

Originally Processed With FOIA(s):
2025-0878-F

FOIA Number:
2025-0878-F

FOIA MARKER

**This is not a textual record. This is used as an
administrative marker by the George Bush Presidential
Library Staff.**

Record Group/Collection: Dan Quayle Vice Presidential Records
Collection/Office of Origin: Deputy Chief of Staff's Office
Series: Porter, Richard W., Files
Subseries: Subject Files

OA/ID Number: 21807
Folder ID Number: 21807-001b

Folder Title:
Consad [Research Corporation] [2]

Stack:	Row:	Section:	Shelf:	Position:
G	34	6	5	4

CONSAD

8/4/92

CONSAD Research Corporation
121 North Highland Avenue
Pittsburgh, Pennsylvania 15206
Telephone: (412) 363-5500
FAX: (412) 363-5509

31 July 1992

Richard W. Porter, Esq.
Counselor to the Vice President
The White House
Washington, DC 20501

Dear Richard,

Much enjoyed our first get-together: I expect we'll be meeting and talking, again, shortly. JIC (just in case) it would be useful to have a file on CONSAD, I've attached a short personal bio and a general capabilities and experience statement.

Beginning to take a look at the Clinton/Gore material: I'll be back to you shortly. I'll be ready asap to discuss the virgin materials fee with those you suggest. And the state-by-state data will be ready **very** shortly.

Thanks for the interest, of course.

Best regards,



Wilbur A. Steger
President

WAS:hlc

Attachments

WILBUR A. STEGER

CONSAD Research Corporation

Date of Birth: 30 July 1929
Place of Birth: New York, New York

Wilbur A. Steger is President, Chairman of the Board, and founder of CONSAD Research Corporation, a national private-sector think tank that he launched in 1963. He is a consultant and advisor to several federal, state, regional, and local executive agencies. He serves as an economics, policy, and systems analyst consultant to a number of corporations. He has been an advisor to the Vice-Presidential Task Force on Regulatory Relief and continues to advise the Administration on technology, energy, environmental, economic, and regulatory matters.

Dr. Steger received his B.S. in economics from Yale University and his M.S. and Ph.D. in economics from Harvard University. He was a teaching fellow at Harvard from 1952 through 1955, an Adjunct Professor at the University of Pittsburgh from 1963 through 1973, and is currently an Adjunct Professor of Policy Sciences at Carnegie Mellon University (since 1985).

Since 1988, Dr. Steger has been heavily involved with the economic and regulatory analysis of the Clean Air Act, recently signed into law by President Bush. Dr. Steger, working with colleagues Dr. Robert Hahn and Dr. Fred Rueter, prepared and published several analyses of the direct and indirect economic consequences -- jobs, small business, and other employment impacts -- which were extensively used in the national discussion over alternative Clean Air Act options. This research was supported by the Business Roundtable and disseminated by the Clean Air Working Group. Since the passage of that Act, he has been actively involved in implementation and follow-up activities.

At CONSAD, Dr. Steger has headed policy analysis efforts for the U.S. Departments of Energy, Interior, Labor, Transportation, Treasury, Health and Human Services, Commerce, Housing and Urban Development, and Defense, as well as the Environmental Protection Agency, the National Science Foundation, the U.S. Postal Rate Commission, and others focusing on: the economic basis of relevant cost benefit, cost analysis, and cost methodology issues; designing policy analysis systems and economic impact analysis models for evaluating energy, economics, and environmental tradeoffs; and implementing other policy analysis related research management projects. He has also served as an economics advisor and policy analysis consultant to a number of corporations, including Alcoa, AT&T, EG&G, Geneva Steel, PPG, Pittsburgh National Bank, Westinghouse Electric, TRW, Mellon, USX, and many others, including the Business Roundtable, the American Iron and Steel Institute, the Global Climate Coalition, the National Association of Manufacturers, U.S. Chamber of Commerce, and others.

Dr. Steger has published more than one hundred research papers, monographs, reports, and books.

EXPERIENCE AND QUALIFICATIONS

**CONSAD Research Corporation
121 North Highland Avenue
Pittsburgh, Pennsylvania 15206**

For Information, Contact:

**Wilbur A. Steger, Ph.D.
President
(412) 363-5500**

CONSAD Research Corporation

EXPERIENCE AND QUALIFICATIONS

CONSAD Research Corporation
121 North Highland Avenue
Pittsburgh, PA 15206

For Information, Contact:

Wilbur A. Steger, Ph.D.
President

(412) 363-5500

TABLE OF CONTENTS

	<u>Page</u>
1.0 CONSAD'S EXPERIENCE AND QUALIFICATIONS	1.1
1.1 An Overview of Corporate Capability	1.1
1.2 Corporate Capability	1.1
1.2.1 Corporate Background	1.1
1.2.2 Facilities and Equipment	1.11
1.2.3 Computer Aided Telephone Interviewing (CATI) Capabilities	1.14
1.2.4 Experience in the Manpower and Performance of Quick Response Assignments	1.16
1.2.5 Experience in the Management of Subcontractors and Consultants	1.21
1.2.6 Related Project Summaries	1.22
2.0 EXPERIENCE, QUALIFICATIONS, AND COMMITMENT OF PERSONNEL	2.1

1.0 CONSAD'S EXPERIENCE AND QUALIFICATIONS

1.1 An Overview of Corporate Capability

To meet its wide-ranging and varied assignments, CONSAD Research Corporation brings almost 30 years of broad capability and a superb team of qualified resources. CONSAD -- a RAND Corporation spin-off, in concept and application -- has long and extensive experience in the development and application of wide-ranging benefit-cost techniques, economic impact analysis, regulatory and technological program analysis, financial and technological feasibility analysis, environmental economics, industrial hygiene services, effective safety programs, ergonomics, epidemiology, toxicology, substance abuse/workplace safety analysis, industry studies, primary and secondary data collection and extraction procedures including computer-assisted telephone interviewing (CATI), data base design and management, statistical analysis, computer applications, effective report writing, graphic presentations, and practical project operations.

Exhibit 1.1 demonstrates examples of CONSAD's recent experience in related assignments.

1.2 Corporate Capability

1.2.1 Corporate Background

CONSAD, organized in 1963, is an independent small business corporation engaged in basic and applied social system research. CONSAD's clients are those decision-makers, in both the public and private sectors, who must choose between alternative solutions to

EXHIBIT 1.1: Summary of Related Projects by Type of Activity

PROJECT TITLE AND CLIENT	Industry Profiles	Population-at-Risk Estimation	Assessment of Technological Feasibility	Cost of Compliance	Estimation of Benefits (risk reduction)	Cost-Effectiveness of Regulations/Alternatives	Economic and Financial Impacts (including small firm impacts)	Environmental Impacts	Related Support Activities (methodological studies or review/evaluation of other studies)	Computer Programming/Modelling
Rulemaking Support for an Economic Analysis For the Proposed Revisions to CFR 1910.56 - For Construction Industries (PELS Project), DOL/OSHA	x	x	x	x	x	x	x	x	x	x
Economic Analysis of the Proposed Revisions to the OSHA Asbestos Standards for Construction and General Industry, DOL/OSHA	x	x	x	x	x	x	x	x	x	x
Analysis of Occupational Substance Use and Workplace Safety, DOL/OSHA									x	x
Economic Analysis of the Proposed Revision to 29 CFR 1910.1000 For General Industry (PELS study), DOL/OSHA	x	x	x	x	x	x	x	x	x	x
Economic Analysis of Proposed Revision to Regulations Governing Exposure to Methylene Chloride, DOL/OSHA	x	x	x	x	x	x	x	x	x	x
An Economic Analysis of the Proposed Revision to the OSHA Standard Covering Occupational Exposures to Asbestos, Tremolite, Anthophyllite and Actinolite, DOL/OSHA	x	x	x	x	x	x	x	x	x	x

EXHIBIT 1.1: Summary of Related Projects by Type of Activity

PROJECT TITLE AND CLIENT	Industry Profiles	Population-at-Risk Estimation	Assessment of Technological Feasibility	Cost of Compliance	Estimation of Benefits (risk reduction)	Cost-Effectiveness of Regulations/Alternatives	Economic and Financial Impacts (including small firm impacts)	Environmental Impacts	Related Support Activities (methodological studies or review/evaluation of other studies)	Computer Programming/Modelling
Development of Industry Profile Data for OSHA's Draft Proposed Standard for Permit Entry Confined Spaces, DOL/OSHA	x	x	x	x	x	x	x	x	x	x
Preparation of an Economic, Technological and Environmental Profile Related to Proposed Asbestos Standards for the Construction Industry and Asbestos Removal Projects in General Industry, DOL/OSHA	x	x	x	x	x	x	x	x	x	x
Asbestos Task Order to Construction Alternatives, DOL/OSHA	x	x	x	x	x	x	x	x	x	x
Preparation of Data to Support a Regulatory Analysis and Environmental Impact Assessment of the Proposed Standard for Shipbuilding and Repairing, DOL/OSHA	x	x	x	x	x	x	x	x	x	x
Analysis of Technological Feasibility and Economic Impact of New Asbestos Exposure Standards, DOL/OSHA	x	x	x	x	x	x	x	x	x	x
Provide Estimates of the Technological and Economic Impacts of Proposed Standards for the Control and Elimination of Safety and Health Hazards in the Workplace, DOL/OSHA	x	x	x	x	x	x	x	x	x	x

EXHIBIT 1.1: Summary of Related Projects by Type of Activity

PROJECT TITLE AND CLIENT	Industry Profiles	Population-at-Risk Estimation	Assessment of Technological Feasibility	Cost of Compliance	Estimation of Benefits (risk reduction)	Cost-Effectiveness of Regulations/Alternatives	Economic and Financial Impacts (including small firm impacts)	Environmental Impacts	Related Support Activities (methodological studies or review/evaluation of other studies)	Computer Programming/Modelling
Study of Employee Compensation Alternatives, DOL/OSHA	x	x		x	x	x	x		x	x
Technical Review of Regulatory Impact Analysis of Alternative Ambient Air Quality Standards, American Iron and Steel Institute	x	x		x			x	x	x	x
Evaluation of the Occupational Safety Impacts of Energy Technologies, DOE	x					x			x	
Evaluation of the Economic Impact of Applying Railroad Safety Standards, DOT/FRA	x			x	x	x	x		x	
Design and Develop a Prototype Distributed On-Line Telephone Interviewing (DOLI) System to Collect Information from Air Force Officers, SRA Corporation									x	x
Survey of Small Business Regulatory Perceptions, EPA	x		x	x	x	x	x	x	x	
Methodology for Benefit-Cost Analysis of Land Use Alternatives for Mined and Movable Land in Appalachia, ARC			x	x	x	x	x	x		
Development of a Benefit-Cost System for Chemical Pesticides, EPA		x				x		x	x	

EXHIBIT 1.1: Summary of Related Projects by Type of Activity

PROJECT TITLE AND CLIENT	Industry Profiles	Population-at-Risk Estimation	Assessment of Technological Feasibility	Cost of Compliance	Estimation of Benefits (risk reduction)	Cost-Effectiveness of Regulations/Alternatives	Economic and Financial Impacts (including small firm impacts)	Environmental Impacts	Related Support Activities (methodological studies or review/evaluation of other studies)	Computer Programming/Modelling
Cost-Benefit Analysis of Toxic Substances, EPA				x	x	x	x	x	x	
Design of Cost-Effective Pesticide Use Monitoring and Compliance Strategies, EPA				x	x	x			x	
Feasibility of Determining Acceptable Risk Levels Based on Historical Precedent, NSF					x			x	x	x
Analysis of the Economic Impacts of Various Pollution Abatement Scenarios, EPA	x		x	x	x	x	x	x	x	
Small Business-Energy Use Study, SBA	x			x	x	x	x		x	
Analysis and Integration of Water Pollution Control Costs, EPA				x	x	x	x		x	
Review of the Effects of Regulation on Industrial Location and Urban Growth, DOC	x			x			x		x	
Development of Locational Analysis Systems for Environmental Assessments, Oak Ridge National Laboratory	x					x	x	x		
Analysis of the Effects of Federal Tax Provisions on the Oil and Gas Industry, IRS/Treasury Department	x			x	x	x	x		x	

EXHIBIT 1.1: Summary of Related Projects by Type of Activity

PROJECT TITLE AND CLIENT	Industry Profiles	Population-at-Risk Estimation	Assessment of Technological Feasibility	Cost of Compliance	Estimation of Benefits (risk reduction)	Cost-Effectiveness of Regulations/Alternatives	Economic and Financial Impacts (including small firm impacts)	Environmental Impacts	Related Support Activities (methodological studies or review/evaluation of other studies)	Computer Programming/Modelling
Study of Economic Factors Affecting the Level of Domestic Petroleum Reserves, Treasury Department	x						x			x
Analysis of Cost-Effectiveness of Junk Vehicle Disposal Program, Motor Vehicle Manufacturers Association				x	x	x				x
Evaluation of the Economic and Environmental Impacts of Water Pollution Control, NCWQ				x	x	x	x		x	x
Environmental Impact Statement and Cost-Benefit Analysis, Westinghouse/EIA	x			x	x	x	x	x		
Design, Develop, Program, and Test Models for the Strategic Environmental Assessment System (SEAS), EPA				x	x		x	x	x	x
Refinement of the OAP Regional Economic Model, EPA	x					x	x	x		
Regional Economic Effects of Air Pollution Control, HEW				x	x	x	x	x	x	
Analysis of the Direct and Indirect Costs of Air Pollution Control, Phases I and II, EPA				x	x	x	x		x	
1977 Cost of Clean Air/Water Pollution Report, EPA	x			x	x	x	x		x	

EXHIBIT 1.1: Summary of Related Projects by Type of Activity

PROJECT TITLE AND CLIENT	Industry Profiles	Population-at-Risk Estimation	Assessment of Technological Feasibility	Cost of Compliance	Estimation of Benefits (risk reduction)	Cost-Effectiveness of Regulations/Alternatives	Economic and Financial Impacts (including small firm impacts)	Environmental Impacts	Related Support Activities (methodological studies or review/evaluation of other studies)	Computer Programming/Modelling
Regulation Analysis Support to DOE/FE, TRW, Inc. Conduct an Environmental Analysis of ERDA's National Energy Plan, ERDA	X		X	X	X	X	X	X	X	X

problems and concerns emerging from complex socio-technical systems. CONSAD's contributions range from the identification and definition of key policy and programmatic issues, to the development and implementation of methodologies to assess specific concerns and evaluate programs and policies, to the transfer of creative and workable ideas into effective plans and actions.

CONSAD's most important assets are its human resources and its reputation for excellence. CONSAD's senior professionals are among the finest in this rapidly-growing, systems-oriented, problem-solving profession. Characteristics which best distinguish these highly experienced specialists include:

- The ability to quickly master the necessary details of specific socioeconomic and technical systems -- be those in the areas of transportation, environmental and energy systems, social, health and safety policies and programs, urban and regional planning, defense issues, and others -- so that a wide range of problem-solving approaches can be defined and assessed.
- The ability to identify and select alternative research approaches which best reflect and respond to client requirements and goals.
- The facility to manage and implement both multiperspective and multidisciplinary approaches, understanding that technical/analytical, organizational/societal, and personal/group perspectives call for the appropriate application of both quantitative and qualitative social science techniques, as well as their proper integration and presentation.

CONSAD's professional staff designs and uses analytical techniques and procedures -- both quantitative and qualitative -- for the analysis of problems and the determination of solutions. The backgrounds of CONSAD researchers include expertise in the social sciences focusing on economics (both micro- and macroeconomics), engineering economics, behavioral sciences,

operations research, mathematical and statistical sciences, substance abuse and workplace safety, and a wide range of computer sciences and applications. CONSAD staff members, with their varied disciplines, examine the choices confronting a public or private decision-maker and provide a comprehensive and coherent base of information to facilitate decision-making. In this age of specialization, CONSAD has effectively woven together the expertise of diverse disciplines to successfully address a broad range of complex issues, to design innovative and intelligent methods for examining ideas, policies, and programs, and to develop effective strategies and plans for meeting client objectives.

CONSAD brings three decades of meaningful corporate and personal experience in recognizing the need and knowing how to:

- Avoid technical biases -- in the selection of approaches and methods -- which could both pre-judge the "answer" or unduly restrict a broad search for innovative solutions;
- Become knowledgeable of the entire spectrum of a client's needs so that he/she is continually aware of tradeoffs among techniques, costs, and objectives; and
- Be sensitive to and aware of the client's institutional and organizational needs and objectives, as well as a project's specific technical requirements.

Given these principles, CONSAD's specialists synthesize their talents into a unified approach. CONSAD has successfully completed a wide variety of analyses, field surveys and industry site visits, model feasibility studies, evaluations and assessments, and technical assistance and training programs, which include the following:

- Policy analysis,
- Organizational and management improvement projects,

- Cost-effectiveness and benefit-cost analyses,
- Technology assessment,
- Safety and health assessments,
- Technical assistance and training design and delivery,
- Information systems design,
- Environmental/socioeconomic/energy analytic modeling,
- Economic impact analysis, and
- Evaluation of social, management, and other programs.

CONSAD delivers its services, as is mutually deemed most desirable by the client and CONSAD, as either: (a) technical assistance to improve specific aspects of a client's program and its operations while ensuring that the client's residual capability remains after CONSAD's work is completed; and/or (b) production of a specific product (e.g., report, manual, system, data set, trained staff, etc.), including the design and implementation of the process for product updating and maintenance.

CONSAD keeps pace with the developments of increasingly complex problems in the public and private sectors through the development of tools, techniques, and data bases to help decision-makers take more informed, and presumably better, actions. CONSAD, in fact, specializes where these following elements characterize the problem:

- Presence of massive sets of data, collected at every level of government, and from the private, as well as the public, sectors.
- Intelligent methods for analyzing data, including the use of a variety of econometric, simulation, and input-output models.

- Novel management techniques and systems for systematically examining, exploring, and selecting the preferred from sets of alternative means to achieve given objectives.
- Creative use of computers where they have a comparative advantage in the collection, retrieval, processing, and display of massive sets of data.
- Systematic methods for development of immediate, intermediate, and ultimate sets of goals and objectives for public and private programs, and for evaluating these programs.

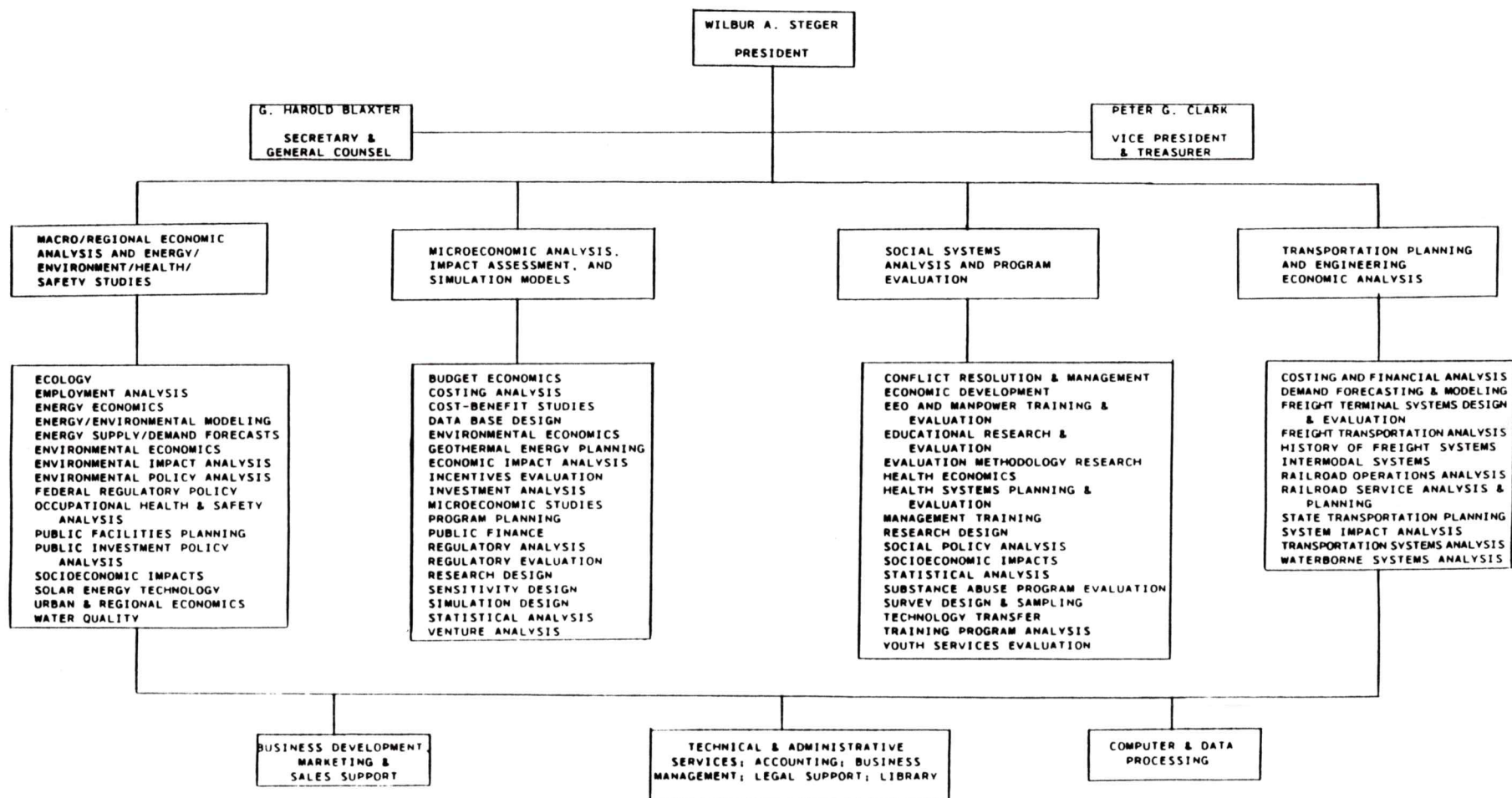
CONSAD is organized into several operating divisions. The organization chart showing these divisions is shown in Exhibit 1.2.

1.2.2 Facilities and Equipment

CONSAD occupies its own 40,000 square foot headquarters building in Pittsburgh, Pennsylvania. The majority of the firm's approximately 25 professional employees work in this building which provides such facilities as conference rooms, a 20,000 volume professional library with 230 technical periodicals, and computer operation space, in addition to individual offices for staff members.

Report preparation for each project is accomplished using WordPerfect 5.1. In addition, CONSAD has the capability to translate WordPerfect into other PC-based word processing software packages if the need arises. As appropriate, CONSAD also utilizes various graphics software packages to enhance the presentation of report findings. CONSAD has the capability of producing both black and white and color graphics.

The firm owns a Xerox 1090 for regular and enlargement/reduction photocopying and a Xerox 1065 photocopier capable of reproducing maps and photographs and providing variable-size



copies. CONSAD also has a Xerox 4001 telecopier (FAX) for rapid transmission of written materials to corporate clients, to the government, to out-stationed project team members, or to consultants and subcontractors.

Data processing requirements for a given project can be accomplished on a Digital Equipment Corporation VAX 11/750 system located at CONSAD's Pittsburgh facility. The system currently includes six megabytes of core memory, 675 megabytes of disk storage and a 1600 bpi tape drive, and could be expanded to four gigabytes of disk storage if required. The VAX multiprogramming environment allows for efficient data entry and program development by both local and remote users. All programming required for projects can be accomplished in standard FORTRAN, and data tapes for use on other systems are written in ASCII standard code.

In addition, for further data processing/analysis and report preparation purposes, CONSAD has: eight PC/AT compatible computers running MS-DOS 3.2, five PC-XT compatible computers, four laser printers, and an HP ColorPro 8 pen plotter. All computers are equipped with modems to communicate over telephone lines with other computers and data base suppliers.

CONSAD also has a large library of software which is available to all projects. These programs include sophisticated statistical analysis routines, input-output data manipulation programs, data base management, various word processing packages, and graphing and plotting routines. CONSAD's software library includes: WordPerfect; WordStar; Writer III; Ventura; Harvard Graphics, Easy Flow (for flow charts); LOTUS 1-2-3, Version 2.1 (with Look and

Link); Atlas Graphics (for production of custom maps); ProComm Plus; Kermit; dBase III Plus; numerous utility programs; and several PC-based programming languages. To accomplish large-scale survey projects, CONSAD has developed its own computer-assisted telephone interviewing (CATI) software. This software allows for surveys more complex than those which can be accomplished with commercially available software. CONSAD programmers are also expert in the development of new software programs to best meet a client's specific needs.

While the CONSAD computer facilities are more than adequate for all project data processing requirements, back-up computing facilities would be needed in case of malfunction. Such back-up can be performed on a VAX 11/780 system located locally. This machine is fully compatible with CONSAD's equipment and work could proceed without delay if there were any malfunctions in the CONSAD system.

In essence, then, CONSAD has available both the word processing and graphics capabilities, as well as the computer facilities and equipment, to readily and effectively adapt to virtually all report preparation requirements, as well as data base development, data processing, statistical analysis, and other analytical computing requirements likely to emerge during research endeavors.

1.2.3 Computer Aided Telephone Interviewing (CATI) Capabilities

In addition to its longstanding capabilities in creating and managing paper-and-pencil telephone surveys, CONSAD is capable of

conducting telephone surveys with the interactive assistance of computers (CONSAD has all the necessary hardware and software to perform this type of surveying). This procedure, referred to in the market research industry as computer aided telephone interviewing (or CATI), involves the translation of survey objectives into a computer-based instrument that can significantly reduce the time spent on the telephone by survey respondents. In addition, use of CATI speeds data analysis procedures and allows for complex question sequences and information gathering without confusing the interviewer or the respondent.

With their advanced programming skills, CONSAD's experienced computer programmers are able to create survey instruments custom tailored to specific data collection requirements. As a result, compared to commercially available CATI software or traditional paper-and-pencil telephone surveys, more complex and more informative data collection is possible. Moreover, because CONSAD custom designs the programs, the CATI system is not limited in the number of questions, or loops of questions, that it can ask.

CONSAD has developed computer-based survey instruments and utilized CATI on its recent OSHA study involving the update of PELs for over 450 substances used by the construction industry. CONSAD anticipates that this expertise will again be required on projects issued under this contract, and is certain that it has the necessary personnel and equipment to effectively and efficiently design and execute such a survey effort.

1.2.4 Experience in the Management and Performance of Quick Response Assignments

Since its inception in 1963, CONSAD has performed numerous contracts involving quick response assignments requiring timely task completion. These contracts have involved explicit assignments ranging from as little as \$2,000 for a four-day draft position paper to as much as \$500,000 for intensive six-month survey research and data analysis assignments. CONSAD's successful performance of these diverse assignments -- for OSHA and other clients -- provides a clear demonstration of the firm's experience and effectiveness in providing the proper and necessary managerial, technical, and administrative support to project teams.

CONSAD's capability to meet the kinds of deadlines is demonstrated by the numerous federal agencies which have contracted with CONSAD on this basis, for example:

- Department of Labor, Occupational Safety and Health Administration,
- The National Science Foundation,
- Department of Housing and Urban Development,
- Department of Energy, Office of the Assistant Secretary for Planning and Evaluation,
- Department of Energy, Division of Geothermal Energy,
- Environmental Protection Agency,
- National Institute on Drug Abuse,
- Special Action Office on Drug Prevention,
- Department of Health and Human Services, Office of the Secretary,
- Department of Transportation, Office of the Secretary,

- Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation,
- Department of Health and Human Services, Office of Program Analysis, and
- U.S. Postal Service.

As a matter of policy, CONSAD works closely with study sponsors to assure that a complete client-consultant understanding of both technical and organizational issues is maintained throughout the work effort. This relationship and understanding, always important, has special emphasis with a quick-turnaround contract. Time and other resources are too limited to permit time lost in false starts to be easily recouped.

Thus, CONSAD has had substantial experience in conducting short-term intensive assignments in a variety of research feasibility studies, and economic and environmental impact assessments at the federal, state, and local government levels.

The projects described below provide additional examples of the substantive and operational character of CONSAD activities conducted under short- to mid-term support projects:

- For the Division of Geothermal Energy at the Department of Energy (DOE), CONSAD performed a number of economic analysis and program planning assignments, including:
 - Examination and evaluation of alternative investment stimulation incentives in terms of economic, legal, and institutional aspects;
 - Preparation of yearly program plans for the development of geopressured gas and hot water resources in the Gulf Coast area;
 - Calculation of alternative cost-sharing strategies in terms of lifetime subsidy outlays and capital costs for some 80 geothermal electric power plants at 31 sites;

- Examination of the combined economic impacts and cash flow implications of combined tax credits, depletion allowances, and depreciable practices for geothermal facilities in response to a tax implications question from the Treasury Department; and
- Design and implementation of an optimal investment strategy determinational process for use in overall geothermal power program planning.

Individual tasks have ranged from two weeks to nine months in duration, and from \$3,000 to \$34,000 in dollar value. In each case, the operational approach has been simple and straightforward. DOE indicated a requirement by telephone or at a meeting -- CONSAD prepared a brief task design and work program. DOE and CONSAD thus agreed on content, cost, and schedule. CONSAD then assigned a small staff team to the job, the job was completed, and a report was prepared and presented to DOE, often accompanied by a carefully designed briefing. CONSAD had as many as three geothermal analysis tasks simultaneously under way, each with its own staff team.

- For the U.S. Postal Service, CONSAD was requested to assist in the preparation of expert testimony concerning rate and fee increases. For this project, CONSAD carried out the following tasks:

- A review of the literature describing the current state-of-the-art regarding the postal service and alternative means of transporting freight and other materials;
- A review of statistical analyses and models of the cost of operation of the post office and the economics of the mail industry (including competitors);
- A survey of freight shippers regarding methods used to determine mode of delivery and reasons for selection;
- The preparation of briefing materials to facilitate testimony; and
- The preparation of expert and rebuttal testimony.

During a Task Order period of four calendar weeks, approximately seven person-months of professional effort was expended. An outline and initial findings were prepared at the end of the first week, and a draft final report and briefing materials were submitted during week

three. The final version of the expert and rebuttal testimony was prepared and ready for the Postal Rate Commission Hearings which took place in the fourth week of the contract.

- Under contract to the Office of the Secretary, Department of Transportation (DOT), CONSAD had to prepare a report to Congress within 90 days. CONSAD had five days to prepare a technical plan for the work. Within 45 days after the date of submission of the technical proposal, CONSAD delivered a draft report to DOT. A camera-ready copy of the final report was presented one month later.
- For the National Institute on Drug Abuse, CONSAD carried out a number of IQC assignments. Three varied examples include:
 - Development of a manual for the incorporation of a pharmaceutical alternative to methadone into drug abuse amelioration programs;
 - Design of a management, communications, and publications production and dissemination program for the Office of Communications and Public Affairs; and
 - Examination of potentials for linkage between CETA training programs and drug abuse programs in order to achieve combined results.

These assignments involved such activities as literature searches, legislative review, field reconnaissance with program officials and clients, program planning activities, and creation of evaluation schemes. Individual tasks have ranged from \$50,000 to \$250,000 in scope.

- As a subcontractor to TRW Energy Systems (in metropolitan Washington), CONSAD carried out several assignments in support of work for the Department of Energy. Assignments included:
 - Projection of labor market impacts of energy consumption changes in the Pacific Northwest with the aid of state-level input-output economic models;
 - Development of design proposals and amendments to PPBRA/PPPS transition systems; and
 - Design of evaluation schemes, sampling procedures, data collection procedures, and calculation techniques for monitoring of state energy

conservation programs for residential and commercial buildings.

Assignments have run from three weeks to six months in duration and have involved costs from \$9,000 to \$32,000 or more.

- For the National Science Foundation, CONSAD has performed numerous studies on a quick response basis. These studies include:

- Analysis of managing and budgeting of major interagency research endeavors;
- Assessment of tax incentive options for stimulating business contributions to university research and research training;
- Development of quality measures for university student inputs and outputs in science and engineering;
- Estimates of development of, and demand for, supercomputerism academic research;
- System design and programming assistance for the PRA automated policy analysis system;
- Examination of an agenda for science policy research; and
- Report on plans for new NSF program management procedures.

These assignments have included literature reviews, data collection, interviewing of experts, the preparation of papers, and the convening of workshops and seminars. Tasks have been from three weeks to six months and involved costs ranging from \$4,000 to \$30,000.

These summaries further demonstrate that CONSAD has recent -- and very real -- experience with quick-response, well-conceived, task-oriented assignments. We, therefore, are confident of our ability to carry out the proposed economic and regulatory analyses for OSHA in a timely, efficient, and cost-effective manner.

1.2.5 Experience in the Management of Subcontractors and Consultants

Throughout its long and extensive corporate experience, CONSAD has successfully managed the activities of subcontractors and consultants on a substantial number of research projects. Most notably, CONSAD has effectively administered the constituent research efforts of subcontractors and consultants on all of its previous and current research contracts with OSHA, EPA, DOE, and other agencies.

CONSAD has also successfully managed the research activities of subcontractors and consultants on many other research projects. In particular, subcontractors have been involved in:

- Design, programming, and testing of the SEAS land use model, for the Environmental Protection Agency.
- Analysis and integration of water pollution control costs, for the Environmental Protection Agency.
- Study design for economic and demographic impact analysis, for the Department of Commerce.
- Economic and demographic impact analysis and model development, for the Department of Commerce.
- Evaluation of the occupational safety impacts of energy technologies, for Department of Energy.
- Examination of public works investment in the United States, for the Department of Commerce.
- Regional federal procurement study, for the Department of Commerce, Economic Development Administration.
- Evaluation of the economic impact of applying railroad safety standards, for the Department of Transportation, Federal Railway Administration.
- Developed and implemented the SEAS effects/reactions module, for the Environmental Protection Agency.

- Analysis of the direct and indirect costs of air pollution control, Phase I, for the Environmental Protection Agency.
- Impact model documentation, for the Department of Energy, Energy Information Administration.

Similarly, consultants have been substantial participants in numerous related CONSAD research projects, including:

- Development of a benefit-cost system for chemical pesticides, for the Environmental Protection Agency.
- Cost-benefit analysis of toxic substances, for the Environmental Protection Agency.
- Analysis of the economic impacts of various pollution abatement scenarios, for the Environmental Protection Agency.
- Basic research on the incremental value of mineral resources information, for the Department of the Interior.
- Analysis of critical mineral supply interruption impacts and implications, for the Department of the Interior.

1.2.6 Related Project Summaries

The following project summaries describe over two dozen (and, in many cases, still ongoing) CONSAD task orders issued under current and past support services contracts. In addition, other projects that are most relevant to the types of research efforts expected to be performed under OSHA's proposed procurement are also described.

PROJECT SUMMARIES

Project Title: RULEMAKING SUPPORT FOR AN ECONOMIC ANALYSIS
FOR THE PROPOSED REVISIONS TO CFR 1910.56
FOR CONSTRUCTION INDUSTRIES

Contract Number: J-9-F-8-0033, Option Year 1, Task Order 1
J-9-F-8-0033, Option Year 1, Task Order 2
J-9-F-8-0033, Option Year 2, Task Order 1

Contracting
Officer: Hugh Conway
Client: U.S. Department of Labor
Occupational Safety and Health Association
Office of Regulatory Analysis

Address: 200 Constitution Avenue, NW
Washington, DC 20210

Phone Number: (202) 523-9690

Size of Contract:
Dollar \$588,065
Time 13,412 hours
Type Labor Hour

Contract Dates: July 1989 - September 1990

Abstract: In this study, CONSAD assisted OSHA in its regulatory analysis of the revision to the air contaminant standard for the construction industry (CFR 29 1910.56). This study followed the general industry standard revision. The construction industry required a separate analytical approach because of the variability of exposure sources, frequencies of exposure, numbers of workers exposed, and methods of protection.

CONSAD initiated this project by analyzing the use of chemicals in the construction industry and determining their relative impact on workers. CONSAD then contacted industry experts identified by trade associations and labor unions to assist in the creation of a list of activities that could lead to an exposure or overexposure to the proposed list of chemicals to be regulated.

The next major task involved preparation for a computer assisted telephone interview (CATI) survey. CONSAD developed a survey instrument, a sampling strategy, and frame. Using its programming staff, the survey questionnaire was translated into a CATI-based instrument. Over 2,500 firms were contacted to yield approximately 1,200 completed interviews.

In order to gather data which was specific to the respondent, a large number of open-ended questions were asked. This required a large coding effort. This data reduction work was aided by the development of specific programs which would allow analysts to recode responses on products, activities, and exposures.

The next analytical portion of the project involved the design and implementation of an exposure assessment methodology. This knowledge-based system assessed all relevant data gathered during the survey and, using judgments by industrial hygienists and engineers in combination with available exposure data, defined each activity as to whether it created an overexposure situation. If an overexposure was determined, the computer program then compared the reported protective measures with those recommended by industrial hygienists. If the protective measures used were inadequate, a cost of compliance was calculated. The cost of compliance for each individual respondent was then multiplied by weighting factors in order to estimate a national cost of compliance. The program also calculated an estimate of the person-years of exposure to all chemicals reported in the survey.

Finally, the results of these analytic tasks were presented in a report to OSHA summarizing the characteristics of the construction industry, as well as the technological feasibility, the estimates of occupational exposure, the compliance costs, and the economic impacts of the proposed PELs.

Staffing:

A. Botkin - Project Manager/Senior Analyst
A. Bernstein - Senior Analyst
S. Feldsott - Senior Analyst
F. Rueter - Senior Analyst
J. Barnes - Analyst
S. Cleland - Analyst
S. Jackendoff - Analyst
A. Jowers - Analyst
T. Milczarczyk - Analyst
G. Marshall - Computer Programmer
M. Shefler - Computer Programmer

Project Title: ECONOMIC ANALYSIS OF THE PROPOSED REVISIONS
TO THE OSHA ASBESTOS STANDARDS FOR
CONSTRUCTION AND GENERAL INDUSTRY

Contract Number: J-9-F-8-0003, Option Year 1, Task Order 4

Contracting
Officer: Hugh Conway
Client: U.S. Department of Labor
Occupational Safety and Health Administration
Office of Regulatory Analysis

Address: 200 Constitution Avenue, NW
Washington, DC 20210

Phone Number: (202) 523-9690

Size of Contract:
Dollar \$175,038
Time 3,440 hours
Type Labor Hour

Contract Dates: December 1989-February 1991

Abstract: On June 20, 1986, at 51 FR 22612, OSHA published revised standards governing occupational exposure to asbestos in general industry (29 CFR 1910.1001) and construction (29 CFR 1926.58). OSHA reduced the eight-hour time weighted average (TWA) permissible exposure limit (PEL) to 0.2 fibers per cubic centimeter (or f/cc), and adopted provisions for medical surveillance, exposure monitoring, methods of compliance, respiratory protection, and recordkeeping, among others. On February 2, 1988, the U.S. Court of Appeals for the District of Columbia Circuit upheld the standards in most respects but remanded the case to OSHA on several issues [Building and Construction Trades Department v. Brock, 838 F. 2d 1258 (D.C. Cir. 1988)]. In partial response to the decision, on September 14, 1988, OSHA issued a short-term exposure limit (STEL) for asbestos of 1 f/cc averaged over a sampling period of 30 minutes (53 FR 35610). In June and July 1989, the Building and Construction Trades Department of the AFL-CIO (BCTD) and the AFL-CIO petitioned the Court to order OSHA to resolve all remand issues on the record of the 1986 rulemaking proceeding. The Court, on October 30, 1989, ordered OSHA to take action on the remand issues by February 1990 (later extended to July 1990).

The proposed standards now being considered by OSHA pertain to general industry and

construction work. Both proposed standards contain an eight-hour TWA permissible exposure limit (PEL) of 0.1 f/cc (in the current rule, the PEL is 0.2 f/cc), as well as the existing requirements for engineering controls, work practices, personal protective equipment, and a variety of ancillary measures for controlling occupational exposure to asbestos.

The purpose of this study is to conduct certain necessary analyses pursuant to Executive Order 12291 and the Regulatory Flexibility Act and to prepare an economic and technological feasibility, compliance costs, and economic effects of OSHA's proposed revisions to the asbestos standards for controlling asbestos exposure in primary and secondary asbestos manufacturing, in construction, and during asbestos removal projects in general industry. The scope of this study covers all of these activities where exposure to asbestos can occur. More specifically, the overall study objectives were:

- To examine the key provisions contained in OSHA's proposed asbestos standards;
- To determine the number of affected workers in the primary and secondary asbestos manufacturing and use sectors, as well as the number of construction workers and workers in firms in selected general industry sectors affected, and the frequencies, levels, and duration of their exposures to asbestos in each of the basic activities described below;
- To determine current control practices and analyze the technological feasibility and direct costs of compliance of the various control practices that can be used to comply with OSHA's proposed asbestos standards; and
- To evaluate the indirect costs and economic impacts of OSHA's proposed asbestos standards on the primary and secondary asbestos manufacturing and use sectors, and the construction industry and firms in selected general industry sectors, including effects on small businesses.

In performance of this study, CONSAD reviewed the data, methodologies, assumptions, and analyses performed in the previous studies examining occupational exposure to asbestos and, as appropriate, utilized these previously collected data. Additional secondary data necessary to assess the effects of OSHA's proposed asbestos standards were also examined. These secondary data consisted of information on current exposures to asbestos, current control technologies and unit cost estimates, and current industry economic characteristics. These data were obtained from industry experts, trade associations, trade publications, equipment suppliers, comments submitted to the asbestos remand docket, and statistical information compiled by various federal governmental agencies. Given the short time period in which to perform these analyses, no primary data collection activities (i.e., survey data) were performed nor were any site visits conducted.

Staffing:

A. Bernstein - Project Manager/ Senior Analyst
F. Rueter - Senior Analyst
S. Feldsott - Senior Analyst
J. Barnes - Analyst
S. Cleland - Analyst
G. Marshall - Computer Programmer

Project Title: ANALYSIS OF OCCUPATIONAL SUBSTANCE USE
AND WORKPLACE SAFETY

Contract Number: J-9-F-7-0052, Option Year 1, Task Order 2

Contracting
Officer: Hugh Conway
Client: U.S. Department of Labor
Occupational Safety and Health Administration
Office of Regulatory Analysis

Address: 200 Constitution Avenue, NW
Washington, DC 20210

Phone Number: (202) 523-9690

Size of Contract:
Dollar \$239,404
Time 4,400 hours
Type Labor Hour

Contract Dates: March 1989 - August 1989

Abstract: The Occupational Safety and Health Administration (OSHA) has a substantial interest in better understanding the extent of substance use in the workforce and the impact of substance use on occupational injuries and illnesses, as well as on other workplace safety-related performance indicators including sick leave, use of medical benefits, use of workers compensation, and disciplinary actions. In particular, OSHA wanted to know if substance-using workers are at a significantly greater risk of incurring and/or causing occupational injuries and illnesses than their non-using co-workers and, if so, how widespread substance use is in the workforce.

The purposes of this study were to develop improved estimates of the extent of substance use in the workforce and to provide greater knowledge of the relationship between substance use and workplace safety. Specifically, the study's objectives included the following:

- Investigated the relationship between occupational safety and workers use of substances that may impair their perceptions and coordination, and their ability to perform their jobs properly;

- Developed empirical estimates of the consequences on occupational safety from workers use of such substances, to the degree possible with available data;
- Evaluated the accuracy, reliability, and plausibility of estimates of the incidence and prevalence of substance use derived using four different types of data: self-reports, supervisor reports, corporate personnel records, and chemical tests; and
- Made recommendations to OSHA for improved recordkeeping and reporting procedures.

To accomplish this study's objectives, CONSAD utilized data from secondary sources such as published and unpublished documents, publicly accessible data files, and data from corporate recordkeeping systems of individual companies. This study was largely exploratory in nature, and the methodologies employed were, in a major way, dictated by the types of information contained in the available data sources.

Based upon the exploratory research performed in this study, our understanding of substance use in the workforce, as well as the relationship between substance use and workplace safety, can be further improved if additional case-controlled studies are performed, especially if they are prospective studies rather than retrospective studies as were performed here. With a multi-year prospective study, methodologies for collecting and compiling all pertinent worker characteristics, safety, job performance, and chemical testing data, within a single recordkeeping system, can be specified in the study design phase.

Staffing:

W. Steger - Officer-in-Charge
 F. Rueter - Project Director
 A. Bernstein - Senior Analyst
 E. Morren - Senior Analyst
 S. Cleland - Analyst
 G. Marshall - Computer Programmer
 M. Shefler - Computer Programmer

Project Title: ECONOMIC ANALYSIS OF PROPOSED REVISIONS
TO OSHA PERMISSIBLE EXPOSURE LIMITS
FOR CHEMICAL SUBSTANCES WITH NEW OR
UPDATED INDUSTRY CONSENSUS STANDARDS
FOR GENERAL INDUSTRY

Contract Number: J-9-F-7-0052, Base Year, Task Order 2
J-9-F-8-0033, Base Year, Task Order 2

Contracting
Officer: Lawrence Braslow
Client: U.S. Department of Labor
Occupational Safety and Health Administration
Address: 200 Constitution Avenue, NW
Washington, DC 20210
Phone Number: (202) 523-8017

Size of Contract:
Dollar \$771,557
Time 16,775 hours
Type Labor Hour

Contract Dates: August 1987 - May 1989

Abstract: OSHA originally adopted as permissible exposure limits (PELs) the consensus standards recommended by the American Standards Institute (ANSI) for almost 500 chemical substances. Since that time, ACGIH, ANSI and other consensus standard setting groups have revised many of those consensus standards, and have established consensus standards for approximately 200 additional chemical substances. CONSAD, in collaboration with five other contractors and under the general direction of OSHA's Office of Regulatory Analysis, assisted OSHA in assessing the anticipated impact of adopting as PELs those new and updated consensus standards. More specifically, CONSAD assisted OSHA in: preparing industry profiles of chemical production, use, and occupational exposures; evaluating the technological feasibility of controlling occupational exposure; assessing the health improvements and other benefits expected to result from controlling occupational exposure; estimating the direct and indirect costs and other impacts associated with implementing controls; and evaluating the impacts on small entities expected to result from the simultaneous promulgation of the new and revised PELs.

The development of the industry profiles involved the systematic review of available secondary data, the design and implementation of a large national survey of industries with substantial occupational exposure to the chemical substances under consideration; and the judicious application of the knowledge and experience of industry experts in the formulation of the survey instrument and the interpretation of the secondary and primary data collected. Based on those data and interpretations, CONSAD participated in determining the controls required to achieve compliance with the proposed revised PELs under representative circumstances in individual industries, estimating the direct and indirect costs of implementing those controls, assessing the reductions in occupational exposure and associated improvements in health resulting from application of the controls, and evaluating the attendant economic and environmental impacts of the proposed PELs.

As part of the supporting evidence for the analysis of regulatory impacts, CONSAD conducted 40 site visits to a wide variety of firms in the metals, printing, tanning, and service industries. Each site visit documented the process, work practices, engineering controls, and exposures found at each site.

Staffing:

F. Rueter - Project Director
A. Bernstein - Task Leader/Senior Analyst
A. Botkin - Task Leader/Senior Analyst
S. Feldsott - Task Leader/Senior Analyst
D. Seltzer - Task Leader/Senior Analyst
J. Barnes - Analyst
H. Casper - Analyst
S. Jackendoff - Analyst
T. Milczarczyk - Analyst
L. Miller - Analyst
M. Shefler - Computer Programmer

Project Title: ECONOMIC ANALYSIS OF PROPOSED REVISION
TO REGULATIONS GOVERNING EXPOSURE
TO METHYLENE CHLORIDE

Contract Number: J-9-F-4-0024, Option Year 2, Task Order 2
J-9-F-7-0052, Base Year, Task Order 1
J-9-F-7-0052, Option Year 1, Task Order 2
J-9-F-8-0033, Option Year 1, Task Order 3

Contracting Officer: Lawrence Braslow
Client: U.S. Department of Labor
Occupational Safety and Health Administration
Address: 200 Constitution Avenue, NW
Washington, DC 20210
Phone Number: (202) 523-8017

Size of Contract: Dollar \$382,790
Time 8,190 hours
Type Labor Hour

Contract Dates: July 1986 - September 1990

Abstract: OSHA proposed a reduction of the permissible exposure limits for occupational exposure to methylene chloride, based on evidence indicating that the chemical is carcinogenic. CONSAD, under several task orders, assisted OSHA by preparing an industry profile, assessing technological feasibility, assessing benefits, estimating direct and indirect costs and impacts, and evaluating small entity impacts. The development of the industry profile required the segmentation of the users of methylene chloride into some 23 generic usage categories such as metal cleaning, paint removal, electronic parts cleaning, etc., and gathering primary and secondary data on each.

A national survey with a planned sample size of 2,000 respondents was conducted to determine patterns of use, and exposure, engineering controls and personal protective equipment employed. In order to conduct the survey, CONSAD developed a sampling strategy and gathered lists of potential users, designed an appropriate survey instrument (questionnaire), trained a survey team, conducted both a mail and telephone survey campaign, and edited and inputted the data into the computer to permit complete analysis.

Based on the primary and secondary data collected, CONSAD estimated the direct and indirect costs of compliance with the regulation, as well as the benefits of the proposed regulatory change.

Staffing:

F. Rueter - Project Director
A. Botkin - Project Manager/Task Leader/
 Senior Analyst
D. Seltzer - Task Leader/Senior Analyst
S. Feldsott - Task Leader/Senior Analyst
J. Barnes - Analyst
H. Casper - Analyst
N. Damodaran - Analyst
S. Jackendoff - Analyst
L. Miller - Analyst
G. Marshall - Computer Programmer

Project Title: AN ECONOMIC ANALYSIS OF THE PROPOSED
REVISION TO THE OSHA STANDARD COVERING
OCCUPATIONAL EXPOSURES TO ASBESTOS,
TREMOLITE, ANTHOPHYLITE AND ACTINOLITE

Contract Number: J-9-F-4-0024, Option Year 2, Task Order 3
J-9-F-5-0060, Option Year 1, Task Order 6
J-9-F-7-0052, Base Year, Task Order 4

Contracting
Officer: Lawrence Braslow
Client: U.S. Department of Labor
Occupational Safety and Health Administration
Address: 200 Constitution Avenue, NW
Washington, DC 20210
Phone Number: (202) 523-8017

Size of Contract:
Dollar \$457,814
Time 9,220 hours
Type Labor Hour

Contract Dates: November 1986 - February 1989

Abstract: On June 20, 1986, the Occupational Safety and Health Administration (OSHA) promulgated a final rule covering "Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite. The inclusion of non-asbestiform tremolite, anthophyllite, and actinolite in the revised standard reflected previous rulemaking related to asbestos (i.e., the promulgation of the 1972 standard). However, in response to comments and petitions regarding the appropriateness of the inclusion of these non-asbestiform minerals, OSHA, on July 18, 1986, voluntarily stayed those portions of the standard pertaining to non-asbestiform tremolite, anthophyllite, and actinolite. The stay was intended to enable OSHA to review and evaluate the issues raised by commenters.

The purpose of this project was to facilitate OSHA's review by providing data to contribute to the assessment of the technological feasibility, costs, and economic impacts associated with the proposed expansion of the asbestos standard to cover non-asbestiform tremolite, anthophyllite, and actinolite. The project was carried out in two phases:

- Phase One involved the identification and description of the industries where workers are exposed to the non-asbestiform substances.
- Phase Two involved developing a research design for examining industry impacts and developing estimates of compliance costs. Site visits to a selected number of firms were also performed during this phase.
- Phase Three involved carrying out the research plan and developing a feasibility and cost analysis related to regulatory alternatives for selected industries.

The major product of Phase One was a detailed flow diagram delineating the movement of the minerals from the mines to the end-users. The flow diagram was accompanied by a narrative which provided perspective with respect to market structure, industry processes, the size and distribution of firms within sectors, and other pertinent industry characteristics. These data enabled OSHA and CONSAD to focus on selected industry sectors during the second phase.

During Phase Two, CONSAD, in concert with OSHA, selected industries for inclusion in surveying activities, identified alternative data collection methods for other affected methods, conducted site visits to selected companies to perform air monitoring, designed survey instruments and sample plans, and prepared OMB supporting documentation.

During Phase Three, all data collection activities were carried out and all analyses required for the preparation of an RIA and RFA were performed.

Staffing:

D. Seltzer - Project Manager/Senior Analyst
 S. Feldsott - Project Manager/Senior Analyst
 A. Bernstein - Task Leader/Senior Analyst
 H. Casper - Analyst
 S. Cleland - Analyst
 N. Damodaran - Analyst
 T. Milczarczyk - Analyst
 G. Marshall - Computer Programmer
 M. Shefler - Computer Programmer

Project Title: DEVELOPMENT OF INDUSTRY PROFILE DATA
FOR OSHA'S DRAFT PROPOSED STANDARD
FOR PERMIT ENTRY CONFINED SPACES

Contract Number: J-9-F-4-0024, Option Year 2, Task Order 1
J-9-F-7-0052, Base Year, Task Order 3
J-9-F-8-0033, Base Year, Task Order 1

Contracting
Officer: Lawrence Braslow
Client: U.S. Department of Labor
Occupational Safety and Health Administration
Address: 200 Constitution Avenue, NW
Washington, DC 20210
Phone Number: (202) 523-8017

Size of Contract:
Dollar \$282,441
Time 5,850 hours
Type Labor Hour

Contract Dates: February 1986 - May 1988

Abstract: The Occupational Safety and Health Administration (OSHA) is currently developing a federal standard which would supplement existing standards in 29 CFR Part 1910 in order to address the unique hazards faced by individuals who work in confined spaces. The purpose of this study was to provide OSHA with the data needed to prepare a preliminary regulatory impact assessment (PRIA) and a regulatory flexibility analysis (RFA) of its draft proposed standard for permit entry confined spaces (PECS). More specifically, CONSAD collected information necessary for preparing an industry profile including a description of the types and numbers of PECS in each industry affected by the standard, the annual number of entries made into PECS, the length of time spent in these spaces, and the level of current industry compliance with the requirements contained in OSHA's draft proposed standard.

This information was collected utilizing a panel of industry experts (i.e., consultants) knowledgeable about both the types of confined spaces in their respective industries and current safety practices when entering such spaces. This information gathering effort focused on those manufacturing and non-manufacturing industries covered by the standard that have permit entry confined

spaces (PECS) and where current industry work safety practices do not typically conform to all (or most) of the requirements contained in OSHA's draft proposed standard (i.e., those industries most likely to incur costs). To assist each expert in providing the required information, CONSAD developed an information form covering the topics described above. As the information forms were received, responses were reviewed for completeness and consistency. As necessary, industry experts were contacted when their responses needed to be clarified.

In addition to this data collection effort, CONSAD conducted site visits to a small number of representative plants in selected industry sectors in order to further examine the hazards and safety practices utilized when entering permit entry confined spaces. The site visits were targeted to those industries where the products being manufactured could be considered to be confined spaces under OSHA's draft proposed standard.

Staffing:

A. Bernstein - Project Manager/Senior Analyst
A. Botkin - Analyst
H. Casper - Analyst
S. Cleland - Analyst
G. Marshall - Computer Programmer

Project Title: PREPARATION OF AN ECONOMIC, TECHNOLOGICAL,
AND ENVIRONMENTAL PROFILE RELATED TO
PROPOSED ASBESTOS STANDARDS FOR THE
CONSTRUCTION INDUSTRY AND ASBESTOS REMOVAL
PROJECTS IN GENERAL INDUSTRY

Contract Number: J-9-F-4-0024, Option Year 1, Task Order 1
J-9-F-4-0024, Option Year 1, Task Order 3

Contracting
Officer: Barry Sanders
Client: U.S. Department of Labor
Occupational Safety and Health Administration
Address: 200 Constitution Avenue, NW
Washington, DC 20210
Phone Number: (202) 523-6320

Size of Contract:
Dollar \$336,110
Time 6,250 hours
Type Labor Hour

Contract Dates: February 1985 - December 1985

Abstract: CONSAD assisted the Office of Regulatory
Analysis/OSHA in its evaluation of the current
standard on occupational exposure to asbestos
in the construction industry and during
asbestos removal projects in general industry.
The purposes of this study were to conduct
certain necessary analyses pursuant to
Executive Order 12291 and the Regulatory
Flexibility Act and to prepare an economic,
technological and environmental profile for
both the construction industry and asbestos
removal in general industry. This report
incorporated information from CONSAD's
previous asbestos studies, as well as
information presented during and subsequent to
the public hearings held in June/July 1984.
Analysis was conducted, as needed, on the
nature, duration and frequency of exposure to
asbestos and on the technological feasibility,
benefits, compliance costs, and impacts of
regulatory alternatives for controlling
exposure both for a separate construction
standard and removal practices in general
industry. The analysis for the construction
standard emphasized issues regarding work
practices for handling, installation, and
removal of asbestos-containing materials.

Staffing:

F. Rueter - Project Director
A. Bernstein - Task Leader/Senior Analyst
S. Feldsott - Task Leader/Senior Analyst
D. Seltzer - Task Leader/Senior Analyst
A. Botkin - Analyst
C. Sanderford - Analyst
G. Marshall - Computer Programmer

Project Title: ASBESTOS TASK ORDER FOR
CONSTRUCTION ALTERNATIVES

Contract Number: J-9-F-4-0024, Base Year, Task Order 1

Contracting
Officer: Barry Sanders
Client: U.S. Department of Labor
Occupational Safety and Health Administration
Address: 200 Constitution Avenue, NW
Washington, DC 20210
Phone Number: (202) 523-6320

Size of Contract:
Dollar \$331,632
Time 7,137 hours
Type Labor Hour

Contract Dates: December 1983 - July 1984

Abstract: CONSAD conducted a detailed analysis of current practices in controlling occupational exposure to asbestos in the construction industry, and of the effectiveness, technological feasibility, compliance costs, and economic and environmental effects of regulatory alternatives for controlling asbestos exposure in that industry. The analysis examined asbestos exposure in each of five distinct construction activities: (1) new construction; (2) asbestos abatement; (3) renovation/remodeling of existing structures; (4) routine facility maintenance; and (5) demolition. Exposure during asbestos removal in general industry was also studied.

The project involved both primary and secondary data collection. Based on the data collected, assessments were made of:

- The numbers, frequencies, levels, and durations of worker exposures to asbestos in each of the basic construction activities;
- Current industry control practices; the technological feasibility and cost-effectiveness of various control methods that might be used to comply with proposed modifications to the current standard;

- The indirect costs and economic impacts of the proposed modifications on the construction industry, including effects on small entities, and
- The environmental effects, where those are judged to be significant.

Staffing:

F. Rueter - Project Director
A. Bernstein - Task Leader/Senior Analyst
D. Seltzer - Task Leader/Senior Analyst
A. Botkin - Analyst
H. Casper - Analyst
S. Feldsott - Analyst

Project Title: PREPARATION OF DATA TO SUPPORT A
REGULATORY ANALYSIS AND ENVIRONMENTAL
IMPACT ASSESSMENT OF THE PROPOSED STANDARD
FOR SHIPBUILDING AND REPAIRING

Contract Number: J-9-F-4-0024, Base Year, Task Order 3
J-9-F-4-0024, Option Year 1, Task Order 2
J-9-F-4-0024, Option Year 1, Task Order 4

Contracting
Officer: Barry Sanders
Client: U.S. Department of Labor
Occupational Safety and Health Administration
Address: 200 Constitution Avenue, NW
Washington, DC 20210
Phone Number: (202) 523-6320

Size of Contract:
Dollar \$327,247
Time 6,350 hours
Type Labor Hour

Contract Dates: January 1985 - December 1986

Abstract: For the Office of Regulatory Analysis, in
separate task orders, CONSAD assisted OSHA in
its review of the current Federal standards to
protect the health and safety of workers
employed in the shipbuilding and repairing
industry to determine the need and
desirability of a single vertical standard to
address these safety and health concerns.
Analyses were conducted to assist OSHA in
complying with the requirements of Executive
Order 12291 and the Regulatory Flexibility Act
of 1980. A primary requirement of this
project was to provide information to OSHA to
be used to analyze the technological
feasibility, benefits, compliance costs, and
paperwork requirements of the proposed
vertical standard.

The following safety standards were included
in the study: welding, cutting, and heating;
scaffolding; fall protection; personal
protective equipment; and explosives and other
hazardous atmospheres. Various types of
primary data collection -- including a
telephone mail survey, site visits, focus
groups, and trade association mailings -- were
utilized to supplement information from
secondary data sources.

Staffing:

D. Seltzer - Project Manager/Senior Analyst
A. Bernstein - Task Leader/Senior Analyst
S. Feldsott - Task Leader/Senior Analyst
A. Botkin - Analyst
H. Casper - Analyst
F. Rueter - Analyst

Project Title: ANALYSIS OF TECHNOLOGICAL FEASIBILITY
AND ECONOMIC IMPACT OF NEW ASBESTOS
EXPOSURE STANDARDS

Contract Number: J-9-F-6-0037

Contracting
Officer: David Bell
Client: U.S. Department of Labor
Occupational Safety and Health Administration
Address: 200 Constitution Avenue, NW
Washington, DC 20210
Phone Number: (202) 523-7012

Size of Contract:
Dollar \$152,862
Time 5,845 hours
Type CPFF

Contract Dates: December 1975 - December 1976

Abstract: CONSAD analyzed the technological feasibility and economic consequences of a proposed new standard governing occupational exposure to asbestos for OSHA. This project involved:

- An analysis of the most probable remedial control approaches for those industries affected by the new standard;
- Estimation of the costs of compliance for each alternative control approach for affected industries;
- Technological feasibility analysis of the requirements and issues implied by compliance; and
- Analysis of the economic/inflationary impact of alternative asbestos exposure standards.

CONSAD developed extensive documentation on the results of these analyses, including: hazards and health implications; nature of occupational exposure hazards; assessment of existing and long-term control solutions; estimation of compliance costs; and estimation of inflationary impacts.

Staffing:

D. Matzzie - Project Director
F. Rueter - Task Leader/Senior Analyst
J. Chapman - Analyst
F. Lloyd - Analyst

Project Title: PROVIDE ESTIMATES OF THE TECHNOLOGICAL
AND ECONOMIC IMPACT OF PROPOSED STANDARDS
FOR THE CONTROL AND ELIMINATION OF SAFETY
AND HEALTH HAZARDS IN THE WORKPLACE

Contract Number: J-9-F-6-0234

Contracting
Officer: David Bell
Client: U.S. Department of Labor
Occupational Safety and Health Administration
Address: 200 Constitution Avenue, NW
Washington, DC 20210
Phone Number: (202) 523-7012

Size of Contract:
Dollar \$100,478
Time 3,830 hours
Type CPFF

Contract Dates: September 1976 - September 1978

Abstract: CONSAD was engaged on a continuing basis-by the Occupational Safety and Health Administration of the U.S. Department of Labor to determine whether proposed standards for the control and elimination of safety and health hazards in the workplace are technologically feasible and the economic impact that would result from their implementation. In this effort, CONSAD utilized occupational hygienists and engineers and safety engineers to determine the extent of technological and other changes that are required in a particular industry in order to comply with the proposed standard, and the cost (capital and operating) of such compliance. The response of industry to such increased cost was determined along with the market response and effect on the overall economy. The benefits of the proposal were also delineated, based on epidemiological data to the extent that it exists.

The results of these studies were carefully and thoroughly documented, with extensive use of technical appendices, and presented as part of the public record in the OSHA rulemaking procedure. CONSAD staff participated in the public hearings to explain the studies and their results and to respond to questions on the studies.

Staffing:

D. Matzzie - Project Director
F. Rueter - Task Leader/Senior Analyst
J. Chapman - Analyst
F. Lloyd - Analyst

Project Title: EXAMINATION OF THE INTERRELATIONSHIPS
BETWEEN OSHA REGULATIONS AND WORKERS'
COMPENSATION SYSTEMS

Contract Number: J-9-F-0-0089, Task Order 2

Contracting
Officer: David Bell
Client: U.S. Department of Labor
Occupational Safety and Health Administration
Address: 200 Constitution Avenue, NW
Washington, DC 20210
Phone Number: (202) 523-7012

Size of Contract:
Dollar \$377,585
Time 10,972 hours
Type CPFF

Contract Dates: October 1981 - June 1982

Abstract: In this study for OSHA, CONSAD examined the interrelationships between OSHA regulations and workers' compensation systems, with specific attention to attendant health and safety effects. The study also considered other factors and programs that influence employee and employer decisions affecting occupational safety and health including: labor market mechanisms such as compensating wage differentials and job turnover, voluntary health and disability insurance, social insurance and public assistance, and tort liability. A general economic model was developed to analyze the impacts of specific government programs and labor market mechanisms on occupational safety and health. The structures, operations, and costs associated with the compensation and control systems examined in the study were analyzed. Econometric analyses of the economic, health, and safety impacts of the compensation and control systems were conducted. Finally, additional analyses were performed to investigate the incentives embodied in the various systems at a greater level of detail than was possible with the econometric analysis.

Staffing:

F. Rueter - Project Director
A. Bernstein - Task Leader/Senior Analyst
D. Seltzer - Task Leader/Senior Analyst
S. Feldsott - Analyst
C. Sanderford - Analyst
M. Shefler - Computer Programmer

Project Title: TECHNICAL REVIEW OF REGULATORY IMPACT ANALYSIS
OF ALTERNATIVE AMBIENT AIR QUALITY STANDARDS

Contract Number: Letter agreement dated October 13, 1982

Contracting

Officer:

Earle F. Young, Jr.

Client:

American Iron and Steel Institute

Address:

1000 16th Street, NW

Washington, DC 20036

Phone Number:

(202) 452-7271

Size of Contract:

Dollar

\$237,275

Time

2,268 hours

Type

Time and Materials

Contract Dates:

October 1982 - September 1987

Abstract:

In this study for the American Iron and Steel Institute, CONSAD performed a detailed technical review of a regulatory impact analysis of the cost, the health and welfare benefits, and socioeconomic and environmental impacts associated with alternative national ambient air quality standards for particulate matter which was prepared by the U.S. Environmental Protection Agency. The EPA analysis was based on quantitative estimates of relationships between reductions in particulate matter emissions and air pollution control and between exposures to particulate matter and various health and welfare effects obtained from the existing literature. The estimated relationships were combined with projections of county air quality to develop national cost, benefit, and impact estimates for alternative particulate matter standards. The technical review focused on determining the scientific adequacy of the results of the analysis for purposes related to setting air quality standards. Specific issues addressed in the technical reviews included:

- Biases introduced into the analysis by the criteria used in selecting studies from the existing literature for use in the estimation of benefits;
- The scientific adequacy of the estimated relationships taken from the existing literature for purposes related to setting air quality standards;

- The scientific acceptability of the ways in which the quantitative results obtained from the existing literature were applied in deriving estimates of costs, benefits, and impacts; and
- The accuracy and validity of the air quality data used in the cost, benefit, and impact estimation, and of the ways in which the data were developed and applied in the analysis.

More realistic estimates of costs, health benefits, and non-health benefits were also developed as part of CONSAD's technical review.

Staffing:

W. Steger - Project Director
F. Rueter - Principal Investigator

Project Title: EVALUATION OF THE OCCUPATIONAL SAFETY
IMPACTS OF ENERGY TECHNOLOGIES

Contract Number: Purchase Order N41110

Contracting
Officer: F. M. Ignoce
Client: The MITRE Corporation
Address: Washington Center
1820 Dolly Madison Boulevard
McLean, Virginia 22102

Phone Number: (703) 827-6000

Size of Contract:
Dollar \$53,139
Time 152 days
Type CPFF

Contract Dates: January 1980 - December 1980

Abstract: For the Department of Energy, CONSAD developed a system to evaluate the occupational safety impacts of energy technologies. Both conventional, as well as new, technologies were included in a system which estimates occupational safety impacts for all major fuel cycles. Relevant data bases from the Department of Labor, Department of Energy laboratories, and other sources were reviewed for possible inclusion in the system. The approach developed by CONSAD estimated both direct impacts during the construction and operation of the energy facilities, as well as indirect impacts in supplying industries.

Staffing: N. Dossani - Project Director
A. Bernstein - Analyst
M. Shefler - Computer Programmer

Project Title: DESIGN AND DEVELOP A PROTOTYPE DISTRIBUTED
ON-LINE TELEPHONE INTERVIEWING (DOLI)
SYSTEM TO COLLECT INFORMATION FROM
AIR FORCE OFFICERS FOR FORECASTING
PERSONNEL FORCE STRUCTURE CHANGES

Contract Number: SC-183-001

Contracting
Officer: R. D. Russell
Client: SRA Corporation
Address: 2000 15th Street, North
Arlington, Virginia 22201
Phone Number: (703) 558-4700

Size of Contract:
Dollar \$107,723
Time 1,800 hours
Type CPFF

Contract Dates: September 1985 - December 1985

Abstract: The objective of this project was to design and develop a prototype system for conducting distributed on-line telephone interviewing (DOLI) to collect from Air Force members information that can be used to forecast changes in personnel force structure. To accomplish this objective, CONSAD, in collaboration with Decision Making Information, engaged in:

- The design of a worldwide representative, statistically valid stratified sample of Air Force officers (Second Lieutenant through Colonel);
- The design and implementation of a computer system to support telephone interviews;
- The field testing and conduct of computer-assisted telephone interviews with over 800 officers worldwide; and
- Data review and analysis.

The issues examined in this project included career and job satisfaction and commitment, family impacts, pay/compensation adequacy, quality of life factors, and expectations of the duration of active duty. The data analysis focused on current attitudes, relevant variable interactions, and potential

measures to be used to enhance force structure forecasting.

Staffing:

F. Rueter - Project Director
S. Feldsott - Analyst
M. Shefler - Computer Programmer

Project Title: FEASIBILITY OF DETERMINING ACCEPTABLE
RISK LEVELS BASED ON HISTORICAL PRECEDENT

Contract Number: 83-6B-0043

Contracting
Officer: Patrick A. Welsh
Client: National Science Foundation
Address: 1800 G Street, NW
Washington, DC 20550
Phone Number: (202) 357-9602

Size of Contract:
Dollar \$9,200
Time 30 days
Type Fixed Price

Contract Dates: September 1983 - December 1983

Abstract: CONSAD reviewed case study data for about 50 air pollutants subject to (or potentially subject to) EPA regulations. Case study data included documents prepared by or for EPA on specific air pollutants and Federal Register notices. For each substance, CONSAD delineated the consideration of risk in each document, and an assessment of the feasibility of extracting or developing a quantitative mortality risk assessment based on the existing data. Details regarding the risk assessment status of each of the substances were reviewed.

Based on CONSAD's results, it appeared that hazardous air pollutants provided the best sources of risk estimates. The documents reviewed for at least three hazardous air pollutants provided risk estimates or the data from which such estimates could be calculated. Two of these substances, arsenic and benzene, have been associated with three or more separate proposed regulations (for specific source categories), thereby providing additional data for establishing an implicit acceptable risk level. The documents pertaining to criteria and toxic air pollutants contained less data in terms of quantified risk estimates.

Staffing: W. Steger - Project Director
A. Bernstein - Analyst
F. Rueter - Analyst

2.0 EXPERIENCE, QUALIFICATIONS, AND COMMITMENT OF PERSONNEL

For the successful completion of its assignments, CONSAD recognizes that the experience, skills, and capability of the professionals available are vitally important. People bring understanding, judgment, and even "style" to a particular technical research assignment. Project performance is often determined by the level of individual skills and the combination of unique styles of team members, as well as by the accumulated experience gained from other projects. In this section, the skills and capabilities of relevant CONSAD staff are presented. A capsule summary of each key individual is provided. Detailed resumes of all project personnel (except Junior Analysts and key entry/word processor operators) are available upon request.

CONSAD personnel mix provides the broad range of skills and experience required to successfully and expeditiously complete the types of projects that might arise under this arrangement. The staff members proposed for each assignment include individuals experienced in such areas as:

- Benefit-cost and cost-effectiveness analysis;
- Analysis of the impacts of technology and regulatory policies and programs in terms of employment, income, environmental impacts, occupational safety and health effects, and other impacts;
- Economic impact studies for specific industrial sectors, including manufacturing, construction, agricultural, and service sectors;
- Development of industrial hygiene and other safety and health programs, training of corporate personnel, and related safety engineering and industrial health services activities;

- Assembly and interpretation of toxicological and epidemiological data for health and environmental impact assessment;
- Use of econometric and statistical methods to provide estimates of key data items when existing data sources are inadequate;
- Conduct of field research, survey design, and data collection when existing sources are inadequate, including the use of computer assisted telephone interviewing (CATI);
- Analysis of both microeconomic and macroeconomic system interactions and their impacts using -- or building -- a wide variety of computerized energy/ economic/ environmental resource models.
- Use of a wide variety of national and regional economic models, when appropriate, including Wharton, DRI, Chase-Econometric, INFORUM, RIMS, and REA;
- Systems analysis and data processing, including the following programming languages: COBOL, FORTRAN, SAS, ALGOL, GPSS, SIMSCRIPT, SNOBOL, LISP, and others;
- Use a wide range of specific computer systems, including IBM 360/370, CDC 3600 and 6000-7000 series, UNIVAC 1100 series, DEC-10, and DEC VAX 11/750;
- Performance under quick response projects;
- Definition and management of technology and regulatory policy options; and
- Successful completion and clear presentation of project results in both oral and written form.

Key CONSAD individuals here are experienced technical specialists. Resumes for these highly qualified individuals are available upon request. Since they are lengthy, briefer summaries of key project personnel are provided below.

- Dr. Wilbur A. Steger (Officer-in-Charge) is the President of CONSAD. Dr. Steger's long experience in macro and regional economics, public policy analysis, benefit-cost and cost-effectiveness analysis, energy/economics/ environmental analytical model design, evaluation methods, and his working experience across several dozen of CONSAD's relevant technology and regulatory analysis

projects contributes to the successful completion of project activities. Dr. Steger is widely experienced in the design of research, evaluation, and policy analysis programs, and assisted the Regulatory Relief Task Force in implementing Executive Order 12291. He is highly knowledgeable about the overall federal context for national policy formulation meshing economics, technological, and physical and social planning. Dr. Steger, holding advanced degrees in Economics from Yale and Harvard (Ph.D., 1956), founded CONSAD in 1963 following seven years as a Senior Economist at the RAND Corporation. He is the author of more than one hundred published articles and monographs.

- Dr. Frederick H. Rueter (Project Director) is a Vice President of CONSAD and an economist specializing in microeconomics, resource economics, benefit-cost, and cost-effectiveness analysis, and regulatory analysis projects. In particular, Dr. Rueter is currently directing a task order project to examine the economic impacts associated with revising permissible exposure limits (PELs) for several hundred chemicals used in the construction industry. Dr. Rueter recently managed CONSAD's work examining the regulatory impacts of adopting new PELs for general industry as well as new standards related to methylene chloride and other solvents. He previously was responsible for analyzing the technological feasibility, benefits, compliance costs, and indirect impacts of alternative standards on occupational exposures to asbestos in the construction industry.

Dr. Rueter was also the principal investigator of CONSAD's technical review, for the American Iron and Steel Institute, of a regulatory impact analysis of alternative ambient air quality standards for particulate matter, prepared for EPA. Dr. Rueter also participated in CONSAD's projects to assess the prevalence and safety consequences of drug and alcohol use by workers in industry, and to evaluate the impacts and interrelationships between regulations and workers compensation systems. He was prominently involved in CONSAD's initial development of an inflationary impact statement for proposed revised standards for occupational exposure to asbestos dust, with primary responsibility for assessing the favorable health effects likely to be associated with the promulgation of more restrictive standards.

Dr. Rueter has a Ph.D. in Economics from and is currently an Adjunct Professor of Industrial Administration at Carnegie Mellon University.

- Mr. Alan D. Bernstein (Senior Analyst) is Director of Health and Safety Projects at CONSAD, and is an environmental and regulatory impact policy specialist. He has managed and been a senior member on CONSAD's studies (some still ongoing) assisting in its evaluation of alternative PELs for methylene chloride and for other substances used in general industry and in construction work (i.e., the general industry and construction PELs projects), its examination of a proposed standard to protect the health and safety of workers working in confined spaces, its regulatory analysis of proposed revisions to the asbestos standard governing exposure in the construction industry and in general industry, and its evaluation of the potential impacts associated with revised safety standards for the shipbuilding industry. In each of these studies, Mr. Bernstein has had primary responsibility for estimating the aggregate compliance costs, as well as the economic impacts of the proposed standards. Mr. Bernstein also recently managed CONSAD's study examining substance use in the workplace and its relationship to workplace safety. Currently, for the National Institute on Drug Abuse (NIDA), Mr. Bernstein is examining alternative methods for assessing drug use in industry. Mr. Bernstein is directing the field work being performed at several large United States corporations. In addition, Mr. Bernstein is also a senior member on CONSAD's project team examining the economic impacts associated with proposed revisions to the Clean Air Act (CAA).

Previously, Mr. Bernstein managed several projects for EPA's Field Operations and Support Division examining EPA's fuel and fuel additive registration process as well as EPA's fuel waiver guidelines process. Mr. Bernstein also managed CONSAD's effort with the Division of Geothermal Energy to analyze the benefits and costs of several federal geothermal funding levels in conjunction with Executive Order 12291 and DOE's Sunset Review requirements. Mr. Bernstein has also managed and been a team member on CONSAD studies related to pesticide and toxic regulations, including a benefit-cost methodology for pesticide registrations where he developed the health effects and cost-benefits components of the methodology, addressing techniques for controlling toxic substances, solid wastes and hazardous materials. He has also participated in assignments related to federal coal policy and exports, health care economics, environmental regulations, and regional economic impacts of regulatory proposals.

Mr. Bernstein has an M.S. in Industrial Administration from Carnegie Mellon University.

- Mr. Alex Botkin (Senior Analyst) is responsible for financial and industry analyses and economic development studies at CONSAD. Mr. Botkin has had extensive experience in performing regulatory analyses and is currently responsible for the PELs in construction project. Data were gathered by a computer-aided telephone interviews (CATI) program designed by CONSAD. Over 2,500 firms were contacted. Mr. Botkin also has served on several other CONSAD projects in the assessment of the impacts of prospective revised standards: on methylene chloride users, in the shipbuilding industry, affecting permit entry confined spaces, and, most recently, the PELs in general industry project.

For the Strategic Planning Division of Mellon Bank, Pittsburgh, Mr. Botkin researched and wrote a study on competing financial industries including savings and loans, finance companies, securities brokers, investment bankers, insurance companies, and credit unions. He was also responsible for a study on the impact of airport expansion on southern Beaver County, Pennsylvania. For this study, CONSAD made projections on economic development and potential land use, and examined infrastructure problems including water, sewerage, and road transportation.

Mr. Botkin received his B.A degree in Journalism and Communications from Point Park College in 1971 and his M.S. in Business Administration from the University of Pittsburgh in 1978.

- Mr. Steven Feldsott (Senior Analyst) is an Senior Analyst for CONSAD who has worked on and managed a wide variety of technology and regulatory projects. Mr. Feldsott is currently serving as a task leader on CONSAD's project examining proposed PELs in the construction industry. Mr. Feldsott also served as a task leader on CONSAD's general industry PELs project. He also was the Project Manager for CONSAD's study to examine the potential impacts of regulating non-asbestiform tremolite, actinolite, and anthophyllite as asbestos. Recently, he served as co-facilitator for several focus groups across the country to collect data and perceptions relative to the promulgation of new standards for the shipbuilding industry. For other standards related to shipbuilding, Mr. Feldsott was responsible for the conduct of the benefits estimation task. Previously, he was involved in a detailed analysis for OSHA of the effectiveness, technological feasibility, compliance costs and economic and environmental effects of regulatory alternatives for controlling asbestos exposure in the construction industry.

Mr. Feldsott also managed a major river traffic forecasting project for the Huntington District of the U.S. Army Corps of Engineers, and participated in a project for the Port Authority of Allegheny County entitled "An Evaluation of Expanded Opportunities for Commodity Shipment on the Pittsburgh Region's Waterways."

Mr. Feldsott received a B.A. in Mathematics from Carnegie Mellon University and is presently a Master's candidate in Mathematics and Information Science at the University of Pittsburgh.

In response to CONSAD's recognition that specialized expertise may be required from time to time on a particular task assignment, CONSAD has made arrangements with a number of experts to assist in their specialized areas. They include:

- Mr. Samuel Kaplan, CIH, CSP, a private consultant in both industrial hygiene and safety. He is a certified industrial hygienist, a certified safety professional, and certified in asbestos removal as a supervisor, competent person, and inspector/management planner. He has consulted in the areas of epidemiology studies, health guidance systems, and technical review and advisement on alterations in existing federal standards. Mr. Kaplan recently assisted CONSAD in our work with OSHA concerning occupational exposure to asbestos in the construction industry, in our study on confined spaces, and in our PELs study. Mr. Kaplan would assist CONSAD in examining the technological feasibility and current industry practices associated with existing and proposed safety and health regulations.
- Mr. Larry Keller, CIH, CSP, Director of Environment, Health and Safety at the University of Pittsburgh and an Assistant Professor at the Graduate School of Public Health, University of Pittsburgh. He is a certified industrial hygienist, a certified safety professional, and a certified product safety manager. Previously, at PPG Industries, Mr. Keller was the manager of the Health Sciences Department for the coatings and resins group responsible for worldwide technical and project management in the areas of industrial hygiene, toxicology, product safety, and environment. Mr. Keller recently assisted CONSAD in our PELs studies for OSHA as well as our confined spaces study. Mr. Keller would assist CONSAD in examining the technological feasibility, benefits and current practices associated with existing and proposed OSHA health and safety standards.

- Dr. Clifford Gross, President and Chief Executive Officer of Biomechanics Corporation of America. Dr. Gross founded and directs this company, the first public ergonomics firm in the United States. Dr. Gross has provided consulting, training, and research services worldwide, across a wide number of industries, and has published more than 50 articles and abstracts on workplace ergonomics, biomechanics, and injury prevention. As guest speaker, Dr. Gross has addressed professional audiences around the world. Dr. Gross has established corporate ergonomics programs at many of the largest United States corporations including E. I. duPont de Nemours, Dow Corning Corporation, Ford Motor Company, General Motors, Procter & Gamble, Michelin Tire Corporation, Consolidated Edison, Cooper Industries, Mobay Corporation, Union Carbide Corporation, Steelcase, Lear Seating, and Thomson Consumer Electronics. Dr. Gross holds PhD and Masters degrees in Ergonomics and Biomechanics from New York University. He has held teaching and research positions at New York University, where he was Acting Director of the Graduate Program in ergonomics and biomechanics. Dr. Gross also started programs in ergonomics at the Hospital for Joint Diseases and The New York Institute of Technology, where he was Chairman of the Department of Biomechanics. Currently, Dr. Gross is a Fellow of the Royal Society of Medicine in England and a member of the Ergonomics and Human Factors Societies. Dr. Gross would assist CONSAD in tasks where ergonomics expertise is required.

