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FINCAP ANALYSIS
A Method for Financial Capability Analysis
of Air Force Contractors

March 1979

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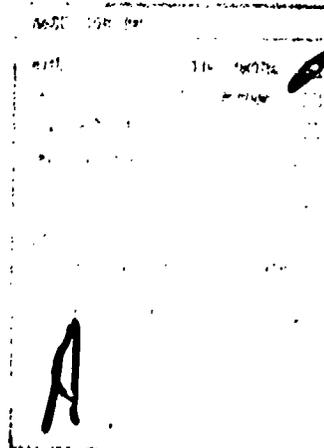
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PREFACE

FINCAP analysis was developed under contract with Headquarters, Air Force Systems Command (AFSC). The project was initiated by Major General James W. Stansberry, Deputy Chief of Staff for Contracts and Manufacturing, with Colonel Merrill J. Waite as the initial project monitor. Over the period of this study, several other AFSC staff who contributed as Project Monitors and Steering Committee members were Mr. James T. Brannan, Mr. Joseph B. Anderson, Colonel David J. Burke, and Major Francis E. Doherty.

The FINCAP Analysis was applied to the financial analysis of offers on the AMRAAM program at Eglin AFB, Florida, and was found to be a useful and effective methodology. This application was facilitated by the interest and cooperation of Colonel Waite, who is now Deputy Commander for Contracts and Manufacturing, Armament Development and Test Center. Captain George H. Davidson, Headquarters AFSC, participated actively in the AMRAAM applications and commented extensively on early drafts of this manual.

Our thanks go to these and many other AFSC personnel who have contributed to the development of this manual.

1. INTRODUCTION

FINCAP Analysis is a method for evaluating the financial capability of major Air Force contractors. It has been specifically designed for use by Air Force Systems Command (AFSC) contracting personnel, some of whom may have only limited financial analysis background.

The product of FINCAP Analysis is a comprehensive evaluation of a contractor's present and expected future financial condition, including its capability to perform a new contract. Results are presented in a written report or a briefing, based on specified formats.

This manual explains the FINCAP Analysis method and provides step-by-step instructions for its use. A brief description of FINCAP Analysis is given below, followed by an overview of the manual's contents.

1.1 DESCRIPTION OF FINCAP ANALYSIS

FINCAP Analysis is a unified method for evaluating contractor financial capability. It includes instructions and helpful materials for:

- selecting information sources
- identifying relevant data elements
- using modern techniques on significant areas of analysis
- evaluating results
- generating useful products

The structure of FINCAP Analysis for each of these activities is shown in Figure 1.1. This exhibit indicates:

- the various information sources used
- the categories of information involved
- the areas of analysis covered
- the logical and physical products generated

It also shows that FINCAP Analysis provides:

- information source lists and data needs
- data collection forms and lists of essential data
- step-by-step instructions for analysis
- comprehensive analysis
- detailed outlines and formats for reports

Thus, FINCAP Analysis is a complete method for performing and presenting contractor financial capability analysis.

1.2 ORGANIZATION OF THIS MANUAL

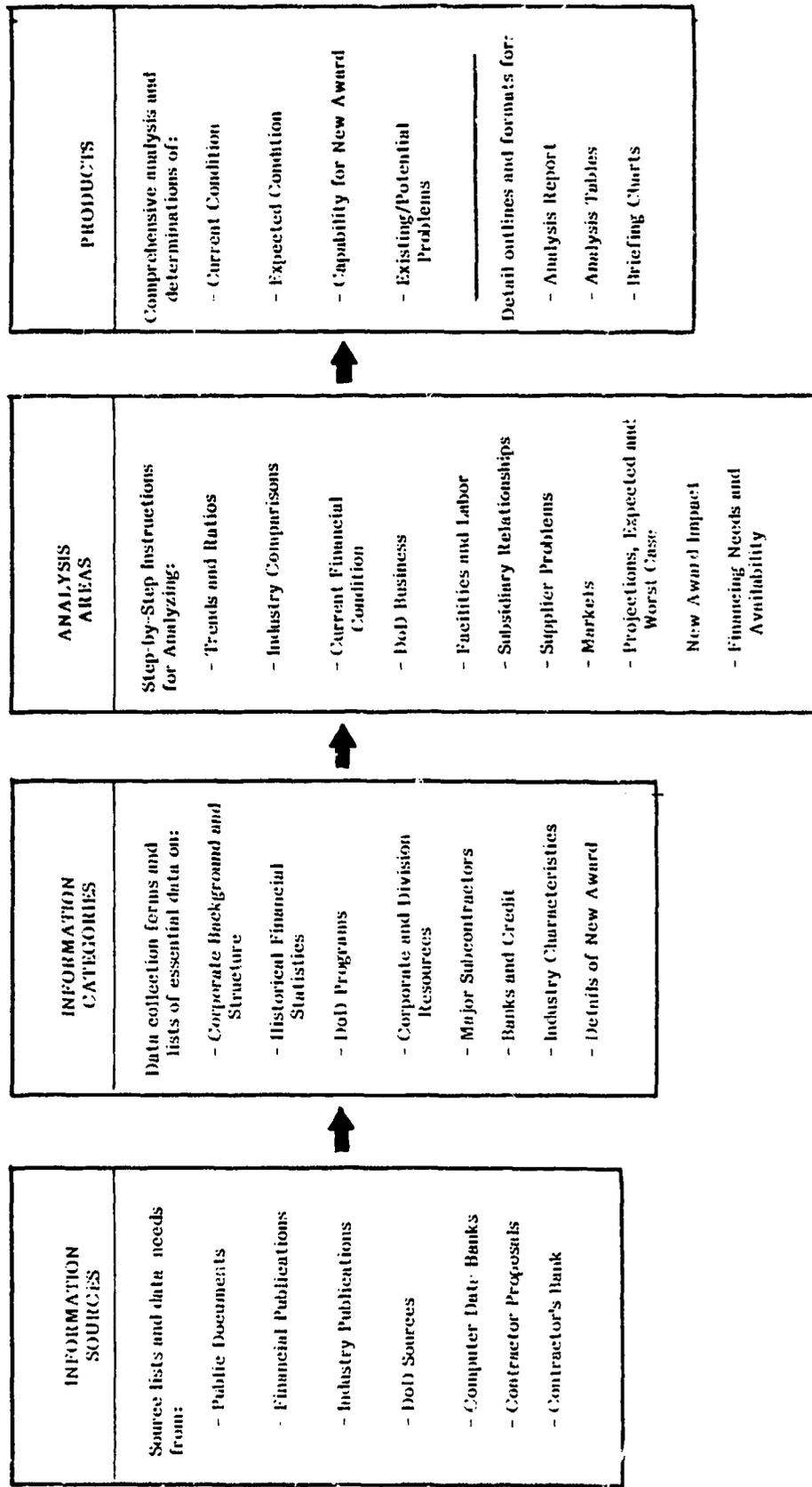
This manual is organized to lead the analyst through the steps of a comprehensive FINCAP Analysis. It consists of the following sections, exhibits, and appendices.

Section

2. Collecting Information - catalog of useful data sources with the important items highlighted
3. Performing the Analysis - detailed steps of the FINCAP Analysis; includes for each step: 1) the data required, 2) the methods applied, and 3) the use of the results
4. Preparing the Report and Briefing - instructions for presenting FINCAP results; includes reporting objectives, guidelines for financial reports, and comments on using each of the formats.

FIGURE 1.1 FINCAP ANALYSIS
A STRUCTURED, UNIFIED METHOD FOR CONTRACTOR FINANCIAL CAPABILITY ANALYSIS

FINCAP PROVIDES:



Exhibit

- A. FINCAP Evaluation Checklist - a tool to indicate the strengths and weaknesses of the company; to be completed for each company during the analysis and before the report is written
- B. Checklist for Report Preparation - a list of the report paragraphs and associated tables to prepare; to be used to record progress and comments
- C. Report Format - a paragraph-by-paragraph description of what should be in the FINCAP Analysis report
- D. Report Tables - formats for the tables to include in each FINCAP report; to be used both in the analysis phase and in the report; may be used for briefing a single company
- E. Briefing Format - briefing chart formats for use in presenting the capabilities of several offerors on a major new program
- F. Information Requirements for the RFP - a list, suggested for inclusion in a RFP, of the additional data needed from contractors for complete utilization of the FINCAP Analysis method
- G. Suggested Questions for Contractor's Bank - an interview guide for inquiring about a contractor's credit and standing with commercial banks in unusual circumstances, to be used for each interview and adapted as appropriate
- H. Program Information Worksheet - an interview guide for recording information from DoD program offices on program status and contractor problems

Appendix

- I. Financial Analysis in the Air Force - an unofficial discussion of the use of contractor financial analysis in Air Force activities; includes references to official documents
- II. Basics of Financial Analysis - an introduction to financial analysis, with definitions of ratios used in the FINCAP Analysis and a list of additional references
- III. Using the INDUSTRY Program - a guide to the INDUSTRY Program, which is used to compare a group of companies within an industry
- IV. Sample FINANDAS Reports - a complete set of financial statements generated by the FINANDAS program

2. COLLECTING INFORMATION

Before a financial analysis of a contractor can be performed, financial and operating information about the company has to be collected. This section catalogues the information sources available to the FINCAP analyst:

- public documents
- financial publications
- industry publications
- DoD sources
- computer data banks
- contractor proposals
- contractor's bank

2.1 PUBLIC DOCUMENTS

Publicly owned corporations are required to file financial reports periodically with the Securities and Exchange Commission (SEC). The SEC reports most important to the FINCAP Analysis are the:

- Form 10-K annual report
- Form 10-Q quarterly reports
- Form 8-K special reports

The 10-K report is the most comprehensive source of information about a company's financial condition and operations. It provides the following information:

- company background
- historical financial statistics
- CPA audit report
- lists of programs

- data on lines of business and customers
- data on facilities and labor resources
- description of the organizational structure
- review of operations and recent changes
- discussion of pending legal disputes

The 10-K report is usually available three or four months after the end of the company's fiscal year. For most companies, whose fiscal year corresponds to the calendar year, the 10-K reports are available in March or April. A late report frequently indicates a financial problem. The analyst should obtain at least the last two 10-K reports.

The latest 10-Q report should also be obtained to update key information for the current year and to identify recent events. Of special importance to the FINCAP Analysis are year-to-date sales, costs, and income, as well as current balance sheet data.

The 8-K reports provide corrections to earlier 10-K and 10-Q reports and/or new information which may materially affect the company.

All of these reports can be obtained directly from the companies or through the SEC publications contractor (in hard copy or microfiche): Disclosure, Inc., 4827 Rugby Avenue, Washington, D. C. 20014; 301/951-0106.

It may be possible to obtain SEC reports from the contractors on a regular basis; however, any requests for the same data from 10 or more companies a year should be cleared through the Office of Management and Budget under the Federal Reports Act.¹ The 10-K and 10-Q reports are included in the list of information

¹Consult your legal staff for information on the Act and implementing regulations.

requirements for the RFP (Exhibit F). If a 10-K or corporate annual report is not available, Standard & Poor's or Moody's (see 2.2.2-2.2.4) will provide some basic, but limited information for a FINCAP Analysis.

2.2 FINANCIAL PUBLICATIONS

The list of publications in this section is provided for the user's aid in selecting useful sources. No endorsement of these publications is implied.

2.2.1 Value Line

Value Line is an investment advisory publication issued in three parts. Part 3, "Ratings and Reports," offers a one-page summary of a company's financial situation. Financial data include historical sales, depreciation, net income, working capital, long-term debt, and net worth. Other useful data included in the Value Line report are a description of the company's business, sales by product line, importance of government sales, and the address of the corporate offices. An evaluation of the company's near-term outlook is also provided. Projections of financial data are made for the current year, the next year, and three to five future years.

An important feature of Value Line in terms of the FINCAP Analysis is its ratings of a company from the financial community perspective. Four overall ratings are given in the lower right-hand box: company's financial strength, stocks price stability, stock price growth persistence, and earnings predictability. These four ratings can be compared among the 1630 companies which Value Line monitors. A company's financial strength rating can be used in Table 9 of the FINCAP report (major subcontractors).

Value Line groups its 1630 companies into 90 industry classifications and also provides a brief discussion of the near-term outlook for each industry.

Value Line is published by Arnold Bernhard & Co., Inc., 5 E. 44th Street, New York, New York 10017 and is available in many public libraries. A subscription costs approximately \$300 per year.

2.2.2 Standard and Poor's Stock Report

Standard and Poor's corporation issues Stock Reports on companies traded on the New York and American Stock Exchanges. It is a subscription advisory service and many public libraries regularly obtain it. Typical information in a stock report includes sales data, new corporate developments, sales and earnings prospects for the next year, backlog, long-term prospects, and historical income and balance sheet data.

2.2.3 Moody's Industrial Manual

Moody's Industrial Manual is an annual publication of the Moody's Investor's Service, Inc., 99 Church Street, New York, New York 10007. It contains information on publicly held corporations in the United States, including summaries of company background and financial statistics.

2.2.4 Moody's Bond Record

Moody's Bond Record is another publication of the Moody's Investor's Service. It rates the safety of a company's bonded debt, using a nine-point rating scale. The highest rating is Aaa, and C is the lowest. The rating reflects Moody's opinion of the security of the bond's principal and interest based upon the type of bond and the company's present and expected financial position. If a company has low-rated bonds, it will have difficulty in placing new debt. Thus, the Moody's bond rating can be used in the FINCAP Analysis to determine the financial community's view of new financing for a company.

2.2.5 Almanac of Business and Industrial Financial Ratios

The Almanac of Business and Industrial Financial Ratios provides composite data on certain financial ratios and business performance factors by industry and by asset size of the firms within an industry. Those data are a useful, but supplementary, source of comparative ratios by industry group and size. This document is published by Prentice Hall, Inc., Englewood Cliffs, New Jersey.

2.2.6 Annual Statement Studies

Robert Morris Associates publishes Annual Statement Studies, which is another source of data for comparative ratio analysis. Composite ratios are included by industry and by asset size of the firm within each industry. Asset size ranges from under \$250,000 to \$10 million - \$50 million. Consequently, this source is useful when applying FINCAP Analysis to smaller companies. This document can be obtained for approximately \$20 from: Robert Morris Associates, Credit Division, 1430 Philadelphia National Bank Building, Philadelphia, Pa. 19107.

2.2.7 Other Financial Sources

Wall Street Transcripts contains published accounts of formal presentations by corporate executives to security analysts. Usually, the current financial status of the company is discussed, as well as major future activities (R&D, new products or ventures, and external financing plans). The analyst will find this a useful source of information on a contractor's sales prospects or debt financing plans.

The Wall Street Journal publishes a monthly and yearly index. It lists news items that have appeared in the paper alphabetically by topic and by company. The analyst can use this index to locate any major stories about a particular company which appeared in the Journal.

Dun & Bradstreet, Inc. provides financial data on a wide variety of companies in several formats. Their reports may be the only source for data on many smaller and privately owned companies. They have offices in many major cities.

2.3 INDUSTRY PUBLICATIONS

2.3.1 Standard and Poor's Industry Surveys

Standard and Poor's Industry Surveys provides a detailed examination of economic trends and outlook for a number of industries. These surveys are a basic source of market information for the FINCAP Analysis. Individual industry surveys (e.g., aerospace) are published once a year, with periodic updates contained in a "current analysis" of that industry. Topics covered for the aerospace industry include industry backlog, industry sales by customer, major military programs by contractor (including total estimated cost of a program and the current and one-year projected fiscal year defense funding), foreign military sales prospects, major subcontractors in the aerospace industry and their outlook, certain financial ratios of different aerospace companies, and a comparative company analysis for such measures as capital expenditures as a percent of gross plant, sales, profit margins, and net income as a percent of sales.

Standard and Poor's Industry Surveys are available at many public libraries, or can be ordered from Standard and Poor's Corporation, 345 Hudson Street, New York, New York 10014 at an annual cost of approximately \$500 for all the industries covered, or \$60 per industry.

2.3.2 AIA's Aerospace Facts and Figures

Each year, the Aerospace Industries Association of America, Inc. compiles Aerospace Facts and Figures, a book of aerospace industry statistics. It contains a survey of the aerospace industry for the year and covers such topics as

industry sales of aircraft, missiles, and spacecraft, new defense and commercial programs, industry research and development expenditures, aerospace foreign trade, employment trends in the industry, and aerospace industry finances. Composite industry data include an income statement, balance sheet, and expenditures for plant and equipment. This source can be very helpful to the FINCAP analyst in evaluating the current aerospace industry environment and its future prospects.

Aerospace Facts and Figures is available for approximately \$6 from: Aviation Week and Space Technology, 1221 Avenue of the Americas, New York, N.Y. 10020.

2.3.3 Financial Analyst Handbook

The Financial Analyst Handbook, published by Dow Jones-Irwin, Homewood, Illinois, contains a survey of several major industries. Chapter 4 deals with "Aerospace." Unlike the AIA's Aerospace Facts and Figures, which gives industry composite figures, the Financial Analyst Handbook's chapter on the aerospace industry provides narrative only.

2.3.4 Other Industry Publications

Aviation Week and Space Technology magazine will keep the analyst up-to-date on current developments in the aerospace industry. Issues typically cover new programs and products, the status of existing programs and products, and competitive pressures on the industry. See above for the correct address.

Business Week magazine is another source of current business information, which describes major business trends and events for the national economy, major industries, and individual companies.

The Business Periodicals Index lists, by topic and by company, books and published articles of interest to the business and financial community. It too can be a useful source of information about a particular company.

2.4 DoD SOURCES

Certain internal DoD data are important for evaluating the financial capability of a contractor and are used in a FINCAP Analysis. Most of these data pertain to major programs.

2.4.1 System Program Office

Program offices are important sources of information about the status of the contractor's existing programs. The contractor's proposal should list key programs, division as well as corporate. If this list is not available, the 10-K or annual stockholder's report should be consulted.

The analyst should contact the various program offices, usually the Principal Contracting Officer (PCO), and record the information on the Program Information Worksheet (Exhibit H). The detailed funding information may have to be obtained from the Financial Control section.

In asking for the funding schedule, the analyst should emphasize that exact amounts are not required. However, the figures should pertain to a specific contractor and not to the program as a whole.

When the financial analysis is performed as part of the source selection process for a new contract award, the program office involved can supply the following key information:

- program description
- type of contract
- delivery schedule (quantity and dollars over life of program)
- special contract provisions
- program status and problems

This information is used in evaluating the effect of the new award on a bidder's future sales.

The program office is also responsible for performing a Production Readiness Review (PRR) or a Manufacturing Management Production Capability Review (MMPCR) prior to the award of major dollar value contracts. The objective of these reviews is to evaluate the contractor's production capability and estimate the amount of new plant and equipment that he must acquire. These estimates would be useful in projecting financial requirements.

2.4.2 IR&D/B&P Worksheets

DPC 76-1 lists the contractors whose overhead rates and IR&D/B&P cost ceilings (AFSC) are negotiated yearly. As part of the IR&D/B&P negotiation, each contractor submits certain statistical data in the form of the IR&D/B&P worksheet. The worksheets provide the following useful data for a FINCAP Analysis:

- percentages of DoD business by type of contract
- sales by government agency and by division
- extent of subcontracting on DoD business
- current-year estimates of the sales data

If the analysis is for a new award, these worksheets will be submitted in response to the RFP list. If the analysis is not for an award, the analyst may obtain these worksheets from Headquarters AFSC, Contract Administration Division.

2.4.3 Other DoD Sources

The Corporate Administrative Contracting Officer (CACO) is an alternative source of general program and contractor information. The CACO usually knows other DoD organizations doing business with the contractor.

The contract administration plant office (AFPRO, DCAS, NAVPRO, Army Plant Office) is another source of detailed information on existing contracts and contractor operations at that division.

The Air Force Contract Management Division (AFCMD) maintains information on programs and staffing at various contractor divisions in a notebook file called the "Red Book." Finally, the Subcontract Management Directorate at AFCMD maintains a data base on major/critical subcontractors.

2.5 COMPUTER DATA BANKS

2.5.1 FINANDAS Data Bank

FINANDAS, an integral part of the FINCAP Analysis method, is a timesharing computer system with two principal elements: (1) a five-year historical data bank on selected companies, which is used to calculate trends and financial ratios; and (2) the capability to project future financial statements and ratios, given assumptions about key factors such as sales growth.² FINANDAS draws from the COMPUSTAT data bank provided by Standard and Poor's Compustat Services, Inc. Its five years of historical data consist of the corporate balance sheet, income statement, and working capital (cash flow) statement. These financial statements, along with accompanying ratio reports are used in a FINCAP Analysis.

The Copper Impact timesharing representative can supply information about accessing FINANDAS. The FINANDAS manual contains instructions in using the system through the GE timesharing network and lists the contractors included in the data base.³

²FINANDAS also has the capability to accept user-supplied historical financial data on companies not a part of its data bank and to calculate trends and financial ratios with these data.

³The FINANDAS manual is titled "Contractor Data Retrieval & Analysis System, FINANDAS User's Manual," and is available through the Copper Impact administrators.

The principal advantage of the FINANDAS data bank is that it is a quickly accessible source of substantial contractor financial data. When performing a financial analysis of a company in the FINANDAS data bank, the analyst should obtain all reports on that contractor provided by the ANALYZET routine of FINANDAS. These include not only raw financial data but also the calculated ratios and trends of key financial variables, many of which are used in the FINCAP Analysis.

If the company is not in the FINANDAS data bank, most of the relevant data can be obtained from past and present annual and/or 10-K reports. The FINANDAS manual explains how to enter these data and contains a worksheet for organizing the information. Once the data have been entered, FINANDAS can be used to calculate and print trends and ratios.

2.5.2 INDUSTRY Program

The INDUSTRY Program is the GE timesharing computer program for comparing companies in an industry and developing industry statistics. This is the principal source for the industry medians used in the FINCAP Analysis. Some data are already stored in the INDUSTRY data bank, but the user can enter new companies or variables and develop new industry groupings.

See Appendix III for instructions on using the INDUSTRY Program. Contact the Copper Impact representative for access to the program.

2.6 CONTRACTOR PROPOSALS

A limited amount of the information needed for a FINCAP Analysis is not available from public or government sources. Contractors are requested to provide only information not elsewhere available for all companies analyzed.

For a new award, the Air Force can request that financial information be supplied in the contractor's proposal, thus utilizing the leverage of the source selection process. When financial analysis is done as part of the monitoring of an existing contractor, it may be more difficult to gain the contractor's cooperation. In the case of a special analysis, the severity of the circumstances should be used to obtain the data from the contractor.

2.6.1 RFP List

If the analysis is planned in advance, the data items in the Information Requirements for the RFP list (Exhibit F) can be included in the RFP for the program. Some items are included which may be available from other sources for some companies. However, to provide uniform requirements for all contractors, if an item is needed from one company, it should be required for all. For example, 10-K reports are listed, but if one company is privately owned, it should be required to provide equivalent reports. The same applies to IR&D/B&P worksheets, which may be available for Air Force contractors but not for Army, Navy, or DCAS contractors. The list of data items should be reviewed and those not necessary or appropriate for the particular source selection deleted.

2.6.2 Annual and Quarterly Reports

If the analysis is not for an award, much of the information required for a FINCAP Analysis can be taken from the corporate annual and quarterly stockholder's reports, which are slightly less detailed than the similar 10-K and 10-Q reports. These contractor financial reports may be obtained informally from the local contractor office or formally by writing the Secretary or Treasurer of the company. (See address in Value Line, Moody's, or Standard & Poor's.) However, the formal requests may be subject to the Federal Reports Act.

2.6.3 Contractor Interview

If severe problems are detected in the FINCAP Analysis, contractor financial personnel should be interviewed to obtain additional information not available publicly or to clarify the information already collected. There is no established format for this interview, but the analyst should follow these guidelines:

- Complete the FINCAP Analysis before the interview.
- Draw up a list of questions in advance, concentrating on the problem areas, the contractor's awareness of them, and plans for resolution.
- In the interview, explain the problems as you see them, and give the contractor sufficient time to respond.
- Convey a positive attitude and an unbiased interest in the company, but probe for the truth.
- Respect company confidential matters that are discussed with you.
- Write up notes immediately after the interview.

2.7 CONTRACTOR'S BANK

In analyzing privately owned companies or companies with financial difficulties, the analyst should discuss the contractor's credit standing with his commercial bank. The RFP data list (Exhibit F) includes a reference to the bank relationship and requests permission to contact the bank(s).

Exhibit G is a list of suggested questions for the contractor's bank, which may be reproduced as necessary. (Before using it extensively, consider the requirements of the Federal Reports Act.)

3. PERFORMING THE ANALYSIS

Section 3 describes the steps in performing a FINCAP Analysis of a major Air Force contractor. Information from the sources discussed in Section 2 is subjected to traditional methods of financial analysis to develop an understanding of the contractor's past and present condition. This knowledge is then used to project and evaluate the contractor's future financial capability.

Evaluation of a contractor's financial capability requires knowledge of the company from a broad perspective. In this sense, a thorough financial analysis is much like a mosaic which is constructed piece by piece. This section explains how to assemble the pieces, using the Report Tables (Exhibit D) and the FINCAP Evaluation Checklist (Exhibit A).

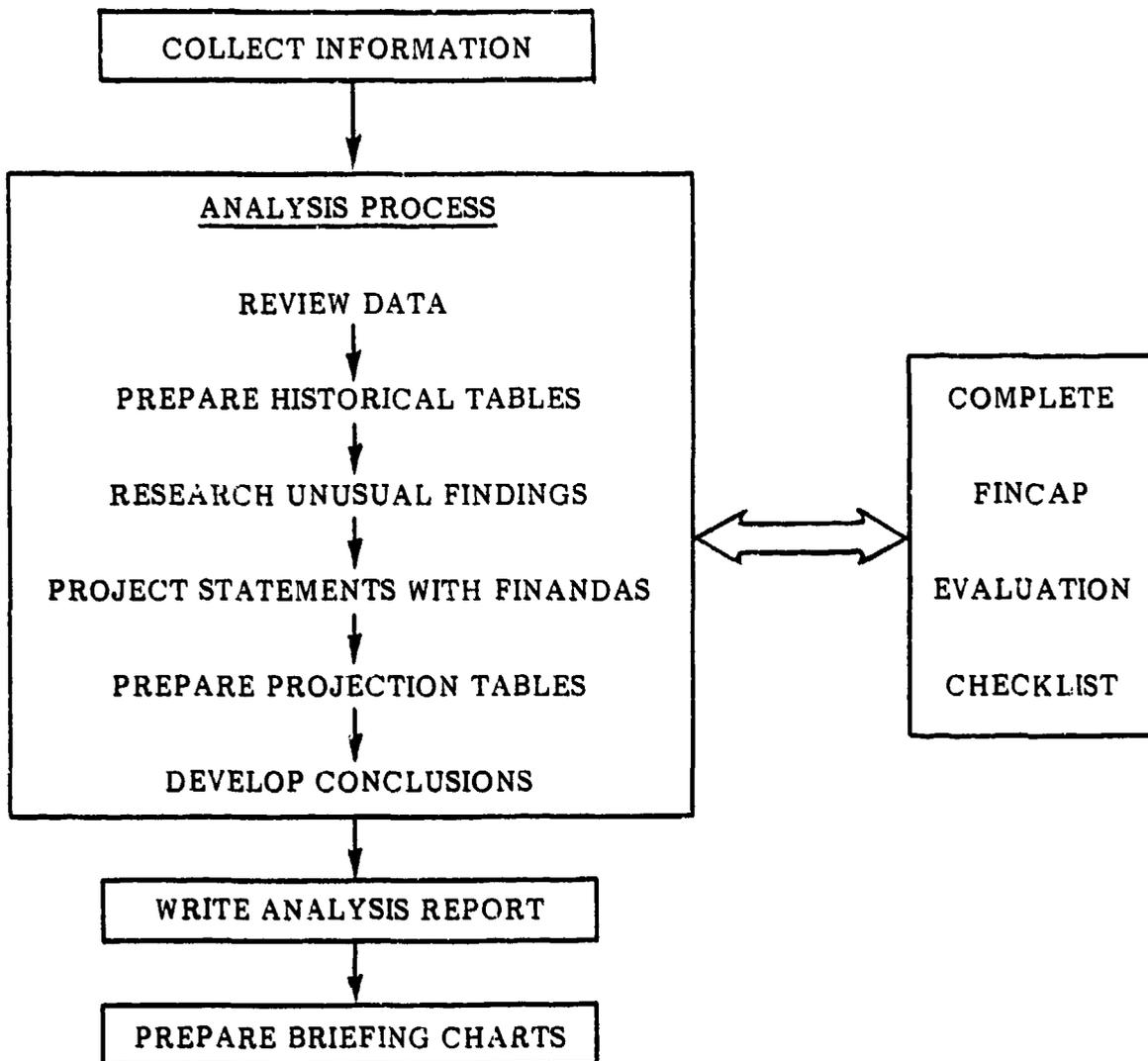
3.1 FINCAP ANALYSIS PROCESS

The FINCAP Analysis process is charted in Figure 3.1. It begins with a review of the data collected from the sources in Section 2 and ends with a review of the FINCAP Evaluation Checklist. Each step is briefly defined below:

- Review data: Read all of the information collected to discover what the company does and how it operates.
- Prepare historical tables: Complete Tables 2-9 and identify areas for further research.
- Research unusual findings: Investigate any problems and information gaps.
- Project statements with FINANDAS: Develop future expected and worst-case assumptions and project financial statements with the FINANDAS computer system.

FIGURE 3.1

THE FINCAP ANALYSIS PROCESS



- Prepare projection tables: Complete Tables 10-15 and evaluate the implications.
- Develop conclusions: Review each question in the FINCAP Evaluation Checklist and draw conclusions about the financial capability of the company. Complete Table 1.

Throughout the analysis, the FINCAP Evaluation Checklist is used to pinpoint critical areas and record key information. Thus, it is shown in Figure 3.1 as intersecting the analysis process at many steps.

3.2 REVIEW DATA

3.2.1 Purpose of Review

There are five objectives associated with the data review.

- Check for completeness of data.
- Locate information to be used later.
- Discover what the company does and how it operates.
- Identify potential problems.
- Determine intensity of analysis.

Before beginning the analysis, be sure the necessary information is available. Familiarize yourself with the sources, making notes as needed. Read the current annual report or 10-K to understand what the company does and how it operates. To help identify potential problems which the analysis must address, review the auditor's report and the footnotes to the statements carefully.

3.2.2 Intensity of Analysis

The intensity of any financial analysis should be governed by the actual or potential problems uncovered. A contractor with a stable sales base, no pressures on income margins from uncertain costs, and no outstanding claims requires a less detailed examination than one with volatile sales, uncertain costs,

and large claims. The difference in intensity pertains to the breadth of public and government sources contacted for information and the necessity of interviews with the contractor or his bank.

3.3 PREPARE HISTORICAL TABLES

Historical Tables 2 through 9 summarize the data collected in Section 2. The formats are designed for comprehensive, but concise, presentation of commonly reported data. However, if it is necessary to present other pertinent information, add extra captions and footnotes or develop new tables to reflect special characteristics of the company. Reproduce a set of tables for use with each company.

3.3.1 Proposed Award (Table 2)

Usually, the RFP provides sufficient detail on the proposed award to complete Table 2. Additional information is available from the program office. If the analysis is for reasons other than an award, replace Table 2 with an appropriate chart to identify the reason for the analysis..

3.3.2 Product Line Sales & Income and Division Sales (Table 3)

The product line information for Table 3 is available from (in order of preference):

- 10-K report
- annual report
- Moody's or Standard & Poor's

Usually, no more than six product lines are significant. If a product line contributes less than 10 percent of sales, it is not necessary to list it separately.

The division sales data are taken from the contractor's proposal (Table 2, item 10); delete if not available. Insert the name of the performing division or subsidiary whenever "Division" appears.

Data for sales and income by product line are sometimes reported before intercompany eliminations. These data are less preferred than data which are net of eliminations, but they can be used. Simply add a line of business at the bottom of the list titled "Intercompany Sales" and show the amounts as negatives. Then the total of the product line sales will equal the net sales of the company.

Be sure to identify whether the income data are net income or operating income.

Read and follow the analyst's notes. Mark them out to prevent their being typed on this and subsequent tables.

Complete questions 1-3 on the FINCAP Evaluation Checklist. For question 1, refer to the contractor's proposal (item 6). For questions 2 and 3, refer to Table 2 above.

3.3.3 History of Sales, Cost of Sales & Net Income (Table 4)

Information needed to complete Table 4 is taken from FINANDAS (Income Statement, P.3 and Relative Income Statement, P.8) or another annual data source and converted to a graph. Projections for year L+1 (current year) are based on year-to-date figures in the quarterly report submitted in the proposal (item 1) or obtained from other sources.

The graph in Table 4 is prepared with the following steps:

1. The horizontal scale (bottom line) is labeled with the current and the last five years as shown on the completed graph. See the sample in Figure 3.2.

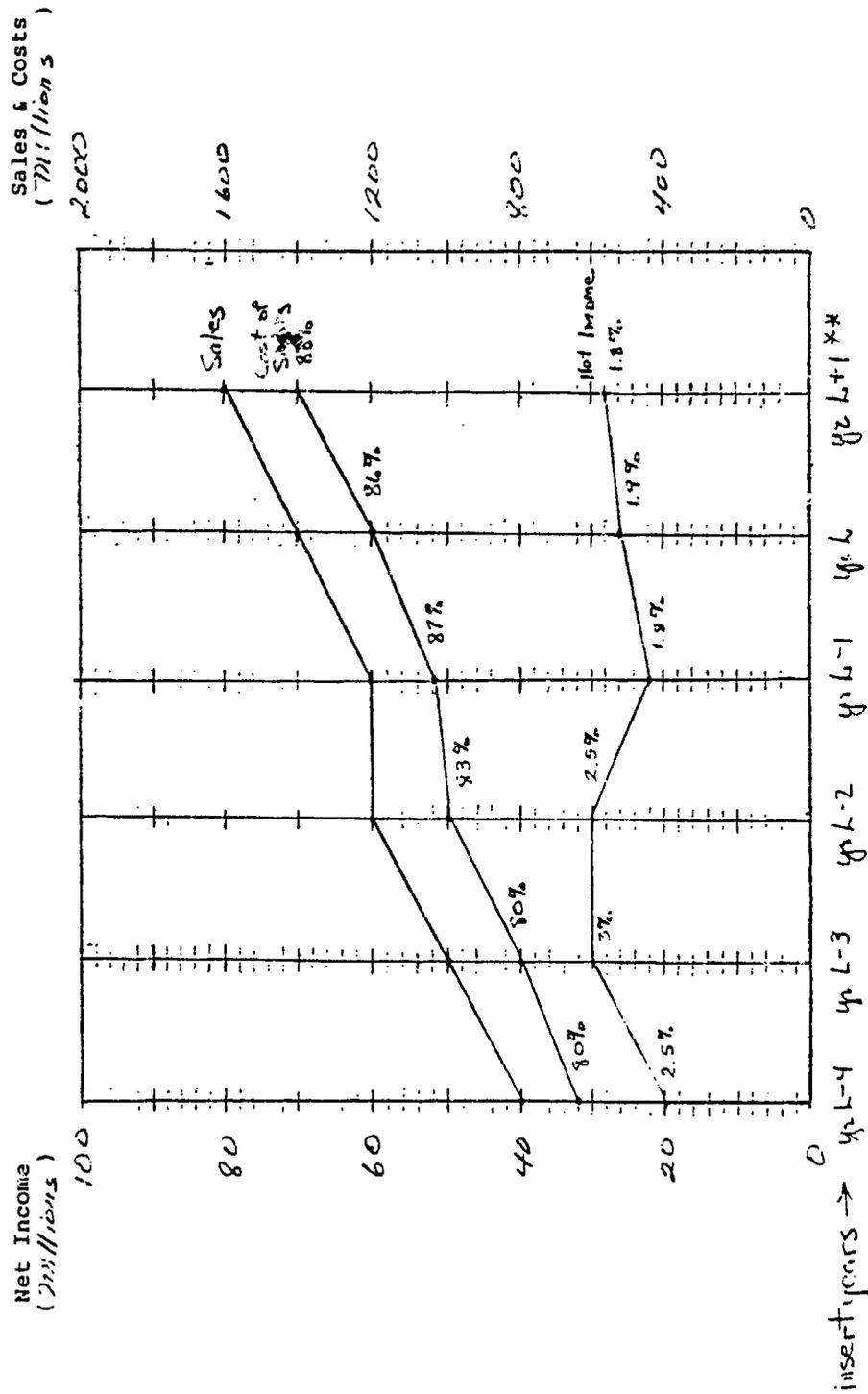
2. For the right-hand vertical scale, write the scale factor (millions, thousands) in the parentheses below the label. Then assign the top mark a round figure (usually a multiple of 1, 2, 2.5, 3, 4, 5 or 8) greater than the largest annual sales. For example, if the largest sales are \$370 million, label the top \$400. The base line should be labeled \$0, and every 10th mark should also be labeled.
3. For the left-hand vertical scale, insert the scale factor in the parentheses and number the line at 1/10 or 1/20 the amount of the right-hand scale.
4. Sales, Cost of Sales, and Net Income figures are then plotted for each year.¹ Connect the points as they are plotted to avoid mistaking one account for another. If the lines cross in a confusing manner, draw some lines dashed. Label each line on the right end. Show projected current year (yr L+1) figures with a dotted line. (See Figure 3.2.)
5. Record, next to each point on the graph, the percentages for
 - Cost of Sales to Sales
 - Net Income to SalesShow no more than two significant digits for each percentage (see Figure 3.2).

Complete Evaluation Checklist questions 4 and 5, using FINANDAS, p.3.

¹ The cost of sales should exclude depreciation, as done in FINANDAS. When using other sources, make sure depreciation has been subtracted from the cost of sales. If not shown on the Income Statement, depreciation expense can frequently be found in the Property Schedule or footnote; less preferably, it can be taken from the Statement of Changes in Financial Position (Working Capital/Cash Flow/Sources and Application of Funds Statement).

FIGURE 3.2

SAMPLE TABLE 4. HISTORY OF SALES, COST OF SALES & NET INCOME



* %'s are percents of sales

** Annualized based on 3 quarters ending 30 Sept 78

3.3.4 Dependence on DoD for Sales (Table 5)

Data for Table 5 are best taken from the supplementary tables in the contractor's proposal (items 4, 5). A good alternative source for sales data is the IR&D/B&P worksheets (item 2.D). Some backlog figures are reported in other annual data sources.

To complete Table 5, first record the prior year (yr L) sales and backlog figures. Then compute:

- the percentage of sales by category to total corporate or divisional sales
- the percentage of each backlog amount to its related sales
- the percentage of divisional sales by category to the related corporate sales.

Next, for each sales and backlog category, indicate the trend according to the following measures:

- UP: increases of more than 10 percent per year
- STABLE: increases of less than 10 percent per year
- DOWN: an overall decrease

Determine the appropriate descriptors by examination of the raw data and record them on Table 5.

Finally, be sure to replace yr L with the date and add the division/subsidiary name where "Division" occurs.

Complete question 6 of the Evaluation Checklist, using the contractor's proposal (Table 1) or the 10-K/annual report.

3.3.5 DoD Business (Table 6)

Information on major programs is collected on the FINCAP Program Information Worksheets, described in Section 2.4.1. Take the program names from the proposal (item 3), or less preferably, from the 10-K or the annual reports. Show the balance to complete in thousands or millions of dollars and include a scale factor (M-Millions, K-Thousands).

DoD business by type of contract is reported in the IR&D/B&P worksheets. Compute the percentages shown so that they total 100 percent of corporate DoD sales.

Complete Evaluation Checklist questions 7 and 8 based on the Program Information Worksheets.

3.3.6 Historical Financial Ratios (Table 7)

Selected financial ratios for the company and the industry are compiled in this table. All of the year-end ratios are computed by FINANDAS (Annual Ratios, p.6).

Quarterly ratios are computed from the most recent quarterly financial statements submitted in the proposal (item 1). Use the formulas in the FINANDAS User's Manual. Industry median ratios are calculated using the INDUSTRY Program described in 2.5.2 and Appendix III. The points of concern on the table are the same for all contractors.

Complete Evaluation Checklist questions 9-14 on the historical ratios.

3.3.7 Credit Standing

Review the credit standing of the contractor using:

- lines of credit open and used (proposed)
- off-balance sheet obligations (loan guarantees, etc - 10-K or annual report)

- independent ratings (Value Line, Moody's)
- bank references (if company is weak)

Complete Evaluation Checklist questions 15 and 16.

3.3.8 Selected Contractor Resources (Table 8)

Data items recorded here are selected from the proposal (Tables 1 and 2, items 4 and 5). The square feet of government plant is usually found in the 10-K of the annual report. Show plant area on a large scale, either thousands or millions, and indicate the scale in the parentheses. Compute the percentage ratio of subcontracts and purchased materials to sales based on amounts provided in the proposal (Tables 1 and 2; item 3).

Trends are defined as follows:

- UP: increases more than 10 percent per year
- STABLE: increases less than 10 percent per year
- DOWN: an overall decrease

Determine the appropriate descriptors based on inspection of the raw data and insert them in Table 8.

3.3.9 Major Subcontractors (Table 9)

Major subcontractors are identified in the proposal (item 2.c). A "major" subcontractor is defined as one subcontracting more than 5 percent of unit (company or division) volume. Some companies may be major subcontractors to both the company and division, while others are classified in only one category. List those which are major subcontractors under the corporation heading and indicate the dual status with a footnote.

Financial strength ratings are available from several sources, including the following (listed in order of desirability):

- Value Line
- Moody's Bond Record
- Dun and Bradstreet

Ratings from the above sources should be compared with direct information from FINANDAS, annual reports, and other sources. Any significant events or problems should be footnoted. Complete Evaluation Checklist question 17.

3.4 RESEARCH UNUSUAL FINDINGS

After the historical data generally available have been analyzed, potential problem areas should be investigated more thoroughly. Unusual findings which require further research include the following:

- unfavorable ratios as compared with the industry medians and points of concern
- unfavorable trends in sales and costs
- substantial claims and unsettled disputes
- unfavorable comments rendered by responsible parties

Each unusual finding should be investigated by means of whatever data sources are needed and feasible. Results of this investigation provide inputs for the next step, financial statement projection.

At this time, complete Evaluation Checklist question 18 to summarize the present condition of the company.

3.5 PROJECT STATEMENTS

The technical aspects of preparing projections are described in the FINANDAS Users Manual. Some general concepts are presented here, but remember that each projection assumption is unique. It is your prerogative to select the most appropriate forecasting assumption method for each company.

You should make explicit assumptions for each of the following accounts:

- Sales
- Cost of Sales
- Selling, General, and Administrative Expense
- Depreciation
- Interest
- Inventories
- Other Current Liabilities (Deferred Taxes)
- Capital Expenditures

If you agree with a FINANDAS default projection assumption, then the default option is appropriate; otherwise, you must input the assumption. In preparing assumptions, it is frequently useful to develop the sales projection, then run projected statements using the default methods for all but sales. This provides a baseline for evaluating changes in the projections for other accounts.

Summarize your assumption for the expected case on Table 10.

3.5.1 Sales

Sales volume is analyzed first and in great detail, because sales determine the success of the company and drive the projection model. Too little sales volume means that revenues are insufficient to cover overhead costs and cause high burden rates on existing contracts. On the other hand, abnormally large sales volume requires rapid expansion and disrupts the organization and flow of work.

3.5.1.1 Market Projections and Other Determinants

Because the sales projection is critical to an accurate forecast of future financial condition, you should consider in detail the factors influencing sales. The usual determinants of aerospace company sales are:

- aerospace industry sales
- product line composition
- existing contract backlog
- domestic and FMS mix
- technological position

Aerospace industry sales are regularly discussed and projected in Standard & Poor's Industry Surveys and AIA's Aerospace Facts and Figures. (See discussion in 2.3.1 and 2.3.2.) Occasional reports are made in the other industry publications described in Section 2.3.4.

Then consider the past sales trend and sales variability. Diversification tends to dampen sales variations, while concentration passes the full impact of one market through to the firm. Is the company subject to cyclical swings in aerospace or another industry? Compare the company sales to the total aerospace sales reported in Standard & Poor's Industry Surveys. You may either compare trend rates or calculate percent of total market by year.

The product lines of most contractors are diversified. Product lines and markets were discussed in Sections 3.3.2, 3.3.4, and 3.3.5. Now, you should investigate market trends for each major product line. Information from the Industry Surveys and other publications (see Sections 2.3.1 and 2.3.4) should be reviewed for all product lines. Other good sources of information are the 10-K or annual reports.

Complete Evaluation Checklist question 19 concerning the outlook for the major markets.

Existing contract backlog for DoD programs is projected on the Program Information Worksheet (see Section 2.4.1. and Exhibit H). The program projections are arranged and totaled by year to develop a forecast of DoD business from existing contracts. This approach is most effective when the company is performing a large volume of development and production work for DoD. If the backlog is insignificant, then this analysis is unnecessary.

Domestic and FMS sales mix were developed in Table 5. Historical factors contributing to this mix should be assessed in the light of future expected conditions. Product obsolescence, political conditions, and DoD policy are a few of the factors affecting future sales mix.

The technological position of the company refers to the general area of research (electronics, missiles, airframe, etc.) and its relationship to market demand. For example, companies with high technology in electronics have been well positioned for the expanding electronic countermeasures market. Companies with research capability in the emerging markets are in a good technological position.

3.5.1.2 Expected Sales Projection

Contractors project Sales (or the cost base) in the IR&D/D&P worksheets (see Section 2.4.2). Company projections are often useful because of the internal information and analysis used in their preparation. Past projections can be validated by comparing earlier worksheet projections with actual figures. Then your projections can be compared with the worksheet projections. (If the worksheets show the cost base, create an index for comparison). Look for variances and explain why the projections are not the same.

Next, apply the background information to sales trends (see FINANDAS projection assumptions for Net Sales, p.13), product development, and known "special situations." Except in cases where existing backlogs largely determine future sales, estimation of future sales should be based on the following reasoning:

1. Past product lines, government contracts, and commercial sales have resulted in X% growth per year.
2. The company plans to produce products X, Y, and Z.
3. The government and commercial markets for products X, Y, and Z are growing at rates A, B, and C.
4. Therefore, the company's sales growth is projected at a rate of X% per year, or as \$X, \$Y, etc.

3.5.2 Cost of Sales

The next step is to analyze the historical cost of sales levels and ratios and project the future ratio to sales or dollar amounts. Pay particular attention to those factors which affect the relationship between cost of sales and sales for a particular company. Some of these are:

- importance and status of fixed-price government contracts
- labor union wage agreements
- material prices
- escalation clauses in contracts
- contractor accounting methods
- level of capacity utilization
- legal disputes
- international conditions

All of these factors will not apply to every contractor, nor is this list meant to be all-inclusive. But it suggests the kind of things that should be analyzed.

Inflationary cost pressures (wage increases, material prices) on a contractor can be alleviated by including escalation clauses in contracts. These pressures should be identified, as well as the extent of the contractor's protection against future cost inflation by escalation clauses in defense and commercial business contracts.

Contractor accounting practices also influence future cost of sales. In some cases the contractor may defer certain production and tooling costs of commercial programs by charging Cost of Sales at the average unit cost rather than the specific unit cost. Assuming economies in production and amortizing tooling costs over an assumed production run, the specific cost of earlier production units will exceed the average cost, with the excess cost, when incurred, being charged to Work-in-Process Inventory rather than Cost of Sales for the year. It is assumed that these excess costs will later be recovered by the production and sales of lower-than-average-cost production units. This accounting practice rests upon three assumptions: a specified number of units to be sold, sales revenue for these units, and total cost to produce these units. If any of these assumptions does not hold in future periods, significant amounts of unrecoverable, deferred costs may be charged to Cost of Sales.

Economic studies have shown that profits of corporations are sensitive to business cycles or fluctuations in the level of capacity utilization.² When the level of capacity utilization is high, certain fixed costs (e.g., overhead) can be

²See, for example, Martin Feldstein and Lawrence Summers, "Is the Rate of Profit Falling?," Brookings Papers on Economic Activity 1 (1977) The Brookings Institution, Washington, D.C.

spread over a larger volume of output, and profits (income) are high. Conversely, when capacity utilization is low, fixed costs absorb a larger fraction of sales revenue, and income is correspondingly lower. Capacity utilization thus affects the relationship over time of Cost of Sales to Sales.

Capacity utilization unfortunately is a difficult concept to measure for an individual company, especially a diversified multidivisional firm. From the cost of sales ratios, it appears that many companies are able to maintain a stable cost to sales relationship in spite of sales variations. This may be the result of:

- large savings in employment
- small fixed costs
- control over sales prices

Whatever the reason, it appears that only the very capital-intensive companies have large variances in the cost of sales ratio. However, the analyst should be aware of capacity, utilization problems, past and projected, and adjust the projected Cost of Sales accordingly.

Legal disputes against the contractor represent potential future charges to Cost of Sales. Disputes arise from claims on contracts, product liability lawsuits, etc. You should be aware of these disputes, the potential amounts involved, and any reserves the contractor has set aside to meet them. The ability of a contractor to settle disputes and still maintain financial stability should be tested in those instances involving large claims in the worst-case analysis described below.

International conditions can also seriously affect contractors with multinational operations. Losses could be caused by adverse exchange rate fluctuations, expropriation of plant and equipment, contract cancellations, and worldwide material and energy shortages.

If the ratio is stable and no large decreases in sales are projected, then the FINANDAS default ratio can be used. Otherwise, estimate the future ratio based on the information available.

3.5.3 Selling, General, and Administrative Expense

Selling, general, and administrative expense (SG&A), depreciation, and interest are other major cost categories. SG&A includes advertising, bad debt expense, lease expense, parent company charges for administrative services, pensions, and other employee fringe benefits, and research and development expenditures. Depreciation represents the non-cash expense for wear and tear or obsolescence of contractor-owned plant and equipment. Interest represents the expense to the contractor of securing both long-term and short-term debt.

The level of SG&A expenses generally varies with sales; for the FINCAP analysis, this historical relationship would be expressed as a percent of sales. The ratio of SG&A to sales is calculated by FINANDAS (Forecasting Factors, p.12). The stability and trend of this ratio in the past should be observed and the pattern of underlying costs such as R&D, pension and fringe benefits, and leased plant and equipment examined to explain abnormal deviations. These component costs of SG&A generally are not available in public sources, so the information may have to be obtained from the CACO or the contractor.

If the ratio is stable and no large decreases in sales are projected, then the FINANDAS default ratio can be used. Otherwise, estimate the future ratio based on the information available.

3.5.4 Depreciation

Depreciation expense is closely related to the dollar value of gross plant and equipment. In general, the tax depreciation methods adopted by most

companies allow for higher depreciation charges early in the life of the property with correspondingly lower charges later on. Thus, a large increase in expenditures for plant and equipment will result not only in higher depreciation charges, but also in depreciation charges as a higher percent of gross plant and equipment in the immediate future.

The ratio of depreciation to prior gross plant is calculated by FINANDAS (Forecasting Factors p,12). The stability and trend of this ratio should be studied. As implied above, depreciation as a percent of gross plant usually rises the year or two after a significant increase in expenditures for plant and equipment.

If no unusual trends are noted, the projected depreciation rate can be left at the FINANDAS default rate. Otherwise, project the future rate based on the trend or known changes in plant that would affect the rate.

3.5.5 Interest

Interest expense is affected by two factors: the level of outstanding debt and the rate of interest paid. Since long-term debt generally has a fixed contractual rate of interest determined at the time of issue, interest charges on long-term debt are sensitive over time primarily to the amount of old, low-interest debt in relation to new, high-interest debt. On the other hand, interest rates on short-term debt fluctuate with prevailing credit market conditions. And short-term debt, by definition, must be rolled-over (refinanced) by the contractor frequently and at the prevailing credit market rate. Thus, interest charges on short-term debt vary not only with the level of outstanding short-term indebtedness, but also with market rates of interest.

This implies that the overall interest rate for a company will be related primarily to the proportion of total debt which is short-term or recently issued.

See the 10-K or annual report for the structure of debt and the interest rates. In FINANDAS, the interest expense for a year is expressed in relation to average total debt and is calculated for the last five years (Forecasting Factors, p. 12).

In deciding whether to use the FINANDAS default interest rate, consider the extent of new, high-interest debt required relative to long-term debt, trends in the money markets, and the overall condition of the company.

3.5.6 Inventories

Inventories of many defense contractors are substantial and subject to wide variations. The standard relative measure of inventory is the ratio of Inventory to Cost of Sales (plus depreciation), calculated by FINANDAS (Forecasting Factors, p. 12). Information about the composition of the inventory and valuation methods is reported in the footnotes to the financial statements (see Section 2.1). Project the future ratio of Inventory to Cost of Sales after considering the following:

- production requirements
- valuation assumptions
- valuation methodology

Review these areas before deciding whether to change the default ratio.

Companies with contracts for production require substantially greater inventories than those conducting research, development, and validation studies. Production requirements can be gauged by comparing the program backlog (Section 2.4.1) with past production (annual report and any prior program checkings).

Valuation assumptions are projected production and sales factors used to value current inventories. For example, accountants project the total number of aircraft to be produced from a given tooling expense. The tooling expense is included in inventory and depreciated as aircraft are produced. This assumption is

crucial to valuation, because it determines the rate at which the inventory is reduced. If the assumed number is too large, then the inventory is reduced too slowly and expenses are included which will never be recouped by sales. In such cases, inventory is overvalued.

Valuation methodology is the procedure used to account for inventory. Companies change the valuation method for tax and other reasons. Review the inventory valuation method described in the financial statement footnotes and adjust the historical ratios for changes in valuation methods.

If write-offs of inventory are expected as a result of claims and settlements, etc., project the inventories once with the basic ratio method, then manually adjust the dollar amounts and re-enter them.

3.5.7 Other Current Liabilities (Deferred Taxes)

Many aerospace contractors have begun deferring the payment of income taxes by using the completed-contract method of tax accounting. The benefit of this practice is a saving of cash which helps the company immediately. On the other hand, it is a potential liability which may come due if contract sales or profits decrease. If the contract business is stable or growing, the deferred taxes will never be paid, because the new deferrals will exceed the amounts currently due.

If you are projecting a company using this method, you must estimate how much net new deferrals will be added each year. This can be done using data on prior deferrals and profits from the 10-K or annual report.

The contractor may have other categories of deferred expenses, which appear on the FINANDAS balance sheet under Other Current Liabilities. This account includes wages owed to employees and other short-term obligations

related to cash expenses. Deferred taxes are now becoming a large component of this account.

The default projection for Other Current Liabilities is based on a percentage of cash expenses, so increases in it will increase this account proportionally. As the business grows, so will cash expenses and with it, Other Current Liabilities. However, the increase may not be enough to reflect the added deferred taxes. It is conservative to underestimate deferred taxes. On the other hand, if they are substantial, Other Current Liabilities should be adjusted manually with dollar entries to adequately reflect the increase in deferred taxes.

3.5.8 Capital Expenditures

Capital Expenditures — additions to plant and equipment — is one of the most important variables in the projections. A low figure will result in underestimates of funds required, while an unreasonably high figure will result in enormous additional borrowing.

As a rule, companies attempt to adjust these expenditures to the level of profits. The adjustment is not perfect, however, since contracted construction continues. Furthermore, some low-profit companies may gamble on a new cost-reduction or sales-generating investment.

The default projection in FINANDAS is based on past reinvestment rate based on prior gross plant. In deciding what assumption changes, if any, are needed, compare the historical rates to profit rates (Forecasting Factors, p.12). Then review projected profit rates and company plans. If large amounts of additional borrowing are required, it would be reasonable to assume that a reduction would be made in the level of capital expenditures. Hence several projection runs may be required to produce realistic assumptions for this variable.

3.5.9 Other Accounts

Projection assumptions for the remaining accounts are prepared by the following steps:

- review the forecasting factor (FINANDAS, p. 12) for stability and trend
- search for information which explains variations from average
- project conditions affecting the forecasting factor
- project the factor

If the FINANDAS default assumption is not substantially different from your projection, use it. Otherwise, you must input the appropriate assumption.

3.5.10 Projected Funds Requirements and Sources (Table 11)

The funds requirements and sources from the final FINANDAS run are then summarized in Table 11.

Use the following definitions for Table 11 based on amounts from FINANDAS p. 14, Changes in Working Capital:

Requirements

Working Capital = Net Increase/-Decrease
+ Additional Borrowing

Capital Expenditures = Capital Expenditures

Other = Total Applications
- Capital Expenditures

Total = Sum of the Above

Sources

Internal Cash Flow = Total Sources
- Sale of Stock
- New Long-Term Debt

External Financing = Additional Borrowing
+ Sale of Stock
+ New Long-Term Debt

Total = Sum of the Above

Complete Evaluation Checklist question 20 using the projected Relative Balance Sheet (Additional Borrowing + any new L-T Debt).

3.5.11 Projected Financial Ratios (Table 12)

The projected financial ratios are selected from the FINANDAS historical and proforma output. Prepare Table 12, and then compare company ratio values with the industry medians and points of concern. Answer Evaluation Checklist questions 21 and 22.

3.5.12 Ability to Borrow

Review the section on evaluating ability to borrow (II.8) and use the table there to answer Evaluation Checklist question 23. If the answer is d, e, or f (availability P, D, or U), consider reducing capital expenditures (and maybe sales, etc.) to cut the extent of borrowing. If this is appropriate rerun the projections and redo Tables 10-12. Only the weak or unsatisfactorily rated companies should have borrowing problems with reasonable plans.

3.6 PERFORM WORST-CASE ANALYSIS

You are now ready to prepare alternative projections for the worst-case analysis.

3.6.1 Projection Assumptions (Table 13)

Based on the current and potential problems of the company identified in the historical and expected case analysis, alternative assumptions are required for a worstcase. Select worst-case assumptions that are not only possible, but have a real chance of occurring (subjectively greater than 20%). Review each area in section 3.5 above, and quantify all such problems to the extent possible,

producing compound effects. If possible, include reasonable settlement costs for suits and disputes, and answer Evaluation Checklist question 24.

3.6.2 Projected Funds—Worst Case (Table 14)

Next, rerun the FINANDAS projections and complete Table 14 using the same definitions as in section 3.5.10 above.

3.6.3 Projected Ratios—Worst Case (Table 15)

Complete Table 15 from the FINANDAS projection reports and also answer checklist questions 25 and 26. Review the prospects for financing any additional borrowing and answer question 27.

3.7 DEVELOP CONCLUSIONS

After completing the projections for the expected and worst cases, you are ready to develop conclusions.³

Conclusions are prepared for:

- present financial condition
- projected financial condition
- capability for new award (as appropriate)
- existing/potential serious problems and their meaning in terms of financial risk

You are responsible for these conclusions, but the FINCAP Evaluation Checklist is provided to help focus on the critical issues.

3.7.1 FINCAP Evaluation Checklist

Review the Evaluation Checklist to identify the strengths and weaknesses of the company. Observe the number of strong vs. weak indicators.

³Because documenting findings frequently leads to additional research and analysis, it may be desirable to proceed with Section 4, Preparing the Report and Briefing before developing the conclusions. If so, prepare only the text. Then perform this analysis and, finally, write the Summary and Conclusion.

Also, observe the extent of extreme indicators, in either direction. Complete question 28 as appropriate.

3.7.2 Financial Capability Summary (Table 1)

Record the significant strengths and weaknesses of each company in Table 1. If the company is strong overall, list the key strengths that demonstrate this condition, but also note any weaknesses that may have an adverse effect in the future. Conversely, if the company is weak overall, list the most adverse characteristics, but note any indicators of potential future recovery.

Then record your conclusions briefly. The following scale of ratings for financial conditions is suggested, based on the checklist indicators:

- Excellent: many very strong indicators, no sign of weaknesses
- Good: strong overall with minor weaknesses
- Satisfactory: apparent balance of strengths and weaknesses
- Weak: a large number of significant weaknesses not offset by strengths
- Unsatisfactory: extreme weakness relative to most indicators

After evaluating present condition and projected condition separately, develop an overall conclusion using the same scale. For a company to have weak financial capability, not only the present condition but also the projected condition must be weak. Furthermore, threatening weaknesses should be possible.

To say that a company has an unsatisfactory financial condition, both present and projected conditions must be unsatisfactory. Threatening weaknesses must also be present.

4. PREPARING THE REPORT AND BRIEFING

The objectives of FINCAP Analysis are to assess:

- the contractor's current financial condition
- his expected future financial condition
- his financial capability to perform the proposed award satisfactorily
- the extent of existing or potential financial problems

After conducting the investigation and developing conclusions, you must present the conclusions for Air Force executive review so clearly that they can act with confidence. Appropriate and effective reports can be prepared according to the formats of Exhibits E-H.

4.1 GENERAL GUIDELINES

Adherence to the following guidelines in preparing the report or briefing will make the results of a FINCAP Analysis more easily understood:

- Concentrate on the critical areas, especially current problems or potential risks.
- Provide no more detail than necessary.
- Limit the use of numerical values.
- Present findings, not methods or steps followed.
- Explain interrelationships where meaningful.
- Discuss implications of problems.
- State conclusions specifically.
- When discussing projections:
 - Provide assumptions
 - Report key results, using a few selected numbers.

- Remember that the audience will not be financially oriented:
 - Avoid financial jargon whenever possible.
 - Explain the meaning and importance of special terms.
 - Interpret financial ratios against industry medians and points of concern; do not simply state ratio values.

4.2 REPORT FORMAT

The written FINCAP Analysis report should follow the detailed outline in Exhibit C. The tables in Exhibit D should be reproduced in the text for easy reference. The length of the report should be no more than 20 pages, including tables.

There are four major sections in the report:

1. Summary and Conclusions: one-or two-page statement of the key findings and conclusions (Hint: Write this last.)
2. Purpose of Financial Analysis: new award, monitoring, or special situation
3. Current Business and Financial Condition: recent history and current status of sales, especially DoD sales, the contractor's environment and resources, and its financial position
4. Projected Condition: discussion of sales, costs, projected condition, and financing needs

The sequence of paragraphs and tables for the report is listed in Exhibit B, Checklist for Report Preparation. Use a copy of this checklist as desired to (1) control progress on the report and tables, and (2) record notes for further investigation and report-writing.

The Report Tables (Exhibit D) have been prepared during the analysis. The FINCAP Evaluation Checklist (Exhibit A) should be completed before the report is

written. This checklist contains some key concepts which provide guidance and phrasing for the report. The text of the report is not written until the analysis is complete and the contractor's financial condition is thoroughly understood. (Hint: Use the detailed report paragraphs for organizing notes made while conducting the analysis.)

4.3 REPORT TABLES

The table formats in Exhibit D are compatible with the analysis method described in Section 3. Reproduce and complete a set of tables for each contractor.

The formats of these tables are suitable for a 20-30 minute briefing on the condition of a single company. However, the following changes are suggested:

- Move Table 1 to the end since it is the summary chart.
- Delete Table 2 unless appropriate.
- Delete data for years L-2 and L-1 on Tables 3, 5, and 7. Brief the trends orally.
- Delete data for years L+1 and L+5 on Tables 11, 12, 14, and 15. Brief the trends orally.
- Delete the table numbers or renumber them

4.4 BRIEFING FORMAT

The briefing format in Exhibit E is designed to provide a 20-30 minute presentation on several offerors for a new award. Also, selected formats could be used for a short briefing on one company.

The first chart is a title identifying the program involved. The next two charts should be prepared for each company and briefed as a set. The first of these provides background, the latter measures of current and projected financial strength.

On the Background chart, profit refers to net income, trend is the 5-year trend from FINANDAS, and other data are extracted from the detailed Report Tables. In briefing this chart, indicate the following:

- trends in performance
- diversification/reliance on DoD
- major programs and their status
- use of outside resources

On the Measures of Financial Strength chart, take the data from the detailed tables in the report. In briefing this chart, emphasize the following:

- the display of both current and projected ratios with the industry median and the point of concern
- favorable/unfavorable variances from the industry median/point of concern; explain why they occurred and what they mean
- the meaning of facilities ratios (to explain other ratios; not necessarily strength ratios) and their relationship to other ratios
- any substantial decrease in the equity/asset ratio caused by projected new borrowing and any long-term implications
- a low interest coverage which signals future difficulties in obtaining additional borrowing
- a continued low profit on equity which indicates future difficulties in obtaining new equity capital

The final briefing chart summarizes the capability of each company. Display several strengths and/or weaknesses for each. Then present the conclusion in a simple phrase following the ratings suggested in Section 3.7.

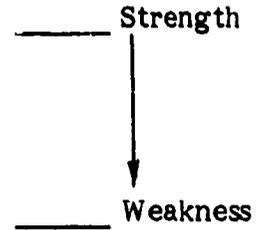
When briefing this chart, describe:

- the financial implications of business problems
- the chance of problems which might cause serious financial difficulties

EXHIBIT A. FINCAP EVALUATION CHECKLIST

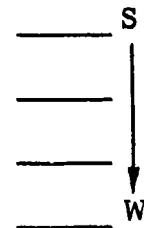
1. If the bidder is a subsidiary corporation, has the parent:

- a. guaranteed the debts of the subsidiary or pledged to provide financial support?
- b. made a written commitment to provide financial support?



2. The peak annual procurement of the bid program in the next five years as a percent of current corporate sales is:

- a. 0-5%
- b. 6-10%
- c. 11-25%
- d. over 25%



3. The peak annual procurement of the bid program as a percent of current divisional sales is:

- a. 0-5%
- b. 6-10%
- c. 11-25%
- d. over 25%



4. The sales trend over the past five years has been:

- a. greater than 20% per year
- b. from 11% to 20% per year
- c. from 0% to 10% per year
- d. from -10% to 0% per year
- e. less than -10% per year

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5. The ratio of net income to equity has been generally
(over the past five years):

- a. over 20% per year
- b. 16-20%
- c. 11-15%
- d. 6-10%
- e. less than 5%

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6. The three-year trend in company backlog has been:

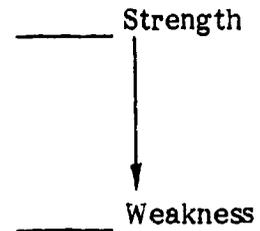
- a. greater than + 10% per year
- b. from -10 to +10% and stable
- c. from -10 to +10% and variable
- d. less than - 10%

_____ S
|
_____ W
|
_____ W
|
_____ W

EXHIBIT A. FINCAP EVALUATION CHECKLIST

1. If the bidder is a subsidiary corporation, has the parent:

- a. guaranteed the debts of the subsidiary or pledged to provide financial support?
- b. made no written commitment to provide financial support?



2. The peak annual procurement of the bid program in the next five years as a percent of current corporate sales is:

- a. 0-5%
- b. 6-10%
- c. 11-25%
- d. over 25%



3. The peak annual procurement of the bid program as a percent of current divisional sales is:

- a. 0-5%
- b. 6-10%
- c. 11-25%
- d. over 25%



7. DoD sales volume in the three-to five-year range depends primarily on:

- a. expanding production programs
- b. contracting production programs
- c. a mix of R&D and production programs
- d. research and development of new technology products



8. Program offices report that cost performance on existing defense contracts can be characterized as:

- a. costs generally on target for all major programs
- b. significant cost overruns on one major program or several minor ones
- c. significant cost overruns are on several major programs



9. Days cash at the most recent quarter end was:

- a. over 60 days
- b. 31-60 days
- c. 11-30 days
- d. 0-10 days



10. Days accounts receivable at the most recent quarter end was:

- a. 0-60 days
- b. 61-75 days
- c. 76-90 days
- d. over 90 days

____ S
|

|

|
____ W

11. Days inventory at the most recent quarter end was:

- a. 0-60 days
- b. 61-90 days
- c. 91-120 days
- d. over 120 days

____ S
|

|

|
____ W

12. Days payables at the most recent quarter end was:

- a. 0-15 days
- b. 16-30 days
- c. 31-45 days
- d. over 45 days

____ S
|

|

|
____ W

13. Income B.I.T. per \$ Interest at the latest year end was:

- a. over \$20
- b. \$11 to \$20
- c. \$6 to \$10
- d. \$2 to \$5
- e. under \$2

____ S
|

|

|

|
____ W

14. The Z-score at the last annual reporting date was:

- a. 5.0+
- b. 3.0-4.9
- c. 1.8-2.9
- d. less than 1.8

____ S

____ W

15. The amount of loan guarantees for subsidiaries, not shown on the contractor's balance sheet but described in footnotes, is:

- a. negligible
- b. moderate
- c. substantial

____ S

____ W

16. The credit standing of the company can be described best as:

- a. highly respected with substantial unused credit available
- b. well regarded with some unused credit
- c. marginal with a small amount of unused credit
- d. poor with no additional credit approval

____ S

____ W

17. The financial strength of major subcontractors is best described by:

- a. all are at least satisfactory
- b. one or more are weak and may cause problems
- c. One or more have financial problems which are negatively impacting production

____ S

____ W

20. Maximum total Additional Borrowing required during the five years' projection is:

- a. none
- b. 0-10% of assets
- c. 11-20% of assets
- d. 21-30% of assets
- e. 31-40% of assets
- f. over 40% of assets

_____ S
|
_____ W

21. Compared to the most recent year-end level, the expected case (Table 12) financial ratios are:

- a. a significant improvement
- b. not significantly different
- c. significantly worse

_____ S
|
_____ W

22. Overall, the expected case (Table 12) financial ratios, compared to the industry medians and points of concern, indicate that the projected condition is:

- a. excellent
- b. good
- c. satisfactory
- d. weak
- e. unsatisfactory

_____ S
|
_____ W

23. Obtaining the additional financing needed (Question 20)

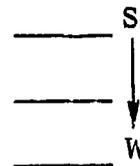
under the expected-case assumptions would be:

- a. irrelevant (i.e., borrowing not likely)
- b. easy
- c. likely
- d. possible
- e. difficult
- f. unlikely



24. Suits and disputes against the contractor are:

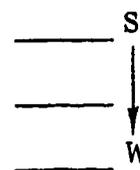
- a. minor
- b. numerous but relatively small
- c. numerous and potentially substantial



25. Compared to the most recent year-end level, the worst case

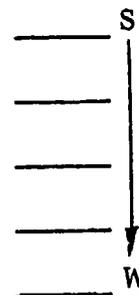
(Table 15) financial ratios are:

- a. a significant improvement
- b. not significantly different
- c. significantly worse



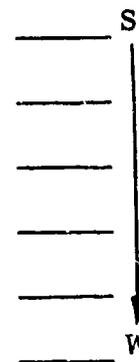
26. Overall, the worst-case financial ratios, (Table 15) compared with the industry medians and points of concern, indicate that the projected condition is:

- a. excellent
- b. good
- c. satisfactory
- d. weak
- e. unsatisfactory



27. Obtaining the additional financing needed under the worst-case assumptions would be:

- a. irrelevant (i.e., borrowing not likely)
- b. easy
- c. likely
- d. possible
- e. difficult
- f. unlikely



28. Describe the company's problem(s) in your own words.

EXHIBIT B. CHECKLIST FOR REPORT PREPARATION

<u>Report Sections & Tables</u>	<u>Completed</u>	<u>Notes</u>
1. SUMMARY AND CONCLUSIONS		
1.1 The Company		
1.2 Current Condition		
1.3 Projected Condition		
1.4 Meaningful Risks		
1.5 Conclusions Table 1, Financial Capability Summary		
<hr/>		
2. PURPOSE OF FINANCIAL ANALYSIS Table 2, Proposed Award		
<hr/>		
3. CURRENT BUSINESS AND FINANCIAL CONDITION		
3.1 Corporate Operations Table 3, Product Line Sales & Income and Division Sales		
3.2 Sales, Costs, and Profits Table 4, History of Sales, Cost of Sales & Net Income		
3.3 DoD Sales Table 5, Dependence on DoD for Sales		
3.4 Major DoD Programs Table 6, DoD Business		
3.5 Historical Financial Ratios Table 7, Historical Financial Ratios		
3.6 Credit Standing		

Exhibit B (continued)

<u>Report Sections & Tables</u>	<u>Completed</u>	<u>Notes</u>
3.7 Resources Table 8, Selected Contractor Resources		
3.8 Major Subcontractors Table 9, Major Subcontractors		

4. PROJECTED CONDITION

- 4.1 Sales Determinants
- 4.2 Expected Sales
Table 10, Key Projection Assumptions--Expected Case
- 4.3 Cost of Sales
- 4.4 Other Accounts
- 4.5 Funds Requirements
Table 11, Projected Funds Requirements and Sources--Expected Case
- 4.6 Funds Sources
- 4.7 Projected Financial Ratios
Table 12, Projected Financial Ratios--Expected Case
- 4.8 Expected Condition Summary
- 4.9 Worst Case Analysis
Table 13, Key Projection Assumptions--Worst Case
Table 14, Projected Funds Requirements and Sources--Worst Case
Table 15, Projected Financial Ratios--Worst Case

EXHIBIT C. REPORT FORMAT

COMPANY NAME
FINANCIAL CAPABILITY REVIEW

_____ PROGRAM

Analyst's Name(s)

Date

1. SUMMARY AND CONCLUSIONS

1.1 The Company

Paragraph identifying the company and the purpose of the analysis. If for new award, identify the performing business unit and its relationship to the parent corporation.

1.2 Current Condition

Paragraph(s) summarizing the current business and financial condition of the corporation, beginning with an overall conclusion. Support the conclusion by reviewing major items such as sales trends, cost percentages, net income, liquidity, plant and equipment, and debt and equity. Discuss the contractor's access to bank credit and independent credit ratings. Mention DoD sales and summarize the status of major programs. Discuss the performing business unit's activities and resources. Summarize significant problems identified in Section 3.

1.3 Projected Condition

Paragraph(s) describing the contractor's financial condition over the next five years for the expected case. Start with an overall conclusion. Then support it by discussing future sales, cost of sales, net income, liquidity, plant and equipment, and debt and equity. Key projection assumptions should be mentioned. Discuss future financial needs and the ability of the corporation to obtain any required external financing. Describe the impact of the new award.

1.4 Meaningful Risks

Paragraph(s) summarizing the contractor's exposure to financial risk due to problems with sales, costs, legal disputes, terminations, contract performance, and resource availability. Relate these risks to the

worst-case projections. Discuss their implications for financial condition and borrowing.

1.5 Conclusions

Paragraph(s) comparing and assessing the strengths and weaknesses of the corporation identified in Sections 1.3 and 1.4 and in the Evaluation Checklist. Relate these to the separate conclusions about current and projected conditions. State a specific overall conclusion about the corporation relative to the purpose of the analysis. Refer to Table 1, Financial Capability Summary.

2. PURPOSE OF FINANCIAL ANALYSIS

Paragraph presenting the purpose of the analysis. If the analysis is for a new contract, refer to Table 2, Proposed Award, and provide necessary details about unique business aspects of the program. If the analysis is for purposes other than an award, describe them here and prepare an alternative Table 2.

3. CURRENT BUSINESS AND FINANCIAL CONDITION

3.1 Corporate Operations

Paragraph(s) describing corporate history and structure, product lines, merger activity, and locations. Refer to Table 3, Product Line Sales & Income and Division Sales, especially the percent of sales by line of business. In describing the corporate structure, identify the relationships of the offeror to the parent corporation. If the offeror is a subsidiary, discuss the commitment of the parent to support the offeror financially.

3.2 Sales, Costs, and Profits

Paragraph describing sales growth, cost of sales, and profitability. Refer to Table 4, History of Sales, Cost of Sales & Net Income. Refer

also to Table 3 for the sales trends and income in the various lines of business, and the sales trend in the performing division.

3.3 DoD Sales

Paragraph describing dependence on DoD for corporate and divisional sales. Compare defense with non-defense sales and backlog to annual sales. Refer to Table 5, Dependence on DoD for sales. Do not discuss future sales at this time.

3.4 Major DoD Programs

Paragraph describing major DoD programs currently undertaken by the contractor. Refer to Table 6, DoD Business. Comment on the status of these programs based on the Program Information Worksheets.

3.5 Historical Financial Ratios

Paragraph(s) highlighting current financial strengths and weaknesses revealed in Table 7, Historical Financial Ratios. Comment on ratios which vary significantly from industry medians and points of concern.

3.6 Credit Standing

Paragraph(s) discussing the lines of credit and independent credit ratings. Mention the amounts of credit lines, amounts outstanding, and balance available using the contractor's proposal as the source. If banks are contacted, include results here. Provide Moody's rating of the company's bonds and the Value Line financial strength rating if available.

3.7 Resources

Paragraph(s) describing Table 8, Selected Contractor Resources. Emphasize the corporate and division trends in employment, subcontracting, plant, use of government plant, and plant utilization. Compare resource trends with sales trends. Compare plant and capital

expenditure ratios from Table 7 with Table 8 data on plant utilization. Comment on major labor or other resource problems identified on the Program Information Worksheets or discussed in current industry publications.

3.8 Major Subcontractors

Paragraph describing the major subcontractors to this contractor, as listed in Table 9, Major Subcontractors. Financially weak subcontractors should be discussed here on an exception basis, with the possible implications on current contractor business. Refer to the Program Information Worksheets for specific subcontractor problems.

4. PROJECTED CONDITON

4.1 Sales Determinants

Paragraph discussing the historical determinants of future sales and relating them to potential future sales. Key topics should include the market trends, contractor backlog and past sales patterns. Analysis may be done at the level of either total corporate sales or line of business. Refer to Tables 3, 4, and 5.

4.2 Expected Sales

Paragraph discussing specific expectations of the future sales for this contractor, including the basis for these projections. Relate the projections to the contractor's own sales forecasts (IR&D/B&P), securities industry forecasts, and DoD program plans, where possible. The sales increase due to the new award should be explicitly covered. Refer to Tables 2 and 6, and to the Sales item of Table 10.

4.3 Cost of Sales

Paragraph(s) analyzing and projecting the contractor's cost of sales. Discuss the status of major contracts, material prices, and wages

escalation clauses in contracts, write-off of inventory losses on previously capitalized costs, utilization of labor and plant capacity, and legal settlement. Refer to the Cost of Sales item of Table 10.

4.4 Other Accounts

Paragraph(s) analyzing and projecting Selling, General & Administrative Costs; Depreciation, Interest, Inventories, Other Current Liabilities (Deferred Taxes); and Capital Expenditures. Explain projections which vary from historical patterns. Refer to Table 10.

4.5 Funds Requirements

Paragraph describing projected funds requirements for working capital and capital expenditures. Requirements for new award should be highlighted. Refer to Table 11, Projected Funds Requirements and Sources—Expected Case.

4.6 Funds Sources

Paragraph describing projected availabilities of financial capital, including internal sources, from net income and depreciation, and external sources of additional borrowing. Refer to Table 11.

4.7 Projected Financial Ratios

Paragraph(s) highlighting the projected financial position of the contractor in the areas of liquidity, plant and equipment, debt and equity, and profitability, as shown in Table 12, Projected Financial Ratios — Expected Case. Comment on ratios which vary significantly from industry medians and points of concern, especially trends and projected values relative to yr L. Discuss significant effects of the new award on key ratios.

4.8 Expected Condition Summary

Paragraph(s) summarizing the projected financial condition of the contractor in the expected case and the prospects for obtaining any additional financing required. Comment on the significance of the new award. Refer to Tables 11 and 12.

4.9 Worst-Case Analysis

Paragraph(s) analyzing the ability of the contractor to withstand uncertainty; that is, to test its sensitivity to abnormal, but possible, changes in assumptions. Refer to Table 13, Key Projection Assumptions—Worst Case, and discuss changes from Table 10. Discuss revised projections for external financing shown on Table 14, Projected Funds Sources and Requirements—Worst Case. Identify significant changes in key ratios on Table 15, Projected Financial Ratios—Worst Case. Finally, summarize the worst-case projected condition and evaluate any changes in the financing prospects.

EXHIBIT D. REPORT TABLES

TABLE 1. FINANCIAL CAPABILITY SUMMARY

STRENGTHS:

WEAKNESSES:

CONCLUSIONS:

TABLE 2. PROPOSED AWARD

- PROGRAM:
- DOLLAR VALUE:
- TYPE OF CONTRACT:
- QUANTITY:
- PROGRAM LIFE/DELIVERY SCHEDULE:
- COMPETITORS:

-
-
-

TABLE 3. PRODUCT LINE SALES & INCOME
and DIVISION SALES ()

Product Line	Sales			Income* Yr L % Total
	Yr L-2	Yr L-1	Yr L	
	\$	\$	\$	%
Total Consolidated	\$	\$	\$	100%
Division				N.A.

* Income is (Operating or Net) Income

[Analyst Note 1: Insert scale in parentheses on all tables with \$ amounts. Use largest value reasonable, but do not report more than 1 decimal place in the \$ values.]

[Analyst Note 2: The following convention is used throughout the tables as a guide to preparation of the report: Yr L stands for the latest full year; for example Yr L = 1978, Yr L-1 = 1977, Yr L-2 = 1976, Yr L+1 = 1979, etc.]

TABLE 6. DoD BUSINESS

● PRIME CONTRACTOR ON _____ MAJOR PROGRAMS

Program Balance to Complete

● MAJOR SUBCONTRACTOR ON _____ MAJOR PROGRAMS

Program Balance to Complete

● yr L % OF DoD BUSINESS BY TYPE OF CONTRACT

COST TYPE - %

FIXED-PRICE TYPE - %

TABLE 7. HISTORICAL FINANCIAL RATIOS

Liquidity	YR L-2		YR L-1		YR L		Latest Quarter	yr L Industry Median	Pt. of Concern
<u>Liquidity</u>									
Days Cash									10
Days Receivables									90
Days Inventories									135
Days Payables									45
<u>Corp. Plant & Equipment</u>									
Net Plant/\$100 Sales	\$	\$	\$	\$	\$	\$	\$	\$	
Capital Exp./\$100 Sales	\$	\$	\$	\$	\$	\$	\$	\$	
Capital Exp./Prior Gross Plant	%	%	%	%	%	%	%	%	
<u>Div. Plant & Equipment</u>									
Net Plant/\$100 Sales	\$	\$	\$	\$	\$	\$	\$	\$	
Capital Exp./\$100 Sales	\$	\$	\$	\$	\$	\$	\$	\$	
Capital Exp./Prior Gross Plant	%	%	%	%	%	%	%	%	
<u>Debt & Equity</u>									
Stockholder Equity/Assets	\$	\$	\$	\$	\$	\$	\$	\$	25%
Income PIT/\$ Interest									\$2

[Analyst's Note: Display only whole days, \$'s and percents.]

TABLE 8. SELECTED CONTRACTOR RESOURCES

	<u>CORPORATION</u>		<u>DIVISION</u>	
	<u>Yr L</u>	<u>Trend</u>	<u>Yr L</u>	<u>Trend</u>
<u>INTERNAL RESOURCES</u>				
Number of Employees				
Owned/Leased Plant (Sq. Ft.)		N.A.		N.A.
<u>RESOURCES PROVIDED BY OTHERS</u>				
Subcontracts and Purchased Materials/ Sales				%
Government Plant, (Sq. Ft.)		N.A.		N.A.
<u>TOTAL RESOURCES</u>				
Total Plant, (Sq. Ft.)				
Utilization				N.A.

[Analyst's Note 1: For trend, give direction as follows: up (> 10%), none (± - 10%), down (< - 10%). Determine by inspection.]

[Analyst's Note 2: Scale Sq. Ft. in thousands or millions.]

TABLE 9. MAJOR SUBCONTRACTORS

<u>SUBCONTRACTOR</u>	<u>PROGRAM</u>	<u>COMPONENT</u>	<u>FINANCIAL STRENGTH RATING</u>
----------------------	----------------	------------------	--

To Corporation

To Division

TABLE 10. KEY PROJECTION ASSUMPTIONS--EXPECTED CASE

- SALES:

- COST OF SALES:

- SELLING, GEN. & ADMIN. COSTS:

- INVENTORIES:

- OTHER CURRENT LIABILITIES:
(Deferred Taxes)

- CAPITAL EXPENDITURES

TABLE 11. PROJECTED FUNDS REQUIREMENTS AND SOURCES

--EXPECTED CASE ()

	ACTUAL	PROJECTED		
	yr L	yr L+1	yr L+3	yr L+5
<u>FUNDS REQUIREMENTS</u>				
Working Capital	\$	\$	\$	\$
Capital Expenditures				
Other				
Total	\$	\$	\$	\$
<u>FUNDS SOURCES</u>				
Internal Cash Flow*	\$	\$	\$	\$
External Financing				
Total	\$	\$	\$	\$

* Primarily Net Income plus Depreciation

TABLE 12. PROJECTED FINANCIAL RATIOS--EXPECTED CASE

	Actual		Projected		Yr L Industry Median	Pt. of Concern*
	Yr L	Yr L+1	Yr L+3	Yr L+5		
<u>LIQUIDITY</u>						
Days Cash						10
Days Receivables						90
Days Inventories						120
Days Payables						45
<u>CORP. PLANT & EQUIPMENT</u>						
Net Plant/\$100 Sales	\$	\$	\$	\$		
Capital Exp./\$100 Sales	\$	\$	\$	\$		
Capital Exp./Prior Gross Plant	%	%	%	%		
<u>DEBT & EQUITY</u>						
Stockholder Equity/Assets	%	%	%	%		25%
Income B.I.T./\$ Interest	\$	\$	\$	\$		\$2
<u>PROFITABILITY</u>						
Net Income/Sales	%	%	%	%		
Net Income/Avg. Equity	%	%	%	%		5%

* The points of concern have not been tested scientifically for defense contractor failures. However, they have been developed experientially from a detailed analysis of a mix of aerospace companies. The points are not absolute indicators of financial weakness but signal areas requiring further analysis and investigation.

TABLE 13. KEY PROJECTION ASSUMPTIONS--WORST CASE

- SALES:

- COST OF SALES:

- SELLING, GEN. & ADMIN. COSTS:

- INVENTORIES

- OTHER CURRENT LIABILITIES:
(Deferred Taxes)

- CAPITAL EXPENDITURES:

TABLE 14. PROJECTED FUNDS REQUIREMENTS AND SOURCES

--WORST CASE ()

	ACTUAL	PROJECTED		
	yr L	yr L+1	yr L+3	yr L+5
<u>FUNDS REQUIREMENTS</u>				
Working Capital	\$	\$	\$	\$
Capital Expenditures				
Other				
	_____	_____	_____	_____
Total	\$	\$	\$	\$
<u>FUNDS SOURCES</u>				
Internal Cash Flow*	\$	\$	\$	\$
External Financing				
	_____	_____	_____	_____
Total	\$	\$	\$	\$

* Primarily Net Income Plus Depreciation.

TABLE 15. PROJECTED FINANCIAL RATIOS--WORST CASE

	Actual		Projected		Yr L Industry Median	Pt. of Concern*
	Yr L	Yr L+1	Yr L+3	Yr L+5		
<u>LIQUIDITY</u>						
Days Cash						10
Days Receivables						90
Days Inventories						120
Days Payables						45
<u>CORP. PLANT & EQUIPMENT</u>						
Net Plant/\$100 Sales	\$	\$	\$	\$		
Capital Exp./\$100 Sales	\$	\$	\$	\$	%	
Capital Exp./Prior Gross Plant	%	%	%	%	%	
<u>DEBT & EQUITY</u>						
Stockholder Equity/Assets	%	%	%	%	%	25%
Income B.I.P./\$ Interest	\$	\$	\$	\$	\$	\$2
<u>PROFITABILITY</u>						
Net Income/Sales	%	%	%	%	%	
Net Income/Avg. Equity	%	%	%	%	%	5%

* The points of concern have not been tested scientifically for defense contractor failures. However, they have been developed experientially from a detailed analysis of a mix of aerospace companies. The points are not absolute indicators of financial weakness but signal areas requiring further analysis and investigation.

EXHIBIT E. BRIEFING FORMAT

AFSC

PROGRAM NAME

FINANCIAL CAPABILITY

OF OFFERORS

COMPANY
BACKGROUND

● PERFORMANCE

	<u>yr L</u>	<u>Trend</u>
Sales	\$	%
Profit	\$	%
Assets	\$	%

● _____ LINES OF BUSINESS:

-
-
-
-

● _____ % SALES TO DoD IN yr L

● MAJOR PROGRAMS

-
-
-
-

● PURCHASES AND SUBCONTRACTS - % COST OF SALES IN yr L

[Analyst Note: Replace company with company name on this and the next chart. Complete one of each for each offeror. Fill in the blanks and replace yr L with the actual date.]

COMPANY

MEASURES OF FINANCIAL STRENGTH

	yr L	yr L+3	yr L Industry Median	Pt. of Concern
<u>LIQUIDITY</u>				
Days Cash				10
Days Inventory				120
<u>PLANT & EQUIPMENT</u>				
Net Plant/\$100 Sales	\$	\$	\$	
Reinvestment	%	%	%	
<u>DEBT & EQUITY</u>				
Equity/Assets	%	%	%	25%
Interest Coverage	\$	\$	\$	2
<u>PROFITABILITY</u>				
Return on Sales	%	%	%	
Return on Equity	%	%	%	5%

[Analyst's Note 1: Be prepared to explain the points of concern and any unfavorable variances.]

[Analyst's Note 2: Briefing chart terms used: Reinvestment = Capital Exp./Prior Gross Plant, Interest Coverage = Income B.I.T./\$ Interest, Return on Sales = Net Income/Sales, Return on Equity = Net Income/Avg. Equity. Refer to Report Tables for values.]

FINANCIAL CAPABILITY SUMMARY

COMPANY	STRENGTHS	WEAKNESSES	CONCLUSION
•	•	•	•
•	•	•	
•	•	•	
•			

[Analyst's Note: Always show financial market opinion where available.]

EXHIBIT F. INFORMATION REQUIREMENTS FOR THE RFP

The items listed below are requested in accordance with ASPR Sections 1-905, E-213, 214.

1. Provide Securities & Exchange Commission Reports (Forms 10-K and 10-Q), or their equivalent, containing financial statements and related information for the consolidated company covering each of the last two fiscal years and the latest fiscal quarter. Equivalent reports should include the following information:

- A. A five-year summary of the major financial accounts
- B. Detailed current-year statements of:
 - (1) Financial position
 - (2) Income and retained earnings
 - (3) Changes in financial position
 - (4) Revenue and earnings by line of business
- C. Certified Public Accountant's opinion, if available
- D. Appropriate supplementary information and schedules reporting:
 - (1) Accounting policies
 - (2) Accounts receivable
 - (3) Inventories
 - (4) Property and other fixed assets
 - (5) Debt including maturities for the next five years
 - (6) Contingent liabilities
- E. A statement of the corporation's business, including:
 - (1) Brief company history
 - (2) Lines of business
 - (3) Divisions, subsidiaries, and major equity investments
 - (4) Competition and customers
 - (5) Summary of operations

2. Provide the following information for the consolidated company:
 - A. Comment generally (specific numbers not required) on likely future trends for the corporation covering:
 - (1) Sales
 - (2) Cost of goods sold relative to sales
 - (3) Selling, general, and administrative costs relative to sales
 - (4) Capital expenditures
 - (5) Sources of financing
 - (6) Inventory levels
 - B. Identify the two principal commercial bank relationships, including:
 - (1) Names and addresses of the banks
 - (2) Account executives
 - (3) Approximate average demand deposit balances during the last year
 - (4) Types of loan arrangements, total lines of credit, and amounts currently used.

Note: These banks may be contacted in the course of the Financial Capability Review. Please authorize the banks' account executives to discuss the company's credit standing with members of the Financial Capability Review team.

 - C. List the five major subcontractors to the corporation with estimates of their importance in terms of either total subcontracts, unliquidated subcontracts, or most recent year's purchases. Identify the programs associated with each of these subcontractors and the components produced.
 - D. Submit the IR&D/B&P worksheets for the company for the last five years. These worksheets should contain the distribution of the contract allocation base by type of contract and the distribution of sales by defense customer.
3. List the defense programs which contributed 5% or more of the company's Net Sales in the most recent fiscal year, and give the dollar amount of sales for each program. Provide a similar list for the business unit which will perform the proposed contract, using its sales for the 5% test.
4. Provide Table 1 data for the consolidated company.
5. Provide Table 2 data for the business unit (division or subsidiary) to perform the proposed contract.

6. Provide a statement of the organization and financing of the performing business unit relative to the consolidated company:

(A) Legal form and organizational role

(B) Sources of financing for working capital and capital expenditures

7. Estimate capital expenditures and additional working capital required for the instant contract by year for the next five years.

8. In the unlikely event that the financial capability of the company is questioned, provide additional information in the form of executive comments and data from corporate plans regarding provisions for the future (ASPR E-214).

TABLE 1: SUPPLEMENTARY DATA
FOR CONSOLIDATED COMPANY^(a)

	<u>yr L-4</u>	<u>yr L-3</u>	<u>yr L-2</u>	<u>yr L-1</u>	<u>yr L</u>	<u>Current</u> ^(b) <u>Year</u>
1) Number of Employees						
2) Square Feet of Plant						
3) \$ Amount of Subcontracts and Purchased Materials included in Cost of Goods Sold						
4) \$ Amount of Total Backlog at Fiscal Year End						
5) \$ Amount of Defense Backlog in 5)						
6) \$ Amount of Defense Sales						
7) \$ Amount of Air Force Sales						
8) \$ Amount of Foreign Military Sales						

^(a) Use the definition of each data item commonly used in the company, but provide the definitions.

^(b) Provide year-to-date or position data as of the end of the latest fiscal quarter.

Analyst's Note: Replace year designations in Tables 1 and 2 with appropriate dates, using yr L = latest annual data reported, yr L-1 = the prior year, etc.; the current year = L+1. Then delete this note.

TABLE 2: SUPPLEMENTARY DATA
FOR PERFORMING BUSINESS UNIT^(a)

	<u>yr L-4</u>	<u>yr L-3</u>	<u>yr L-2</u>	<u>yr L-1</u>	<u>yr L</u>	<u>Current Year</u> ^(b)
1) Number of Employees						
2) Square Feet of Plant						
3) % Utilization of Plant						
4) \$ Amount of Sub- contracts and Purchased Materials ^(c) included in Cost of Goods Sold						
5) \$ Amount of Total Backlog at Fiscal Year End						
6) \$ Amount of Defense Backlog in 5)						
7) \$ Amount of Defense Sales						
8) \$ Amount of Air Force Sales						
9) \$ Amount of Foreign Military Sales						
10) \$ Amount of Net Sales ^(d)						
11) \$ Amount of Gross Plant						
12) \$ Amount of Net Plant						
13) \$ Amount of Capital Expenditures						

^(a) Use the definition of each data item commonly used in the company, but provide the definitions.

^(b) Provide year-to-date or position data as of the end of the latest fiscal quarter.

^(c) Include purchases from other company business units.

^(d) Include sales to other company business units.

EXHIBIT G. SUGGESTED QUESTIONS FOR CONTRACTOR'S BANK

Bank Identification

1. Name, title, address, and telephone number of bank officer contacted:

AF Inquiring Officer

2. Name, rank, address, and telephone number of officer making inquiry:

(Note: Some banks return telephone inquiry calls to validate the identity of the caller.)

Purpose and Amount Involved

3. _____ (contractor) is bidding on the
_____ (program) as a prime
contractor.

The Air Force is conducting an inquiry at major banks of the bidders.

The _____ (program) is a substantial
procurement program which is now in the _____ (phase)
of development.

(Note: The bank receiving the inquiry has the right to know why the inquiry is being conducted; if a valid purpose is not given, then they are not obligated to respond.)

Contractor Authorization

4. You were named as the account executive in the contractor's bid, and
_____ (name and title)
has authorized us to contact you directly. We have a few basic questions
about their relationship with your bank.

Confirmation of Bank-of-Account

5. Is _____ (name of bank) a principal bank-of-account for _____ (contractor)?

YES-NO (If "no," then terminate inquiry.)

6. Are you the account executive for _____ (contractor)? YES-NO (If "no," then, "Who is the account executive?")

** The next questions relate to the deposit and loan history of the contractor and require some information from your files. You may wish to refer to your files before continuing.**

Deposit-History

7. How long has your bank had a relationship with _____ (contractor)? _____ years.

8. What were the average collected demand deposit balances over the past three months? \$ _____ million.

Loan History

9. Are you now extending a loan commitment or line of credit?
YES-NO (If answer is "yes," then ask " What type and amount of commitment are you making to _____ (contractor)?"

10. What was the largest amount of credit extended by your bank during the past five years? \$ _____ million.

11. Have any loan repayments been rescheduled or defaulted due to financial difficulties of the contractor during the past two years? YES - NO. If yes, explain:

General Comments

12. How would your bank characterize the loan and deposit relationship with _____ (contractor)?

13. What further comments would you care to make about the financial condition and ability of _____ (contractor)?

EXHIBIT H. PROGRAM INFORMATION WORKSHEET

ANALYST: _____ DATE: _____

PROGRAM: _____

PROGRAM OFFICE: ORG: _____ LOCATION: _____

CONTACT: _____ PHONE: _____

CONTRACTOR: _____

ITEM PRODUCED: _____

PRIME/SUB: _____

CONTRACT TYPE: _____ SPECIAL PROVISIONS: _____

FUNDS FOR THIS CONTRACTOR:

BALANCE TO COMPLETE: \$ _____

COST SCHEDULE:

YEAR - CURRENT \$ _____

CONTRACT STATUS/PROBLEMS:

COST: _____

SCHEDULE: _____

LABOR: _____

SUPPLIER: _____

OTHER: _____

PROGRAM OUTLOOK:

APPENDIX I. CONTRACTOR FINANCIAL ANALYSIS IN THE AIR FORCE

The objective of contractor financial analysis in the Air Force is to provide Air Force contracting executives with an assessment of the financial capability of major contractors. Such assessments are usually applied to one of the following:

- source selection
- sole-source negotiations
- post-award monitoring
- analysis of special situations, such as requests for Extraordinary Relief

Each of these applications is discussed below with references to official sources.¹

I.1 SOURCE SELECTION

Before a contract is awarded for a major weapon system, the contracting officer should be assured that the contractor selected is capable of performing satisfactorily. OMB Circular A-109 (Major Systems Acquisition), paragraph 13c, authorizes and requires financial analysis: "Selection of a system and contractor for full-scale development and production . . . should be made on the basis of . . . such factors as contractor demonstrated management, financial, and technical capabilities to meet program objectives." (underlining added). Thus, demonstrated financial capability is a key factor to be considered in major systems acquisition.

Detailed assessments of contractor operations are sometimes made, usually through the Pre-Award Survey and/or the manufacturing Management Production Capability Review (MMPCR). In most cases, these evaluations determine whether or not a contractor possesses the engineering, manufacturing, purchasing, and

¹This discussion is not an official statement of Air Force policy.

quality assurance capabilities needed to produce the item procured. The Pre-Award Survey and the MMPCR do not always include an assessment of financial capability. A financial assessment of the contractor is part of the present Pre-Award Survey procedures (DAR K-303.4 and E-213) when requested by the contracting officer. The size of the award and past experience and performance of a contractor are the usual factors in that decision.

In the past, the financial capability of a contractor has rarely, if ever, played a decisive role in the source selection process for major weapon systems. Several cases of great financial uncertainty in the last few years have been the impetus for development of the FINCAP Analysis methodology. The availability of such a practical analytical method means that contractor financial capability can have greater weight in future source selections.

A frequent concern is the ability of a contractor to assemble the necessary financial resources to perform the contract. If substantial cash is required to finance expanded working capital requirements (inventories and accounts receivable) and additions to plant and equipment, the contractor should provide a plan for financing his needs. If financial resources cannot be provided from internal cash flows, external credit sources (bank loans, long-term bonds, stock issue) must be used. An evaluation of a contractor's ability to raise external cash then becomes important.

The award of a major new weapon system contract is bound to have some financial effect on any defense contractor. Because defense contractors differ in many respects—in commercial/government mix of business, product diversification, age and ownership of plant and equipment, and capital structure—a new program's requirements may be easily financed by one contractor and yet pose significant

financial problems to another. The Air Force needs to detect and monitor all meaningful risks in award decisions (including financial ones). When the financial analysis reveals that significant risks exist, contingency planning can begin early.

For example, a major new award may impose substantial facilities investment requirements on a contractor. Financial analysis will detect a contractor's ability to finance new plant and equipment through internal cash flows or external financing arrangements. If this ability is impaired, government assistance may be the only alternative. The Air Force would then be able to evaluate a contractor's need for government-furnished plant and equipment early and realistically. Financial analysis can also provide an understanding of a contractor's motivations and contribute to the planning of negotiation strategy. A cash-hungry contractor may be willing to trade off a higher progress payment rate for a reduced profit percentage. Similarly, a weak contractor may be willing to "buy in" on a new weapon system in order to position himself for future orders.

I.2 SOLE-SOURCE NEGOTIATIONS

In contracting with a sole-source supplier, it is important to understand the financial condition of the contractor. Not only should the Air Force know if the contractor has the financial capability to perform the job, but this understanding will also help the Air Force develop an appropriate negotiation strategy.

With a thorough knowledge of the contractor's business, his strategic goals become apparent. The use of his resources and his plans for investment can be identified with financial analysis.

All these factors are important to the government when negotiating profit rates and progress payments. Furthermore, this information is of great benefit in performing cost and price analysis and "should-cost" analysis.

I.3 POST-AWARD MONITORING

"Monitoring the contractor's financial condition" is one of the many contract administration functions listed in DAR 1-406. Once an award is made, the Air Force's concern turns to ensuring that contract performance is not endangered by an unsatisfactory financial condition. Two conditions are particularly significant:

- continued capability to produce an essential weapon system
- protection of government interest in cases where unliquidated progress payments exist (DAR E-524.2 speaks to this latter point)

In FY 76, unliquidated progress payments on all Air Force contracts averaged \$1.54 billion, making the Air Force in some sense a large "lending institution." In the post-award phase of a major weapon system, the Air Force's objectives in performing a financial analysis are to be far-sighted and prudent with respect to the continuing financial health of a major weapon system producer, to be able to foresee financial difficulty in time to divert a major collapse, to minimize the impact of a contractor's financial problem on the programs as well as the magnitude of the required corrective action, and to plan and evaluate various alternatives. The FINCAP Analysis methodology described in this manual provides both a system to continuously monitor a contractor's financial health and the techniques to evaluate alternative financial decisions.

I.4 SPECIAL SITUATIONS

From time to time, unexpected situations may arise which will affect a contractor's financial condition adversely. Examples of such situations are program cancellation, contract modification, major subcontractor problems, contract disputes, and requests for Extraordinary Relief. In each case, the Air Force should include an analysis of the contractor's prospective financial condition in its thorough evaluation of the situation.

Financial analysis can often support Air Force decisions. In the case of program cancellation, the Air Force is concerned about the continued viability of the contractor and his successful completion of other defense contracts. During contract disputes involving large claims, the Air Force should be aware of the consequences of a proposed settlement on the financial stability of the contractor. Where continuing progress on a defense contract impacts adversely on a contractor, financial analysis may provide substantiating evidence for the contractor's request for Extraordinary Relief.

APPENDIX II. BASICS OF FINANCIAL ANALYSIS

Corporate financial analysis is the process of judging a company's historical financial performance, its present condition, and the possibility of its improvement in order to project and evaluate its future financial condition. Financial statement analysis is the foundation of this process; some basic concepts are reviewed below.

II.1 UNDERSTANDING FINANCIAL STATEMENTS

The three principal financial statements (and their alternative titles are:

- Balance Sheet (Statement of Financial Position)
- Income Statement (Profit and Loss/Income and Expenses/Statement of Income and Retained Earnings)
- Working Capital Statement (Cash Flow/Sources and Uses of Funds/Statement of Changes in Financial Position)

Balance Sheets report the assets, liabilities, and net worth of a contractor as of a given date. Cash, accounts receivable, inventory, plant and equipment, debts and stockholders' equity are summarized on the balance sheet.

Income Statements report sales, cost of sales, administrative expenses, operating income, taxes, and net income for a quarter or a year. The flow of funds from sales to labor and capital factors of production are depicted by the income statement.

Working Capital Statements show the long-term sources of working capital, the long-term uses of funds which reduce working capital, and the changes in the short-term accounts which comprise working capital. Note that working capital is current assets less current liabilities.

These financial statements are readily available directly from contractors and indirectly from financial publications. They are generally reliable when audited by a CPA. Actual events (such as material purchases, wages paid, money borrowed, and sales made) are recorded. Only measurable information is reported, and the reporting format is relatively consistent for the industry and through time. Thus, we can add and combine financial data, relate one item and company to another, and otherwise compare information almost at will.

Although accounting data are recognized as important, they must be viewed cautiously. Their major limitations are the following:

- All companies in an industry are not required to use the same accounting methods.
- Non-monetary information is omitted.
- Accounting simplification suppresses detail.
- Assumptions about the future are used to produce current estimates.
- Cost data reported do not necessarily reflect market values.
- Monetary values are unstable over time due to inflation.
- Currency exchange rate changes distort the statements of international companies.

Data from financial statements are limited to information which can be quantified in terms of money, examined by auditors, and presented in acceptable formats. However, footnotes are usually added to describe the accounting methods used and the assumptions made. These footnotes, along with the auditor's report, can provide important non-monetary information. The analyst should always obtain a 10-K annual report if possible.

Even with the footnotes, important non-monetary information is omitted, especially the market value of assets. On the positive side, assets purchased earlier would bring higher prices if sold. On the negative side, replacement costs for equipment are often greater than depreciation allowance due to increases in equipment prices.

More importantly, inventory values can only be approximated, because, in the past, long-term development, testing, and tooling before production resulted in considerable inventory additions. Recent accounting rules have required that R&D be expensed currently, but other items are still being capitalized in inventory. If program sales are not as large as planned, the inventoried costs may be written off into losses. Thus large inventories must always be examined carefully.

II.2 TECHNIQUES OF FINANCIAL STATEMENT ANALYSIS

The basic techniques for financial statement analysis are:

- analysis of trends
- analysis of the changes in working capital
- analysis of the relative balance sheet and income statement
- analysis of ratios
- projection of financial statements
- evaluation of future borrowing ability

After a brief review of the relative balance sheet and income statement, the sources and applications of funds (working capital statement) are analyzed to identify specific areas needing further investigation. The performance and conditions measures described below provide means of investigating specific areas in detail. The relative balance sheet and income statements are then used to project a balance sheet and income statement. These projected statements are evaluated with the same techniques as the historical statements.

II.3 TREND ANALYSIS

After examining the levels of key variables, such as sales and net income, the analyst usually is interested in the direction and magnitude of the trends.

For dollar amounts, the appropriate trend is the compound growth trend. This type of trend calculates an average percentage increase over the period, which is similar to compound interest. This trend is difficult to compute, but FINANDAS provides it for each dollar amount.

Review the trends of key items identified in the FINANDAS User's Manual, Section 14. Note especially those items on the FINANDAS reports with a "P" or "N" indicator (explained on p.14-8 of that manual).

Trends in the ratios discussed later are also important. So, when analyzing them, notice the trends. The FINANDAS trends for ratios are linear trends with the same units as the ratio.

II.4 CHANGES IN WORKING CAPITAL

The working capital statement shows changes in the components of working capital (cash, accounts receivable, inventory, and current liabilities) and additions and reductions in fixed assets (land, plant, and equipment). Working capital analysis shows the sources of funds and how they are invested in the business. Normally, the analysis covers a one-year time period, but a quarterly analysis sometimes proves useful. It indicates what investment decisions are being made, and how they are to be financed.

Sources of working capital consist of increases in long-term liabilities and net worth and decreases in long-term assets. The most important sources are net income and depreciation. Sale of plant and new long-term debt and sale of stock are other sources.

Long-term funds raised by the contractor are applied to the business as shown in the second part of the statement. Funds are applied as

- reductions in long-term liabilities
- dividend payments and stock purchases
- increases in long-term assets

Long-term liabilities are reduced when loans or notes mature or are redeemed early. Cash dividends and stock repurchases are a second application of funds. Long-term investments, primarily new plant and equipment, are yet a third application of funds. The application of funds section shows how contractors have used funds for debt reduction, stockholder payments, and asset acquisition.

The difference between long-term sources and long-term applications represents the change in working capital. An excess of sources over uses means an increase in working capital.

Most financial analysts look for the largest sources and uses of funds. Are the sources of funds cited the same from year to year? Usually income from operations (income before extras plus depreciation) is the largest and most reliable source of funds. A secondary, but erratic, source is new long-term debt. Next, the analyst looks at the trend in total funds from operations. A small or negative trend in funds from operating sources indicates that growth funds are not available from internal sources. What external sources of funds are used? The sale of new bonds and stock indicates that the contractor has been willing and able to acquire money from outside. Finally, the analyst looks at the amount and trend in the total funds raised over the last five years. Total sources represent the financial capital available for investing in the business. Declining businesses can survive with shrinking funds, but expanding businesses usually require a growing source of funding. The working capital statement is the starting point for identifying investment needs and financing sources.

II.5 RELATIVE BALANCE SHEET AND INCOME STATEMENT

To facilitate comparisons over time and across companies, analysts find the relative balance sheet and the relative income statement very useful. These statements show all accounts as a percentage of the key total — assets for the balance sheet, sales for the income statement.

By quickly scanning each account on the relative balance sheet, the analyst can see which types of assets or liabilities are growing or shrinking relative to company as a whole. Similarly, the analyst scans the relative income statement to check the stability of expenses and profits as a percentage of sales.

Intercompany comparisons are easy to make with the relative statements because firm size is insignificant. Hence, differences in the relative sources and uses of assets and uses of sales dollars become obvious.

II.6 RATIO ANALYSIS

A ratio, one account divided by another account, is a tool for standardizing financial data. For example, \$10 million accounts receivable for XYZ company means very little, but accounts receivables equal to 20 days sales is the sign of a well managed receivables collection function. "Days receivables" is an important, commonly-used liquidity ratio. In this section, six classes of ratios are discussed:

- performance
- capitalization
- liquidity
- coverage
- facilities
- overall strength

II.6.1 Performance Ratios

Six performance ratios are computed by FINANDAS:

- Net Income to Average Equity
- Net Income to Sales
- Income Before Interest and Taxes (BIT) to Assets
- Retained Earnings to Assets
- Sales to Assets
- Approximate Price - Earnings ratio

The performance ratio group measures the ability to earn profits and utilize assets. Note that most of these ratios include at least one "flow" type of account, such as sales and net income. Sales and net income are flows of funds over a period and reflect the business activity. Net income is sometimes regarded as a measure of efficiency -- the ability to produce something at a cost less than the price charged. If the price is fair, then manufacturing at a profit reflects an ability to turn labor and raw materials into finished products efficiently. Sales are the gross cash flows into the business, and analysts contrast sales volume with business resources. Intensive performance is indicated by high ratios of sales to assets (total and by specific category). Analysts watch sales ratios to see if assets are being fully utilized but not pushed to over-capacity. For formulas used in calculating these and subsequent ratios, refer to the FINANDAS Users Manual, section 14.

II.6.2 Capitalization Ratios

Capitalization ratios analyze the composition of long-term financing sources (long-term debt and equity). FINANDAS capitalization ratios are selected relationships between debt (long-term promissory securities), equity (net worth consisting of capital stock, surplus, and retained earnings), and assets (which are equal to total liabilities plus equity).

The following capitalization ratios should be carefully reviewed:

- Long-term Debt per dollar of Equity
- Liabilities per dollar of equity
- Market Value of Equity to Total Debt (market values are only used in this ratio)
- Equity to Assets

The primary purpose of these ratios is to measure the extent of a firm's indebtedness. Debt is an advantageous source of funds due to its low cost (interest costs are a tax-deductible expense). However, the disadvantage of debt stems from the fixed obligations and the risk of insufficient income to pay them.

The key measure used in FINCAP Analysis is equity as a percent of assets. This shows the overall extent of ownership in assets of the company. Obviously, a high ratio implies a strong company, one with opportunity for borrowing in case of short-term distress.

II.6.3 Liquidity Ratios

The liquidity ratios measure the extent to which accounts receivable, inventory, and other current assets can be readily converted into cash, i.e. their liquidity. Liquidity ratios also measure the relative need to maintain liquid assets to meet current obligations. Therefore, liquidity ratios concentrate on current assets and liabilities. Specifically, analysts concentrate on these ratios:

- Current Ratio
- Days Cash
- Days Receivables
- Days Inventory
- Days Payables
- Working Capital to Assets

Is the firm paying its bills on time? Can it quickly convert assets to cash in order to meet outstanding current liabilities? Analysts answer such questions by looking at the trends in a company's liquidity ratios and comparing them with those of the industry.

II.6.4 Coverage Ratios

Coverage ratios measure the ability of the company to meet payments on long-term and short-term debt using cash flow from operations. The three coverage ratios computed by FINANDAS are:

- Income BIT/Interest
- Cash Flow/(Debt Maturities + Capital Expenditures)
- Cash Flow/Total Liabilities

Each of the three coverage ratios compares earning ability to a debt commitment, and a high ratio and positive trend are favorable. Income before interest and taxes (BIT) to interest measures the ability to generate earnings which can meet interest payments. Before-tax rather than after-tax earnings are used because interest payments are an income tax deduction. On the other hand, cash flow (net income plus depreciation less preferred stock dividends) is compared with debt maturities and capital expenditures. These are after-tax outlays which are usually financed by cash flow. Also, cash flow is related to total liabilities as an overall measure of generated funds (cash flow) to pay off the overall debt commitment (total liabilities).

II.6.5 Facilities Ratios

Facilities ratios measure the relative level and replacement of plant and equipment. The three facilities ratios used in this manual and FINANDAS are:

- Net Plant/\$100 Sales
- Capital Expenditures/\$100 Sales
- Capital Expenditures/Prior Gross Plant

The net plant to sales ratio compares existing facilities to the current sales level. By comparing this ratio across companies and over time, the level of plant utilization is assessed. Then, the second and third ratios are used to measure change in facilities. Capital expenditures to sales compares facility expansion to business growth. Capital expenditures to prior gross plant measures the facilities reinvestment (replacement) rate.

Industry medians and points of concern are not suggested for facilities ratios. Strict point standards are not applicable because these ratios vary in a complex manner depending on the efficiency and adequacy of the facilities. The analyst must interpret these ratios in the context of direct information about facilities usage. For example, if facilities are known to be over-crowded, then high and increasing capital expenditure ratios are very desirable. On the other hand, if facilities are underutilized, then high capital expenditure ratios indicate a speculation based on future sales.

II.6.6 Overall Strength

The Z-score formula is used as an overall measure of financial strength. The score is computed by multiplying each of five ratios by a

weighting factor. The ratios, calculated and marked with the designator "Z" by FINANDAS, are listed below:

- Working Capital to Assets
- Retained Earnings to Assets
- Earnings Before Interest and Taxes to Assets
- Market Value of Equity to Book Value of Total debt
- Sales to Assets

The ratios and weights were selected on the basis of their joint ability to discriminate between manufacturing firms which would and would not become bankrupt in the next year. Low values of Z (<1.8) imply a high probability of bankruptcy, and high values of Z (≥ 3.0) indicate a small chance of bankruptcy. However, care should be taken in the use of the Z score, since some other industries, such as utilities and finance, have normally high levels of debt and low Z scores. The Z score is best used as an analyst's tool to identify weaknesses for further evaluation. See the Altman reference below for more information on the Z score.

II.6.7 Comparative Ratios

Throughout this appendix, reference has been made to "high" and "low" ratios. Ratios are judged to be high or low in relation to:

- previous values (i.e., the trend)
- other companies in the industry
- general benchmarks of acceptable values

The trend data for the ratios in FINANDAS will assist in the comparison with previous values. The assembly and summarization of industry ratios is done with the INDUSTRY program (Appendix III).

Where appropriate, benchmarks are provided as "Points of Concern" in Tables 7, 12, and 15. The points of concern are values which, in the judgement of the authors, would indicate the lack of sufficient margin to withstand sudden shocks. These values were developed based on an examination of a group of aerospace companies and ratios generally accepted as satisfactory for manufacturers. Although useful as a standard broader than the industry figure, the points of concern do not necessarily reflect industry practice and current conditions. For example, the slow inventory turnover of some manufacturers might be typical for that business but atypical for manufacturers in general. Similarly, debt coverage ratios fall during a recession because profits decline for most business. A business may fall under the benchmark during a recession and then exceed it later during better economic conditions. The analyst is cautioned to apply the benchmarks with discretion.

II.7 PROJECTED STATEMENTS

Financial analysts rarely project corporate statements manually because the computations take many hours and much accounting skill. However, with FINANDAS, it is now practical for the Air Force analyst project a complete set in minutes. With the computations handled by the computer, the analyst concentrates on the key elements — the assumptions.

To develop meaningful assumptions, the analyst must have a thorough understanding of the company and the environment in which it operates. Based on this knowledge, the analyst can specify the important assumptions:

- Sales
- Cost of Sales
- Selling, General and Administrative Expense
- Depreciation

- Interest
- Inventories
- Capital Expenditures

Assumptions for the other variables can also be specified or the analyst can accept the FINANDAS default assumptions. The Forecasting Factors report in FINANDAS shows the relevant items and key ratios to assist in developing meaningful assumptions.

Good assumptions are not usually developed strictly from a quantitative historical approach. Judgement and knowledge of other factors are necessary too.

With the assumptions, the projected statements can be run. Examine the outputs and review the assumptions until a realistic set is produced. (However, do not let the results, such as profits, affect your choice of assumptions) Several iterations may be required because of the interrelationships of the variables.

With the final projected statements, the trends and ratios can be examined as the historical ratios were.

A key element in the projections is the amount of additional borrowing indicated. This amount must be compared with the projected condition of the company to determine if such borrowing is reasonable. This comparison is discussed next.

II.8 FUTURE BORROWING ABILITY

The last item to be assessed is the company's ability to obtain funds required for future business plans. Evaluating the company's prospects of raising funds from the money market is part of determining the validity of the projected balance sheet. "Additional Borrowing" is a liability account on projected statements computed by FINANDAS from analyst-supplied assumptions. The assumptions reflect the business prospects of the company and generate projected balance sheet

conditions, including borrowings. Thus, Additional Borrowings is an implicit assumption created from the explicit assumptions input into FINANDAS. Is it realistic to believe that the company can borrow the amount projected by FINANDAS?

To evaluate borrowing capability, the analyst combines the company financial strength rating and the financial market lending conditions. The chances of borrowing the amount projected are related to the following:

- projected financial rating
- maximum percent of total Additional Borrowing to Assets
- normal and tight money market conditions

The projected financial rating is the analyst's evaluation of the projected financial statements. The percent of borrowing is the ratio of Additional Borrowing to Assets. Money market conditions are regarded as tight during a business cycle peak. Concentrate the analysis on the year when the projected percentage of Additional Borrowing is the greatest. Each of these factors are explained in the following paragraphs; the composite evaluation is discussed at the end of this section.

The projected financial rating is an overall evaluation of future financial conditions. All of the information gathered for the FINCAP Analysis influences this evaluation, just as all of this information would influence a banker or other lender who is rating the company. The analyst is simulating the rating decision made by financial market analysts. Of course, some information is more important than other information.

Factors which financial market analysts weigh heavily are:

- performance
- liquidity
- coverage

Strength in all of these areas is needed for an excellent rating. Generally strong showings and no weakness are regarded as good. Satisfactory conditions in all areas or offsetting strengths and weaknesses are reasons for a satisfactory rating. A company is considered weak when there is weakness in one area. Weakness in two or three areas is unsatisfactory. These suggested ratings are flexible, because the analysts must consider the inter-relationships among the factors. The final evaluation is based on reasoned judgment within the general guidelines.

The percent of borrowing to assets is important, because the financial market accepts small debt increments more readily than large increments. Substantial debt fundings are difficult to obtain and require greater company planning and effort. Due to financial market resistance, the chances of successfully adding debt equal to 40 percent of assets is less than adding debt equal to only 10 percent of assets. The money market conditions affect the ability to borrow, regardless of the company's condition. Normal or better conditions exist during business recessions and the early phase of expansions. Tight conditions exist during the later phase of business expansions and booms. (Current financial market conditions are identified in many business publications such as The Wall Street Journal, Business Week, and Fortune.)

Under tight credit conditions, financial institutions tend to ration credit by rejecting and reducing loans to weaker businesses. On the other hand, financial institutions encourage borrowing during normal conditions, because they need loan volume to invest available funds. Although the analyst is not encouraged to project credit conditions, he or she is cautioned to evaluate the company under both environments. The company should have some ability to borrow during both normal and tight money market conditions.

The composite evaluation is based on the projected rating amount borrowed, and money market conditions. The measurement of ability is an assessment of the chances of borrowing. The evaluation alternatives are:

- easy
- likely
- possible
- difficult
- unlikely

The evaluations suggested for three factor combinations are shown in Table II-1 (Projected Ability to Borrow). The chart ranges from "easy" (E) for an excellent rating and small borrowing; to "unlikely" (U) for an unsatisfactory and substantial borrowing. The analyst uses this chart and good judgment to make a final evaluation of the "additional borrowing" assumption projected by FINANDAS.

This is a key evaluation for companies which need additional funds to meet production targets. In a real sense, the ability to borrow measure is the most critical and comprehensive of all the FINCAP Analysis evaluations.

TABLE II-1 PROJECTED ABILITY TO BORROW

PROJECTED RATING	NORMAL MONEY MARKET					TIGHT MONEY MARKET				
	% of Assets Borrowed					% of Assets Borrowed				
	0-10%	11-20%	21-30%	31-40%	> 40%	0-10%	11-20%	21-30%	31-40%	> 40%
Excellent	E	E	E	E	L	E	E	L	L	P
Good	E	E	L	L	P	E	L	P	P	D
Satisfactory	E	L	P	P	D	L	P	D	D	U
Weak	L	P	P	D	U	P	D	D	U	U
Unsatisfactory	D	D	U	U	U	D	U	U	U	U

KEY: E - Easy, L - Likely, P - Possible, D - Difficult, U - Unlikely.

% of Assets Borrowed: Maximum percent of Assets, in any of the five years projected, financed by Additional Borrowing (see relative balance sheet).

NOTE: These estimates of ability to borrow are not based on research findings, as none are known to exist. They have been created, based on the author's experience in credit function and knowledge of the credit markets, to help the analyst evaluate the ability of a company to borrow.

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APPENDIX III. USING THE INDUSTRY PROGRAM

The INDUSTRY Program is an industry data base and analysis program developed by LMI and available on the Air Force Copper Impact GE timesharing catalog. It gives users the capability to analyze a data base by industry SIC code for a large number of companies. INDUSTRY is capable of storing a data base of up to 60 variables, 50 companies, 5 years of data for each company and variable, 30 SICs, and 20 companies per SIC. See Figure III-1 for a chart of these relationships.

The data base is created by first adding variable names, then adding companies and data for each variable, and finally adding SIC numbers with groupings of companies under each SIC.

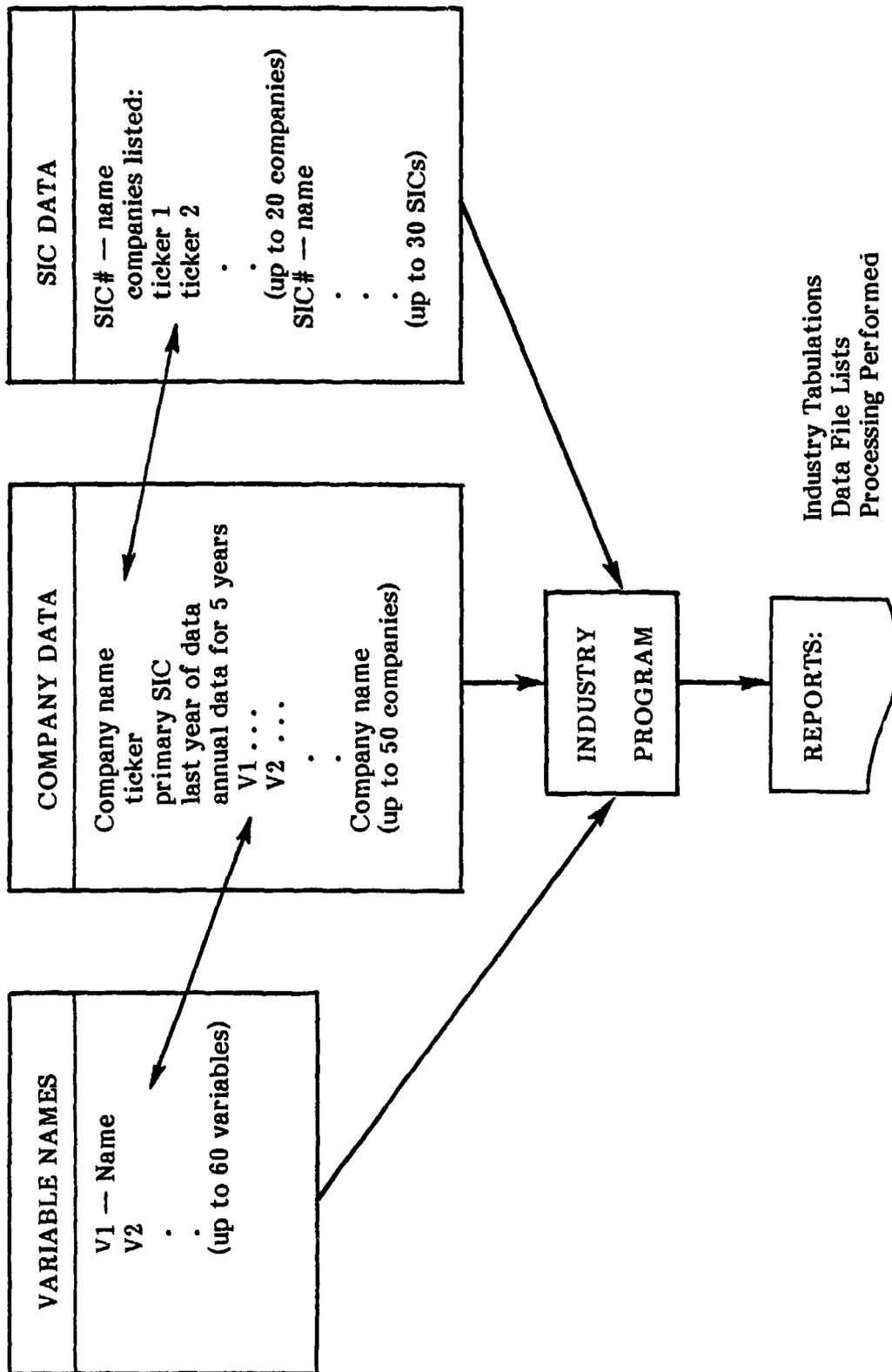
With INDUSTRY, users can display and analyze each variable in the data base by industry SIC. The mix of companies in an SIC can be altered easily to test the sensitivity of industry means and medians.

III.1 DATA BASE STRUCTURE

The INDUSTRY Program requires three data files in the user number catalog: VARNAME (for variable names), CODATA (for company data), and SIC (for SIC numbers and associated company identifiers). See section 3.5 below (File Creation) for instructions before accessing INDUSTRY. Variables are identified in the program by number, with a "V" in front of the number. For example, the list of variables to tabulate is entered: V3,V10,V1,etc. A name of 28 characters or less is associated and printed with each variable.

Companies are identified by a mnemonic code of 4 characters or less. The stock ticker symbol is frequently used for this purpose (e.g., Lockheed = LCK).

FIGURE III-1 STRUCTURE OF THE INDUSTRY PROGRAM



and the program uses the word "ticker" in this context. Other information stored for a company includes:

- Name: 28 characters or less
- Primary SIC: entered for information only
- Last year of data: year (2 digits, e.g., 77) associated with the latest data recorded for that company.
- Annual data: data for variables 1-60, for 5 years. Dollar amounts should be stored in millions, with thousands as decimals. Ratios usually should be expressed as percents.. The largest number handled by the program is 99999.999.

SICs are identified by a unique 4-digit number. Associated data include:

- Name: SIC name of 28 characters or less
- List of companies included: up to 20 tickers

II-2 ROUTINES

There are 14 routines to process and analyze information stored in the INDUSTRY data base. For each of the three data files - CODATA, VARNAME, and SIC - there are four basic processing functions - Add, Delete, Edit, and List - making 12 routines. The other two routines are:

- Calculate: For every year, compute data for a variable according to a FORTRAN-type formula using other variables and constants. (For example: $V10 = (V1+V2)/V3/365.$)
- Tabulate: For a specified SIC, tabulate data for up to 10 variables at a time.

The tables contain columns of annual company data as well as a weighted average and the latest data. This routine includes provision for a sort Variable, by which the companies are sorted based on the value in a given year or in the latest year.

Figure A3.2 shows sample output from the Tabulate routine. Four data sets are displayed; from top to bottom, they are: Summary Company, Summary Industry Statistics, Annual Company Data, Annual Industry Statistics. The user selects which data sets are printed.

Industry values reported are the Median, Lowest, Quartile 1, Quartile 3, Highest, and Mean. These industry values are shown for each column of company data listed above.

The Add routines each insert one new entry into the file selected, while the Delete routines each delete one entry from a file. The deletion of a company also removes its ticker from the company lists for all SICs.

The Edit routines allow for the alteration of data associated with one entry in the file selected. A change in a company's ticker will also alter it wherever it is listed in the SIC file.

The Edit routine for the CODATA file includes the ability to change the annual data. The ROLL option permits adding data for one or more later years for all variables at a time while shifting older data back to make room for the new data. As one year of new data is added, the oldest data are dropped.

The List routines list one or all entries in the file selected. A listing of all companies in the CODATA file shows only the company names and associated header information. To list the annual data, companies must be listed individually by ticker and the data-list option specifically selected.

FIGURE III-2 SAMPLE INDUSTRY TABULATIONS

TABULATIONS FOR SIC 3720 : AEROSPACE

SUMMARY DATA BY COMPANY FOR V40 : CASH AVAILABILITY IN DAYS
COMPANIES LISTED BY LATEST DATA FOR VARIABLE V 7 : NET SALES

TICKER	COMPANY	V 7	WTD.AVG.+	LATEST	YR
ML	MARTIN MARIETTA CORP	1439.800	34.094	35.913	77
AV	AVCO CORP	1537.900	21.830	27.371	77
GD	GRUMMAN CORP	1552.700	8.101	7.833	77
NDC	NORTHROP CORP	1601.400	44.810	30.293	77
RTN	RAYTHEON CO	2818.300	76.065	95.929	77
GD	GENERAL DYNAMICS CORP	2901.200	5.504	4.874	77
SGN	SIGNAL COS	2964.400	17.348	13.843	77
TRW	TRW INC	3263.900	17.577	24.407	77
LK	LOCKHEED CORP	3372.800	20.278	21.142	77
MD	MCDONNELL DOUGLAS CORP	3544.800	23.446	6.345	77
BA	BOEING CO	4018.800	63.358	52.784	77
LTV	LTV CORP	4703.300	7.074	7.470	77
ROK	ROCKWELL INTL CORP	5858.700	20.649	9.000	77
INDUSTRY STATISTICS		V 7	WTD.AVG.+	LATEST	YR
	# COS	13	13	13	13
	MEDIAN(50%)	2964.400	20.649	21.142	77.
	LOWEST	1439.800	5.504	4.874	77.
	QUARTILE1(25%)	1577.050	12.725	7.654	77.
	QUARTILE3(75%)	3781.800	40.483	33.103	77.
	HIGHEST	5858.700	76.065	95.929	77.
	MEAN	3044.462	27.857	25.940	77.

*--EXPONENTIAL WEIGHTS, LATEST YEAR = .5

ANNUAL DATA BY COMPANY FOR V40 : CASH AVAILABILITY IN DAYS
COMPANIES LISTED BY LATEST DATA FOR VARIABLE V 7 : NET SALES

TICKER	YEAR:	72	73	74	75	76	77
ML		-0.000	-0.000	20.248	16.435	35.913	45.014
AV		-0.000	-0.000	29.708	11.414	27.371	10.494
GD		-0.000	-0.000	6.678	10.392	7.833	8.040
NDC		-0.000	-0.000	17.874	14.556	30.293	44.367
RTN		-0.000	-0.000	12.404	21.957	95.929	95.575
GD		-0.000	-0.000	3.527	5.292	4.874	4.344
SGN		-0.000	-0.000	40.836	13.295	13.843	14.242
TRW		-0.000	-0.000	7.613	6.408	24.407	10.394
LK		-0.000	-0.000	14.235	6.568	21.142	24.773
MD		-0.000	-0.000	0.911	3.676	6.345	42.572
BA		-0.000	-0.000	3.924	10.095	52.784	96.615
LTV		-0.000	-0.000	20.950	4.474	7.470	4.053
ROK		-0.000	-0.000	14.104	0.644	9.000	30.844
INDUSTRY	YEAR:	72	73	74	75	76	77
	# COS	0	0	13	13	13	13
	MEDIAN(50%)	0.	0.	14.104	10.392	21.142	24.773
	LOWEST	0.	0.	0.911	3.676	4.874	4.053
	QUARTILE1(25%)	0.	0.	5.301	5.030	7.656	11.141
	QUARTILE3(75%)	0.	0.	20.599	13.926	33.103	55.691
	HIGHEST	0.	0.	40.836	21.957	95.929	96.615
	MEAN	0.	0.	14.547	10.410	25.940	36.420

III.3 RUN PREPARATION

Before running the INDUSTRY Program, plan the steps to be accomplished, especially the development of SIC groupings. The following sequence of steps is suggested:

1. Add the names of the raw variables (dollar amounts and other non-calculated data).
2. List the variables.
3. Edit variable names as required and relist.
4. Add all companies to be analyzed (including loading the raw data for each company).
5. List all companies.
6. List each company including data (check).
7. Edit companies as required and relist.
8. Add SICs, including company tickers.
9. List SICs.
10. Edit SICs as required and relist.
11. Add the names of variables to be calculated.
12. Calculate each variable.
13. Tabulate the SICs.

Subsequent data base changes should generally follow the steps above. When entering a new company, you must enter data for all variables in the VARNAME file. Data for calculated variables can be calculated manually and entered or computed using the Calculate routine.

Adding new variable names will not add the data for them. Each company must be edited to input the detail data.

SICs can easily be added or restructured to facilitate alternative industry tabulations.

III.4 PROGRAM OPERATION

To use, sign on the GE system and give the command: RUN INDUSTRY. Then specify the function desired and the file to use. For example, to add a variable, enter: A, V. Each routine will ask you for the information needed. After each step, give another command. To stop, enter: S,S. If it is necessary to stop a routine in process, use the Break (or Interrupt) key.

Modifications to the data base are not processed until the program stops. Therefore, when loading large quantities of data, stop occasionally to permanently record the data entered. This will protect against loss of all new data if a system failure occurs.

III.5 FILE CREATION

To create the data files accessed by INDUSTRY, after sign-on, give the following underlined comments and return:

```
CREATE  
file name? SIC  
password  
XXXXXXXXX (none, simply return)  
file type? RND BIN  
record size in words? 49  
number of records? 30
```

```
ready  
CREATE  
file name? VARNAME  
password  
XXXXXXXXX (none; simply return)  
file type? RND BIN  
record size in words? 9  
number of records? 60
```

```
ready  
CREATE  
file name? CODATA  
password  
XXXXXXXXX (none, simply return)  
file type? RND BIN  
record size in words? 310  
number of records? 50
```

APPENDIX IV. SAMPLE FINANDAS REPORTS

*** FINANDAS ***
CONTRACTOR FINANCIAL DATA RETRIEVAL & ANALYSIS SYSTEM
REPORT ON
XYZ COMPANY
PREPARED 22 FEB 79

ANNUAL FINANCIAL FOOTNOTES OF

INDUSTRY:

DATA ITEM	YEARS	FOOTNOTE
NET SALES	74	DATA REFLECTS MERGER OR ACQUISITION
COST OF SALES	74	REDUCED BY DEPRECIATION--ALLOCATED TO SG & A
	76-78	REDUCED BY DEPRECIATION--ALLOCATED TO SG & A
	75	ACCOUNTING CHANGE
FEDERAL INCOME TAX	75	REDUCED BY DEPRECIATION--ALLOCATED TO SG & A
	74-75	TAXES NOT CLASSIFIED BY CURRENT AND DEFERRED
INVESTMENT TAX CREDIT	74-78	COMPUTED USING FLOW-THROUGH METHOD
EPS PRIMARY	74-78	INC. EQUITY EARNINGS NON-CONSOLIDATED SUBSIDIARY
NET PLANT	74-78	COMPUTED USING ACCELERATED METHOD
CONVERTIBLE DEBT	75-78	DEBT COMPONENTS INCL. CURR. PORTION OF L/T DEBT
INVENTORY METHOD(S)	74	FIFO/
	75	LIFO/FIFO/
	76	LIFO/FIFO/
	77	LIFO/FIFO/
	78	LIFO/FIFO/

DATA SOURCE: STANDARD & POOR'S COMPUSTAT SERVICES, INC.

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CONTRACTOR FINANCIAL DATA RETRIEVAL & ANALYSIS SYSTEM

22 FEB 79 02

BALANCE SHEET OF

INDUSTRY:

DATA PRINTED IN: THOUSANDS

MONTH FISCAL YR ENDS FISCAL YEAR	MAY 1974	MAY 1975	MAY 1976	MAY 1977	MAY 1978	TRENDS
ASSETS						
CASH & EQUIVALENTS	18673.	36272.	70451.	94054.	66209.	41.8%P
ACCOUNTS RECEIVABLE	55237.	61269.	70139.	87292.	115100.	20.0%S
INVENTORIES	95249.	109893.	99145.	119423.	153523.	12.4%S
OTHER CURRENT ASSETS	7253.	10641.	8613.	9576.	12973.	11.0%
TOTAL CURRENT ASSETS	176405.	217075.	248347.	310245.	357704.	19.4%S
GROSS PLANT	111302.	140299.	155245.	169227.	204593.	15.1%S
ACCUM. DEPRECIATION	49947.	57469.	56692.	73952.	95160.	14.0%S
NET PLANT	61355.	82830.	98553.	95275.	119533.	15.0%P
INVESTMENTS	11616.	5938.	7059.	9055.	13239.	7.0%
INTANGIBLES	1685.	983.	891.	753.	554.	-19.4%S
OTHER ASSETS	0.	0.	0.	0.	0.	-0.0%
TOTAL ASSETS	251061.	306616.	344860.	415329.	491130.	17.0%P
LIABILITIES & EQUITY						
ACCOUNTS PAYABLE	16706.	13334.	15970.	22049.	30959.	19.0%S
MATURING NOTES & DEBT	23336.	12750.	3055.	5392.	10351.	-22.0%
INCOME TAXES PAYABLE	8245.	12749.	13565.	19545.	18459.	22.7%S
OTHER CURRENT LIAB.	20195.	24790.	28050.	37201.	47790.	23.7%S
TOTAL CURRENT LIAB.	68484.	43623.	60540.	84277.	107556.	12.6%
LONG TERM DEBT	637.	29835.	38601.	39793.	37096.	132.0%S
OTHER L-T LIAB.	6452.	10837.	13716.	17146.	19792.	31.0%S
TOTAL LIABILITIES	75573.	104295.	112857.	141206.	154434.	20.4%S
MINORITY INTEREST BS	0.	0.	0.	0.	0.	-0.0%
PREFERRED STOCK	0.	0.	0.	-1.	-1.	-0.0%
COMMON STOCK	12186.	14243.	15703.	17914.	24332.	17.5%S
CAPITAL SURPLUS	0.	0.	0.	0.	0.	-0.0%
RETAINED EARNINGS	163302.	189078.	216297.	256209.	302364.	16.7%P
SHAREHOLDERS EQUITY	175488.	202321.	232003.	274121.	326695.	16.7%P
TOTAL LIAB. & EQUITY	251061.	306616.	344860.	415329.	491130.	17.9%S
WORKING CAPITAL	107921.	153452.	157807.	225969.	250143.	23.0%P
LONG TERM CAPITAL	176125.	232156.	270604.	313074.	353781.	19.2%P
TANGIBLE NET WORTH	173803.	201338.	231112.	273368.	326041.	16.0%P

* SEE FOOTNOTE REPORT FOR ACCOUNTING METHODS AND CHANGES
 DATA SOURCE: STANDARD & POOR'S COMPUSTAT SERVICES, INC. LATEST YEAR FINAL

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INCOME & RETAINED EARNING STATEMENT OF

INDUSTRY:

DATA PRINTED IN: THOUSANDS

MONTH FISCAL YR ENDS FISCAL YEAR	MAY 1974	MAY 1975	MAY 1976	MAY 1977	MAY 1978	TRENDS
INCOME						
NET SALES *	271428.	336645.	356645.	454959.	579986.	20.7%P
COST OF SALES *	143659.	172143.	170095.	222170.	279515.	19.8%S
GROSS INCOME	127769.	164502.	187550.	232789.	299371.	22.8%P
SELLING, GEN & ADMIN DEPRECIATION IS	81263. 8109.	103972. 9732.	117551. 12207.	142992. 13224.	170744. 15487.	22.3%S 17.4%S
OPERATING INCOME	38397.	50798.	57792.	76572.	94120.	24.7%P
INTEREST EXPENSE	1222.	4766.	4757.	4129.	4246.	26.5%P
SPECIAL ITEMS	0.	0.	0.	0.	0.	-0.0%
OTHER INCOME/-EXP	1322.	797.	2204.	3393.	6067.	54.3%S
INCOME BEFORE TAX	38497.	46829.	55239.	75746.	95961.	24.0%P
INCOME TAXES	17144.	20500.	25150.	31775.	39115.	23.2%S
MINORITY INTEREST IS	0.	0.	0.	0.	0.	-0.0%
INCOME BEFORE EXTRAS EXTRAORDINARY ITEMS	21353. 0.	26329. 0.	30089. 0.	43971. 0.	56846. 0.	29.0%P -0.0%
NET INCOME/-LOSS	21353.	26329.	30089.	43971.	56846.	29.0%P
RETAINED EARNINGS						
BEGINNING BALANCE	139552.	163302.	188078.	216297.	256209.	16.1%P
RESTATEMENT	3943.	0.	0.	0.	0.	-0.0%
AS RESTATED	143495.	163302.	188078.	216297.	256209.	15.5%P
PLUS NET INC/-LOSS	21353.	26329.	30089.	43971.	56846.	29.0%P
LESS DIVIDENDS	1781.	1734.	2107.	3971.	10701.	55.5%S
OTHER CHANGES	235.	181.	237.	-90.	11.	-0.0%
ENDING BALANCE	163302.	188078.	216297.	256209.	302364.	16.7%P
INCREASE/-DECREASE	19807.	24776.	28219.	39911.	46156.	24.2%P

* SEE FOOTNOTE REPORT FOR ACCOUNTING METHODS & CHANGES

DATA SOURCE: STANDARD & POOR'S COMPUSTAT SERVICES, INC. LATEST YEAR FINAL

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CHANGES IN WORKING CAPITAL OF

INDUSTRY:

DATA PRINTED IN: THOUSANDS

MONTH FISCAL YR ENDS FISCAL YEAR	MAY 1974	MAY 1975	MAY 1976	MAY 1977	MAY 1978	TRENDS
SOURCES						
INCOME BEFORE EXTRAS	21353.	26329.	30089.	43971.	56946.	29.0%P
TOTAL DEPRECIATION	8109.	9732.	11635.	12731.	15204.	16.7%S
OTHER OPNS SOURCES	2035.	3342.	2485.	1596.	-1349.	-0.0%
TOTAL FROM OPNS	31497.	39403.	44209.	58338.	70792.	22.3%P
SALE OF PLANT, ETC.	774.	1053.	1234.	2591.	2245.	35.3%S
SALE OF STOCK	396.	2418.	1700.	2116.	6429.	72.3%S
NEW LONG TERM DEBT	0.	29910.	11307.	1759.	0.	-0.0%
OTHER SOURCES	406.	10219.	25.	550.	0.	-0.0%
TOTAL SOURCES	33073.	83003.	58475.	65346.	79446.	16.3%
APPLICATIONS						
DIVIDENDS	1791.	1734.	2107.	3971.	10701.	55.5%S
CAPITAL EXPENDITURES	23530.	31706.	18812.	22174.	11697.	8.2%
INVESTMENTS&ACQ	3516.	3131.	155.	152.	0.	-70.8%S
DEBT MATURITIES	323.	712.	2541.	577.	2697.	49.7%
TREASURY STOCK PURCH	364.	180.	0.	0.	0.	-0.0%
OTHER APPLICATIONS	27.	9.	505.	305.	191.	110.3%
TOTAL APPLICATIONS	29541.	37472.	24120.	27195.	55286.	9.9%
NET INCREASE/-DECR	3532.	45531.	34355.	38161.	24160.	44.4%
SUMMARY OF CHANGES						
CASH & EQUIVALENTS	-8535.	17500.	34170.	24503.	-28746.	-0.0%
ACCOUNTS RECEIVABLE	11741.	6039.	9869.	17154.	27803.	31.9%
INVENTORIES	24587.	13644.	-9748.	19278.	45100.	16.9%
OTHER CURRENT ASSETS	2684.	3388.	-2028.	963.	3297.	-9.1%
CUR ASSET INCR/-DECR	30470.	40670.	31272.	61898.	47450.	14.0%
ACCOUNTS PAYABLE	5036.	-3372.	2536.	6179.	8009.	-0.0%
MATURING NOTES&DEBT	12620.	-10586.	-9695.	2327.	4049.	-0.0%
INCOME TAXES PAYABLE	-2692.	4503.	815.	6080.	-1187.	-0.0%
OTHER CURRENT LIAB.	4313.	4594.	3260.	9151.	10588.	28.2%S
CUR LIAB. INCR/-DECR	19277.	-4861.	-3083.	23737.	23279.	-0.0%
DUE TO RESTATEMENT	-7661.	0.	0.	0.	0.	-0.0%
NET INCREASE/-DECR	3532.	45531.	34355.	38161.	24160.	44.4%
CASH FLOW	31497.	39403.	44209.	58338.	70792.	22.3%P

* SEE FOOTNOTE REPORT FOR ACCOUNTING METHODS AND CHANGES
DATA SOURCE: STANDARD & POOR'S COMPUSTAT SERVICES, INC. LATEST YEAR FINAL

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RESTATED & SUPPLEMENTARY DATA OF

INDUSTRY:	DATA PRINTED IN: THOUSANDS					
MONTH FISCAL YR ENDS FISCAL YEAR	MAY 1974	MAY 1975	MAY 1976	MAY 1977	MAY 1978	TRENDS
NET SALES						
AS RESTATED	271428.	336645.	366645.	454958.	528886.	20.7% D
AS FIRST REPORTED *	271428.	336645.	366645.	454958.	528886.	20.7% D
PERCENT DIFFERENCE	0.	0.	0.	0.	0.	0. S
INCOME BEFORE EXTRAS						
AS RESTATED	21353.	26320.	30080.	43071.	56846.	28.0% D
AS FIRST REPORTED	21353.	26329.	30089.	43071.	56846.	28.0% D
PERCENT DIFFERENCE	0.	0.	0.	0.	0.	0. S
WORKING CAPITAL						
AS RESTATED	107921.	153452.	187807.	225968.	250148.	23.0% D
AS FIRST REPORTED	107921.	153452.	187807.	225968.	250148.	23.0% D
PERCENT DIFFERENCE	0.	0.	0.	0.	0.	0. S
TOTAL ASSETS						
AS RESTATED	251061.	306616.	344860.	415328.	491130.	17.9% D
AS FIRST REPORTED	251061.	306616.	344860.	415328.	491130.	17.9% D
PERCENT DIFFERENCE	0.	0.	0.	0.	0.	0. S
SUPPLEMENTARY DATA						
COMMON STOCK PRICE:						
YEAR HIGH (ADJ)	56.625	47.750	45.500	34.375	40.000	-4.7 S
YEAR LOW (ADJ)	29.875	18.125	18.125	22.125	28.250	0.1
MKT VALUE EQUITY	373074.	170106.	394541.	605368.	673976.	27.2%
EMPLOYEES (THOUSANDS)	13.	13.	13.	15.	10.	10.2%
ORDER BACKLOG	73970.	61264.	70000.	128000.	179000.	28.5% D
DEBT MATURING 2YRS	-0.	300.	574.	2692.	941.	64.5% D
3YRS	-0.	3800.	2336.	974.	527.	-46.6% D
4YRS	-0.	300.	572.	651.	515.	10.2% D
5YRS	-0.	300.	233.	546.	34994.	354.0% D

* SEE FOOTNOTE REPORT FOR ACCOUNTING METHODS & CHANGES

DATA SOURCE: STANDARD & POOR'S COMPUSTAT SERVICES, INC. LATEST YEAR FINAL

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ANNUAL RATIOS FOR ANALYSIS OF

INDUSTRY:

MONTH FISCAL YR ENDS FISCAL YEAR		MAY 1974	MAY 1975	MAY 1976	MAY 1977	MAY 1978	TRENDS
PERFORMANCE							
INCOME/AVG EQUITY	%	13.1	13.9	13.9	17.4	18.9	1.5 D
INCOME/SALES	%	7.9	7.8	8.2	9.7	9.5	0.5 D
INC BIT/ASSETS	Z	15.8	16.8	17.4	19.2	20.4	1.2 D
RET EARN/ASSETS	Z	65.0	61.3	62.7	61.7	61.6	-0.7
SALES/ASSETS	Z	108.1	109.8	106.3	109.5	121.9	2.7 D
APPROX. P/E RATIO	R	17.47	6.46	13.11	13.77	11.86	-0.39
CAPITALIZATION							
L-T DEBT/EQUITY	%	0.4	14.7	16.6	14.5	11.4	2.2
LIAB./EQUITY	%	43.1	61.5	48.6	51.5	50.3	1.5
MKT EQUITY/TOT DEBT	Z	1556.2	390.7	947.1	1340.3	1420.8	67.0
EQUITY/ASSETS	%	69.9	66.0	67.3	66.0	66.5	-0.7
LIQUIDITY							
CURRENT RATIO	R	2.58	3.41	4.10	3.69	3.33	0.18
ACID TEST	R	1.09	1.53	2.32	2.16	1.49	0.18
DAYS CASH		27.4	43.0	41.5	39.5	45.5	0.3
DAYS RECEIVABLES		74.3	66.4	69.8	70.0	70.1	-0.5
DAYS INVENTORY		229.1	218.5	189.2	183.6	180.5	-11.4 D
DAYS PAYABLES		24.5	15.8	18.4	20.8	21.3	-0.2
WORKING CAP/ASSETS	Z	43.0	50.0	54.5	54.4	50.0	2.0
COVERAGE							
INC BIT/INTEREST	%	32.50	10.83	12.41	19.34	23.60	-1.03
CASH FLO/DEBT MAT+C.E.	%	1.52	1.22	2.07	2.56	1.59	0.19
CASH FLO/TOT LIAB	%	41.7	37.8	39.2	41.3	43.1	0.6
FACILITIES							
NET PLANT/\$100 SALES	%	22.60	24.54	24.15	20.96	19.96	-0.80 S
CAP EXP/\$100 SALES	%	8.67	9.42	5.13	4.87	6.96	-0.80
CAP EXP/PRIOR GR PLTY	%	26.7	28.5	13.4	14.3	24.4	-1.8
OVERALL STRENGTH							
Z - SCORE TOTAL	#	12.37	5.51	8.35	11.29	11.89	0.48 D

*-DATA ARE PERCENTS;R-A RATIOS;S-\$ AMOUNT
Z THESE ARE THE COMPONENTS IN % OF THE Z SCORE *-SEE MANUAL FOR EXPLANATION

SEE RELATIVE INCOME STATEMENT AND RELATIVE BALANCE SHEET FOR OTHER KEY RATIOS
* SEE FOOTNOTE REPORT FOR ACCOUNTING METHODS AND CHANGES
DATA SOURCE: STANDARD & POOR'S COMPUSTAT SERVICES, INC. LATEST DATA YEAR FINAL

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RELATIVE BALANCE SHEET OF

INDUSTRY:	DATA ARE PERCENT OF TOTAL ASSETS					
MONTH FISCAL YR ENDS FISCAL YEAR	MAY 1974	MAY 1975	MAY 1976	MAY 1977	MAY 1978	TRENDS
ASSETS						
CASH & EQUIVALENTS	7.4	11.8	20.4	22.9	13.5	2.3
ACCOUNTS RECEIVABLE	22.0	20.0	20.3	21.0	23.4	0.4
INVENTORIES	37.9	35.5	28.7	28.5	33.3	-1.6
OTHER CURRENT ASSETS	2.9	3.5	2.5	2.3	2.6	-0.2
TOTAL CURRENT ASSETS	70.3	70.8	72.0	74.7	72.8	0.9 S
GROSS PLANT	44.3	45.8	45.0	40.7	41.7	-1.0 S
ACCUM. DEPRECIATION	19.9	18.8	19.3	17.8	17.3	-0.5 S
NET PLANT	24.4	26.9	25.7	23.0	24.3	-0.4
INVESTMENTS	4.6	1.9	2.0	2.2	2.7	-0.4
INTANGIBLES	0.7	0.3	0.3	0.2	0.1	-0.1 S
OTHER ASSETS	0.	0.	0.	0.	0.	0. S
TOTAL ASSETS	100.0	100.0	100.0	100.0	100.0	0. S
LIABILITIES & EQUITY						
ACCOUNTS PAYABLE	6.7	4.3	4.6	5.3	6.3	0.0
MATURING NOTES & DEBT	9.3	4.2	0.9	1.3	2.1	-1.7 S
INCOME TAXES PAYABLE	3.3	4.2	3.0	4.7	3.8	0.2
OTHER CURRENT LIAB.	8.0	8.1	8.1	0.0	0.7	0.4 S
TOTAL CURRENT LIAB.	27.3	20.8	17.5	20.3	21.9	-1.1
LONG TERM DEBT	0.3	9.7	11.2	9.6	7.6	1.4
OTHER L-T LIAB.	2.6	3.5	4.0	4.1	4.0	0.4 S
TOTAL LIABILITIES	30.1	34.0	32.7	34.0	33.5	0.7
MINORITY INTEREST BS	0.	0.	0.	0.	0.	0. S
PREFERRED STOCK	0.	0.	0.	-0.0	-0.0	-0.0
COMMON STOCK	4.9	4.6	4.6	4.3	5.0	-0.0
CAPITAL SURPLUS	0.	0.	0.	0.	0.	0. S
RETAINED EARNINGS	65.0	61.3	62.7	51.7	61.6	-0.7
SHAREHOLDERS EQUITY	69.9	66.0	67.3	66.0	66.5	-0.7
TOTAL LIAB. & EQUITY	100.0	100.0	100.0	100.0	100.0	0. S
WORKING CAPITAL	43.0	50.0	54.5	54.4	50.9	2.0
LONG TERM CAPITAL	70.2	75.7	78.5	75.6	74.1	0.8
TANGIBLE NET WORTH	69.2	65.7	67.0	65.9	66.4	-0.6

* SEE FOOTNOTE REPORT FOR ACCOUNTING METHODS AND CHANGES
 DATA SOURCE: STANDARD & POOR'S COMPUSTAT SERVICES, INC. LATEST YEAR FINAL

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RELATIVE INCOME STATEMENT OF

INDUSTRY:

DATA APE PERCENT OF NET SALES

MONTH FISCAL YR ENDS FISCAL YEAR	MAY 1974	MAY 1975	MAY 1976	MAY 1977	MAY 1978	TRENDS
INCOME						
NET SALES *	100.0	100.0	100.0	100.0	100.0	0.0 S
COST OF SALES *	52.9	51.1	48.8	49.9	50.0	-0.8 S
GROSS INCOME	47.1	48.9	51.2	51.2	50.0	0.8 S
SELLING, GEN & ADMIN DEPRECIATION IS	29.9 3.0	30.9 2.9	32.1 3.3	31.4 2.9	31.7 2.6	0.4 S -0.1
OPERATING INCOME	14.1	15.1	15.9	16.9	15.7	0.5 S
INTEREST EXPENSE	0.5	1.4	1.3	0.9	0.7	0.0
SPECIAL ITEMS	0.	0.	0.	0.	0.	0.0 S
OTHER INCOME/-EXP	0.5	0.2	0.6	0.7	1.0	0.2 S
INCOME BEFORE TAX	14.2	13.9	15.1	16.6	16.0	0.6 S
INCOME TAXES	6.3	6.1	6.9	7.0	6.5	0.1
MINORITY INTEREST IS	0.	0.	0.	0.	0.	0.0 S
INCOME BEFORE EXTRAS EXTRAORDINARY ITEMS	7.9 0.	7.8 0.	8.2 0.	9.7 0.	9.5 0.	0.5 D 0.0 S
NET INCOME/-LOSS	7.9	7.8	8.2	9.7	9.5	0.5 D
RETAINED EARNINGS						
BEGINNING BALANCE	51.4	48.5	51.3	47.5	42.8	-1.8 S
RESTATEMENT	1.5	0.	0.	0.	0.	-0.3 S
AS RESTATED	52.9	48.5	51.3	47.5	42.8	-2.1 S
PLUS NET INC/-LOSS	7.9	7.8	8.2	9.7	9.5	0.5 D
LESS DIVIDENDS	0.7	0.5	0.6	0.9	1.0	0.3 S
OTHER CHANGES	0.1	0.1	0.1	-0.0	0.0	-0.0 S
ENDING BALANCE	60.2	55.9	59.0	56.3	50.5	-1.9 S
INCREASE/-DECREASE	7.3	7.4	7.7	8.8	7.7	0.2

* SEE FOOTNOTE REPORT FOR ACCOUNTING METHODS & CHANGES

DATA SOURCE: STANDARD & POOR'S COMPUSTAT SERVICES, INC. LATEST YEAR FINAL

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FORECASTING FACTORS OF

INDUSTRY: MONTH FISCAL YR ENDS FISCAL YEAR	DATA PRINTED IN PERCENTS						TREND
	MAY 1974	MAY 1975	MAY 1976	MAY 1977	MAY 1978	WTD AVERAGE	
FORECASTED VARIABLE RELATED VARIABLE							
SALES GROWTH							
NET SALES	36.95	24.03	8.91	24.09	31.64	26.76	-1.06
COST OF SALES							
NET SALES	52.93	51.13	48.95	48.93	50.01	49.92	-0.81 S
SELLING, GEN & ADMIN							
NET SALES	29.94	30.88	32.06	31.43	31.58	31.51	0.40 S
DEPRECIATION IS							
PRIOR GROSS PLANT	9.20	8.74	8.70	8.52	9.15	8.91	-0.03
INTEREST EXPENSE							
AVG. TOTAL DEBT	6.86	14.32	11.29	9.51	9.17	9.70	-0.02
OTHER INCOME/-EXP.							
NET SALES	0.49	0.24	0.60	0.73	1.01	0.81	0.15 S
INCOME TAXES							
INCOME BEFORE TAX	44.53	43.78	45.53	41.95	40.76	42.08	-0.04 S
MINORITY INTEREST IS							
INCOME AFTER TAX	0.	0.	0.	0.	0.	0.	0. S
CASH							
ACCOUNTS PAYABLE	111.77	272.03	443.93	430.65	213.36	294.07	36.28
ACCOUNTS RECEIVABLE							
NET SALES	20.35	18.20	19.13	19.19	19.22	19.21	-0.13
INVENTORIES							
CS + DEPR IS	62.76	59.87	51.93	50.31	51.91	52.68	-3.13 S
OTHER CURRENT ASSETS							
CS+SGA+CAP EXP	2.92	3.46	2.73	2.47	2.42	2.57	-0.20 S
ACCOUNTS PAYABLE							
CS+SGA+CAP EXP	6.72	4.33	5.03	5.69	5.93	5.66	-0.04
INCOME TAXES PAYABLE							
INCOME TAXES	48.10	62.19	53.94	61.93	47.19	52.60	-0.22
OTHER CURRENT LIAB.							
CS+SGA+CAP EXP	8.13	8.05	8.80	9.50	9.00	9.02	0.33 S
PLT SOLD&RETIRED							
PRIOR GROSS PLANT	2.17	2.44	2.75	5.28	3.68	3.79	0.50 S
ACC DEPR. SOLD&RET.							
PLT SOLD&RETIRED	59.53	61.26	68.01	68.49	63.97	65.16	1.61
DIVIDENDS							
COM + PREF STOCK	14.62	12.17	13.42	22.17	43.98	30.98	6.87 S
CAPITAL EXPENDITURES							
PRIOR GROSS PLANT	26.71	28.49	13.41	14.28	24.64	21.02	-1.83

WEIGHTED AVERAGE-EXPONENTIAL WEIGHTS, CURRENT YEAR AT .5

DATA SOURCE: STANDARD & POOR'S COMPUSTAT SERVICES, INC. FILE DATED FINAL

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*** FINANDAS ***
CONTRACTOR FINANCIAL DATA RETRIEVAL & ANALYSIS SYSTEM
USER PROJECTIONS FOR

XYZ COMPANY

PREPARED 22 FEB 79
BASED ON USER ASSUMPTIONS

PROJECTION ASSUMPTIONS FOR

INDUSTRY:

PROJECTED VARIABLE	TYPE	PROJECTION METHOD
NET SALES	DEFAULT	GROWS AT 5.00% FROM LATEST YEAR
COST OF SALES	DEFAULT	50.01% OF NET SALES (PRIOR YEAR)
SELLING, GEN.&ADMIN.	DEFAULT	31.68% OF NET SALES (PRIOR YEAR)
DEPRECIATION IS	DEFAULT	9.15% OF PRIOR GROSS PLANT (PRIOR YEAR)
INTEREST EXPENSE	DEFAULT	9.17% OF AVG. TOTAL DEBT (PRIOR YEAR)
SPECIAL ITEMS	DEFAULT	SET TO ZERO
OTHER INCOME/-EXP.	DEFAULT	0.91% OF NET SALES (WTD.AVG.)
INCOME TAXES	DEFAULT	42.08% OF INCOME BEFORE TAX (WTD.AVG.)
MINORITY INTEREST IS	DEFAULT	* NOT PROJECTED-HISTORY ZERO OR NOT AVAIL.
EXTRAORDINARY ITEMS	DEFAULT	SET TO ZERO
DIVIDENDS	DEFAULT	30.88% OF COM. + PREF. STOCK (WTD.AVG.)
OTH.RET.EARNS.CHGS.	DEFAULT	SET TO ZERO
MINIMUM CASH BALANCE	DEFAULT	294.07% OF ACCOUNTS PAYABLE (WTD.AVG.)
ACCOUNTS RECEIVABLE	DEFAULT	19.21% OF NET SALES (WTD.AVG.)
INVENTORIES	DEFAULT	51.91% OF COST SALES + DEPR. (PRIOR YEAR)
OTHER CURRENT ASSETS	DEFAULT	2.57% OF CS + SGA + CAP. EXP. (WTD.AVG.)
INVESTMENTS	DEFAULT	ROLLED FORWARD, ADDING INVESTMENTS & ACC.
INTANGIBLES	DEFAULT	SAME AS PRIOR YEAR INTANGIBLES
OTHER ASSETS	DEFAULT	* NOT PROJECTED-HISTORY ZERO OR NOT AVAIL.
ACCOUNTS PAYABLE	DEFAULT	5.66% OF CS + SGA + CAP. EXP. (WTD.AVG.)
MATURING NOTES&DEBT	DEFAULT	TAKEN FROM HISTORICAL DATA
INCOME TAXES PAYABLE	DEFAULT	52.69% OF INCOME TAXES (WTD.AVG.)
OTHER CURRENT LIAB.	DEFAULT	0.00% OF CS + SGA + CAP. EXP. (PRIOR YEAR)
OTHER L-T LIAB.	DEFAULT	SAME AS PRIOR YEAR OTHER L-T LIAB.
MINORITY INTEREST BS	DEFAULT	* NOT PROJECTED-HISTORY ZERO OR NOT AVAIL.
PREFERRED STOCK	DEFAULT	SAME AS PRIOR YEAR PREFERRED STOCK
COMMON STOCK	DEFAULT	SAME AS PRIOR YEAR COMMON STOCK
CAPITAL SURPLUS	DEFAULT	* NOT PROJECTED-HISTORY ZERO OR NOT AVAIL.
TOTAL DEPRECIATION	DEFAULT	9.04% OF PRIOR GROSS PLANT (PRIOR YEAR)
OTHER OPNS. SOURCES	DEFAULT	2.14% OF NET INCOME (WTD.AVG.)
PLT. SOLD & RETIRED	DEFAULT	3.70% OF PRIOR GROSS PLANT (WTD.AVG.)
ACC.DEPR.-SOLD&RET.	DEFAULT	65.16% OF PLT. SOLD & RETIRED (WTD.AVG.)
SALE OF PLANT, ETC.	DEFAULT	34.95% OF PLT. SOLD & RETIRED (WTD.AVG.)
SALE OF STOCK	DEFAULT	SET TO ZERO
NEW LONG-TERM DEBT	DEFAULT	SET TO ZERO
OTHER SOURCES	DEFAULT	SET TO ZERO
CAPITAL EXPENDITURES	DEFAULT	21.02% OF PRIOR GROSS PLANT (WTD.AVG.)
INVESTMENTS & ACC.	DEFAULT	SET TO ZERO
DEBT MATURITIES	DEFAULT	TAKEN FROM HISTORICAL DATA
TREASURY STOCK PURCH	DEFAULT	SET TO ZERO
OTHER APPLICATIONS	DEFAULT	CALC - BALANCE CHANGE IN L/T ACCOUNTS
PREFERRED DIVIDENDS	DEFAULT	* NOT PROJECTED-HISTORY ZERO OR NOT AVAIL.

NOTE: WHERE TYPE IS 'DEFAULT', USER GAVE NO ASSUMPTION THEREBY ACCEPTING THE DEFAULT METHOD

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USER PROJECTED
BALANCE SHEET OF

INDUSTRY: DATA PRINTED IN: THOUSANDS

MONTH FISCAL YR ENDS FISCAL YEAR	MAY 1979	MAY 1980	MAY 1981	MAY 1992	MAY 1993	TRENDS
ASSETS						
CASH & EQUIVALENTS	92635.	93145.	104078.	110485.	117419.	6.1% S
ACCOUNTS RECEIVABLE	120777.	126816.	133157.	139815.	146800.	5.0% S
INVENTORIES	172982.	182820.	193354.	204556.	216804.	5.8% S
OTHER CURRENT ASSETS	14309.	15159.	16076.	17065.	18136.	6.1% S
TOTAL CURRENT ASSETS	400707.	422941.	446666.	472021.	499164.	5.6% S
GROSS PLANT	239951.	281281.	329730.	386525.	453102.	17.2% S
ACCUM. DEPRECIATION	98835.	114966.	133658.	155697.	191510.	16.2% S
NET PLANT	141115.	166415.	196073.	230830.	271593.	17.8% P
INVESTMENTS	13239.	13239.	13239.	13239.	13239.	0.0% S
INTANGIBLES	654.	654.	654.	654.	654.	0.0% S
OTHER ASSETS	-0.	-0.	-0.	-0.	-0.	-0.0% P
TOTAL ASSETS	555715.	603249.	656631.	716752.	784650.	9.0% S
LIABILITIES & EQUITY						
ACCOUNTS PAYABLE	31502.	33375.	35392.	37571.	39929.	6.1% S
MATURING NOTES & DEBT	941.	627.	516.	34904.	-0.	190.2% S
ADDITIONAL BORROWING	20646.	13669.	9970.	11281.	53800.	18.8% S
INCOME TAXES PAYABLE	21424.	22017.	22702.	23223.	23529.	2.4% S
OTHER CURRENT LIAB.	50110.	53089.	56298.	59763.	63514.	6.1% S
TOTAL CURRENT LIAB.	124623.	122776.	124877.	166832.	190771.	11.1% S
LONG TERM DEBT	36145.	35518.	35002.	8.	8.	-92.0% S
OTHER L-T LIAB.	19792.	19792.	19792.	19792.	19792.	0.0% S
TOTAL LIABILITIES	180560.	178086.	179671.	186632.	200571.	2.6% S
MINORITY INTEREST BS	-0.	-0.	-0.	-0.	-0.	-0.0% P
PREFERRED STOCK	-1.	-1.	-1.	-1.	-1.	-0.0% P
COMMON STOCK	24332.	24332.	24332.	24332.	24332.	0.0% S
CAPITAL SURPLUS	-0.	-0.	-0.	-0.	-0.	-0.0% P
RETAINED EARNINGS	350823.	400831.	452628.	505789.	559747.	12.4% P
SHAREHOLDERS' EQUITY	375154.	425162.	476959.	530120.	584079.	11.7% P
TOTAL LIAB. & EQUITY	555715.	603249.	656631.	716752.	784650.	9.0% S
WORKING CAPITAL	276084.	300165.	321789.	305189.	318393.	3.1% P
LONG TERM CAPITAL	411299.	460080.	511961.	530128.	584086.	8.9% S
TANGIBLE NET WORTH	374500.	424508.	476305.	529466.	583424.	11.7% P

DATA SOURCE: SEE PRIOR ANALYZET OUTPUT FOR THIS COMPANY

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USER PROJECTED
INCOME & RETAINED EARNING STATEMENT OF

INDUSTRY:	DATA PRINTED IN: THOUSANDS					TRENDS
MONTH FISCAL YR ENDS FISCAL YEAR	MAY 1979	MAY 1980	MAY 1981	MAY 1982	MAY 1983	
INCOME						
NET SALES	628830.	660272.	693285.	727950.	764347.	5.0%
COST OF SALES	314491.	330215.	346726.	364062.	392265.	5.0%
GROSS INCOME	314340.	330057.	346559.	363887.	382082.	5.0%
SELLING, GEN & ADMIN DEPRECIATION IS	199231. 18733.	209193. 21959.	219652. 25742.	230635. 30176.	242167. 35373.	5.0% 17.2%
OPERATING INCOME	96376.	98904.	101165.	103077.	104542.	2.1%
INTEREST EXPENSE	4822.	4931.	4370.	4208.	4589.	-2.5%
SPECIAL ITEMS	0.	0.	0.	0.	0.	-0.0%
OTHER INCOME/-EXP	5083.	5338.	5605.	5835.	6179.	5.0%
INCOME BEFORE TAX	96637.	99311.	102400.	104754.	106131.	2.4%
INCOME TAXES	40663.	41789.	43088.	44079.	44659.	2.4%
MINORITY INTEREST IS	-0.	-0.	-0.	-0.	-0.	-0.0%
INCOME BEFORE EXTRAS EXTRAORDINARY ITEMS	55973. 0.	57522. 0.	59312. 0.	60675. 0.	61473. 0.	2.4% -0.0%
NET INCOME/-LOSS	55973.	57522.	59312.	60675.	61473.	2.4%
RETAINED EARNINGS						
BEGINNING BALANCE	302364.	350823.	400831.	452628.	505789.	13.7%
RESTATEMENT	-0.	-0.	-0.	-0.	-0.	-0.0%
AS RESTATED	302364.	350823.	400831.	452628.	505789.	13.7%
PLUS NET INC/-LOSS	55973.	57522.	59312.	60675.	61473.	2.4%
LESS DIVIDENDS	7514.	7514.	7514.	7514.	7514.	0.0%
OTHER CHANGES	0.	0.	0.	0.	0.	-0.0%
ENDING BALANCE	350823.	400831.	452628.	505789.	539747.	12.4%
INCREASE/-DECREASE	48459.	50008.	51797.	53160.	53959.	2.8%

DATA SOURCE: SEE PRIOR ANALYZET OUTPUT FOR THIS COMPANY

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USER PROJECTED
CHANGES IN WORKING CAPITAL OF

INDUSTRY: ELEC MEAS & TEST INSTR

DATA PRINTED IN: THOUSANDS

MONTH FISCAL YR ENDS FISCAL YEAR	MAY 1979	MAY 1980	MAY 1981	MAY 1982	MAY 1983	TRENDS
SOURCES						
INCOME BEFORE EXTRAS	55973.	57522.	59312.	60675.	61473.	2.4% S
TOTAL DEPRECIATION	18499.	21686.	25421.	29877.	34932.	17.2% S
OTHER OPNS SOURCES	1196.	1229.	1268.	1297.	1314.	2.4% S
TOTAL FROM OPNS	75669.	80437.	86000.	91771.	97719.	6.6% S
SALE OF PLANT, ETC.	2705.	3177.	3717.	4357.	5107.	17.2% S
SALE OF STOCK	0.	0.	0.	0.	0.	-0.0% S
NEW LONG TERM DEBT	0.	0.	0.	0.	0.	-0.0% S
OTHER SOURCES	0.	0.	0.	0.	0.	-0.0% S
TOTAL SOURCES	78374.	83608.	89717.	96128.	102926.	7.1% S
APPLICATIONS						
DIVIDENDS	7514.	7514.	7514.	7514.	7514.	0.0% S
CAPITAL EXPENDITURES	43019.	50429.	59115.	69209.	81234.	17.2% S
INVESTMENTS & ACQ	0.	0.	0.	0.	0.	-0.0% S
DEBT MATURITIES	941.	627.	516.	34994.	-0.	100.2% S
TREASURY STOCK PURCH	0.	0.	0.	0.	0.	-0.0% S
OTHER APPLICATIONS	963.	956.	947.	921.	974.	-2.3% S
TOTAL APPLICATIONS	52438.	59527.	68093.	112727.	89622.	18.7% S
NET INCREASE/-DECR	25936.	24081.	21624.	-16600.	13294.	-0.0% S
SUMMARY OF CHANGES						
CASH & EQUIVALENTS	26430.	5507.	5933.	6406.	6934.	-22.3% S
ACCOUNTS RECEIVABLE	5677.	6039.	6341.	6658.	6991.	5.3% S
INVENTORIES	9459.	9339.	10535.	11371.	12148.	6.6% S
OTHER CURRENT ASSETS	1436.	851.	916.	990.	1071.	-4.3% S
CUR ASSET INCR/-DECR	43003.	22234.	23725.	25355.	27143.	-7.6% S
ACCOUNTS PAYABLE	544.	1873.	2018.	2179.	2358.	36.1% S
MATURING NOTES & DEBT	-9410.	-314.	-111.	34478.	-34934.	-0.0% S
ADDITIONAL BORROWING	20646.	-6977.	-3700.	1311.	42519.	-0.0% S
INCOME TAXES PAYABLE	2966.	593.	685.	522.	305.	-37.3% S
OTHER CURRENT LIAB.	2321.	2979.	3209.	3465.	3751.	11.8% S
CUR LIAB. INCR/-DECR	17067.	-1847.	2101.	41955.	13939.	-0.0% S
DUE TO RESTATEMENT	-0.	0.	0.	-0.	0.	-0.0% S
NET INCREASE/-DECR	25936.	24081.	21624.	-16600.	13294.	-0.0% S
CASH FLOW	75669.	80437.	86000.	91771.	97719.	6.6% S

DATA SOURCE: SEE PRIOR ANALYZET OUTPUT FOR THIS COMPANY

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USER PROJECTED
ANNUAL RATIOS FOR ANALYSIS OF

INDUSTRY:

MONTH FISCAL YR ENDS FISCAL YEAR		MAY 1979	MAY 1980	MAY 1981	MAY 1982	MAY 1983	TRENDS
PERFORMANCE							
INCOME/AVG EQUITY	%	16.0	14.4	13.1	12.0	11.0	-1.2 N
INCOME/SALES	%	8.9	8.7	8.6	8.3	8.0	-0.2 S
INC BIT/ASSETS	%	18.3	17.3	16.3	15.2	14.1	-1.0 N
RET EARN/ASSETS	%	63.1	56.4	68.9	77.6	71.3	2.1 S
SALES/ASSETS	%	113.2	109.5	105.6	101.6	97.4	-3.9 N
APPROX. P/E RATIO	R	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
CAPITALIZATION							
LT DEBT/EQUITY	%	9.6	8.4	7.3	7.0	6.0	-2.8 D
LIAB./EQUITY	%	48.1	41.9	37.7	35.2	34.3	-3.4 D
EQ EQUITY/TOT DEBT	AZ	649.9	953.5	1049.5	1145.4	1086.5	116.3 D
EQUITY/ASSETS	%	67.5	70.5	72.6	74.0	74.4	1.7 S
LIQUIDITY							
CURRENT RATIO	R	3.22	3.44	3.59	2.83	2.76	-0.15
ACID TEST	R	1.71	1.83	1.99	1.50	1.46	-0.04
DAYS CASH		60.7	60.7	60.7	60.7	60.7	0.0
DAYS RECEIVABLES		70.1	70.1	70.1	70.1	70.1	0.0 S
DAYS INVENTORY		139.5	139.5	139.5	139.5	139.5	-0.0 S
DAYS PAYABLES		17.1	17.1	17.2	17.2	17.2	0.0 S
WORKING CAP/ASSETS	%	49.7	49.9	49.0	42.6	40.6	-2.5 N
COVERAGE							
INC BIT/INTEREST	\$	21.04	21.14	24.43	25.80	24.13	1.09 S
CASH FLD/SOFT MAT+C. ES		1.72	1.59	1.44	0.99	1.20	-0.17 N
CASH FLD/TOT LIAB	%	41.9	45.2	47.9	49.2	48.7	1.8 S
FACILITIES							
NET PLANT/\$100 SALES		22.14	25.20	28.29	31.71	35.53	3.27 S
CAP EXP/\$100 SALES	\$	6.54	7.54	8.53	9.52	10.53	0.95 S
CAP EXP/PRIOR GE PLTN		21.0	21.0	21.0	21.0	21.0	0.
OVERALL STRENGTH							
Z - SCORE TOTAL	#	7.11	3.31	9.44	9.80	9.44	0.42 D

Y-DATA ARE PERCENTS; R-A RATIOS; \$-AMOUNT
Z THESE ARE THE COMPONENTS IN % OF THE Z SCORE # SEE MANUAL FOR EXPLANATION
AZ APPROXIMATION TO MARKET EQUITY/TOT DEBT--Z SCORE TOTAL ONLY APPROXIMATE
SEE RELATIVE INCOME STATEMENT AND RELATIVE BALANCE SHEET FOR OTHER KEY RATIOS
DATA SOURCE: SEE PRIOR ANALYZED OUTPUT FOR THIS COMPANY

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RELATIVE BALANCE SHEET OF

INDUSTRY:		DATA ARE PERCENT OF TOTAL ASSETS					
MONTH FISCAL YR ENDS FISCAL YEAR	MAY 1979	MAY 1980	MAY 1981	MAY 1982	MAY 1983	TRENDS	
ASSETS							
CASH & EQUIVALENTS	16.7	16.3	15.4	15.4	15.0	-0.4 S	
ACCOUNTS RECEIVABLE	21.7	21.0	20.3	19.5	18.7	-0.8 S	
INVENTORIES	31.1	30.3	29.4	28.6	27.6	-0.9 S	
OTHER CURRENT ASSETS	2.6	2.5	2.4	2.4	2.3	-0.1 S	
TOTAL CURRENT ASSETS	72.1	70.1	68.0	65.9	63.6	-2.1 S	
GROSS PLANT	43.2	46.6	50.2	53.9	57.7	3.6 S	
ACCUM. DEPRECIATION	17.8	19.0	20.4	21.7	23.1	1.3 S	
NET PLANT	25.4	27.6	29.9	32.2	34.6	2.3 P	
INVESTMENTS	2.4	2.2	2.0	1.8	1.7	-0.2 S	
INTANGIBLES	0.1	0.1	0.1	0.1	0.1	-0.0 S	
OTHER ASSETS	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	
TOTAL ASSETS	100.0	100.0	100.0	100.0	100.0	0. S	
LIABILITIES & EQUITY							
ACCOUNTS PAYABLE	5.7	5.5	5.4	5.2	5.1	-0.1 S	
MATURING NOTES & DEBT	0.2	0.1	0.1	4.9	-0.0	1.4 S	
ADDITIONAL BORROWING	0.	3.7	2.3	1.5	1.6	0.1	
INCOME TAXES PAYABLE	3.9	3.6	3.5	3.2	3.0	-0.2 S	
OTHER CURRENT LIAB.	9.0	8.8	8.6	8.3	8.1	-0.2 S	
TOTAL CURRENT LIAB.	22.4	20.4	19.0	23.3	23.0	0.4	
LONG TERM DEBT	6.5	5.9	5.3	0.0	0.0	-1.9 S	
OTHER L-T LIAB.	3.6	3.3	3.0	2.8	2.5	-0.3 S	
TOTAL LIABILITIES	32.5	29.5	27.4	26.0	25.6	-1.7 S	
MINORITY INTEREST BS	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	
PREFERRED STOCK	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	
COMMON STOCK	4.4	4.0	3.7	3.4	3.1	-0.3 S	
CAPITAL SURPLUS	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	
RETAINED EARNINGS	63.1	66.4	68.9	70.6	71.3	2.1 S	
SHAREHOLDERS EQUITY	67.5	70.5	72.6	74.0	74.4	1.7 S	
TOTAL LIAB. & EQUITY	100.0	100.0	100.0	100.0	100.0	0. S	
WORKING CAPITAL	49.7	49.8	49.0	42.6	40.6	-2.5 N	
LONG TERM CAPITAL	74.0	76.4	78.0	74.0	74.4	-0.2	
TANGIBLE NET WORTH	67.4	70.4	72.5	73.9	74.4	1.7 S	

DATA SOURCE: SEE PRIOR ANALYZET OUTPUT FOR THIS COMPANY

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USER PROJECTED
RELATIVE INCOME STATEMENT OF

INDUSTRY:	DATA ARE PERCENT OF NET SALES					
MONTH FISCAL YR ENDS FISCAL YEAR	MAY 1979	MAY 1980	MAY 1981	MAY 1982	MAY 1983	TPENDS
INCOME						
NET SALES	100.0	100.0	100.0	100.0	100.0	0. S
COST OF SALES	50.0	50.0	50.0	50.0	50.0	0. S
GROSS INCOME	50.0	50.0	50.0	50.0	50.0	0.
SELLING, GEN & ADMIN	31.7	31.7	31.7	31.7	31.7	0. S
DEPRECIATION IS	3.0	3.3	3.7	4.1	4.6	0.4 S
OPERATING INCOME	15.3	15.0	14.6	14.2	13.7	-0.4 S
INTEREST EXPENSE	0.8	0.7	0.6	0.6	0.6	-0.1 S
SPECIAL ITEMS	0.	0.	0.	0.	0.	0. S
OTHER INCOME/-EXP	0.8	0.8	0.8	0.8	0.8	0.
INCOME BEFORE TAX	15.4	15.0	14.9	14.4	13.9	-0.4 S
INCOME TAXES	6.5	6.3	6.2	6.1	5.8	-0.2 S
MINORITY INTEREST IS	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
INCOME BEFORE EXTRAS	8.9	8.7	8.6	8.3	8.0	-0.2 S
EXTRAORDINARY ITEMS	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
NET INCOME/-LOSS	8.9	8.7	8.6	8.3	8.0	-0.2 S
RETAINED EARNINGS						
BEGINNING BALANCE	48.1	53.1	57.8	62.2	66.2	4.5 D
RESTATEMENT	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
AS RESTATED	48.1	53.1	57.8	62.2	66.2	4.5 D
PLUS NET INC/-LOSS	8.9	8.7	8.6	8.3	8.0	-0.2 S
LESS DIVIDENDS	1.2	1.1	1.1	1.0	1.0	-0.1 S
OTHER CHANGES	0.	0.	0.	0.	0.	0. S
ENDING BALANCE	55.8	60.7	65.3	69.5	73.2	4.4 D
INCREASE/-DECREASE	7.7	7.6	7.5	7.3	7.1	-0.2 S

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) FINCAP Analysis is a method for evaluating the financial capability of major Air Force Contractors. It is designed for use by contracting per- sonnel who may have only a limited financial analysis background. FINCAP Analysis results in a comprehensive evaluation of a contractor's present and expected future financial condition, including its capability to per- form a new contract. For analysis ratios and projections, FINCAP Analysis uses the FINANDAS computer system previously developed by LMI for DoD use. (over) ↙		

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→ The manual explains the analysis method in step-by-step instructions. Also included are lists of data sources, data collection forms, detailed report and briefing formats, and a financial evaluation checklist.