • 5-7 SMEs (incumbents and supervisors) • 4-hour meeting
Work Step 7: Collect Task and KSAP Linkages	<ul style="list-style-type: none"> • 20-30 incumbents representative of Fire Fighter/EMT-B population • Multiple 3-hour meetings
Work Step 8: Analyze and Review Linkage Data and Collect Critical Incidents	<ul style="list-style-type: none"> • 5-7 SMEs (supervisors of targeted position) • 8-hour meeting
Work Step 9: Prepare Job Analysis Report	None
Search for Selection Alternatives	
Work Step 10: Review the Research Literature	None
Work Step 11: Survey Comparable Fire Departments	None
Work Step 12: Assist in Development of Request for Proposals	<ul style="list-style-type: none"> • Project oversight representatives from Department and City • One or more short meetings and/or conference calls
Work Step 13: Review Results of Search for Alternatives	<ul style="list-style-type: none"> • Project oversight representatives from Department and City • 6- to 8-hour meeting
Criterion-Related Validation Study	
Work Step 14: Develop Sampling Plan	<ul style="list-style-type: none"> • Background information (e.g., race, gender, age, tenure, location, etc.) on incumbent Fire Fighter/EMT-B and separate Fire Fighter populations
Work Step 15: Develop Communications	<ul style="list-style-type: none"> • Department and City project oversight representatives for final review • City resources for reproduction and distribution of communications to affected Department employees

CFD Fire Fighter/EMT-B Selection Process	Resource Requirements
Work Step 16: Develop Performance Rating Instrument	<ul style="list-style-type: none"> • 3-5 Sr. SMEs • 8-hour meeting • Department and City project oversight representatives for final review • 2- to 4-hour meeting
Work Step 17: Develop Test Administration Procedures	<ul style="list-style-type: none"> • Department Liaison for review
Work Step 18: Collect Test Data	<ul style="list-style-type: none"> • Approx. 300-400 Fire Fighter/EMT-B and Fire Fighter incumbents • Multiple 4- to 6-hour test sessions (probably conducted while off shift) • Demographic data on incumbents tested • Department Liaison for scheduling incumbents and test site coordination
Work Step 19: Collect Criterion Data	<ul style="list-style-type: none"> • Supervisors of all incumbents tested • Multiple 2-hour meetings
Work Step 20: Analyze Data and Review Results	<ul style="list-style-type: none"> • Project oversight representatives from Department and City • 4- to 6-hour meeting
Implementation Activities	
Work Step 21: Develop Final Test-Related Procedures and Materials	<ul style="list-style-type: none"> • Department and City project oversight representatives for final review • City resources for reproduction and distribution of test preparation materials to applicants
Work Step 22: Prepare Final Technical Report	<ul style="list-style-type: none"> • Members of the Project Oversight Committee to review report
Optional Activities	
Work Step 23: Develop Realistic Job Preview	<ul style="list-style-type: none"> • Department SMEs for development activities • Department and City project oversight representatives for final review • Multiple focus groups and meetings • City technical staff for on-line formatting of pre-screen questionnaire, if needed • City resources for reproduction and distribution of job preview to potential applicants

**CFD Fire Fighter/EMT-B
Selection Process**

**Resource
Requirements**

Work Step 24: Develop Structured Interview

- Department SMEs for development activities
- Department and City project oversight representatives for final review
- Multiple focus groups and meetings
- Department representatives to be trained and serve as future interview trainers

QUALITY CONTROL AND SECURITY ISSUES

Jeanneret & Associates' approach to quality control is designed to maintain the highest quality standards by implementing specific procedures to monitor, review, and audit the progress of all technical work. Checkpoints are included during all phases of the project, applying to work developed or conducted by all levels of project staff. Each deliverable will be reviewed by other team members for quality, appearance, and suitability. A final review of all project products (focused on accuracy, completeness, content, conformance with project requirements, and adherence to Department policies and formats) will be made by the Project Manager before they are submitted. Overall project management flows directly to the Principal-in-Charge, and an important role for the Principal is quality control. Each project plan and technical product also will be reviewed by the Principal-in-Charge.

Jeanneret & Associates is dedicated to providing its clients with service of the highest quality. In order to maximize the Firm's ability to meet the special demands of the City of Chicago Fire Department and to accomplish this particular project in a timely manner, our quality control procedures are flexible and designed to solicit the active participation and input from the City and Department oversight and other appropriate personnel throughout the process.

Security also is an important part of maintaining quality for selection projects. Appropriate security measures will be adhered to during all stages of job analysis and test and performance data collection and analysis. Jeanneret & Associates is dedicated to maintaining the confidentiality of all information relating to project work performed for clients. The procedures and related materials developed for the Fire Fighter/EMT-B selection process are proprietary to the City of Chicago Fire Department. All members of the Firm are required to sign confidentiality agreements upon employment.

In addition, all Department SMEs will be required to sign confidentiality agreements with respect to their participation in the development of the Fire Fighter selection system. The procedures in place to protect the confidentiality of individual test and performance data will be emphasized to all of the incumbents and supervisors participating in the validation activities. The consultants will be vigilant at all times to protect the security of test-related materials.

ANTICIPATED SCHEDULE

Table 2 outlines both an optimistic and a realistic schedule for conducting the work steps included in the plan of work for the Fire Fighter/EMT-B selection process. As outlined below, the project could be completed within approximately 6 to 10 months from project initiation. This schedule was developed based on past experience in working with the City of Chicago and reasonable expectations regarding availability of Department personnel to participate in project activities; time required for review, preparation, and distribution of materials; and so forth. Meeting the realistic schedule, or possibly accelerating it to meet the optimistic schedule, depends on the ability of the City and the Department to make available the resources (described in a previous section of the proposal) in a timely manner.

**Table 2
Estimated Schedule**

CFD Fire Fighter/EMT-B Selection Process	Optimistic	Realistic
Project Initiation and Administration		
Work Step 1: Project Initiation Meeting	Week 1	Week 1
Job Analysis		
Work Step 2: Review Relevant Information	Weeks 1–2	Weeks 1–2
Work Step 3: Conduct Interviews and Observations	Week 1	Weeks 1–2
Work Step 4: Develop Task and KSAP Lists	Weeks 2–3	Weeks 3–4
Work Step 5: Develop Job Analysis Questionnaire and Collect Data	Weeks 4–5	Weeks 5–8
Work Step 6: Analyze and Review Job Analysis Questionnaire Data	Week 6	Week 9
Work Step 7: Collect Task and KSAP Linkages	Weeks 7–8	Weeks 10–13
Work Step 8: Analyze and Review Linkage Data and Collect Critical Incidents	Week 8–9	Weeks 13–14
Work Step 9: Prepare Job Analysis Report	Week 10	Week 15
Search for Selection Alternatives		
Work Step 10: Review the Research Literature	Weeks 9–12	Weeks 14–20
Work Step 11: Survey Comparable Fire Departments	Weeks 9–12	Weeks 14–20

CFD Fire Fighter/EMT-B Selection Process	Optimistic	Realistic
Work Step 12: Assist in Development of Request for Proposals	Weeks 9–12	Weeks 14–20
Work Step 13: Review Results of Search for Alternatives	Week 13	Weeks 21–22
Optional Activities		
Work Step 23: Develop Realistic Job Preview	Weeks 9–13	Weeks 14–21
Work Step 24: Develop Structured Interview	Weeks 9–13	Weeks 14–21
Criterion-Related Validation Study		
Work Step 14: Develop Sampling Plan	Weeks 13–15	Weeks 22–23
Work Step 15: Develop Communications	Weeks 13–15	Weeks 22–23
Work Step 16: Develop Performance Rating Instrument	Weeks 13–15	Weeks 22–23
Work Step 17: Develop Test Administration Procedures	Weeks 14–16	Weeks 24–27
Work Step 18: Collect Test Data	Week 17	Weeks 28–31
Work Step 19: Collect Criterion Data	Week 18	Weeks 28–31
Work Step 20: Analyze Data and Review Results	Weeks 19–22	Weeks 32–36
Implementation Activities		
Work Step 21: Develop Final Test-Related Procedures and Materials	Weeks 23–24	Weeks 37–38
Work Step 22: Prepare Final Technical Report	Weeks 23–24	Weeks 37–40

COSTING

Table 3 breaks down the estimated costs associated with the various components of the selection process developed for the Fire Fighter/EMT-B position, as well as for the two optional activities. Professional fees include actual time spent on project work by members of the consulting team. Expenses (e.g., travel-related, phone bills, document reproduction, etc.) are billed as incurred without burden for overhead.

Development of the Fire Fighter/EMT-B selection process has been costed assuming that all travel to Chicago will be made for the sole purpose of conducting project activities for the Chicago Fire Department. Whenever feasible, the consultants will schedule project activities to overlap in order to save travel-related expenses. The costs also assume that all project activities conducted in Chicago (e.g., meetings with SMEs, testing of incumbents, collection of performance data) will take place in City or Department locations. If this is not feasible, additional costs would be incurred to obtain other meeting space. We will be willing to discuss any issues and make adjustments as necessary.

Note: The expenses provided for conducting the criterion-related validation study do *not* include costs for the purchase of tests to be used in the validation testing. Also, overall project costs do *not* include the cost of purchasing tests for administration of the actual selection process with applicants. The City will be responsible for purchasing all test materials related to the experimental test battery for use in the validation study (sufficient for testing 300-400 incumbents) and test materials related to the final test battery for ongoing use in the Fire Fighter/EMT-B selection process.

**Table 3
Estimated Costs
CFD Fire Fighter/EMT-B Selection Project**

Project Components	Fees	Expenses	Total
Project Initiation and Project Administration	18,160	4,390	22,550
Job Analysis	92,290	6,440	98,730
Search for Selection Alternatives	75,270	4,020	79,290
Criterion-Related Validation Study	91,550	6,250	97,800
Implementation Activities	25,950	180	26,130
Total Project Costs	\$303,220	\$21,280	\$324,500

Optional Activities	Fees	Expenses	Total
Realistic Job Preview	20,010	1,385	21,395
Structured Interview	31,000	2,405	33,405
Total Optional Costs	\$51,010	\$3,790	\$54,800

*not using optional activities
A. King*

REFERENCES

- American Education Research Association, American Psychological Association, & National Council on Measurement in Education. (1999). *Standards for educational and psychological testing*. Washington, DC: American Psychological Association.
- Campion, J.E., & Arvey, R.D. (1989). Unfair discrimination in the employment interview. In R.W. Eder & G.R. Ferris (Eds.), *The employment interview: Theory, research, and practice* (pp. 61-73). Newbury Park, CA: Sage.
- Equal Employment Opportunity Commission, Civil Service Commission, Department of Labor, & Department of Justice. (1978). Uniform guidelines on employee selection procedures. *Federal Register*, 43, 38290-38315.
- Huffcutt, A., & Arthur, W., Jr. (1994). Hunter and Hunter (1984) revisited: Interview validity for entry-level jobs. *Journal of Applied Psychology*, 79, 184-190.
- Motowidlo, S.J., Carter, G.W., Dunnette, M.D., Tippins, N., Werner, S., Burnett, J.R., & Vaughan, M.J. (1992). Studies of the structured behavioral interview. *Journal of Applied Psychology*, 77, 571-587.
- Society for Industrial and Organizational Psychology. (2003). *Principles for the validation and use of personnel selection procedures* (4th ed.).
- Wiesner, W., & Cronshaw, S. (1988). A meta-analytic investigation of the impact of interview format and degree of structure on the validity of the employment interview. *Journal of Occupational Psychology*, 61, 275-290.

CPAC PROJECT CHECKLIST

For CPAC Team Use Only	
Date Received	_____
Date Returned	_____
Date Accepted	_____

IMPORTANT: PLEASE READ AND FOLLOW THE INSTRUCTIONS FOR COMPLETING THE PROJECT CHECKLIST AND CONTACT THE APPROPRIATE TEAM LEADER IF YOU HAVE ANY FURTHER QUESTIONS. ALL INFORMATION SHOULD BE COMPLETED INCLUDING THE SUPPLEMENTAL CHECKLIST REQUIRED BY THE SPECIFIC CPAC TEAM. ATTACH ALL REQUIRED MATERIALS AND SUBMIT FOR HANDLING TO THE DEPARTMENT OF PROCUREMENT SERVICES, ROOM 403, CITY HALL, 121 N. LASALLE STREET, CHICAGO, ILLINOIS 60602.

PROJECT

Date: 5.12.05 Contact Person: Adrienne Bryant
 ID No (Spec, RX, Project): _____ Tel: 7-7311 Fax: 78971 E-mail: _____
 Department: Personnel Project Manager: SAME
 Bureau: _____ Tel: 7-7311 Fax: 7-2971 E-mail: _____
 Contract No (if known): T19242008-01 Estimated Value \$ \$1,257,300
 Project Title/Description: FIREFIGHTER ENTRANCE EXAM \$324,500
POLICE SERLEANT & LIEUTENANT EXAMS \$932,800

SCOPE STATEMENT

★ 2 SCOPES ★

attached is a detailed scope of services and/or specification

IMPORTANT: THIS IS A CRITICAL PORTION OF YOUR SUBMITTAL. IN ORDER FOR A TEAM TO ACCEPT YOUR SUBMITTAL YOU MUST COMPLETE ALL TEAM SPECIFIC SCOPE REQUIREMENTS AS SET FORTH IN THE SUPPLEMENTAL CHECKLIST FOR THAT TEAM.

The following is a general description of what would be included in a Scope of Services or Specification:
 A clear description of all anticipated services and products, including: time frame for completion, special qualifications of prospective vendors, special requirements or needs of the project, locations, anticipated participating user departments, citation of any applicable City ordinance or state/federal regulation or statute.

TYPE OF PROCUREMENT REQUESTED (check all that apply)

Competitive Bid RFQ/RFP/RFS/RFI Sole Source** Term Agreement One Shot
 Mod/Amendment Time Extension Additional Funding Small Order S/O Emergency

FORMS

F-25* (add line item) F-10* (special approvals) SSRB** (sole source approval)
 F-26* (new term agreement) RX (one-shot requisition) OBM Authorization
 F-27* (time extension) APRF (all purpose request form)
 F-29* (change vendor limit)

** Sole source requests must include vendor quotes/proposal and MBE/WBE compliance requirements

FUNDING

City: Corporate Bond Enterprise Grant* Other _____
 State: IDOT/Transit IDOT/Highway Grant* Other _____
 Federal: FHWA FTA FAA Grant* Other _____
 Funding Strip(s): 05-100-99-4433-0140

* Attach copy of any applicable grant agreement terms and conditions

TIME FRAME

Date Needed: ASAP Requested Contract Term (y/m/d): _____

PRE BID/SUBMITTAL REQUIREMENTS

Requesting Pre Bid/Submittal Conference? Yes No Requesting Conference be Mandatory? Yes No
 Requesting Site Visit? Yes No Requesting Site Visit be Mandatory? Yes No



PROJECT CHECKLIST

ARCHITECTURAL/ENGINEERING SUPPLEMENTAL CHECKLIST

Required Attachments: Scope of Services, including location, description of project, services required, deliverables, and other information as required

Risk Management

Will services be performed within 50 feet of CTA train or other railroad property? Yes No

Will services be performed on or near a waterway? Yes No

Pre-Qualification Category No. _____ Category Description: _____

For Pre-Qualification Program, attach list of suggested firms to be solicited

Other Agency Concurrence Required: None State Federal Other (fill in) _____

AVIATION CONSTRUCTION SUPPLEMENTAL CHECKLIST

DOA sign-off for final design documents: Yes No

Required Attachments:

Copy of Draft Contract Documents and Detailed Specifications.

Risk Management:

Current Insurance Requirements prepared/approved by Risk Management: Yes No

Will work be performed within 50 feet of CTA or ATS structure or property? Yes No

Will work be performed airside? Yes No

CAPITAL EQUIPMENT (VEHICLES) SUPPLEMENTAL CHECKLIST

Required Attachments:

Detailed Specifications including detailed description of the vehicle(s) or equipment, mounted equipment, if any, and options/accessories.

Special Provisions (Delivery, Warranty, Manuals, Training, Additional Unit Purchase Options, Bid Submittal Information, etc.)

Delivery Location(s)

Technical Literature

Drawings, if any

Part Number List (____ Manufacturer; or ____ Dealer; ____ or Other Source: _____)

Copy of current Price List(s)/Catalog(s)

Form F-10 or other authorization document

Any other exhibits and attachments

COMMODITIES SUPPLEMENTAL CHECKLIST

Required attachments:

Copies of price lists, catalogs, drawings, variations of part numbers

Any other exhibits or attachments

CONSTRUCTION SUPPLEMENTAL CHECKLIST (LARGE & SMALL)

Required attachments: Copy of Draft (80% Completion)

Copy of Draft (80% Completion) Contract Documents and Detailed Specifications

Risk Management

Will services be performed within 50 feet of CTA train or other railroad property? Yes No

Will services be performed on or near a waterway? Yes No

CPAC PROJECT CHECKLIST

DELEGATE AGENCY SUPPLEMENTAL CHECKLIST

Required attachments:

Attach Scope of Services that includes the following information 1) Program background & objectives; 2) Type of services for which proposals are sought; 3) Location and time line for delivery of services; 4) Qualifications, skills, and/or experience necessary; 5) Special licenses or certifications required; 6) Evaluation process (if known).

Other Attachments (please submit all that apply)

1. Copy of grant application and/or grant agreement
2. Evidence of award authority (DAAC agenda with agency name highlighted; City Council ordinance with agency name highlighted; or OBM letter)
3. Modification information (Copy of Form F-8A; screen print of EPS AWDS table)

Does program require Executive Order 91-1 clearance? Yes No
Is boilerplate from Law available or in production? Yes No
Would your department benefit from technical assistance? Yes No

HARDWARE/SOFTWARE SUPPLEMENTAL CHECKLIST

ITSC (approved by BIS)

OBM (approved by Budget form/memo)

Attach any documentation indicating any previous purchase activity to assist in the procurement process

Grant document attached

PROFESSIONAL SERVICES SUPPLEMENTAL CHECKLIST

Detailed scope of services as described on page 1.

The Schedule of Compensation

Deliverables

Request for individual contract services (if applicable)

The appropriate EPS form

* If this is a Telecommunications/Utilities project, please also address the following: X

Has the project been reviewed by DGS? Yes No

Attach copy of DGS Recommendation; Reservation(s); or participate under current contract.

Does the project include software? Yes No

If yes, is signed ITSC form attached? Yes No

Does the location involve:

A public way? Yes No

Any concession in the City's facilities? Yes No

Is it anticipated City Council approval of the project or contract will be required? Yes No



PROJECT CHECKLIST

SMALL ORDERS SUPPLEMENTAL CHECKLIST

Yes No

- 1. Special Approval Form/Justification Letter.
e.g. (Emergency Contract, Telecommunication Back-up documents, Proposals , EPS Form F-10, etc..).
- 2. Suggested Vendor.
- 3. Commodity Code, Manufacturer, Catalog Information, Model No., Quantity, Unit Cost/Measure, Color etc.,
- 4. Detailed Specification or Scope of Work.

ATTACHMENT REQUIRED FOR EACH SMALL ORDERS PROCUREMENT TYPE

(Check Appropriate Group)

1. ONE SHOT (PN)

- YES () NO () Detailed Specifications
- YES () NO () Suggested Vendor
- YES () NO () Support Documentation

3.

EMERGENCY CONTRACT

- YES () NO () Justification Letter
- YES () NO () Vendor Proposal
- YES () NO () Pre-assigned Requisition (RX)

2. SOLE SOURCE REQUIREMENTS

- YES () NO () Vendor Proposal
- YES () NO () Disclosure Affidavit
- YES () NO () Letter of Exclusive or Unique Capability
- YES () NO () Support Documentation from Vendor/Manufacturer.
- YES () NO () Signature(s) of Originator or Departmental Head/Designee.

4. TELEPHONE/FAX BIDS

- YES () NO () Justification Letter

WORK SERVICES & FACILITY MAINTENANCE SUPPLEMENTAL CHECKLIST

Required Attachments: Detailed Specifications (Scope of Services) including detailed description of the work, locations (with supporting detail), user department contacts, work hours/days, laborer/supervisor mix, compensation and price escalation considerations, contract term and extension options, contractor qualifications, citation of any applicable City/State/Federal statutes or regulations, citation of any applicable technical standards and price lists, catalogs, technical drawings and other exhibits and attachments as appropriate.

Risk Management

- Will services be performed within 50 feet of CTA train or other railroad property? Yes No
- Will services be performed on or near a waterway? Yes No
- Will services require the handling of hazardous/biowaste material? Yes No
- Will services require the blocking of streets or sidewalks in any way?
Which may affect public safety? Yes No