STUDY OF THE METHODS OF DISTRIBUTION OF REVENUES FROM THE TAXATION OF ELECTRICAL POWER PLANTS

Bulletin No. 89-22

LEGISLATIVE COMMISSION
OF THE
LEGISLATIVE COUNSEL BUREAU
STATE OF NEVADA

NOVEMBER 1988

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STATE OF NEVADA

NOVEMBER 1988

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Senate Bill No. 307--Committee on Taxation

CHAPTER.....

AN ACT relating to taxation of electrical power plants; requiring an interim study of the methods of distributing revenues from the taxation of large electrical power plants; and providing other matters properly relating thereto.

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. 1. The legislative commission shall:

(a) Contract with consultants to conduct an interim study of the methods of distributing revenues from the taxation of large electrical power plants.

(b) Appoint five legislators to serve as an oversight committee for the study.

2. The legislative commission may also appoint other interested persons to serve as nonvoting members of the oversight committee. The nonvoting members are not entitled to receive any compensation or reimbursement for expenses from the state for their work on the committee.

3. The legislative members of the committee are entitled to receive the compensation provided for a majority of the members of the legislature during the first 60 days of the preceding regular session for each day or portion of a day during which they attend a meeting of the committee or are otherwise engaged in work of the committee plus the per diem allowance and travel expenses provided for state officers and employees generally, to be paid from the legislative fund.

4. The legislative commission may accept gifts of money from public utilities to pay for the consultants authorized to conduct the study pursuant to paragraph (a) of subsection 1.

Sec. 2. The oversight committee shall:

1. Define the scope of the study.

2. Establish a schedule for completion of the study.

3. Select the consultants and negotiate the terms of the contract.

4. Require scheduled progress reports from the consultants to ensure that:

(a) The consultants are adhering to the scope of the study as established by the oversight committee; and

(b) The study is completed as scheduled.

Sec. 3. The legislative commission shall submit a report of the study and any recommended legislation to the 65th session of the legislature.

Sec. 4. This act becomes effective upon passage and approval.

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REPORT OF THE LEGISLATIVE COMMISSION
TO THE MEMBERS OF THE 65TH SESSION OF THE NEVADA LEGISLATURE:

This report is submitted in compliance with Senate Bill No. 307 of the 64th session of the Nevada legislature which directs the legislative commission to contract with a consultant to study the methods of distribution of revenues from taxation of electrical power plants. The bill also requires that the commission appoint an oversight subcommittee whose duties include:

1. Define the scope of the study.
2. Establish a schedule for completion of the study.
3. Select the consultants and negotiate the terms of the contract.
4. Require scheduled progress reports from the consultants to ensure that:
   a. The consultants are adhering to the scope of the study as established by the oversight committee; and
   b. The study is completed as scheduled.

Legislative members appointed to the oversight committee were:

Senator James I. Gibson, Chairman
Assemblyman Louis W. Bergevin, Vice Chairman
Senator Charles W. Joerg
Assemblyman John W. Marvel
Assemblyman Paul W. May, Jr.

Interested persons appointed to serve as nonvoting members were:

Keith Ashworth, Nevada Power Company
Robert S. Hadfield, Nevada Association of Counties
James Salo, Sierra Pacific Power Company
Neil Reenders, Southern California Edison Company

Legislative counsel bureau staff services for the subcommittee were provided by Kevin D. Welsh of the fiscal analysis division (principal staff), Brenda Erdoes of the legal division (legal counsel) and Nenita Martinkus of the fiscal analysis division (subcommittee secretary).

This report attempts to present clearly and succinctly the findings and recommendations of the oversight committee. The data which bear directly upon recommendations are included either in the narrative or appendices. All supporting documents and minutes are available to any member from the fiscal analysis division of the legislative counsel bureau.

This report is transmitted to the members of the 1989 legislature for consideration and appropriate action.

Respectfully submitted,

Legislative Commission
Legislative Counsel Bureau
State of Nevada

Carson City, Nevada
September 1988

* *

LEGISLATIVE COMMISSION

Senator Lawrence E. Jacobsen, Chairman
Senator Sue Wagner, Vice Chairman

Senator James I. Gibson
Senator Nicholas J. "Nick" Horn
Senator Ann O'Connell
Senator John M. Vergiels

Assemblyman Louis W. Bergevin
Assemblyman Joseph E. Dini, Jr.
Assemblyman John B. DuBois
Assemblyman Robert M. Sader
Assemblyman James W. Schofield
Assemblyman Danny L. Thompson

SUMMARY OF RECOMMENDATIONS

This summary represents the major findings and recommendations reached by the oversight committee. The conclusions are based upon: (1) findings and conclusions of the consultant; (2) suggestions made to the oversight committee at public hearings by citizens associated with private and public sectors of the state economy; (3) the experience and knowledge of the members of the oversight committee; and (4) other correspondence to the members and staff of the oversight committee.

The oversight committee recommends:

That the Legislative Commission forward the findings and recommendations of the consultant, Peat Marwick Main Policy Economics Group, to the members of the sixty-fifth session of the Nevada Legislature without oversight committee recommentation.

REPORT TO THE 65TH SESSION OF THE NEVADA LEGISLATURE BY THE LEGISLATIVE COMMISSION'S SUBCOMMITTEE ON THE STUDY OF THE DISTRIBUTION OF THE REVENUES FROM THE TAXATION OF ELECTRICAL POWER PLANTS

A. Introduction

The 1985 session of the Nevada legislature adopted Senate Bill No. 307 which directed the Legislative Commission to contract with consultants to conduct an interim study of the methods of distributing the revenues from the taxation of electrical power plants and appoint an oversight committee for the study. The directive was adopted to investigate alternative policies regarding the taxation of electrical generating facilities and the distribution of the resulting revenues.

B. Background

The Southwest United States has, for the last decade, grown faster than any other region in the United States. The demand for services, both public and private, has also been growing at a dramatic rate. In the case of electrical power generation, factors resulting from rapid growth ironically have reduced the ability to locally meet the growing demand.

Congestion, cost and environmental concerns have virtually eliminated the development of any new large (particularly coal fired) electrical generating facilities anywhere near the population centers they would serve. In the late 1970's, utility companies began looking for solutions to this problem and they looked to Nevada. Nevada's geographical location is proximate to both major demand centers and coal and water resources, and its demographics make it an ideal location for power plant construction and operation.

The question for Nevada in the 1980's became: How could Nevada become a major producer and exporter of electrical power in the Southwest United States in an economically and socially acceptable manner?

Questions regarding the impacts of the construction of large electrical generating facilities on infrastructure, environment, lifestyle and local government services have been addressed in some form by every legislative session since 1979 and studied between sessions every interim since 1981.

In 1979, the legislature adopted S.B. 253 which allowed counties to finance and construct facilities for the generation and transmission of electricity and gave approval for the White Pine Power Project. The legislature also recognized that the nontraditional organizational structure (direct local government involvement) of the utility would have significant tax implications, and an effort to address those implications was also made in the same bill.

By 1981, it became apparent that the construction and operation of power plants of the magnitude of the one proposed in the White Pine Power Project created two problems that had to be addressed. First, the "uniform and equal rate of assessment and taxation" requirements of section 1 of Article 10 of the Nevada Constitution combined with the 1981 legislation ("the tax shift") that limited local government revenues and provided property tax relief by replacing it with sales tax made it difficult, if not impossible, to generate and distribute revenues appropriately. Second, the effects on resources such as air quality and water availability could be considerable and needed to be mitigated.

The mechanics of how maximum allowable combined revenue (revenue caps) and supplemental city county relief tax (a component of the sales tax) relate to the property tax is such that infusion of great amounts of revenue from the construction of a project this size would have the effect of greatly reducing or eliminating some local property tax. This results in an unintended windfall tax break to the utility and its out-of-state consumers and reduces the revenue available for impact mitigation. To address these issues, the 1981 Legislature approved S.B. 687 which changed the distribution of property taxes from a line-mile basis to a population basis. The legislation was designed to allow large electrical generating facilities to be taxed at an appropriate rate and to distribute the resulting revenues to mitigate the effects of the generation of power in the state as a whole. The legislature further declared that the taxation of power plants and the distribution of revenues was a substantial and important issue and would be the subject of further study as part of the interim study on centrally assessed property (S.C.R. 64). The study committee subsequently forwarded several recommendations to the 1983 Legislature.

The 1983 Legislature again considered the power plant question and made substantial changes to the laws regarding the distribution of taxes. Senate Bill No. 27 and S.B. 28 substantially accelerated the reporting process of construction

in progress and also rewrote several of the property tax provisions of S.B. 687 of the 1981 Session. The 1983 Session also approved S.J.R. 2 to amend Article 10 of the Nevada Constitution to allow the separate taxation of power generating facilities and commissioned further study during the interim through S.C.R. 42 which directed the Legislative Commission to study the methods of taxing electrical power plants and distributing the resulting revenue.

The 1985 Legislature, as recommended by the S.C.R. 42 Subcommittee, approved A.B. 49 that allowed the Nevada Tax Commission to re-establish a property tax rate for a local government if its property tax rate was driven to zero. Senate Joint Resolution No. 2 of the 1983 Session, however, was allowed to die in the Senate Taxation Committee. The legislature requested further study during the interim by approving A.C.R. 31 which directed the Legislative Commission to study the methods of distributing the revenues from the taxation of large electrical power plants.

The interim committee established by A.C.R. 31 published three significant findings. First, the only comprehensive database of relevant local government tax information (The Zubrow Report) was more than 25 years old. Second, without an updated database, even the more sophisticated economic models could not generate accurate information on which to base recommendations. Third, with the decrease in petroleum prices, coal fired generating facility construction had been put on hold and the utilities probably would not be contemplating any construction starts in this decade. These findings allowed the legislature time to seek professional expertise to address the problems. The study committee recommended that the 1987 Legislature authorize the Legislative Commission to hire a consulting firm to update the database, construct economic models and, from the information derived, make recommendations to the 1989 Legislature regarding comprehensive solutions to these problems.

During the 1987 Session, Sierra Pacific Power Company, Nevada Power Company and Southern California Edison Power Company agreed to contribute up to $125,000 to fund such a study. Subsequently, the legislature passed S.B. 307 which authorized a study and defined its parameters and procedures.

C. Subcommittee Methodology

The Legislative Commission appointed Senator James I. Gibson, Chairman; Assemblyman Louis W. Bergevin, Vice Chairman; Senator Charles W. Joerg, Assemblyman John Marvel and Assemblyman Paul W. May as voting members of an interim oversight committee. The Commission further appointed Robert Hadfield, representing the National Association of Counties; James Salo, representing Sierra Pacific Power Company; Keith Ashworth, representing Nevada Power; and Neal Renders, representing Southern California Edison Power Company, as non-voting members of the oversight committee. The oversight committee was charged with: (1) defining the scope of the study; (2) establishing a schedule for the completion of the study; (3) selecting the consultants and negotiating the terms of the contract; (4) monitoring the progress of the consultants; and (5) insuring that the study was completed as scheduled.

The Legislative Commission allocated a budget of $5,470 that was later augmented by $1,174 for the subcommittee's expenses during the study. Sierra Pacific Power Company, Nevada Power Company and California Edison Power Company agreed to donate up to $125,000 to cover the cost of the consultant.

The oversight committee held its first meeting on September 4, 1987, in Carson City. At that meeting, the chairman generally outlined the purpose and goals of the subcommittee and the Department of Taxation provided information on centrally assessed property and sales tax as it related to electrical power plants. After testimony and discussion of the scope of the study, the chairman appointed a technical subcommittee comprised of Senator Charles W. Joerg, Chairman; James Salo and Keith Ashworth to work with staff to develop a request for proposals (RFP) and a consultant mailing list.

The subcommittee subsequently met with staff, prepared a draft RFP and mailing list and forwarded it back to the full subcommittee for consideration.

The subcommittee had its second meeting on October 12, 1987, in Las Vegas and, at that meeting, after discussion and slight modifications, approved the RFP (Appendix A) and the consultant mailing list. The chairman then appointed the same technical subcommittee (Senator Joerg, Mr. Salo and Mr. Ashworth) to review all proposals received and present a list of no more than the top five consulting firms for consideration by the full subcommittee.

The subcommittee and staff reviewed all of the proposals received (Appendix B) and met in Carson City on December 8, 1987. It was a unanimous opinion of the technical subcommittee that two firms, the Wharton Econometric Forecasting Associates and Pete Marwick Main Policy Economics Group, were far superior to the other seven proposals received and, therefore, only the names of those two were forwarded to the subcommittee for consideration.

Las Vegas was the site of the third meeting held on December 11, 1987. At this meeting, representatives from the Wharton Econometrics Forecasting Associates and from the Pete Marwick Main Policy Economics Group made presentations to the subcommittee. After discussion, the subcommittee moved to recommend that the Legislative Commission contract with the Pete Marwick Main Policy Economics Group for the study. The commission approved the contract on December 16, 1987 (Appendix C).

At the fifth and sixth meetings, held in Las Vegas and Carson City on February 8, 1988 and May 20, 1988 respectively, the consultants made presentations to the subcommittee as to the status of the study and received input from the subcommittee with regard to the direction of the study.

The last formal meeting of the subcommittee uses held in Carson City on November 22, 1988. The consultant made the formal presentation of the final report. The report was accepted by the subcommittee. Inasmuch as all of the recommendations of the consultants were predicated on the passage of an amendment to Section 1, Article 10 of the Nevada Constitution, the only recommendation available to the subcommittee was with regard to the wording of the proposed amendment. The subcommittee appointed a technical subcommittee to consider the matter. The technical subcommittee met in Las Vegas on December 12, 1988 and determined that it would be more appropriate to wait until the legislative session to make a recommendation. Therefore, the subcommittee forwarded the consultants study without recommendation.

D. Findings and Recommendations

The findings and recommendations of the consultant are forwarded to the Legislative Commission without oversight committee recommendation.

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APPENDICES

Appendix A - Request for Proposals (RFP)

Appendix B - Consultants Responding to RFP

Appendix C - Contract for Services

Appendix D - Consultant Questionnaire

Appendix E - Consultant Work Plan

Appendix F - Final Report, Volume I

Appendix G - Final Report, Volume II

Appendix A

Request for Proposals (RFP)

INTERIM STUDY OF METHODS OF DISTRIBUTING
REVENUES FROM THE TAXATION
OF LARGE ELECTRICAL
POWER PLANTS

REQUEST FOR PROPOSALS

I. PROCEDURE FOR SUBMISSION AND REVIEW OF PROPOSALS

The oversight committee appointed by the Legislative Commission pursuant to Senate Bill No. 307 (Chapter 704, Statutes of Nevada 1987, at page 1681) is soliciting proposals to study the taxation of electrical power plants and the distribution of revenues therefrom. You are invited to submit proposals in accordance with the requirements of this request.

It is requested that your proposals be submitted to the Fiscal Analysis Division of the Legislative Counsel Bureau, Legislative Building, Capitol Complex, Carson City, Nevada 89710, not later than 5:00 P.M. on November 27, 1987.

The proposals must be signed by an officer authorized to bind the offeror and it must contain a statement to the effect that the proposal is firm for at least 60 days from the closing date for submission of proposals.

This solicitation does not commit the State of Nevada or the Legislative Commission to award a contract or to pay any costs incurred in the preparation of a proposal. The oversight committee is not required to accept the lowest bid. The bid will be awarded on the basis of all relevant factors, including but not limited to the extent of the intended treatment of the matters required for the study, the qualifications and experience of the offeror, and the extent to which the proposal corresponds to the requirements of the request for proposals. The committee reserves the right to accept or reject any or all proposals received as a result of this request or to cancel in part or in its entirety this proposal if it is in the best interest of the State of Nevada. **The study will be funded through secured contributions. The State of Nevada will not be liable for any costs associated with the study.**

Questions concerning this Request for Proposals should be submitted in writing to:

Kevin Welsh
Legislative Counsel Bureau
Fiscal Analysis Division
Legislative Building
Carson City, Nevada 89710
(702) 885-5640

II. TENTATIVE SCHEDULE

October 19, 1987	Release of Request for Proposals
November 27, 1987	Proposals due by 5:00 p.m.
Mid December 1987	Evaluations of Interviews
Late December 1987	Recommendation to Legislative Commission
Early January 1988	Selection by Legislative Commission
September 1, 1988	Final Report Due

III. BACKGROUND INFORMATION

The assessment and taxation of large power generating facilities and the distribution of the resulting revenue in Nevada has been a matter of concern and study since 1979.

The interstate-intercounty nature of utility companies and the emergence of nontraditional utility companies has created concerns regarding the assessment of utility property. Further, constitutional provisions requiring a uniform and equal rate of assessment and taxation, and, a just valuation of all property subject to ad valorem taxation and statutory provisions regulating the amount of ad valorem and sales tax revenues that can be received by local governments has created concerns not only with the assessment of utility properties but also with the distribution of the resulting revenues.

These issues have been studied directly and indirectly by three interim study committees without resolution. The conclusion of the last such study was that the questions involved are so complex that appropriate expertise in this area must be recruited to provide workable solutions to the prospective problems. A copy of the report of each of the studies will be made available to proposers upon request.

IV. REQUIREMENTS OF STUDY

A. General Provisions.

1. The study is limited to traditional electric utilities and nontraditional electric utilities.
2. Comparisons with other states should be primarily limited to western states, particularly states with sparse populations or which are otherwise similar to Nevada.
3. The final result of the study should be one or more recommendations to the Legislature to modify existing practices, adopt new practices or leave things as they are. The report of the study must be submitted to the oversight committee with 30 copies of the report. The offeror must authorize the

Legislative Commission to publish the report in any form, to be distributed with or without cost at the option of the commission.

4. The oversight committee will direct the course of the study and allow for reasonable deviation when conditions warrant. The committee will require progress reports for the study. When the reports are made, the committee will indicate any modifications or additional specifications with regard to the study.
5. The provisions of this outline are general, so as not to require detailed findings on a large number of specific questions. The committee requests that the proposals indicate with specificity the areas the offeror will address and the expected scope of treatment of each such area.
6. As used in this Request for Proposals:
   (a) "Methods of taxing" includes methods of distributing the revenue resulting from the tax.
   (b) "Nontraditional electric utility" means a utility which has no retail customers and is not subject to regulation by the Public Service Commission of Nevada and includes entities which may not be utilities in the ordinary sense but are in the business of generating and/or transmitting electricity.
   (c) "Traditional electric utility" means a utility which sells at least a part of the energy it generates or transmits to retail customers and is regulated by the Public Service Commission of Nevada.

B. Objectives.

1. Provide the Legislature with:
   (a) A clear and concise explanation of all of the taxes paid by electric utilities operating in Nevada and how new generating plants would be treated under the existing law;
   (b) A general comparison of the taxes paid by electric utilities in Nevada vs. other states;
   (c) A general comparison of the taxes paid by electric utilities vs. other utilities;
   (d) A general discussion of the disposition of electric utility tax revenues in Nevada and relevant distribution methodology from other states;
   (e) A general comparison of the methods of taxing electric utilities in Nevada vs. other states;
   (f) A description of the characteristics of an equitable taxation system or structure and a description of how existing methods of taxation and any proposed alternative methods relate to those characteristics;
   (g) A list of the advantages and disadvantages of current methods of taxation and all proposed methods of taxation; and
   (h) A general comparison of the methods of taxing traditional electric utilities vs. nontraditional electric utilities and other types of industrial concerns with a special emphasis on identifying approaches that seem to encourage or discourage:
      (1) The location of businesses and multi-state service area generating plants; and
      (2) Economic development and diversification.
2. Evaluate the effects of applying alternate methods of taxing electric utilities in Nevada.
3. Discuss the significance of the expectation that in most cases residents of Nevada will not be the ultimate users of the energy generated by the nontraditional electric utilities.
4. Compare "situs" taxation of such plants by host counties with methods which allocate taxable value or revenues to other counties.

5. Suggest a method or methods of taxing utilities, transmission lines and generating plants in Nevada applicable to existing facilities and new facilities which will treat the traditional electric utilities, nontraditional electric utilities, utility customers, people of the state and people of the counties where such facilities are located in a fair and equitable manner.
6. Evaluate the constitutionality of all suggested alternative methods of taxation and identify any needed amendments to the constitution of the State of Nevada.

C. Areas of detailed inquiry.
   1. Ad valorem taxation.
      (a) Survey of Nevada procedures.
      (b) Comparison with other states.
   2. Sales and use taxes.
      (a) Survey of Nevada procedures.
      (b) Comparison with other states.
   3. Franchise taxes, receipts taxes and other taxes.
      (a) Survey of Nevada procedures.
      (b) Comparison with other states.

D. Analysis and integration.
   1. Overall tax burden.
      (a) Utilities in Nevada vs. utilities in other states.
      (b) Utilities vs. other industrial businesses.
   2. Distribution of revenue.
      (a) Utility tax revenue in Nevada vs. in other states.
      (b) Utility tax revenue vs. tax revenue from other businesses.
   3. Constitutional limitations.
      (a) Present constraints.
      (b) Proposed amendments, if any, to the constitution of the State of Nevada, their scope and effect.

V. FORMAT OF PROPOSALS

The organization of each proposal must be as follows:

Part 1 - Table of Contents.

Part 2 - Summary of overall approach and any outstanding features.

Part 3 - Narrative description of technical approach to be used to accomplish the tasks outlined in Part IV.

Part 4 - Implementation schedule and plan, including an estimated timetable for completion of each task outlined in Part IV.

Part 5 - Narrative description of organization of project, including the project management structure and a listing of the percentage of time key personnel will devote to the project.

Part 6 - Information concerning the qualifications of the proposer including: (1) a biographical sketch for all key personnel who will be involved in the project,including education, background, accomplishments and other pertinent information;

(2) a list of similar projects which have been performed by all key personnel involved in the project; and (3) a list of references who may be contacted concerning work performed on similar projects.

Part 7 - Cost data including: (1) the total cost of the project as well as cost of each area to be analyzed and reviewed as outlined in Part IV; and (2) information on a preferred method of payment. The state may make progressive payments but only under the following conditions: (1) no payment in advance of services rendered and at least one month in arrears; (2) progress reports must be made by responsible personnel to the oversight committee at times determined by the committee; and (3) the state shall retain an amount equal to at least 10 percent of the contract amount pending satisfactory completion of the contract.

Appendix B

Consultants Responding to RFP

Taxation of Large Power Generating Facilities (S.B. 307)
List of Consultants to whom we sent attached letter.

D. Pembroke, Esq.
Duncan Weinberg Miller
1615 M. Street NW
Suite 105
Washington, D.C. 20036

Mr. Michael W. Goodwin
Michael Goodwin & Associates
112 S.W. 6th Street
Suite 509
Topeka, Kansas 66603

Mr. Hugh Larkin, Jr.
Larkin and Associates
15728 Farmington Road
Livonia, Michigan 48154

Mr. Martin D. Miller
Property Tax Consultant
2 North Riverside Plaza
Suite 910
Chicago, Illinois 60606

James H. Flynn, Ph.D.
Mountain West
Phoenix Gateway Center
432 North 44th Street
Suite 400
Phoenix, Arizona 85008

Mr. Darwin Johnson
Peat Marwick Main and Company
Policy Economics Group
1990 K Street NW
Washington, D.C. 20006

Ms. Veronica Jarrett
Research and Planning
Consultants (RPC), Inc.
3200 Red River
Suite 302
Austin, Texas 78705

Dr. George Schink
Wharton Econometrics
150 Monument Road
Bala Lynwood, Pennsylvania 19004

Mr. Al Buckalew
J. W. Wilson & Associates
2600 Virginia Avenue, NW
Suite 312
Washington, D.C. 20037

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Appendix C

Contract for Services

CONTRACT FOR TECHNICAL SERVICES

This agreement is made and entered into by and between the Legislative Commission of the State of Nevada, referred to in this contract as the STATE, and the Policy Economics Group of Peat, Marwick, Main & Co., organized and existing under the laws of the State of New York, referred to in this contract as the CONSULTANT.

WITNESSETH:

WHEREAS, Senate Bill No. 307 of the Sixty-Fourth Session of the Nevada Legislature authorizes and directs the STATE to contract with consultants to conduct an interim study of the methods of distributing revenues from the taxation of large electrical power plants; and

WHEREAS, The CONSULTANT is qualified to conduct such a study; and

WHEREAS, Pursuant to the provisions of Senate Bill No. 307 of the Sixty-Fourth Session of the Nevada Legislature, the Legislative Oversight Committee has selected the CONSULTANT to conduct the study and negotiated the terms of this contract; now, therefore,

1. **DUTIES OF CONSULTANT:** The CONSULTANT agrees to furnish the necessary personnel, services, materials, equipment and facilities, and otherwise do all things necessarily incidental to the performance of a study of the taxation of large electrical power plants in accordance with the Scope of Work (Attachment A) which is hereby incorporated by reference. The CONSULTANT further agrees that all personnel assigned to the study will be personally and professionally qualified for the assignment undertaken and that the CONSULTANT will not be engaged in other contracts for professional services which are in conflict with the services rendered under this contract.

2. **CONSIDERATION AND PAYMENT SCHEDULE:** The STATE agrees to pay a fixed fee of $117,500 to the CONSULTANT for its services in installments which will be made upon submission to the STATE of an invoice certified by the CONSULTANT for services rendered pursuant to the following payment schedule:

(a) Completion of the primary data collection task..... $35,000

(b) Completion of the initial model development..... $35,000

(c) Presentation of preliminary study results..... $35,000

(d) Acceptance of final report by STATE..... $12,500

This fee constitutes the entire price for the CONSULTANT'S services and shall be deemed to cover all of the CONSULTANT'S costs including overhead and its fee, if any.

3. **PROGRESS REPORTS:** The CONSULTANT agrees to submit to the STATE a monthly progress report.

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NEVADA

4. INDEPENDENT CONTRACTOR STATUS: It is mutually agreed that this is contract for technical services and not a contract of employment and that for the purpos of the work performed pursuant to this contract, the CONSULTANT, including all of officers and employees, is an "independent contractor" as that term is defined in NI 282.173, the provisions of which are incorporated by reference into this contract, a which provide, in part, that the CONSULTANT:

(a) Is solely responsible for the payment of any federal tax which may be due on t payments received pursuant to this contract;

(b) Will not be covered, including all officers and employees, through t CONSULTANTS employment with the STATE, by industrial insurance; and

(c) Waives any claim to benefits of any kind available to employees of the STATE any work performed pursuant to this contract.

5. CERTIFICATION OF CONTRIBUTIONS: The STATE hereby certifies t contributions of $117,500 have been secured and will be available for distribution pursu to the schedule set out in section 2.

6. CONFIDENTIALITY: The CONSULTANT agrees to keep confidential all information obtained in connection with the services being rendered pursuant to t contract which is not:

(a) Previously known to the CONSULTANT;

(b) Within the public domain; or

(c) Furnished to the CONSULTANT by a third party who is under no obligation keep the information confidential.

7. RIGHTS, TITLE AND INTERESTS: It is mutually agreed that all rights, title a interest in any ideas and innovations conceived or developed by the CONSULTANT a result of performance of this contract are the exclusive property of the STATE. It further agreed that all data, research products and technical analyses produced by CONSULTANT under this contract shall be the property of the STATE.

8. PUBLICATION RIGHTS: The STATE agrees to give written notice to CONSULTANT within 120 days after submission of the final report regarding whether CONSULTANT may publish a report of the study. Unless the CONSULTANT is notif that it may publish the report, the CONSULTANT shall not publish the report at any ti in any form. Any publication of the report by the STATE will on the cover introductory page credit the authors and indicate that the research forming the basis of publication was conducted pursuant to a contract between the STATE and CONSULTANT, but that the authors and publishers are solely responsible for the accur of the statements and interpretations therein. The CONSULTANT reserves the right publish the report at any time in any form, subject to the requirements of this section.

9. ASSIGNABILITY: This contract is not assignable by the CONSULTANT in wh or in part.

10. CONTINUATION OF WORK: Unless otherwise directed by the STATE, the CONSULTANT agrees to proceed diligently with the performance of the work, pending settlement of any dispute under this contract.

11. NOTICE: It is mutually agreed that notices under this contract shall be deemed sufficient if sent by registered mail, return receipt requested, addressed to the following person:

(a) CONSULTANT: Dr. Darwin Johnson
1730 "M" Street, N.W.
Washington, D.C.
Peat Marwick Main & Co.
Policy Economics Group
2001 M Street, N.W., 5th Floor
Washington, D.C. 20036

(b) STATE: Mr. Kevin Welsh
Fiscal Analysis Division
Legislative Counsel Bureau
Legislative Building
Capitol Complex
Carson City, Nevada 89710

12. TERMINATION OF CONTRACT: The STATE may terminate the contract if it determines that:

(a) The quality of work is unacceptable;

(b) The directions of the STATE are not being followed;

(c) The study is more than 30 days behind schedule;

(d) The CONSULTANT is not complying with the requirements of the Scope of Work (Attachment A): or

(e) The CONSULTANT has breached this contract in any other respect.

The STATE shall give written notice to the CONSULTANT after determining that a problem exists which justifies termination of the contract. The CONSULTANT may correct the problem within 15 days after receipt of the notice. If the problem is not corrected within the allowed time, the STATE may terminate the contract. If the STATE terminates the contract it shall pay the CONSULTANT the amount due pursuant to section 2 for any products accepted by the STATE.

13. DELEGATION OF AUTHORITY OF STATE: The STATE may delegate any or all of its authority under this contract to Oversight Committee appointed pursuant to Senate Bill No. 307 of the Sixty-Fourth Session of the Nevada Legislature.

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14. TERM: The term of this contract is from February 15. 1988. through Septem 1. 1988. or until the all work is completed and accepted by the STATE. whichever co first.

IN TESTIMONY WHEREOF, the parties hereto set their hands:

Date: 4-7-88

Darwin Johnson. Principal
Peat, Marwick. Main & Co.

Date: 4-11-88

Lawrence E. Jacobsen. Chairman
Legislative Commission

ATTEST:

Date: 4-11-88

Donald A. Rhodes. Secretary
Legislative Commission

Appendix D

Consultant Questionnaire

KPMG Peat Marwick

Policy Economics Group

Peat Marwick Main & Co.
2001 M Street, N.W.
Washington, DC 20036

Telephone 202 467-3800

Telecopier 202 822-8887

October 28, 1988

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1988
LEGISLATIVE COUNSEL BUREAU
FISCAL ANALYSIS DIVISION

Mr. Kevin D. Welsh
Deputy Fiscal Analyst
Legislative Counsel Bureau
Fiscal Analysis Division
401 S. Carson Street, Room 341
Carson City, Nevada 89710

Dear Mr. Welsh:

Based on comments received on our report, we have requested additional information from the three major producers of power within Nevada (Sierra Pacific, Nevada Power, and Southern California Edison). Enclosed for your information is a copy of the questionnaire that has been sent to these companies. This data will enable us to make a more accurate estimate of the tax base for the proposed gross receipts tax. If you have any questions, please do not hesitate to get in touch with me at (202) 467-3588.

Sincerely,

Helmut Wendel

Helmut Wendel
Consultant

Enclosure

Questionnaire for an
Informal Estimate of Tax Base

For Nevada Gross Receipts Taxes proposed by Peat Marwick's Policy Economics Group (in lieu of property and franchise taxes).

Please provide 1987 data for Sierra Pacific Power.
(Line and page reference refer to FERC Form #1.)

(a) Total power production expenses in Nevada (such as shown for individual plants on line 34, page 402), do not include purchased power: (A) $_____

(b). Prorated administrative and general expenses, applicable to line (A)

(i) Find the ratio of total administrative and general expenses (line 167, page 323) to total electric operation and maintenance expenses (line 168, page 323) Ratio: (B1) _____

(ii) Multiply amount calculated for A by this ratio (this is prorated administrative and general expenses): (B2) $_____

(c) Depreciation and Amortization Charges applicable to the plants included in section (a) above.

These charges are shown on a company wide basis on page 336 in column e. Show only the total that pertains to the plants included in section (a): (C) $_____

(d) Earnings on equity and interest on debt, apportioned to production plants:

(i) Establish the net value of the production plants in section (a), measured as the average of the beginning and the end of the year. This is the value shown in line (6) of page 110 as it pertains to these plants: (D1) $_____

(ii) Find a debt/equity ratio for the company. Take total long-term debt, the average of the beginning and the end of the year (line 22, page 112) and divide this by the sum of proprietary capital, the average of the beginning and end of the year (line 14, page 112) and long-term debt (line 22, page 112). This division yields the debt ratio: (D2) _____

(iii) Obtain the interest cost on long-term debt in the current year, line 52, page 117: (D3) $_____

(iv) Divide D3 by the amount of long-term debt (line 22, page 112). This yields the effective interest rate: (D4) _____ %

(v) Obtain interest charges apportioned to production plants by multiplying D1 times D2 times D4. The result is: (D5) $_____

(vi) Obtain the earnings rate allowed by the Public Service Commission in the state where the company is headquartered during the current year: Allowed rate of return: (D6) _____ %

(vii) Obtain equity earnings apportioned to production plants by multiplying D1 times [1 minus D2] times D6. The result is: (D7) $_____

(e) Earnings need to be grossed up to a pre-tax basis.

(i) List state (or states) with income taxes, and percent of total sales by plants in section (A) to each such state:

(E1)

State: _____ Percent sales: _____ %
State: _____ Percent sales: _____ %

(ii) Apply appropriate formula to percent sales considered in (i). Under California's three-factor formula only one factor, sales, is subject to California tax, since the property and payroll factors are in Nevada. Hence, for California, take one-third of its tax rate of 9.3 percent. Applicable tax rate: (E2) _____ %
_____ %

(iii) Multipy percent (E1) by applicable tax rate (E2) and obtain effective plant state income tax rate: (E3) _____ %

(iv) Obtain the combined federal and state income tax rate. Take the statutory 34 percent to represent the federal rate. Take: (1 less E3) times the federal rate, plus E3. This gives the combined income tax rate: (E4) _____ %

(v) Take equity earnings apportioned to production plants (D7) and divide by (1 minus E4), where E4 is the combined income tax rate. The result is earnings on equity grossed up to a pretax basis: Grossed Up Earnings: (E5) $_____

(f) Finally, the components of the tax base are added together: Total tax base is the sum of (A), (B2), (C), (D5), and (E5):

(A) $_____

(B2) $_____

(C) $_____

(D5) $_____

(E5) $_____

_____

(F) Total $_____

Appendix E

Consultant Work Plan

WORKPLAN FOR A STUDY OF ELECTRIC UTILITY PLANTS IN NEVADA

Peat, Marwick, Main & Co.
Policy Economics Group
2001 M Street, N.W.
Washington, D.C. 20036

March 7, 1988

NEVADA WORKPLAN

This document presents the detailed work plan of the Peat Marwick project team for conducting a study of the taxation of electric power plants and the distribution of the resulting revenues in the State of Nevada.

The plan is intended to provide the project team and the client (referred to herein as the oversight committee) with the following:

- identification of all the individual work activities;
- a description of the approach and resources to be used in each task;
- a description of the end products that are to be developed;
- identification of the responsibilities of the project team, and the assistance required from the oversight committee;
- a description of the approach that will be used to manage the effort; and
- a schedule for completion of each activity.

The plan will serve as the basis for conducting the assignment, and will be updated from time to time to reflect any changes in the direction of the study or the approach that may be required as work progress. We fully expect the plan to undergo some modifications during the course of the engagement, and this document will help ensure that the members of the project team and the oversight committee have a mutual understanding of what is to be done at all times.

The assignment includes three primary mechanisms for project management and control, both from the perspective of the Peat Marwick project team and that of the Oversight Committee. These include (1) status reports, (2) meetings and briefings, and (3) deliverable work products. In the context of the engagement, the provide a set of key milestones for measuring project progress, and the ensure regular communication between the team and the committee.

1. Status Reports

Project status reports will be submitted to the oversight committee on a monthly basis. They will be delivered on

or about the tenth day of every month, and will include information on the following:

- Activities undertaken or completed during the month;
- Issues of technical or managerial nature that need to be addressed by the oversight committee;
- Problems encountered and proposed solutions; and
- Planned activities for the next month.

The first such status report will be delivered in March.

2. Client Meetings/Briefings

The plan of work for this engagement incorporates formal and informal client contact in a variety of forms. Key members of the team will be in regular contact with members of the oversight committee. The status reports will provide monthly updates on the activities of the team. The plan also calls for a minimum of two formal client briefings at critical points in the effort:

(1) A preliminary briefing will be conducted as soon as the basic structure of the models and data bases have been developed. Peat Marwick will describe the models and data bases, and present the range of recommended alternative methods of utility taxation and revenue distribution to be studied. At this point, the committee will need to consider the capabilities of the models in relationship to the objectives of the effort, and agree upon alternative methods of taxation and revenue distribution to be analyzed; and

(2) A follow-up briefing will be conducted to review the results of the analysis and discuss the preliminary recommendations of the project team.

3. Deliverable Products/Reports

The project team will provide the State of Nevada with the following deliverables:

- An executive summary of the findings of the project team and the recommendations for changes in the taxation of electric utilities and the distribution of the resulting proceeds;
- A detailed draft report presenting the analysis, findings, and recommendations of the team;
- A final report on the analysis, findings, and recommendations; and

- A technical volume that will describe the data collected during the project and documentation of the models developed and utilized in the project.

A more detailed description of the contents of the draft and final reports is presented in the task plan in the Task Plan below.

TASK PLAN

The project consists of a total of ten separate tasks related to distinct work activities. Each of these tasks is further divided into a set of discrete subtasks as described in detail below.

The project schedule calls for all work to be completed by September 1, 1988. However, there are a number of opportunities to accomplish the same work in a shorter time frame with a more concentrated use of project resources. The project team will make every effort to deliver the final results as soon as practicable prior to the September 1 deadline.

A detailed schedule of work to accomplish the objectives of the study over a five month, rather than a seven month period as originally proposed, is presented in Exhibit 1. This Exhibit identifies the timing of each project activity.

TASK 1: DATA COLLECTION

The data collection activities of this project involve two components: 1) data required for developing current and future patterns of tax receipts and distributions, and; 2) data required for tracking the impact of constructing a large electric utility plant over a period of years. These objectives overlap in the collection of in-State data, however, extensive data collection will also be required in surrounding states regarding their electric utility tax systems and the fiscal impacts experienced as the result of the construction of new power plants. Because of the overlap in many of the data sources involved, all data collection activities can and will be undertaken concurrently. Between the two major components of this task, there are seven separate types of data to be collected. Each of these is described below.

1.1 Nevada Tax Structure

Specific information concerning the design and application of the Nevada tax structure related to electric utilities will serve as the basis for designing the two models and for establishing the parameters to be used. The project team will need to develop a detailed understanding of the tax system and the system for distributing revenues among the various counties and local government units.

EXHIBIT 1

PROJECT TASK SCHEDULE

TASK	MONTH 1	2	3	4	5	6
1. DATA COLLECTION						
1.1 Nevada Tax Structure	XXXX	XXX				
1.2 Tax Structure/Other States	XXXX	XXX				
1.3 Plant-Specific County Data	XXX	XXX				
1.4 Plant-Specific State Data	XXX	XXX				
1.5 Plant Impact Methodologies	XXXX	XXX				
1.6 Economic, Demographic, Fiscal Data	XXX	XXX				
1.7 Environmental Impact Data	XXX	XXX				
2. DEVELOPMENT OF TAX MODEL						
2.1 Define Model Structure		XXX	X			
2.2 Preparation of Data Base		XXXX				
2.3 Code Tax Model				X X		
2.4 Test and Refine Model				XXX		
3. DEVELOPMENT OF IMPACT MODEL						
3.1 Define Model Structure		XXX	X			
3.2 Preparation of Data Base		XXXX				
3.3 Code Impact Model				X X		
3.4 Test and Refine Model				XXX		
4. SELECTION OF ALTERNATIVE TAXES						
4.1 Select Applicable Approaches			XXX	X		
4.2 Review Constitutionality			X			
5. INTERIM REPORT TO THE COMMITTEE			XX			
6. ANALYZE TAX POLICY IMPACTS						
6.1 Set Parameters/Execute Model				XX		
6.2 Analyze Results				XX		
7. CONDUCT UTILITY IMPACT ANALYSIS						
7.1 Set Parameters/Execute Model				XX		
7.2 Analyze Results				XX		
8. REPORT PRELIMINARY RESULTS						
8.1 Preliminary Recommendations				XX		
8.2 Draft Preliminary Report				X	X	
8.3 Conduct Client Briefing					X	
9. PREPARE AND SUBMIT DRAFT REPORT					XXX	
10. PREPARE FINAL REPORT						X X

To obtain this information, the team will necessarily rely heavily on the Legislative Counsel Bureau for guidance. Our primary sources for this information will be Bureau staff from the Fiscal Analysis Division, the State Department of Taxation, and representatives from the utilities sponsoring this study.

Data will be collected on the procedures, the tax base, the effective tax rate, and historical receipts for:

- Ad valorem taxes;
- Sales and use taxes; and
- Franchise taxes, receipts taxes and other taxes.

Similarly, complete details concerning the current system of revenue distribution, including limitations on local government spending in Nevada, will be compiled.

Although it is not the focus of this study, some efforts will be made to collect comparative information on the taxation of other industrial businesses.

1.2 Tax Structure of Surrounding States

Information concerning the systems of taxation for public utilities in other Western states will serve as one primary basis for developing alternative approaches to be tested for the State of Nevada. The team will obtain this type of information primarily through three sources: 1) state fiscal and revenue agencies; 2) state pulbic utility commissions; 3) comparable utility plants identified as case study candidates, and; 3) local Peat Marwick offices.

Telephone interviews with State officials in Western states will be used to obtain information on the following:

- Taxes paid by electric utilities;
- Comparative information on taxes paid by electric utilities vs. other utilities;
- Taxes paid by other industries where the primary product is exported to other states, such as severence taxes paid on natural resources;
- Comparative information on methods of taxing traditional electric utilities vs. non-traditional utilities, and their effect on:
- Descriptive information on relevant revenue distribution methodologies.

The project team will make every effort to collect data on tax methods for ad valorem taxes, sales and use taxes, franchise taxes, receipts taxes and others that may be applicable.

1.3 Plant-Specific Data for Each County in Nevada

Because the system of taxation of electric utilities and revenue distribution in Nevada is based on inter-county variables such as transmission line miles in each county, detailed information on these types of variables will be collected on a county-by-county basis. This information will be obtained from two principal sources: 1) The State Department of Taxation, and; 2) The utilities sponsoring this study.

1.4 Plant-Specific Data from Surrounding States

A total of up to nine electric utility plants, including approximately eight from states other than Nevada will be used as case studies in evaluating their impact on the demand for public services at the local level. For this purpose, we have preliminarily identified the following out-of-state candidates: the Laramie River Plant in Wyoming; the Hunter Plant in Utah; the Boardman Plant in Oregon; the San Juan Plant in New Mexico; the Colstrip Plant in Montana; the Craig and Pawnee Plants in Colorado; the Coronado Plant in Arizona; and the Valmy plant in Nevada. For each of these utilities, the team will to the extent possible obtain data on the following:

- Type of utility;
- Operating characteristics relevant to the types of taxes applied in each state;
- Projected economic, demographic, and environmental impact at the time of plant construction;
- Actual impact from the start of construction; and
- Impact under normal operating conditions.

This information will be obtained from three primary sources: 1) direct contacts with the utilities; 2) contacts with county economic development and budget officials, and; 3) impact statements and impact studies on file with the U.S. Department of the Interior, Bureau of Land Management.

1.5 Previous Plant Impact Methodologies

A considerable body of information related to analyzing the impact of plant siting currently exists. This literature

will be collected and reviewed as a basis for designing the Nevada Utility Impact Model. Prominent reference works in the field, as well as previous impact studies from the case study candidate plants will be used to identify and define the key parameters and variables of interest, including:

- Impacts on demand for public services
- Impacts on local budgets
- Demographic effects
- Resource demands
- Impacts on commercial development
- Environmental impacts

This data collection step will overlap step 1.4 above; Information will be collected from specific plants in Nevada and surrounding states, from the Bureau of Land Management, and from other major reference sources.

1.6 County/Local Economic, Demographic and Fiscal Data

The data bases for the two models will require a considerable amount of local economic, demographic and budgetary information. The project team has preliminarily identified some 241 county and local government units that have spending authority. Not all of these will be relevant or important to the modeling effort, since many have very small spending authority, or receive little in the way of revenue distributions from the state, or are not subject to the revenue limitations that apply to other local government units. Approximately 145 of these units are subject to the spending limitations. The project team will identify from among this set those governmental units that are relevant to the study.

County-specific demographic information, such as population by age group, employment and labor force statistics, will be obtained from the following sources:

- Nevada Economic Development Commission
- U.S. Bureau of the Census
- County records
- U.S. Bureau of Labor Statistics

Local economic data for such items as household and per

capita income levels, business base, and actual and projected growth rates will be obtained from the following sources:

- U.S. Department of Commerce, Bureau of Economic Analysis
- U.S. Bureau of the Census
- State and County officials in Nevada
- Nevada Economic Development Commission

Information on county and local government budgets will be used to assess the impact of power plant siting on the demand for public services through increases in government expenditures.

1.7 Environmental Impact Data

Although an assessment of the costs associated with environmental impacts of power plant siting is beyond the scope of this effort, information covering this topic will be collected incidentally in conjunction with the general data gathering activities. To the extent feasible, the project team will synthesize this information and provide a review of the deleterious impacts that can be anticipated as issues in the course of constructing and operating a new facility. The focus of this presentation will be primarily air and water quality.

TASK 2: DEVELOPMENT OF THE NEVADA UTILITY TAX MODEL

The Nevada Utility Tax Model will assess the impact of the taxation of electric utility plants in the State, whether traditional or non-traditional, on revenue collections and distributions. The model will be designed to simulate and evaluate present law and alternative systems of taxation, collection, and distribution methods, including the impact of revenue limitation formulas. Model development activities consist of four steps as described below.

2.1 Define Model Structure

The initial data collection effort will provide project team members with a detailed understanding of the tax system for electric utilities in Nevada. This will in turn serve as the basis for defining the structure and basic components of the utility tax model. Similarly, information concerning the tax structures of neighboring states will help to establish the range of alternatives that the model will need to be able to accomodate, thereby setting some parameters for flexibility requirements. And finally, the availability of the detailed economic and demographic data that the project team will seek to collect will determine the level of flexibility that can be achieved by the model.

When the data collection effort has proceeded to a point at which the project team can synthesize critical information into useful form, the specific details of the model will be designed. Major components of the model, including the tax calculator and revenue distribution functions will be specified. Data inputs and model outputs will be identified based on the data collection activities and the objectives of the model for testing current and alternative tax systems.

The preliminary design of the model in the form of flow diagrams and sample output tables will be delivered to the oversight committee during the interim project briefing described in Task 5.

2.2 Preparation of Data Base

The data base for the Nevada Utility Tax Model will be prepared using the information collected in Task 1. It will be based on the preliminary design of the model prepared during step 2.1. This input file will be created in a standard spreadsheet or data base format. Subject to the availability of the data, we anticipate that the input file for the Utility Tax Model will include the following types of historical data:

- Assessed property-tax values for 145 local government units in Nevada:
  - Total;
  - Owned by electric utilities.
- Operating ad valorem tax rates;
- Formulas for revenue limitations;
- Collections and distributions of sales and use taxes;
- Receipts of franchise taxes.

2.3 Code The Utility Tax Model

Coding of the Utility Tax Model will begin immediately upon approval of the preliminary design by the oversight commmittee. Key components of the model will include the tax calculator, revenue distribution functions, revenue limitation factors, and output parameters. The model will be designed to generate the following types of comparisons/reports:

- Tax revenues from electric power plants:
  - obtained by each government unit under present conditions
  - obtained under present law assuming a large new utility was in full construction or operation
  - obtained if tax distributions were according to site of plant rather that line miles
  - obtained under a number of other alternatives

2.4 Test and Refine the Model

The Utility Tax Model will be tested and calibrated against historical data on receipts and disbursements to ensure a sufficient level of accuracy. During this phase, modifications will be made to reflect additional features or changes in the model structure based on discussions with the oversight committee about it expectations and requirements.

TASK 3: DEVELOPMENT OF THE NEVADA UTILITY IMPACT MODEL

The Utility Impact Model will track the requirement for, and cost of, public sevices resulting from the construction and operation of large electric utility plants over a forty-year period. The model will simulate tax collections and distributions related to the operation and construction of such a plant. The model will further be designed to simulate the effects of plant construction in a county assuming alternative tax law and alternative revenue limitation formulas.

3.1 Define Model Structure

The plant-specific data for power plants recently constructed and similar in size to those currently under consideration in Nevada will serve as the basis for developing the Utility Impact Model. Detailed information on the types and magnitude of the impacts of these existing plants will provide the necessary variables and parameters for the Model. Based on this information, and a review of previous methodologies for analyzing such impacts, we will develop a micro-computer based model using standard data base management or spreadsheet software. As with the Utility Tax Model, the availability of detailed economic, demographic, and fiscal impact data will determine the level of flexibility that can be achieved by the Utility Impact Model.

Conceptual development of the model will be an on-going iterative process beginning at the start of the project.

Formal model design activities will begin as soon as the primary data collection effort has provided the project team with a sufficient basis for determining the range of the model parameters. Major components of the model, including the fiscal impact functions, the revenue distribution formulas, and the extrapolation functions, will be specified. Data inputs and model outputs will be identified based on the objectives of the model for testing the effect of new plant construction on the demand for public services, and the effect of alternative revenue distribution formulas with respect to these changes in demand.

The Utility Impact Model will be of a generalized nature. That is, its design will not be limited to application to a specific plant or county, but rather it will be capable of examining the impacts of plants with generally defined construction and operating characteristics on situs counties and surrounding regions having certain types of economic and demographic characteristics.

We currently envision that the model will provide output tables showing the following types of comparative information:

- Effect of construction and operation of a new plant on total expenditures over 40 years on the demand for government services genrally;
- Effect on total school spending over 40 years;
- Revenues to the situs county and other surrounding counties, including other government units in the county generated by the power plant:
  - under existing law
  - under alternative law
- Revenues generated by secondary growth in the situs county and surrounding region:
  - under existing law
  - under alternative law

Flow diagrams and sample output tables similar to those produced for the Utility Tax Model will be prepared and presented to the oversight committee for review.

3.2 Preparation of Data Base

The data base for the Utility Impact Model will be prepared using the information collected in Task 1. It will

be based on the preliminary design of the model prepared during step 3.1. This input file will be created in a standard spreadsheet or data base format.

The data base will contain the following types of variables and parameters:

- Projected assessed values for a large new utility over a period of 40 years;
- Projected growth of population and economic base in impacted area;
- Effects on tax payments;
- Distribution of revenues throughout the state;
- Effects on revenue limitations;
- Demand for government services.

3.3 Code The Utility Impact Model

Coding of the Utility Impact Model will begin immediately upon approval of the preliminary design by the oversight commmittee. Key components of the model will include the fiscal experience of other construction localities, projected taxes obtained from a large new utility, and their distribution. The model will be designed to generate the following types of comparisons/reports:

- A summary of fiscal impacts experienced when other large electric plants were built and operated
- A description of how these impacts might be experienced in low population density Nevada counties
- Effects on tax receipts in other counties of the State

3.4 Test and Refine the Model

The Utility Impact Model will be tested and calibrated against historical data on receipts and disbursements to ensure a sufficient level of accuracy.

TASK 4: SELECTION OF ALTERNATIVE TAX SCHEMES

Approaches to utility taxation and methodologies used in the distribution of the resulting revenues used by neighboring states will be researched and modeled to determine their potential

applicability to the State. Specialists on the Peat Marwick team will define a range of alternative methods of taxation and revenue distribution to be studied, and recommended these alternatives to the oversight committee for review. Discussions will be held with the Committee to determine other viable alternative methods appropriate for modeling and analysis.

4.1 Select Applicable Tax Structures From Other States

Alternative tax systems applicable to electric utilities to be evaluated by the project team will be identified in four ways. First, the existing Nevada tax system will be an integral part of the analysis, and it will be the basis for initial calibrations of the Utility Tax Model. Second, the surveys of neighboring state's utility tax systems will be the basis for identifying a range of different approaches. Third, specialists on the Peat Marwick team will assist in defining possible alternatives. And fourth, discussions with the members of the oversight committee will be critical in identifying additional alternatives, including variations on approaches that have been considered in the past, and in deliberating on other recommendations presented by technical specialists on the project team.

4.2 Review Constitutionality of Alternative Tax Methods

The initial set of tax policy alternatives identified for further study will be reviewed by Mr. George M. Keele, the project team's Nevada utility law specialist, to determine whether any conflicts exist with Nevada's current Constitutional provisions for taxation and revenue distribution. This review will not be used to substantially narrow the range of alternatives to be evaluated by the project team so much as it will be to provide the team and the members of the oversight with better information concerning the limitations of each tax policy option. To the exent that the oversight committee determines that the legal barriers to any specific option would make it not worth persuing, it would be eliminated from the set of options to be analyzed.

TASK 5: INTERIM REPORT TO THE OVERSIGHT COMMITTEE

Upon completion of Task 4, an interim report on the results of the work completed by the Peat Marwick project team will be submitted to the oversight committee. This report will be an important milestone in the project, and it will provide the members of the committee with a basis for making some key decisions about the models, the data bases, and the tax policy alternatives to be used in the study. The report will include the following information:

- Flow diagrams demonstrating the design of the Nevada Tax Model and the Utility Impact Model;

- Summary information on the variables and parameters to be used in the models and data bases;
- Sample output tables for the two models; and
- A detailed summary of the tax policy alternatives and revenue distribution mechanisms proposed for further study.

The committee will need to review the report carefully, and provide feedback to the team on whether to proceed as proposed, or on any modifications that might be appropriate. While work will be able to proceed in a limited way during this review period, quick turnaround on the part of the committee at this point will help to avoid a major interruption in the effort. If the oversight committee feels that a meeting at this point would be appropriate, key members of the project team will be available to participate at the committee's request.

TASK 6: ANALYZE ALTERNATIVE TAX POLICY IMPACTS

The Nevada Tax Impact Model will be used to provide a detailed quantitative analysis of the impacts of the various tax and revenue policy options on local government units.

6.1 Set Parameters For Each Tax Scenario and Execute Model

For each alternative system of taxation the parameters of the Utility Tax Model to estimate receipts and to simulate revenue distribution will be set. The Model will be run to evaluate the effects of each alternative.

6.2 Analyze Results of the Tax Impact Model

The Utility Impact Model will generate comparative output tables for each tax policy alternative. These outputs will be analyzed to determine the relative merits and demerits of each alternative against criteria such as:

- Tax Receipts Generated
- Distribution of Tax Burden By County
- Revenue Distribution By County
- Effects of Revenue Ceilings By County
- Fiscal spending impact in situs county
- Tax revenues in situs county

- Portion of tax revenues obtained from electric utilities
  - situs county
  - other counties
- Effect of tax on utility cost of service and competitiveness

TASK 7: CONDUCT UTILITY IMPACT ANALYSIS

The Utility Impact Model will be used to simulate the impact of the construction of an electric utility plant on the demand for public services, the cost of these services, the collection of tax revenues, and the distribution of revenues for county and local government over a forty-year period. Some differentiation will be made for the two locations currently under consideration for the construction of large electric utility plants. The analysis would describe the impact under present law and under each of the various alternatives.

7.1 Set Parameters and Execute the Model

The Utility Impact Model will be used to simulate the the effects of the various tax policy and revenue distribution alternatives evaluated with the Utility Tax Model. The parameters will be largely determined by the scenarios determined in that previous modeling effort. Some of the key parameters of the Impact Model will include:

- Economic and population growth of situs county
- Affected demand for government services in situs county
- Path of assessed value for a new large electric utility
- Distribution of revenues under an assumed growth rate for state and situs county

7.2 Simulate Impacts and Analyze Results

Simulations will be run for a number of scenarios related to the planned and potential electric utility plant construction in Nevada. The results of these simulations will be analyzed to determine the impacts of plants on the demand for public services in relationship to the revenues that will be generated on a county-by-county basis. The results of the analysis will provide the State of Nevada with the following types of information:

- Revenues generated by a large new electric utility that are in excess of the needs of situs county to cover increased demand for services;

- Problems of distributing funds to situs county due to revenue limitations;

- Effects of alternative treatments.

TASK 8: REPORT PRELIMINARY RESULTS AND RECOMMENDATIONS TO THE OVERSIGHT COMMITTEE

A draft report will be prepared and submitted to the Committee. This report will describe the results drawn from both the Tax Model and the Impact Model. Committee suggestions and requests for alternatives will be discussed.

8.1 Develop preliminary recommendations for modifying the current tax system

Based on the results of the analysis, the project team will develop recommendations for the modification of the present system of utility taxation and revenue distribution in the State of Nevada. These recommendations will be ranked according to various feasibility criteria related to economic impacts, fiscal impacts, political acceptability, and constitutionality.

8.2 Draft Preliminary Report and Briefing

The project team will prepare a preliminary report in the form of an Executive Summary describing the methodology, the results of the analysis, and the recommendations. This preliminary report will be delivered to the oversight committee for review. During the review period, the project team will prepare a briefing package based on the preliminary report to serve as the basis for conducting a briefing and discussion with members of the Committee.

8.3 Conduct Client Briefing

The project team will be prepared to conduct a briefing for the Oversight Committee as soon as the members have reviewed the preliminary report. At this juncture, work on the project will be interrupted until the project team receives final input from the Committee on how to proceed. Limiting the review period to one or two weeks will help to maintain a smooth flow of work.

TASK 9: CONDUCT ADDITIONAL ANALYSES

Suggestions made by the Committee in response to the draft report and preliminary briefing will be analyzed. Additional

simulations using the two models will be run as necessary and the results will be submitted to the Committee for review. These results will initially be submitted in summary form to allow committee members an opportunity to consider the results and request an additional round of analyses before preparation of the final report begins. In order to stay within the scope of this project, we have allocated resources to this task for a single round of additional analyses. Therefore, it will be important to compile the

TASK 10: PREPARE AND SUBMIT DRAFT REPORT

A draft of the final report will be prepared and submitted to the Committee as soon as the outcome of the analysis has been approved. The final report will include the following:

- A summary of the taxes paid by electric utilities operating in Nevada and how new generating plants would be treated under the existing law;
- A general comparison of the taxes paid by electric utilities in Nevada vs. other states;
- A general comparison of the taxes paid by electric utilities vs. other utilities;
- A general description of the disposition of electric utility tax revenues in Nevada and relevant distribution methodologies from other states;
- A description of the characteristics of an optimal taxation system or structure and a description of how existing methods of taxation and any proposed alternative methods relate to those characteristics;
- A summary of the advantages and disadvantages of current methods of taxation and all alternative methods of taxation; and
- A general comparison of the methods of taxing traditional electric utilities vs. non-traditional electric utilities and other types of businesses with a special emphasis on identifying approaches that seem to encourage or discourage:
  - The location of businesses and multi-state service area generating plants; and
  - Economic development and diversification.
- A description of the analytical methodology employed in the study effort;

- An analysis of the impact of each alternative method of utility taxation in Nevada;
- An analysis of the economic and fiscal impacts of power plant siting on local government in Nevada; and
- Recommendations of the Peat Marwick project team for modifying Nevada's current system for utility taxation and revenue distribution.

Key members of the project team will be prepared to meet with the Oversight Committee to discuss the draft report and to receive final comments upon request.

TASK 10: PREPARE FINAL REPORT

Based on comments received by Peat Marwick on the draft report from the Oversight Committee, a final report will be prepared. Thirty copies of this report will be provided to the Committee.

Appendix F

Final Report, Volume I

STUDY OF ELECTRIC UTILITY TAXATION AND REVENUE DISTRIBUTION IN NEVADA

VOLUME I

Prepared for:
Nevada Legislative Commission
Subcommittee on The Methods of Distribution
of Revenues From Taxation
of Electric Power Plants

Prepared by:
The Policy Economics Group
of
Peat Marwick Main & Co.

November 1988

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Part I:

INTRODUCTION

This report presents the results of a study of the system of electric utility taxation and revenue distribution in the State of Nevada. The study was designed to provide a recommendation to the State Legislature for modifying the existing system based on a review of current practices in Nevada and in other Western states. A major impetus for the study itself has been the potential construction of two large new power plants in the State that are currently under consideration. The treatment of these new plants under the present tax system, and their potential effect on relative tax burdens and the distribution of revenues throughout the State, serve to underscore the deficiencies of this system.

Electric power generation is an important component of the Nevada economy, both as an integral part of commerce within the State and as an increasingly attractive source of economic activity from exports to other states.

The assessment and taxation of power generating facilities, and the distribution of the resulting revenue in Nevada, have been a matter of concern and study for nearly a decade. These issues are complicated by the interstate and intercounty nature of utility companies, utility property, and the customer base. In Nevada, legal restrictions also play a key role in the taxation and distribution of revenue from electric utilities. Constitutional provisions require a uniform and equal rate of assessment and taxation, and a just valuation of all property subject to ad valorem taxation. Statutory provisions regulate the amount of ad valorem and sales tax revenues that can be received by local governments.

The State seeks to develop a method of taxing electric utilities and distributing the resulting revenues that will be workable in the future without requiring extensive ad hoc adjustments for changes in the utility infrastructure. Modifications to the system are aimed at providing fair and equitable treatment of traditional electric utilities, non-traditional utilities, utility customers, people of the State and people of the counties where such facilities are located.

The study had four primary goals:

- To review the present system for electric utility taxation and revenue distribution in Nevada;
- To review the methods used by other states, with emphasis on western states, as a basis for identifying alternatives for Nevada;
- To examine the impact of the construction of new electric power plants on the system in Nevada; and
- To recommend an alternative approach to taxation and revenue distribution that will meet the needs of the State in the future.

The study consisted of three principal components. First, a review was conducted of the current system of taxation of electric utilities and distribution of the resulting revenue to Nevada counties and other jurisdictions. This review was designed to evaluate the strengths and weaknesses of the present system, and to determine the implications of new power plant construction for the State and its residents. Second, a review was performed of the practices of other states concerning the taxation and distribution of revenue from electric utilities. This review focused on Western states, whose economic and demographic characteristics most closely resemble those of Nevada. The practices of other states were also examined, with special attention given to states whose tax systems are particularly relevant to the issues facing Nevada.

Third, an analysis was performed regarding the potential impacts of the two proposed power plants on the fiscal expenditures of situs counties. This analysis measured the aggregate increases in local government expenditures that would result from the construction of a large-scale electric power plant. Any change in the tax and revenue distribution system would need to provide for additional revenue to offset these fiscal impacts. The analysis takes into account the provisions of existing law that provide supplemental revenue to situs counties in relationship to the magnitude of the fiscal impacts imposed on these counties.

To support the analysis of existing and alternative tax and revenue distribution systems, two simulation models were developed. The first model was designed to project the revenue that would be generated by alternative systems of electric utility taxation. The second model examined the fiscal impacts on a situs county that would result from a large power plant construction project.

The report is organized into seven parts. Part II, following this introduction, describes the present system of electric utility taxation and revenue distribution in Nevada. Part III describes the methods of taxation and revenue distribution used in other states. Part IV describes the framework used in evaluating the current system in Nevada and in considering the relevance of alternative systems. Part V presents a recommendation for changing the system of electric utility taxation in Nevada. Part VI presents a recommended method of revenue distribution that is consistent with the proposed tax system, and that will achieve the State's objectives for (1) ensuring a continuation of the current level of revenues going to all local government units from ad valorem or franchise taxes from electric utilities, and (2) fully compensating local governments that are impacted by major new power plant construction by providing sufficient revenue to generously offset the fiscal impacts.

As part of this study, a detailed analysis of the fiscal impacts of power plant construction on situs counties was conducted. A complete description of this analysis is contained in the Technical Appendix to this report, which is presented under separate cover.

Part II:

ELECTRIC UTILITY TAXATION AND REVENUE DISTRIBUTION IN NEVADA

Nevada is a major producer of electric power in the West. The State plays a central role in the generation and transportation of electricity both to consumers within its borders, and to those of neighboring states. The electric utility industry is an important component of the State's economy, and it accounts for more than 5 percent of Nevada's total tax revenue.

An overview of the structure of the industry is presented in Section 1 below. Section 2 describes current system of electric utility taxation and revenue distribution, and Section 3 describes the mechanisms available under current law for compensating local governments.

1. The Electric Utility Industry In Nevada

There are 20 utilities in Nevada that are subject to taxation. These include the large traditional utilities, such as Nevada Power and Sierra Pacific Power Company, Federal power installations including Hoover Dam, a variety of smaller privately or cooperatively owned electric utilities, and co-generators that sell to utilities. There are also several small electrical cooperatives that primarily distribute electricity produced from large utilities. Two out-of-state utilities, the City of Los Angeles Department of Water and Power, and Southern California Edison, own or co-own generating facilities that export much of their electricity to California. The main sources of power in Nevada are coal plants and hydroelectric plants, but there are also a number of gas, oil and geothermal producers.

Nevada's position as a Western state with low population density, close proximity to major population centers in California, and access to coal and water resources makes the State a highly competitive exporter of electric power. Exports represent the majority of electricity production in the State, although the State is also a substantial importer of electricity.

1.1 Power Generation and Consumption

Table II-1 presents the total electric power production in Nevada by private producers and by the Federal government for the five-year period from 1982 to 1987. The majority of the federally produced power sold in the State is produced at Hoover Dam and is sold to public utilities through the Colorado River Commission, an agency of the State of Nevada.

Table II-1

Electrical Power Generation in Nevada
(in Millions of Kilowatt Hours)

Year	Total	Federal	Private
1982	15,585	1,420	14,165
1983	17,373	4,094	13,279
1984	20,458	5,613	14,845
1985	16,746	4,344	12,402
1986	19,858	4,584	15,274
1987	17,440	2,501	14,939

The information presented in Table II-1 is based on the Electric Power Annual of the U.S. Department of Energy. The information on Federal production presented in the Table is for Hoover Dam only. Detailed data on electricity produced by a number of the smaller federal facilities were not available. Therefore, these figures slightly understate Federal production and overstate private production by an equal amount.

Based on average energy costs, the estimated retail value of electricity sold in the State in 1987 was $740 million.

Table II-2 shows the amount of power generated by public utilities in Nevada by type of production technology, as reported in the U.S. Department of Energy, Energy Information Administration Monthly Power Plant Report (EIA-759, 1987). Coal generation accounts for over 80 percent of total production measured in billions of kilowatt hours (gigawatts).

Table II-2

Power Generation By Public Utilities in Nevada By Type of Generator, 1987

Type of Generator	Millions of KW Hours Produced	Percent of Total Production
Oil	249	1.43
Natural Gas	590	3.38
Coal	14,076	80.71
Hydro (Non-Federal)	24	0.14
Hydro (Federal)	2,501	14.34

The largest single producer of electricity in 1987 was the Mohave plant, a coal burning plant rated at close to 1600 megawatts of capacity[1]. It produced 8,569 million kilowatt hours, or 49 percent of total Nevada production during the year. The Mohave plant is in the same size range as the proposed new White Pine and Thousand Springs plants.

Table II-3 shows the consumption of electricity in Nevada during the six-year period from 1982 to 1987. Total consumption over this period increased by 17 percent. These estimates are based on data from the Electric Power Annual.

Table II-3

Estimated Consumption of Electricity in Nevada
(in Millions of Kilowatt Hours)

Year	Amount
1982	10,568
1983	10,465
1984	11,332
1985	11,742
1986	10,966
1987	12,387

1.2 Electric Power Distribution

Power is distributed in Nevada through a network of interconnected transmission lines. These lines cover the entire State in a "grid" through which electricity travels from producer to consumer. This grid enables utilities to undertake a variety of transactions in which power can be sold, traded, and/or transferred to other utilities. The grid is connected to systems outside the State which allows energy to be shipped to and from utilities in other states.

In Nevada, transmission lines are used as the basis for distributing tax revenue obtained from ad valorem taxes on electric utilities within the State. The total assessed value of utility property is divided by the number of transmission line miles it owns, and the average assessed value per mile is assigned to each local jurisdiction for taxing purposes based on the number of line miles in that jurisdiction.

1/ Plants are rated on their maximum hourly output of electricity. Total production is an annual figure based on total available hours.

Table II-4 presents the total transmission line mileage and the assessed value of utility property allocated to each county for 1987. The distribution of assessed value within each county also extends to all of the various sub-county taxing districts where transmission lines are located.

Table II-4

Transmission Line Mileage and Assessed Value By County, FY 1987

County	Line Mileage	Assessed Value ($000's)
Carson City	1,144	6,868
Churchill	2,436	16,042
Clark	14,321	339,402
Douglas	1,402	11,793
Elko	6,125	45,504
Esmeralda	1,519	7,200
Eureka	1,466	4,106
Humboldt	6,125	51,279
Lander	2,206	13,365
Lincoln	208	5,421
Lyon	4,091	27,780
Mineral	1,880	12,879
Nye	2,595	17,683
Pershing	2,410	15,461
Storey	464	2,638
Washoe	4,063	61,103
White Pine	3,474	7,969

1.3 Flows of Electricity

There are four distinct types of electricity flows within Nevada: (1) electricity that is produced and consumed within the State; (2) electricity that is imported from other states for consumption in Nevada; (3) electricity that is produced in Nevada and exported to other states; and (4) electricity that is transshipped from one state through Nevada to another state.

The estimated flows for each of these forms of electricity during 1987 are presented in Table II-5.

Table II-5

Estimated Quantity of Electricity, by Type
1987

Type of Electricity	Production (millions of KW hours)
Intrastate	6,470
Imports	4,634
Exports	8,530
Transshipments	15,500

Intrastate production includes 876 billion kilowatt hours of power produced by Federal installations such as Hoover Dam, which is sold to the Colorado River Commission (a State agency) for resale to utilities within the State.

2. Electric Utility Taxation and Revenue Distribution

The system of taxation of electric utilities within the State of Nevada employs a combination of sales taxes, ad valorem (property) taxes, and franchise taxes. Sales and property taxes are imposed and administered on a statewide level, although the localities have some control over the rate of taxation, while franchise taxes are imposed at the discretion of certain local governing bodies. Total revenue accruing to the State from all sources in fiscal year 1986-87 amounted to approximately $703.6 million. Electric utilities accounted for approximately 6.5 percent of this total.

2.1 Sales and Use Taxes

A variety of sales and use taxes are levied in the State of Nevada to collect revenue for the state general fund and for redistribution on the local (county) level. These taxes are levied on all taxable sales and taxable items of use. There are four primary forms of sales tax in Nevada:

(1) A statewide sales tax;
(2) A Basic City-County Relief Tax (BCCRT);
(3) A Supplemental City-County Relief Tax (SCCRT); and
(4) A Local School Support Tax (LSST).

Total revenue from these four sources in fiscal year 1986-1987 was approximately $545.9 million, of which electric utilities contributed approximately 4 percent.

All of these taxes are centrally administered by the State. The method of distribution of the resulting revenue varies depending on the tax.

The statewide sales tax is levied at a rate of 2 percent. All revenues from this tax accrue to the State general fund. Collections from this tax during fiscal year 1986-87 amounted to $186.6 million.

The BCCRT is levied at a rate of 0.5 percent. Of the total, 99.5 percent of this revenue is returned to the county of origin; The remaining 0.5 percent goes to the State general fund to cover administrative costs. Collections of BCCRT were $47.5 million for fiscal year 1986-87.

The SCCRT is levied at a rate of 1.75 percent. Revenues are distributed to counties based on the assessed value of local property and property tax rates. That is, a county's ad valorem revenue serves as the basis for determining the amount that it will receive from the the pool of SCCRT revenue. SCCRT revenue for fiscal year 1986-87 amounted to $166.2 million.

The LSST is levied at a rate of 1.5 percent. As with the BCCRT, 99.5 percent of LSST collections are returned to the county of origin for distribution to school districts. The remaining 0.5 percent of collections goes to the State general fund for administrative costs. LSST revenue for FY 1986-87 was $142.6 million.

The total tax burden resulting from the combination of the four sales taxes is 5.75 percent. In addition to these taxes there is an optional mass transit, roads, and tourism tax that counties may impose at their discretion at a rate of 0.25 percent. This optional tax was levied by seven counties (Carson City, Churchill, Clark, Nye, Storey, Washoe, and White Pine) in fiscal year 1986-87, resulting in total collections of $10.3 million.

The method used to distribute SCCRT revenues is tied to the growth of property values in the county. There is a statutory limit on the amount of SCCRT and ad valorem revenue that may be collected by each district. This limit is referred to as the "Maximum Allowable Combined Revenue" (MACR), and is fully explained in Part 2.4 of this section. Briefly, MACR growth is tied to growth of assessed value in the district. The amount of SCCRT revenue allocated to each county is equal to the county's proportion of total statewide MACR. Thus, a county which has a higher growth rate (of assessed value) than other counties will see its MACR increase faster than other MACRs and, therefore, its share of SCCRT will also increase faster.

Different methods are used to distribute sales tax revenues to local governments during the construction and operation phases of power plant construction. Taxes collected on all materials and equipment used in the construction phase provide a special source of revenue for the local government. Under present law, during construction both BCCRT and SCCRT revenues would be set aside for the situs county and cities as a means of offsetting the financial impacts of a new plant. Based on the experience at other power plants, it is estimated that a power plant costing $3 billion will spend $1.2 billion on taxable materials and equipment. At current rates, the utility would pay $27 million in sales taxes that are set aside for local governments (BCCRT and SCCRT), and an additional $18 million in LSST taxes for the school districts.

During the operating phase of a utility plant, all purchases of fuel and other materials and equipment are taxed. The sales taxes paid by the two proposed new power plants, Thousand Springs and White Pine Power Project, will be a substantial source of revenue for situs county governments. Based on patterns of coal usage and cost from other plants in Nevada, sales taxes distributed locally to situs governments resulting from coal purchases by each of these plants would amount to some $3.5 million (in 1987 dollars) during each year of operation.

2.2 Ad Valorem Taxes

All property subject to ad valorem taxation in Nevada is assessed at 35 percent of full market value. Assessments of most property are made at the local level, with the exception of certain property used in interstate or intercounty activities such as electric utilities, railroads, telephone, water, and air transport, which are centrally assessed by the State.

The distribution of ad valorem (property) taxes in Nevada is handled differently for utility property than for non-utility property. As with most property tax assessments, revenues from ad valorem taxes on non-utility property simply accrue to the county in which it is located. In contrast, the <u>total</u> assessed value of property owned by utilities in Nevada, and therefore the related revenue, is apportioned among each of the counties in which the utility operates.

The total assessed value of utility property is apportioned among each of the various counties in which the utility operates throughout the State based on the system of power transmission lines. A utility's tax liability in each local jurisdiction is based on the proportion of its total transmission line mileage located in that jurisdiction. Nevada is the only state which uses this method exclusively, although it is also used in Idaho in a more limited fashion.

Table II-6 shows the estimated 1987 ad valorem tax liability of utilities within each of Nevada's 17 counties.

Table II-6

Estimated 1987 Ad Valorem Taxes Paid by Utilities
($ 000's)

County	Tax Revenue
Carson City	$ 166.1
Churchill	341.1
Clark	8,337.5
Douglas	274.6
Elko	1,089.5
Esmeralda	176.0
Eureka	74.7
Humboldt	1,135.3
Lander	485.3
Lincoln	68.6
Lyon	635.3
Mineral	302.3
Nye	464.5
Pershing	357.1
Storey	89.3
Washoe	1,468.6
White Pine	228.6
Total	$15,694.4

In order to assign an assessment to each taxing district within the county a similar line mileage distribution method is utilized. Each district receives a portion of the total county-wide assessment for a utility equal to the proportion of total transmission line miles present in that district.

Each county within the State has numerous smaller taxing districts within its boundaries. Most of these districts are able to levy ad valorem taxes that are added on to any property taxes already levied by the State, county, or school district within their jurisdiction. Therefore, ad valorem rates sometimes vary substantially within a county due to the differing revenue needs of the districts. For example, in Clark County during 1987-88, property tax rates ranged from 1.9797 percent to 2.9218 percent, a difference of almost 50 percent.

Special districts are usually created to fund a specific service, such as fire protection, police protection, water conservancies, and libraries. The rates levied by each district vary considerably, reflecting differences in the relative size of the tax base and funding requirements. For example, the taxes levied in Eureka county by each of its local taxing jurisdictions are presented in Table II-7.

Table II-7

Property Tax Rates in Eureka County, By Taxing Entity for FY 1986-87

Taxing Entity	Tax Rate (Percent)
Eureka County*	.6895
Crescent Valley Town	.0400
Eureka Town	.0032
Diamond Valley Rodent Control	.0136
Diamond Valley Weed Control	.0136
Eureka County TV District*	.0090
Eureka County Schools*	.7500
State of Nevada*	.0470

Each district identified in Table II-7 with an asterisk levies a tax on the entire county. Therefore, every area in the county is subject to a tax of at least 1.4955 percent. Property located within the boundaries of Eureka must pay an additional .0032 percent. Eureka is also located within the boundaries of the Diamond Valley Rodent Control district which levies an additional tax of .0136 percent.

2.3 Franchise Taxes

Franchise taxes imposed on electric utilities by some cities and counties serve as an additional source of revenue. The franchise tax is a form of sales tax levied on gross or net revenues. In some cases a district may use both forms of the tax. The decision to levy a franchise tax is made on the local level and is not affected by State-imposed revenue limitations. During 1987, utilities paid over $10.5 million in franchise taxes. Franchise taxes collected in 1987 by districts within each of the thirteen counties where such taxes are levied are presented Table II-8.

As the table shows, Clark County and Washoe County accounted for $9.8 million, or 93 percent of the total franchise tax collections. The cities of Reno, in Washoe County, and Las Vegas, in Clark County, are the primary population centers in the State, and their respective counties account for about 83 percent of the total population.

Table II-8

1987 Franchise Tax Collections Within Counties
($ 000's)

County	Revenue
Carson City	$ 225.8
Churchill	11.9
Clark	7,374.5
Douglas	49.0
Elko	137.3
Eureka	7.5
Humboldt	91.4
Lander	43.8
Lyon	47.2
Mineral	42.0
Nye	24.8
Pershing	27.0
Washoe	2,422.3
Total	$10,504.5

2.4 Revenue Limits

Ad valorem taxes may be levied by the State, county, school district, or local taxing district. There is no statutory limit on the ad valorem tax rate or revenue that can be collected by the State, but such limits are imposed on local government entities.

Revenue limits which define the maximum amount that counties may receive through the combination of SCCRT and ad valorem taxes are established by formula. The revenue limit, referred to as the Maximum Allowable Combined Revenue (MACR), defines the amount collected and the relative proportion of revenue that can be derived from each type of tax. According to the formula, county revenue from these sources is allowed to grow each year, but the rate of growth is limited. The MACR is allowed to increase each year in proportion to the increase in countywide assessed values. A portion of this

increase is distributed as SCCRT. The portion that can be received from SCCRT revenue is related to the county's proportion of statewide ad valorem revenue. The remainder of the MACR, after SCCRT, is received as ad valorem. The revenue limit helps establish the property tax rates in each district. The portion of the MACR collectible as ad valorem is divided by the property tax base to calculate the new allowable tax rate. A description of the revenue limit formula is presented in Appendix A.

Currently, most districts are levying the maximum ad valorem tax rate allowed under the revenue limits. A small number of districts impose rates that are below the allowable limit. When necessary, the law provides for overrides of the revenue limit for a locality by the State Legislature. Such overrides have been enacted in the past to accommodate rapid economic expansion in some localities.

County debt limits are generally capped at 10 percent of a district's assessed valuation. Bonds are issued by a wide variety of entities such as general improvement districts, airport authorities, hospital districts, and fair and recreation boards. The debt limit for these districts varies, but can be as high as 30 percent of assessed value for some cities. Table II-9 shows the debt limit for various jurisdictions eligible to issue debt. The "debt margin" is the additional debt that can be issued without exceeding the statutory limit. As the table indicates, most entities have a significant level of debt capacity remaining.

Table II-9

Debt Limits and Debt Margins of Local Jurisdictions in Nevada as of June 1987
($ Millions)

Debt Issuer[1/]	Debt Limit	Debt Margin
Counties	$1,578.5	$1,280.2
Schools	2,332.8	2,158.8
Cities	1,162.9	1,057.4
Towns	1,225.3	1,216.5
Library Districts	817.0	802.3
General Improvement Districts	1,330.5	312.4
Hospital Districts	4.5	3.2
Fair and Recreation Boards	650.8	567.8
Fire Protection Districts	280.8	280.8

1/ Includes all jurisdictions of each type that are eligible to issue debt.

3. Provisions for Alleviating the Impacts of Plant Construction on Situs Counties

One of the issues addressed by this study was the fiscal impact of the construction of a new electric power plant on local government expenditures. The construction of a power plant increases the demand for public facilities and services in areas near the site. These impacts include such things as the need to expand school capacity, sewerage and water facilities, transportation infrastructure, and police, fire and rescue, and medical services. The impacts result from population changes that are driven by employment at the plant.

Nevada law currently includes two primary mechanisms for providing supplemental revenue to situs counties to alleviate the fiscal impacts of plant construction:

(1) Re-directing all Supplemental City-County Relief Taxes (SCCRT) and Basic City-County Relief Taxes (BCCRT) on materials and equipment used in plant construction back to the situs county; and

(2) Retaining additional assessed property value of the new plant in the tax base of the situs county during construction, rather than apportioning it among other counties based on the standard transmission line mileage formula.

The following sections present a more detailed description of the two supplemental revenue mechanisms and how they may perform during future power plant construction projects.

3.1 Distribution of Sales Taxes on Construction Materials

The revenue generated by sales taxes on materials and equipment used in the construction of an electric utility plant is substantial. Because plant construction also represents an expansion of economic activity, for the most part this revenue represents a windfall to the State. By earmarking this revenue for distribution to the situs county, the State would be able to provide substantial fiscal relief without changing the relative distribution of revenue among other local governments throughout the State.

Normally only LSST and BCCRT are distributed to the county in which goods are purchased. Nearly all of this revenue, 99.5 percent, is returned to the county from which it is collected. In the case of goods purchased outside the State, tax revenues are distributed to all counties. SCCRT revenue is distributed to all counties in proportion to their assessed valuation. However, during plant construction SCCRT

revenue generated by these sales would be removed from the normal channels of distribution and given to the situs county. Also, revenue generated through BCCRT outside of a situs county is set aside for use by the situs county. This provides a substantial flow of income to the county while construction is in progress. In the case of a hypothetical plant costing $3 billion it is estimated that SCCRT tax revenue could amount to $21 million and BCCRT tax revenue to $6 million over the course of the entire project at current rates (based on estimated construction costs for taxable equipment and material purchases of $1.2 billion dollars in 1987 dollars).

The SCCRT revenue that is allocated to the situs county is applied against the ad valorem revenue limit. This additional revenue would reduce the allowable level of ad valorem collections. It is possible that revenue from purchases at the construction site could be large enough that, under the current formula, the ad valorem revenue limit and the tax rate would be reduced to zero. No automatic mechanism currently exists to reestablish a positive rate once it has reached zero. Action by the Nevada Tax Commission would be required to reinstitute a positive tax rate when this occurred.

3.2 Property Value Assessment

The second mechanism for providing fiscal relief to situs counties during power plant construction involves the addition of property value to the situs county's tax base during construction. Until a power plant becomes operational, its assessed value would remain in the situs county, rather than being allocated among various counties according to the normal system of distributing this assessed value by formula based on transmission line mileage. This would result in an increase in the county's tax base as well as its MACR revenue limit (because this value is considered new property), allowing the county to collect additional revenues. When a plant becomes operational, it's assessed value would be redistributed by formula based on the traditional measures of transmission line mileage. As a result, when this occurs, the situs county would experience an immediate and substantial reduction in its property tax base, while other counties would experience corresponding increases.

Based on the current revenue limit formula, the increase in sales tax revenues generated by power plant construction would reduce the proportion of county revenues that can be derived from ad valorem property taxes. In a situs county where these sales tax revenues would be substantial relative to the revenue limit, property tax rates would be reduced considerably, and possibly to zero. As a result, the additional assessed value of the plant assigned to the situs county will not generate any significant additional revenue from ad valorem taxes during construction. This substantial decrease in the rate of property taxation would be less significant in a county with a higher revenue limit -- a fact that could lead to tax-induced site selection.

Part III:

ELECTRIC UTILITY TAXATION AND REVENUE DISTRIBUTION IN OTHER STATES

A review of the approaches used in other states for electric utility taxation and revenue distribution was conducted to provide a comparative basis for evaluating the present system in Nevada and for developing recommendations for change. The study encompassed two separate levels of review. First, the tax regimes of other Western states, especially those with low population density similar to that of Nevada, were examined as a group to provide a suitable basis for comparison. This group of Western states included Arizona, Colorado, Idaho, Montana, New Mexico, Oregon, Utah, Washington, and Wyoming. Second, a general review of tax methods used in other states was conducted with special attention given to states where the tax system was particularly relevant to the issues facing Nevada.

1. Methods of Electric Utility Taxation

Among the nine Western states included in the review, six different types of taxes are levied on electric utilities:

- Property taxes
- Sales taxes on consumption of electricity
- Franchise taxes or add-ons to sales taxes
- Kilowatt-hour taxes
- Gross receipts taxes
- Income taxes

Table III-1 shows which of these taxes is levied in each of the states examined. The following sections describe the application of these taxes.

1.1 Local Property Taxes

Local property taxes are imposed by all Western states. Electric utilities are subject to property taxes along with other owners of property. Outside the comparison group of Western states, however, four other states have imposed gross receipts taxes on electric utilities <u>in lieu</u> of property taxes. These states are Connecticut, Hawaii, New Jersey, and Wisconsin. Property taxes on electric utilities have been eliminated in these states, except for special assessments on local improvements in Wisconsin.

Table III-1

Types of Taxes Levied on Electric Utilities In Nine Western States

State	Property Taxes	Sales Taxes on Electricity	Local Franchise Taxes	Kilowatt Hour Taxes	Gross Receipts Taxes [1]	State Income Taxes
Nevada	*[2]		*			
Arizona	*	*	*			*
Colorado	*	*	*			*
Idaho	*			*		*[3]
Montana	*[4]			*		*
New Mexico	*[2]	*	*			*
Oregon	*		*			*
Utah	*	*	*			*
Washington	*	*	*		*	
Wyoming	*	*	*			

1 Excludes taxes earmarked to fund the public service commission.
2 A small portion of revenues is collected by the State.
3 Some revenue is earmarked for State agencies.
4 Used to fund State universities.

Vermont has adopted a state property tax for generating plants with capacity in excess of 200 megawatts, which replaces local property taxes. Some states impose uniform local property tax rates on public utilities which are set at the average rate of taxation, even though the revenues accrue to the local governments.

1.2 Sales Taxes on Consumption of Electricity

All of the Western states included in the review except Montana and Oregon collect retail sales taxes. In most of these states, but not in Nevada, the sales tax also applies to sales of electricity. In Idaho, California, and Washington, electricity is exempted from the state sales tax. A distinction is made in both Colorado and Utah between commercial and residential sales of electricity. In Colorado, residential purchasers are exempt from the state sales tax on electricity, while in Utah they are subject to a rate reduction.

A number of states that impose sales taxes on electricity have tax exemptions for some of the inputs purchased by an electric utility. For instance, there are exemptions on fuel purchases by generating plants in Colorado, Idaho, New Mexico, Utah, and Wyoming. Similarly, there are sales tax exemptions on machinery purchases by utilities in Arizona and Colorado.

1.3 Local Franchise Taxes

Many states in the West permit cities and counties to levy an additional sales tax on electricity, referred to as a franchise tax, city use tax, business and occupation tax, or add-on to the state sales tax. These types of taxes may be levied through a direct addition to the state's sales tax rate, or through an independent tax that is shown separately on the customer's electric utility bill. Franchise taxes levied by local jurisdictions are prevalent in Arizona, Colorado, Montana, New Mexico, Oregon, Washington and Wyoming. Oregon has no state sales tax but local franchise taxes are permitted, while Colorado, which also allows local franchise taxes, has exempted residential purchases of electricity from the state sales tax.

1.4 State Kilowatt-Hour Taxes

Several states impose a kilowatt hour tax on the production of electricity. These states are Illinois, Montana, North Dakota, and South Carolina. Idaho has a kilowatt hour tax that applies to net generation of electricity in hydro facilities, its main source of electricity. In addition, California levies a minor kilowatt hour tax on the consumption of electricity in the State.

A kilowatt hour tax is a convenient method of taxing the production of electricity. North Dakota, South Carolina, and Montana all have sizable out-of-state sales of electricity which are subject to the kilowatt hour tax at the production stage.

In the case of North Dakota, the state imposes a tax (which it identifies as a privilege tax on coal conversion facilities) on the production of electricity, and on other users of coal. The tax for electrical generating plants with capacities of 120 MW or more is calculated using kilowatt hours as the base.

The North Dakota tax is calculated in two ways: first, a rate of $.00025 is applied to 60 percent of the installed capacity of the utility multiplied by the total number of hours in the taxable period; and second, the same rate of $.00025 is applied to each kilowatt hour produced for sale.

It should be noted that these taxes are oriented toward production in the State, and not toward consumption. North Dakota is a large net exporter of electricity. The tax is in lieu of property taxes on the facilities, except for the land on which the plant is located.

1.5 State Gross Receipts Taxes

Many states, including Nevada, impose a gross receipts tax on utilities that are supervised by the public service commissions. In some of these cases the gross receipts tax is minor, and serves merely to defray the administrative costs of the commissions. Other states, however, impose gross receipts taxes that are paid into the states's general fund. These states are:

Alabama
Connecticut
Florida
Hawaii
Illinois
Louisiana
Maine
Maryland
Michigan
New Hampshire
New Jersey
New York
North Carolina
Ohio
Oklahoma
Pennsylvania
Rhode Island
South Carolina
South Dakota
Tennessee
Texas
Virginia
Washington
West Virginia
Wisconsin

While twenty-five states are included in this listing, Washington is the only Western state to have a general gross receipts tax. As discussed previously, four of the twenty-five states (Connecticut, Hawaii, New Jersey and Wisconsin) have used the state gross receipts tax as a replacement for local property taxation of electric utilities.

In many states, the gross receipts tax focuses on intra-state transactions as the tax base. In other states, the tax base is the net generation of electricity and the tax thus applies both to in-state and out-of-state sales. Such a tax is similar to a kilowatt hour tax on the net generation of electricity, except that the kilowatt hours are multiplied by the electricity price, and hence tax revenues respond both to movements in prices and production of electricity. West Virginia and Alabama, both of which have very large net exports of electricity, have opted for a production-oriented gross receipts tax.

The gross receipts taxes in two states, West Virginia and Wisconsin, are described below. West Virginia's system is designed with its large exports of electricity in mind. In contrast, Wisconsin's system is more suited for a state that is, on net, self-sufficient with regard to electricity production and consumption.

The West Virginia Gross Receipts Tax. West Virginia's power producers pay a gross receipts tax both on their sales within the State and outside the State. The tax, referred to as the Business and Occupation Tax, is levied on the privilege of engaging in business in West Virginia, and it is based on gross income derived from doing business in the State. Prior to mid-1987 nearly all business activities were subject to this tax, but since then only public utilities and nonsupervised electric power producers are subject to the tax. Municipally-owned electric companies are excluded from this tax.

The tax is imposed on power producers, whether traditional or non-traditional, without regard to the location where the sale takes place or to the fact that transmission may be to points outside the State. When the sale occurs within West Virginia, total gross revenues (that is, gross receipts derived both from production and distribution) are subject to tax. However, when the sale occurs outside West Virginia, the measure of the tax is confined to the value of the electric power before transportation to out-of-state customers. This is ascertained by measuring the average annual cost of net generation at power plants that export.

More specifically, the cost of net generation of exported power is measured by including:

- operating and maintenance expenses
- apportioned administrative and general expenses
- fixed charges
  - depreciation
  - rate of return allowed by public service commission
  - computed federal income taxes and state and local property taxes.

Estimated tax payments are required. Taxpayers whose tax liability exceeds $12,000 per year are required to pay in monthly installments, while those with smaller liabilities file quarterly.

While tax rates have been adjusted from time to time, the basic tax rate has been 4 percent for both exports and in-state sales. The rate is reduced to 2 percent for sales to a manufacturing plant, wherever located, that purchases more than 200 megawatt hours per year.

The section of the West Virginia tax code pertaining to the tax on domestic sales is separate from the section related to out-of-state sales. This separation in the code led to a court challenge that the provisions were discriminatory against interstate traffic. However, the courts upheld West Virginia, declaring that the two sections complement each other and that exactly the same tax rate is applied under each section. (Duquesne Light Co. v. State Tax Department 350 S.E. 2d 754 -- W.VA 1986).

The Wisconsin Gross Receipts Tax. Wisconsin, a net importer of electricity, has adopted a gross receipts tax that has a different structure from that in West Virginia. The gross receipts tax in Wisconsin has replaced all property taxes, except special assessments for local improvements. The rate of taxation is 3.19 percent of total "in-state" gross revenues.

"In-state" gross revenues are derived by looking at the average of three measures of utility operations in Wisconsin. The three measures express, in percentage terms, the amount of operations that a utility has in the State of Wisconsin. The measures examined are wages, property, and sales. For example, total wages paid in Wisconsin are divided by total wages paid for the entire utility to arrive at a percentage of payroll activity attributable to Wisconsin. Once the three measures have been averaged to arrive at total utility activity in Wisconsin, this is mulitplied by total utility receipts to calculate the revenue base for the tax.

As a result of this treatment, out-of-state producers that sell in Wisconsin are subject to a partial tax (mainly due to the sales factor). In-state producers selling outside Wisconsin would also be subject to a partial tax (mainly due to the property and wage factors). Purchases of electricity for resale are deductible in arriving at gross receipts.

1.6 State Income Taxes

Most states have an individual and a corporate income tax. Privately-owned electric utilities are subject to the corporate income tax. Of the nine Western states examined, seven had a corporate income tax; the exceptions were Washington and Wyoming.

In Utah, the corporate income tax is referred to as the State Corporate Franchise Tax. In Montana, the income tax applies only to corporations and is referred to as the Corporate License Tax.

2. Methods of Revenue Distribution

This section describes the distribution methods used in Western states for revenue derived from taxes on electric utilities. The approaches used in North Dakota and Wisconsin are also described in the case of the kilowatt hour tax and the gross receipts tax, respectively; these are examples of tax methods that seem to be suited to each state's trade balance in electricity, that is, North Dakota, an exporter, and Wisconsin, a moderate net importer. In general, property taxes are the most prevalent form of taxation of electric utilities. Revenue from this source usually remains in the situs county, with the exceptions of Nevada and Idaho. In states where local governments are permitted to levy franchise taxes or other local taxes, these revenues remain in the local jurisdiction. Table III-2 summarizes the distribution methods used in the nine state surveyed for each of the major taxes on electric utilities.

2.1 Property Taxes

In most Western states, property tax revenues are distributed in accordance with the situs of property. In general, the total value of an electric utility company is established by assessment. The proportion of this value in each jurisdiction is computed as represented by power plants, by transmission lines, or by other property. This computation is frequently based on the relative costs of the properties.

Methods Used to Distribute Revenues From Electric Utility Taxation in Nine Western States By Type of Tax

State	Property Taxes	Sales Taxes on Electricity	Local Franchise Taxes	Kilowatt Hour Taxes	Gross Receipts Taxes [1]	State Income Taxes
Nevada	GENERAL FUND[2] FORMULA		SITUS			
Arizona	SITUS	GENERAL FUND FORMULA	SITUS			GENERAL FUND FORMULA
Colorado	SITUS	GENERAL FUND	SITUS			GENERAL FUND
Idaho	FORMULA SITUS			GENERAL FUND		GENERAL FUND[3]
Montana	GENERAL FUND[4] SITUS			GENERAL FUND		GENERAL FUND FORMULA
New Mexico	GENERAL FUND[2] SITUS	GENERAL FUND SITUS	SITUS			GENERAL FUND
Oregon	SITUS		SITUS			GENERAL FUND
Utah	SITUS	GENERAL FUND FORMULA SITUS	SITUS			FORMULA
Washington	SITUS	GENERAL FUND	SITUS		GENERAL FUND	
Wyoming	SITUS	GENERAL FUND	SITUS			

Key: FORMULA indicates distribution by formula to many jurisdictions; GENERAL FUND indicates that revenues go into the state's general fund; SITUS indicates that revenues stay in the locality where property is located.

1 Excludes taxes earmarked to fund the public service commission.
2 A small portion of revenues is collected by the State.
3 Some revenue is earmarked for State agencies.
4 Used to fund State universities.

For electric utilities the assessments are usually made at the State level. Each local government unit imposes its local tax rates on the properties within its jurisdiction. Arizona, Colorado, Montana, New Mexico, Oregon, Utah, and Wyoming all follow this approach for distributing property taxes. In New Mexico, a small portion of the property tax is distributed to the State government to fund State general obligations. In Montana, a portion of the property tax is used to fund the State university system. This approach is in contrast to that used in Nevada, which allocates the assessed value of electric utility property based on the proportion of transmission line mileage located in each jurisdiction, as described earlier.

Idaho's distribution of property tax revenues from electric utilities is similar to Nevada's in that assessments are distributed by transmission-line miles in the various taxing districts. Nevertheless, Idaho does not rely entirely on a formula for line-mile distributions. Rather, some revenues are apportioned according to the situs of generating plants.

2.2 State Retail Sales Taxes

A number of Western states redistribute a portion of state sales tax revenues to local governments, both counties and cities. Redistribution formulas are used in Arizona, Utah, and New Mexico. In New Mexico, local governments also may impose add-ons to the state sales tax. In Colorado, home-rule cities can add sales taxes on top of the state's tax. In Colorado and Wyoming state sales tax revenues are retained by the State.

2.3 Local Franchise Taxes

In the Western states where local franchise taxes are levied, the revenue from such taxes are retained by the taxing authority. Of the nine states considered here in detail, only Idaho and Montana do not permit local franchise taxes on electricity.

2.4 State Kilowatt Hour Taxes

Two of the nine Western states studied, Idaho and Montana, levy a tax on electricity production based on the number of kilowatt hours produced. In some states, these taxes are combined with a tax on the rated production capacity of the plant. The revenue from such a tax either goes entirely to the State general fund, or is divided between the State and the local government by formula.

In Idaho, the revenue from the kilowatt hour tax is not earmarked; it goes into the State's general fund. Similarly, in Montana all revenue from the tax (referred to as the electrical energy producers' tax) goes into the State's general fund.

In North Dakota, the state kilowatt hour tax on coal-burning electric generating plants has replaced property taxes for those plants, except assessments on the value of land. The State allocates the revenue from this tax between the State general fund and the county in the following manner:

- revenue from the portion of the tax that relates to generating capacity is distributed at 35 percent to the situs county and 65 percent to the State general fund; and

- revenue from the portion of the tax that relates to production is distributed solely to the State general fund.

The county must allocate the money received from the State in the following manner:

- 30 percent of the revenue is distributed to incorporated cities in proportion to population.

- 40 percent of the revenue is deposited in the county general fund.

- 30 percent of revenue is distributed to county school districts in proportion to average daily attendance.

2.5 State Gross Receipts Taxes

Of the nine Western states other than Nevada that were included in the review, only Washington currently has a gross receipts tax on electric utilities. As described earlier, this type of tax is used in a number of states in other parts of the country, including West Virginia and Wisconsin. In addition, many states use a special purpose gross receipts tax that is earmarked to pay the administrative costs of the public utility commission. In states where the gross receipts tax is used as a substantial source of revenue, the revenue either goes to the general fund, or it is divided between the State, local governments, and the public utility commission by formula.

In Washington, the revenue from the gross receipts tax flows into the State's general fund, except for a portion that is earmarked to pay the administrative expenses of the Public Service Commission.

Wisconsin uses a more complex distribution system for the revenue produced by its gross receipts tax that serves as an interesting example. Revenue from the tax flows into the State's general fund for use by the State. Nevertheless, the revenue from the gross receipts tax and a number of other taxes, including the State's sales tax, were designed to fund the State revenue-sharing program. This program operates under statutory provisions, so that there is no one-to-one relationship between revenue and distributions.

Distributions are made from appropriations to the Shared Revenue Account. In the area where an electric utility is built, special payments are made during the first four years following the start of construction. The situs county and the situs municipality each receive $100,000 a year from the shared revenue account. This amount is not subject to limits of any kind; it applies to utilities with a capacity of 250 megawatts or more.

After the first four years of construction have passed, counties and cities are entitled to a distribution that is proportional to the book value of the plant, up to a book-value ceiling of $100 million. The rate is 6 mills for a county and 3 mills for a city or a village. For plants of 200 megawatts, or more, the minimum payment is $75,000 annually.

Towns receive similar payments under a slightly different formula. For them, the payment may not exceed $300 per capita.

Outside the utility area, there are other types of distributions. For instance, each district receives a contribution of $30 per capita. Other funds are transmitted on the basis of "aidable revenues" received by districts, multiplied by tax base weights. This distribution helps to equalize tax bases per capita.

2.6 State Income Taxes

The Western states that have corporate income taxes distribute the revenue in various ways. The revenue is retained in the State's general fund in Colorado and New Mexico. In Utah all of the tax proceeds are designated to fund public education, and in Oregon some of the revenues serve to finance basic school support. In Montana, the proceeds of the income tax are allocated between the State general fund, a public school equalization fund, and a public building fund based on a split of 64 percent, 25 percent, and 11 percent, respectively. In Arizona, a large part of State income tax revenues is redistributed to local governments based on population.

Part IV:

FRAMEWORK FOR EVALUATING ALTERNATIVE METHODS OF UTILITY TAXATION AND REVENUE DISTRIBUTION

The present system of electric utility taxation and revenue distribution has several key features that have important implications for the State, the counties, and for future power plant construction. The most important of these are:

- Electric utilities provide revenue to local governments through both property taxes and sales taxes;
- Revenue limits, which link a specific component of the State's sales tax with ad valorem property taxes, exist for each local jurisdiction;
- Ad valorem taxes on utility property are centrally assessed and collected by the State;
- The assessed value of utility property is apportioned to local government jurisdictions based on the location of power transmission lines;
- A number of localities levy a separate franchise tax on electric utilities based on gross or net receipts; and
- The present system includes mechanisms for supplementing the revenues of local governments through increased distributions of ad valorem and sales tax revenues to alleviate the fiscal impacts in the event a new power plant is built.

Although the current system is functional under present circumstances, there are compelling reasons to undertake change. First, the current system represents a compromise between the needs of various local jurisdictions, and between these jurisdictions and the State. The result is less than optimal for the interests of Nevada residents in general, and tends to subsidize consumers of electricity in other states. Second, in the very likely event that new electric power plants are built in the State in the future, the system would become unworkable without relying on ad hoc adjustments by the State Legislature. It would also result in somewhat arbitrary changes in property tax rates and revenue distributions for local jurisdictions.

The sections that follow describe the framework that was used to evaluate the present system, and to develop recommendations for change.

1. Problems With The Present System

The review of Nevada's existing system for electric utility taxation and revenue distribution identified four specific issues that need to be addressed by Nevada in light of existing plans for power plant construction:

(1) Differential treatment of traditional and non-traditional utilities;

(2) Difficulties posed by the current revenue limitations;

(3) Arbitrariness of the current revenue distribution method; and

(4) Effects of the system on economic development and tax uniformity.

1.1 Differential Treatment of Traditional and Non-Traditional Utilities

Traditional utilities include all electric power plants that sell electricity retail, or that sell wholesale and are owned by other utilities. The term is also limited to those State-regulated utilities that are supervised by the Public Service Commission of Nevada. The assessed value of property owned by traditional utilities is apportioned to local jurisdictions according to the location of transmission lines.

In contrast, a non-traditional utility would be a separate entity designed to produce power solely for wholesale directly to other utilities. Such a plant would have little or nothing in the way of a transmission line distribution system, and could possibly sell much or all of its power to utilities outside the State of Nevada. In this case, there would be no apportionment of assessed value among different counties, it would all remain in the situs county.

At present, there are no such non-traditional utilities in Nevada. However, either of the two proposed utility plants, Thousand Springs and White Pine power projects, may be classified as non-traditional. These projects raise three issues. First, if only one of the plants is classified as non-traditional, they would conceivably be treated differently with respect to taxation and revenue distribution. Second, to the extent that either plant is non-traditional, all of the

assessed property would remain in the situs county. And Third, even if one or both of these plants are classified as traditional utilities, the allocation of such large amounts of assessed value according to the existing transmission line mileage formula would be highly arbitrary relative to the fiscal needs of the counties.

1.2 Difficulties Posed By Current Revenue Limitations

The existing revenue limit formula for local governments links the Supplemental City-County Relief Tax to the ad valorem property tax. Under this formula, sales tax revenues are allocated first, limiting the amount that can be collected through ad valorem taxes to the difference between the sales tax revenue and the Maximum Allowable Combined Revenue limit. Therefore, when sales taxes increase faster than the revenue limit ceiling, ad valorem tax rates may be forced to decrease.

This situation would occur under the present system if a new power plant were to be constructed. Under this system, revenues from the SCCRT levied on purchases of materials and equipment used in plant construction would be tracked by the State and distributed to the situs county. Because these sales taxes would be substantial relative to the revenue limits of most rural counties in Nevada, the property taxes in the situs county would be "crowded out," and could possibly be reduced to zero.

One of the difficulties that this would create is that if the ad valorem limit is reduced to zero, State intervention would be required to reestablish a positive tax rate. In addition, even if the property tax rate is not reduced to zero, the rate would become unstable from year to year as a result of fluctuations in sales tax revenues from the plant. Furthermore, because under present law the increase in property value related to power plant construction would be added to the tax base of the situs county, the reductions in the tax rate that would occur as a result of the effects of sales taxes on the revenue limits would prevent the county from benefiting from this expanded tax base.

When the plant becomes operational, assessed value is reallocated by line miles. Thus, the tax base of the situs county is reduced, but with little effect on revenue limitations. Concurrently, the tax base of the counties with transmission lines is increased, possibly resulting in increases in the revenue limitation.

1.3 Arbitrariness Of The Revenue Distribution System

As described previously, under the present system the assessed value of utility property is apportioned among local government jurisdictions. The apportionment is made according to the proportion of a utility's total transmission line mileage located in each jurisdiction. This method would allocate assessed value to counties without regard to the differential fiscal needs that may exist. In cases where the increase in utility property value is substantial, such as when major additions are made to a plant or a new plant is built, the allocations can cause considerable distortions in the total assessed value of property in different counties.

1.4 Effects Of The System On Economic Development And Tax Uniformity

The current tax system would impose relatively low ad valorem tax rates on the new large electric power plants. Such a tax rate is likely to be below the taxes generally imposed on Nevada utilities. At such levels, the tax would be more generous than necessary to promote economic development. In addition, because a significant portion of the electric power generated by a new plant would likely be exported to other states, these low tax rates would tend to benefit out-of-state consumers.

2. Considerations For Improving The Tax And Revenue Distribution System

In order to effectively address the deficiencies of the present system of electric utility taxation and revenue distribution, alternative methods for changing this system were evaluated with respect to the following goals:

(1) Imposing a reasonable tax burden on large new power plants while not adversely affecting economic development;

(2) Treating traditional and non-traditional utilities equitably;

(3) Treating in-state and out-of-state consumers uniformly;

(4) Distributing revenues based on a specific program, rather than as a by-product of the present system; and

(5) Providing generous compensation to situs counties for the fiscal impacts related to power plant construction and operation.

2.1 Alternative Methods Of Taxation

Based on the goals described above, three primary methods of taxation were considered at length: (1) a state ad valorem tax; (2) a state gross receipts tax; and (3) a state kilowatt hour tax. Each of these alternatives has two features that are desirable. First, in each case the tax would be imposed and collected at the State level with a uniform tax rate for all electric power plants. This avoids the problems caused by the revenue limitations under the current system, and it provides flexibility in the formulation of revenue distribution methods. It is also consistent with trends in other states to move toward a tax at the State level, and in the latter two cases, to move away from the property tax in favor of production- or consumption-based taxes. Second, each alternative allows the State to ensure neutral treatment of traditional and non-traditional utilities.

The key features of each alternative are described in the sections below.

State Ad Valorem Tax

A property tax levied at the State level on electric utilities would have have three key advantages over the present system:

(1) It would employ existing administrative procedures for centrally assessed property;

(2) It would apply to assets located in the State. As a result, it would treat production for intrastate sales and exports the same. It would also capture the in-state assets of importers and transshippers.

(3) It would tax electric utility assets uniformly in contrast to the different rates, by county, that are currently in effect.

State Gross Receipts Tax

A state gross receipts tax can be levied at either the wholesale or retail level. A retail tax would impose a greater burden on in-state consumers relative to out-of-state consumers. A wholesale tax would treat in-state consumption and exports identically, but would require the calculation of a constructed wholesale price in some cases. Under this type of tax, revenues would keep pace with total sales of electricity. The tax would apply directly to the production of electricity generated in Nevada, including exports, and it

can be applied to imports of electricity by imposing a complementary use tax with appropriate adjustments for home state taxes. A similar tax could also be applied to transshipments.

State Kilowatt Hour Tax

A kilowatt hour tax levied at the State level would be similar to the gross receipts tax in that it would apply to the production of electricity. However, it would be based on quantity of production rather than price. Under such a tax, alternative approaches could be used to keep tax revenues in line with price changes, such as automatic indexing, or discretionary changes based on legislative action. The tax would have a uniform rate for all production. As with the gross receipts tax, the kilowatt hour tax could apply directly to production for sale in Nevada and for export to other states. It could also be applied to imports and transshipments of electricity in a similar manner to the gross receipts tax.

2.2 Alternative Revenue Distribution Methods

Any change in the method used to distribute revenues to local government jurisdictions must meet two specific requirements. First, it must provide the same level of revenues to local jurisdictions as those provided by the current system. And second, it must provide a mechanism for compensating local jurisdictions for the fiscal impacts of new plant construction. These compensatory revenues should be generous relative to the fiscal impacts of construction.

The focus of the study concerning approaches to revenue distribution was on the use of a formula approach. The objective was to develop a specific program that would apply effectively to the existing utilities, as well as to the potential new electric power plants currently under consideration.

Part V:

RECOMMENDED SYSTEM OF ELECTRIC UTILITY TAXATION

Based on the evaluation of alternative methods of taxation, described in the previous chapter, and the objectives of the State for the design of a new system of taxation, a gross receipts tax on electricity is recommended as the most appropriate approach for taxing electric utilities in Nevada.

A state gross receipts tax is well suited to the needs and objectives of Nevada. It allows all production, use and transportation of electricity to be brought under a uniform tax. This tax would apply to traditional as well as non-traditional utilities (i.e., to existing facilities as well as the large new generating plants that are under consideration). The gross receipts tax would be capable of replacing existing ad valorem and franchise taxes on electricity. The tax base would be large enough to provide revenue distributions equal to the revenues currently being received by local jurisdictions from ad valorem and franchise taxes. In addition, the revenue distribution system under such a tax could be structured to provide funds to generously compensate situs counties for the fiscal impacts imposed by the construction and operation of new generating plants. Furthermore, sufficient revenues could be generated by this tax at rates that are highly competitive with those of neighboring states, and that therefore would not adversely affect economic development.

Over time, the revenues from gross receipts taxes would grow in response to increases in the volume as well as the value of electricity production. Although there could be some years when increases in the production costs of electricity would moderate, due to a decline in energy prices for example, there is a strong likelihood that prices as well as production will trend upward in the future, and the gross receipts tax base will accordingly grow over time.

The sections that follow present a detailed description of how such a gross receipts tax would be structured and applied and what the relative revenue effects would be.

1. Design of the Gross Receipts Tax

The gross receipts tax on electricity would replace Nevada's existing ad valorem tax on electric utility property, as well as the franchise taxes on gross or net income levied by some cities and counties on the sale of electricity. The new gross receipts tax rate initially would be set at a level

necessary (1) to generate enough revenue to provide local jurisdictions with funds sufficient to offset decreases in ad valorem and franchise tax revenue (referred to as the hold-harmless level of revenue distributions); and (2) to generate enough additional revenue to compensate local government jurisdictions for the fiscal impacts caused by the construction of large new power plants.

In subsequent years, tax revenues would grow because electricity production from existing generating plants in Nevada is expected to increase and prices are likely to increase as well. On the basis of those increases, funds available for distribution to local governments would also grow according to a formula discussed in Part VI. Tax revenues from electricity production at large new plants, on the other hand, would first be used to compensate the situs counties for fiscal impacts during the operation phase of the electric plant and then would go into the general fund of the State of Nevada as the residual claimant.

1.1 Items Subject To Tax

The gross receipts tax would apply to all production, use, and transportation of electricity in Nevada. The tax base is gross receipts derived from the production of the pertinent flow of electricity. There are four types of electricity flows to which the tax would apply: (1) production of electricity within the State; (2) use of electricity within the State that is imported from other states; (3) purchases by Nevada utilities of electricity that was produced by Federal government facilities; and (4) transportation of electricity produced outside Nevada and transshipped across the State for use in another state.

The tax is structured such that double taxation of electricity does not take place under any circumstances. The first criterion for taxation is production. The use of electricity in Nevada would be taxed only if a tax has not been levied at the production stage, that is, if the electricity is imported or obtained from a Federal production facility. Electricity transported through the State would be taxed under the proposed method only if neither the production nor the use tax applies, that is, if the electricity is transshipped from one state to another through Nevada.

The specific application of the gross receipts tax in each of these four cases would be as follows:

1. All production of electricity in Nevada, except that produced by the Federal government, would be subject to a gross receipts tax (or an in-lieu tax for municipal production) if it is produced for sale rather than for in-house consumption. The tax would apply to all traditional utilities that are supervised by the Public Service Commission and also to any non-traditional utilities.

2. Imports of electricity for sale in Nevada would be subject to a use tax. This tax would apply to retail imports, such as Idaho Power Company's small retail service territory in northern Nevada. It would also apply to bulk purchases from out-of-state sources by the major Nevada utilities, such as Sierra Pacific and Nevada Power. Federal statutory requirements for taxation of interstate commerce would require that a credit be given for any similar gross receipts or use taxes paid in states prior to transportation of the electricity into Nevada in order to avoid double taxation.

3. The use tax would also apply to purchases of Federally-produced electricity by Nevada utilities. The Federal power supply that is apportioned to Nevada is sold by the Western Power Administration to the Colorado River Commission, an agency of the State of Nevada. Nevada utilities, in turn, purchase electricity from the Colorado River Commission. In addition, the tax would apply to some of the purchases that Nevada's electric cooperatives make from the Bonneville Power Administration, as power is wheeled to them by the major Nevada utilities.

4. Large volumes of electricity are produced outside Nevada, transshipped through the State, and delivered to utilities in other states. Under this proposal, the gross receipts tax would be imposed on the value of transshipments, but not on other transportation of electricity that is subject either to the production or the use tax. The tax on transshipments would be apportioned according to the ratio of the transmission line mileage within Nevada used to transport the electricity, to the total transmission line mileage from the producer to the purchasing utility. A tax credit would also be necessary in this case for similar taxes paid upstream in other states to avoid double taxation.

1.2 Determination Of The Value Of Gross Receipts

In defining the measurement of gross receipts for tax purposes, a choice must be made between focusing on actual gross receipts, which reflect a mixture of retail and wholesale prices, or on wholesale values exclusively. The choice of wholesale values is recommended here, because Nevada exports a substantial amount of its electricity production to utilities in other states. The gross receipts from such sales would necessarily have to be taxed at a wholesale price. If, at the same time, in-state sales were taxed at retail values, consumers in Nevada would contribute substantially more tax dollars per kilowatt hour than out-of-state purchasers. By levying the tax on wholesale values, this disparity can be eliminated.

For most in-state sales of electricity, however, a wholesale transaction of electricity does not take place when power generators sell directly to retail customers. In such cases, an established practice is to require the construction of a wholesale price. We recommend a constructed wholesale price that is based on the cost of generating electricity, that is, the cost plus a mark-up when electricity leaves the generating plant. This specification underscores that production in the State is the focus of the tax. It thus has the further important advantage that such a specification has been successfully tested in the courts in interstate commerce cases.[1]

To avoid double taxation of the same flow of electricity by more than one state, a credit must be provided. To the extent that electricity imported into Nevada or transshipped through Nevada would be previously subject to a gross receipts (or similar) tax in the states up-stream in the power production and transmission process, such taxes would be fully creditable against the Nevada gross receipts tax. Without such a credit, the Nevada gross receipts tax would not be in compliance with Federal Statutes concerning taxation of interstate commerce.

The following paragraphs further describe the measurement of gross receipts that would apply both to production in Nevada and to the other types of taxable electricity flows, including imports, purchases of Federally-produced electricity, and transshipments. The same measurement procedures would apply for each of these types of electricity flows. In the case of production in Nevada, the producing utility is liable for the tax; in the case of bulk imports, the purchasing utility is

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1 Virginia Electric and Power Company versus Haden - 157 W. Va 298; 200 S.E. 2d 848; 1 P.U.R. 4th 26, and Duquesne Light Co. versus State Tax Department - 327 S.E. 2d 683.

liable for the use tax; in the case of retail imports the selling utility is liable; in the case of purchases of Federally-produced electricity, the purchasing utility is liable; and in the case of transshipments, the owner of the transmission lines in Nevada is liable.

The value of electricity subject to tax is measured by multiplying net kilowatt hours generated by the constructed wholesale price of electricity, a price that reflects revenue prior to the costs of transmission and distribution. In order to enhance flexibility and ease of reporting, the taxpayer would also have the option of a second method for computing the price of electricity. The optional price is simply the price paid to an unrelated party for the electric current at first sale or transfer within the State.

It is expected that the taxpayer would want to use the method of valuation that results in the lowest tax liability. This would be production costs for retail sale, but may well be actual gross revenues for bulk shipments. However, each generating plant in Nevada, and each company that imports, wheels or transships in Nevada would be required to make an annual selection between the two valuation methods for each of the following categories: output, imports, wheeling, or transshipments. The selection could be made retroactively by April 1 of the subsequent year, and thus could reverse the selection that had been adopted for the purpose of ongoing estimated tax remittances. (These would be required quarterly.)

The Constructed Wholesale Price Method

All calculations of value in the final annual tax return would be based on aggregate annual values during the pertinent calendar year for a plant (as defined in FERC Form 1) whether located (a) in Nevada or (b) elsewhere but selling in or transshipping electricity through Nevada. Many of the necessary figures to compute the constructed wholesale price are publicly reported by the utilities in FERC Form 1. The methodology suggested here will refer to entries in this Form.

The taxpayer would report the following items for <u>the plant</u> (or plants) in which the electricity had been produced (without regard to whether the electricity had been produced in Nevada or outside Nevada); some company-wide figures would also be reported for the purpose of apportionment:

(a) Total power production expenses;

(b) Administrative and general expenses, apportioned to apply to power production at the reporting plant;

(c) Depreciation and amortization of plant;

(d) Earnings on equity and interest on debt; and

(e) Gross up of income taxes payable that are consistent with the profit calculation specified in (d).

The sum of the above items yields what is referred to as "total constructed revenues" of the pertinent plants. For plants producing in Nevada this total constitutes the tax base. The information would be derived from FERC Form 1 filed by regulated utilities. (The specific data sources for each item and method of calculation are described in Appendix A.)

For plants producing electricity outside Nevada, total constructed revenues, divided by the total annual net generation of electricity at the plant, yields the constructed wholesale price. The relevant taxable revenues are the kilowatt hours purchased or transshipped in Nevada times the constructed wholesale price per kilowatt hour.

For bulk transshipments, there is a further apportionment by mileage to derive the tax base. The average total mileage of electricity transmission from the plant to the last substation before distribution to the ultimate purchaser would be computed by the taxpayer. Further, the ratio of Nevada transshipment mileage to total mileage would be computed. Relevant taxable revenues would be multiplied by this mileage apportionment ratio to obtain the tax base.

Optional Method: Price at First Sale or Transfer

In order to use the optional method for calculating the tax base, the taxpayer would have to apply it for the entire calendar year to all of the taxable electricity produced in a Nevada generating plant; or to all electricity obtained from bulk imports, from federal producers; or to all electricity that is transshipped through the State.

The taxpayer would report the gross revenues received at first sale or transfer for all taxable transactions. Taxable transactions under the optional method would be sales of electricity in Nevada, bulk purchases of electricity in Nevada from production at plants outside Nevada, and revenues from bulk sales of electricity transshipped through Nevada. Taxpayers would not be permitted to use the optional method, if they make bulk sales to other utilities within Nevada merely in order to avoid showing retail sales as the first sale.

In a manner identical to the constructed price method, the tax base for transshipments would be established by apportioning the mileage within Nevada relative to the total mileage of the transshipments. Also, the tax credit would apply for gross receipts (or similar) taxes paid in the states of origination.

1.3 Recommended Tax Rate

Enactment of the proposed gross receipts tax would require amendments to the constitution of Nevada, because electric utility property will not be taxed in a manner similar to other property. Hence, the earliest that the tax could be implemented according to legislative procedure would be fiscal year 1991/1992. It is assumed in this analysis that the tax would go into effect at that time. The gross receipts tax rate would be set such that in fiscal year 1991/1992 (1) the new revenues would match expected tax receipts from ad valorem taxes on electric utility property and from local franchise taxes on purchases of electricity; and, in addition, that (2) sufficient revenues would be generated to compensate situs counties for the fiscal impact of power plant construction. The recommended tax rate for the proposed gross receipts tax is 3.75 percent.

Franchise tax revenues in fiscal year 1991/1992 would amount to an estimated $12.6 million and ad valorem revenues from electric utility properties would total approximately $25.6 million. Thus, these two revenue sources, which would be discontinued as of July 1, 1991, would total $38.2 million. At a rate of 3.75 percent, revenues from the gross receipts tax in that fiscal year are estimated to be $39.1 million. This would provide a reasonable margin of safety to allow revenues from the franchise and ad valorem taxes to be replaced.

Under certain circumstances, which cannot accurately be foreseen in the context of this report, it may be necessary to reevaluate the revenue neutral level of taxation. It is conceivable that future developments may require a higher tax rate in order to achieve revenue neutrality. Fluctuations in energy prices will impact on the size of the gross receipts tax base. States through which Nevada imports energy may alter their tax structure, forcing Nevada to issue a larger tax credit for energy coming from those areas. Competitive response may alter transshipment routes which will change the flow of energy eligible for taxation by Nevada. Structural changes of this nature should be reviewed periodically to assess their impact on the revenue neutrality of the gross receipts tax rate. The state may wish to consider a higher initial tax in order to address these issues.

1.4 Estimated Tax Payments

Under the ad valorem tax, payments are due either in quarterly installments on the first Monday of August, October, January, and March, or alternatively, total taxes for the year may be paid on the third Monday of July.

Franchise tax payments, designated as the "City" tax, are determined quarterly with payment due by the 15th day of the first month following the end of the quarter. "County" franchise taxes are generally determined annually and collected on the first Monday of July. Revenues collected through the City franchise tax are substantially more than those collected through the County franchise tax.

It is proposed that gross receipts tax liabilities be computed quarterly, with payments due on the 15th day after the end of the quarter. This schedule conforms to the city franchise tax schedule and will minimize any lag in collections when compared to the current schedule for ad valorem tax collections.

2. Application of The Gross Receipts Tax

The sections that follow present an analysis of the incidence of the gross receipts tax, and its comparative effect on revenues and tax rates in Nevada.

2.1 Size of the Electricity Tax Base

The tax base for the proposed gross receipts tax is comprised of the four principal types of electricity production, use or transportation that occur within the State: (1) in-state production by public utilities, including electricity consumed within the state or exported to other states; (2) imports of electricity produced in other states; (3) electricity produced at Federal facilities that is consumed within the State; and (4) transshipments of electricity from one state via transmission lines located in Nevada for consumption in a third state. Table V-1 shows the total production and flow of electricity from each of these sources for 1987, and the total electricity consumption in Nevada during that year. The table also shows projections over a five-year period from 1991, the earliest year in which the gross receipts tax proposal could feasibly be adopted by the Nevada Legislature, through 1996.

Electricity consumption in Nevada is projected to grow at an annual rate of 2.93 percent. This growth rate is based on average annual growth in consumption over the period from 1982 through 1987, estimated by the U.S. Department of Energy as published in Electric Power Annual, 1986.

Table V-1

ESTIMATED SIZE OF THE TAX BASE FOR THE PROPOSED GROSS RECEIPTS TAX
(Millions of Megawatt Hours)

	YEAR						
	1987	1991	1992	1993	1994	1995	1996
Nevada Production							
Exports	8.53	9.08	9.22	9.36	9.51	9.65	9.80
Intrastate Use	6.47	6.88	6.98	7.09	7.20	7.31	7.43
Total	15.00	15.95	16.20	16.45	16.71	16.97	17.23
Federal Sales to Nevada (Hoover Dam)	0.88	1.23	1.23	1.23	1.23	1.23	1.23
Nevada Electric Imports	4.63	5.60	5.90	6.20	6.52	6.84	7.18
Transshipments	15.50	17.45	17.97	18.51	19.06	19.63	20.22
Total After Apportionment	3.88	4.36	4.45	4.63	4.76	4.91	5.06
Total Taxable Production or Use of Electricity	24.39	27.14	27.78	28.51	29.22	29.95	30.70

The total production of electricity in Nevada in 1987 was 15.00 million MW. The majority of this electricity, 8.53 million MW or 57 percent, was exported to other states. The remaining 43 percent, or 6.47 million MW, was consumed within the State. This relationship between domestic sales and exports was held constant throughout the forecast period. The current average rate of capacity utilization for Nevada generating facilities is about 60 percent. This is projected to gradually rise to a more optimum level of 70 percent by 1997.

In 1987, total electricity production at Hoover Dam was approximately 2.5 million MW. Of this, 35 percent, or .88 million MW was sold for use within the State of Nevada. The proposed gross receipts tax would apply only to the portion of Hoover production sold to the Colorado River Commission, a State agency, which then re-sells the electricity to Nevada utilities. The rest of the power produced at Hoover is sold in other states and does not come under the taxing jurisdiction of Nevada.

Production by Hoover Dam for 1987 was low due to poor water conditions caused by drought. It was assumed that production would rise to a level closer to the historical norm of about 3.5 million MW hours in succeeding years, where it would remain for the forecast period.

As shown in Table V-1, imports of electricity to Nevada in 1987, estimated as the difference between total consumption and total production available for in-state use, were approximately 4.63 million MW.

Total transshipments of electricity through Nevada during 1987 were estimated to be approximately 15.5 million MW. The volume of these transshipments was estimated based on data from the major transshippers, including Intermountain Power, Bonneville Power, and Los Angeles Water and Power. The forecast assumes that transshipments will grow at an annual rate of 3 percent based on projections by the Western Systems Coordinating Council for production increases in Western states. Only a portion of the value of these transshipments is includable in the tax base. In order to avoid double taxation of the same flow of electricity by more than one state, the value of transshipments must be appropriated over the entire length of the shipment. Based on information about the size, route, origin and destination of transshipments obtained from the Western Systems Coordinating Council's Map of Principal Transmission lines, 1988, it has estimated that on average 25 percent of transshipments through Nevada would be apportioned to the State. Therefore, 3.9 million MW of the total 15.5 million MW of transshipments through Nevada would be included in the tax base.

The size of the tax base for the proposed gross receipts tax from these four sources is 24.39 million MW based on 1987 data, as shown in Table V-1. Based on the assumptions for growth in the volume of electricity production described above, the tax base for the gross receipts tax would grow to 27.14 million MW in 1991, and 30.70 million MW by 1996.

2.2 Value of the Electricity Tax Base

The value of the electricity tax base for the proposed gross receipts tax is a function of the price and the volume of production. The proposed system allows utilities to elect one of two methods for determining the taxable value of electricity production based on (1) the actual selling price, or (2) a constructed wholesale price. In estimating the taxable value of production, it was assumed that utilities would elect the option that would minimize tax liability.

The estimated prices of electricity per kilowatt hour are presented in Table V-2 for each type of production or use. The table shows a base case estimate using actual 1987 results, and projections for the period 1991 to 1996. These prices represent the constructed wholesale price for in-state production by Nevada utilities, and the actual selling price for Federal production, imports, and transshipments. In each case, electricity prices were assumed to grow at an annual rate of 3 percent, based on historical data published by the U.S. Department of Energy in Electric Power Annual, 1986, for the period from 1982 to 1986.

Table V-2

Price of Electricity By Source
($ Per Kilowatt Hour)

	YEAR					
	1987	1991	1992	1993	1994	1995	1996
Nevada Production	0.0392	0.0441	0.0454	0.0468	0.0482	0.0497	0.0511
Hoover	0.0087	0.0098	0.0101	0.0104	0.0107	0.0110	0.0114
Imports	0.0217	0.0244	0.0252	0.0259	0.0267	0.0275	0.0283
Trans-shipments	0.0357	0.0402	0.0414	0.0426	0.0439	0.0452	0.0466

Prices for electricity produced by Nevada utilities in 1987 were estimated as described previously based on information provided in FERC Form 1. The average price for electricity in 1987 was $.0392 per kilowatt hour. As a Federal facility, Hoover Dam does not file FERC Form 1. Based on price information obtained from the Colorado River Commission, which purchases all the electricity from Hoover Dam that is consumed within the State, the average price of this electricity was $.0087 per kilowatt hour. As a Federally-owned and operated hydro-power generator, the prices charged for electricity are low relative to other producers.

Under the proposed tax regime, imports of electricity would be subject to a use tax as described previously. Bulk imports of electricity can frequently be obtained at prices close to marginal production costs, which would be lower than the constructed wholesale price since this price is designed to fully recover overhead costs and the utility's rate of return. The analysis assumes that utilities would elect to pay the tax based on the lower actual purchase price of imported electricity. The estimated average price of imported electricity in 1987 was $.0217 per kilowatt hour.

The total value of the tax base is presented in Table V-3 based on the estimated price for each type of electricity production or use in combination with the estimated production from Table V-1. Using 1987 data, the value of the tax base for the gross receipts tax would be a total of $834.5 million. By 1996, this tax base would grow to an estimated value of $1,334.1 million.

TABLE V-3

ESTIMATED VALUE OF THE TAX BASE FOR THE PROPOSED GROSS RECEIPTS TAX
($ Millions)

	YEAR						
	1987	1991	1992	1993	1994	1995	19
Nevada Production							
Exports	334.51	400.44	418.85	438.12	458.27	479.35	501.
Intrastate Use	253.49	303.44	317.40	332.00	347.27	363.24	379.
Federal Sales to Nevada	7.62	12.01	12.37	12.74	13.12	13.51	13.
Imports	100.54	136.81	148.33	160.68	173.92	188.10	203.
Taxable Transshipments	138.34	175.24	185.91	197.24	209.25	221.99	235.
Total	834.50	1027.94	1082.82	1140.77	1201.83	1266.19	1334.

As described previously, it was estimated that, on average, 25 percent of transshipments through Nevada would be apportioned to the State. Therefore, of the total value of transshipments, which was estimated to be $553.35 million in 1987, $138.34 million is taxable in Nevada. By 1996, the taxable portion of transshipments is projected to grow to $235.51 million.

2.3 Revenues From The Gross Receipts Tax

Many assumptions are needed to project the tax revenues that will be collected in future years in Nevada, whether from the current tax system or the proposed system. Receipts from franchise taxes or gross receipts taxes respond directly to the volume of electricity sales and to electricity prices, and ad valorem taxes respond indirectly to such factors. But, the recommended gross receipts revenues have a much broader base

that includes exports and transshipments, while franchise taxes are levied exclusively on in-state sales in certain counties and localities. Ad valorem tax revenues depend on property tax rates and on assessed values. Property tax rates differ by locality but assessed values are centrally determined by the State Department of Taxation. They reflect the cost of the utility's property, its income, and the market value of its stocks and debts. Over a long period of time, the growth rate of assessed values and of gross receipts would be related, since both reflect the general size of the electric power sector. The tax base of gross receipts revenue, however, is broader, since value added as well as transshipments are included in this tax approach.

Tax credits related to gross receipts taxes in other states were estimated to amount to $400,000 by the fiscal year starting in July 1991. Under existing laws, a tax credit would arise only for the kilowatt hour tax of Idaho and the gross receipts tax on exports in Washington, when the various states are considered whose electricity production is imported to, or is transshipped through Nevada.

It is possible, of course, that other states in the vicinity of Nevada would adopt gross receipts or kindred taxes in the future. In the worst case scenario, one would assume that all the states that send electricity into Nevada implement some form of gross receipts tax, affecting their production or trans- shipments. If the tax rate in these other states is equal to or higher than the Nevada rate, there would be no taxable base for Nevada after credits for previous taxes. In this unlikely worst case, 17 percent of gross receipts revenue would be lost. Currently, only the State of Washington has shown interest in increasing its 0.484 percent tax rate on net electricity exports. Arizona, Utah, and Idaho, however, account for much larger shares of Nevada's imports and transshipments than Washington.

Table V-4 presents the estimated revenues from the proposed gross receipts tax for 1987, as well as projected revenues for the period from 1991 through 1996, by source. These projections are based on the estimates of the price of electricity and the size of the taxable base described earlier. As the table shows, based on actual 1987 results, revenues from the gross receipts tax would have been $30.94 million. In 1991, these revenues are projected to be $38.12 million; and by 1996, they are projected to be $49.47 million.

Table V-4

ESTIMATED REVENUES FROM THE PROPOSED GROSS RECEIPTS TAX
(Millions of Dollars)

	YEAR						
	1987	1991	1992	1993	1994	1995	1996
Federal Sales to Nevada	0.29	0.45	0.46	0.48	0.49	0.51	0.52
Nevada Production							
Exports	12.54	15.02	15.71	16.43	17.98	18.80	19.67
Instrastate	9.51	11.38	11.90	12.45	13.62	14.25	14.90
Total	22.05	26.40	27.61	28.88	31.60	33.05	34.57
Imports	3.77	5.13	5.56	6.03	6.52	7.05	7.62
Credits	-0.36	-0.40	-0.42	-0.44	-0.47	-0.49	-0.52
Net Revenues From Imports	3.41	4.70	5.11	5.55	6.02	6.53	7.07
Transshipments	5.19	6.57	6.97	7.40	7.85	8.32	8.83
Total Revenues (Calendar Year Basis)	30.94	38.12	40.15	42.30	44.57	46.96	49.47
Total Revenues[1] (Fiscal Year Basis)	31.78	39.13	41.23	43.43	45.76	48.12	50.80

1/ Starting July 1 of year shown in heading.

Table V-5 presents a comparison of the revenues that would be generated by the proposed gross receipts tax with what they would be under the present system for 1987 and 1991. In the fiscal year starting in July 1987, electric utilities contributed about $25.7 million to all levels of government in Nevada, $15.1 million in ad valorem taxes, and an estimated $10.5 million in franchise taxes. For the fiscal year starting in July 1991, these combined tax receipts are likely to increase to $38.2 million. At a tax rate of 3.75 percent, the revenues from the gross receipts tax would exceed the levels necessary to hold local jurisdictions harmless with respect to current revenue distributions by $0.96 million in 1991, the first year in which the tax could be implemented.

Table V-5

COMPARISON OF ESTIMATED REVENUES FROM THE PRESENT TAX SYSTEM AND THE PROPOSED GROSS RECEIPTS TAX
($ Millions)

	YEAR	
Present Tax System	1987	1991
Franchise Tax Revenues	10.50	12.61
Ad Valorem Tax Revenues	15.15	25.56
Estimated Total Utility Tax Revenues	25.65	38.17
Proposed Gross Receipts Tax	31.78	39.13
Excess Collected Under Gross Receipts Tax	6.12	0.96

Franchise revenues grew at an annual rate of 4.67 percent and ad valorem receipts at a rate of 13.5 percent over the period from fiscal year 1983 to 1987. These figures were used to estimate the revenues for fiscal year 1991.

2.4 Shifts in Tax Burdens Under the Proposed System

The proposed tax system would substantially change the tax burden of the various electric utilities in Nevada as a result of the incorporation of both the ad valorem and franchise taxes into the new gross receipts tax. Under the existing system, franchise taxes are paid only in certain localities of Nevada by customers of Sierra Pacific Power, Nevada Power, and Idaho Power. All customers, whether in-state

or out-of-state, share in funding the existing ad valorem taxes and, under the proposed system, they would all share in funding the gross receipts tax. In addition to this fundamental shift, the proposed system would also put a heavier tax on transshipments of electricity through Nevada, because it taxes an apportionment of this large flow of electricity rather than the transmission property. Such property represents a fixed and relatively smaller tax base.

Table V-6 shows the results of these shifts in tax liabilities for each of the major utilities in Nevada. The large payers of franchise taxes, Nevada Power Company and Sierra Pacific Power, would experience a substantial reduction in tax payments, as indicated at the top of the table. This would be offset by an increasing share of tax payments borne by Southern California Edison, Los Angeles Department of Water and Power, Intermountain Power Project, and Salt River Project. In short, all utilities would bear tax burdens in proportion to their production, use, and transshipments of electricity in Nevada. The present situation, in contrast, is that Nevada Power and Sierra Pacific Power pay almost 80 percent of the electricity tax burden in Nevada even though their production accounted for only 44 percent of 1987 non-Federal electricity production in Nevada.

2.5 Proposed Taxes On Electricity Exports: Nevada Compared to Other States

The proposed large-scale generating plants, the Thousand Springs Plant and the White Pine Power Project, are intended primarily for the export of electricity to other states. This section will examine how the proposed taxation of gross receipts in Nevada compares to tax burdens on exporting utilities in other Western states, so as to evaluate the relative competitiveness of Nevada as an exporter.

On the basis of the figures developed in Table V-6, the gross receipts tax burden per kilowatt-hour of power produced in Nevada can be derived. In 1987, this tax burden, on average, would have been 0.15 cents for each kilowatt-hour of net generation in the State assuming a tax rate of 3.75 percent. When the sales tax on fuel inputs is added, the burden would have been at most 0.25 cents. Table V-7 compares the proposed tax to current tax burdens in other nearby states that also export electricity.

Table V-6
Shift in Tax Burdens Under The Proposed System
(Applied to 1987 Electricity Flows)

Company and Types of Tax	Percent of Tax Bill Paid By Company (1) Current System	(2) Proposed System	(3) Shift (2-1)
Nevada Power Co.	48.12	33.09	-15.03
Ad Valorem Tax	18.73		
Franchise Tax	29.39		
Gross Receipts Tax From Production		26.80	
Use Tax On Imports[1]		6.29	
Sierra Pacific Power Co.	30.95	19.16	-11.79
Ad Valorem Tax	19.38		
Franchise Tax	11.57		
Gross Receipts Tax From Production		13.33	
Use Tax On Imports		5.83	
Idaho Power Co.	4.06	1.90	-2.16
Ad Valorem Tax	3.96		
Franchise Tax	0.10		
Gross Receipts Tax From Production		1.82	
Use Tax On Imports		0.08	
Southern Calif. Edison	3.81	16.20	12.39
Ad Valorem Tax	3.81		
Gross Receipts Tax From Production		15.33	
Gross Receipts Tax From Transshipments		0.87	

Table V-6
(Continued)

Company and Types of Tax	Percent of Tax Bill Paid By Company (1) Current System	(2) Proposed System	(3) Shift (2-1)
Los Angeles, Department of Water & Power	2.70	10.68	7.98
Ad Valorem Tax	2.70		
Gross Receipts Tax From Production		5.31	
Gross Receipts Tax From Transshipments		5.37	
Intermountain Power Project	1.25	10.10	8.85
Ad Valorem Tax	1.25		
Gross Receipts Tax From Transshipments		10.10	
Water District of Southern California	6.60	4.19	-2.41
Ad Valorem Tax	6.60		
Gross Receipts Tax From Production		4.19	
Salt River Project	0.74	2.62	1.88
Ad Valorem Tax	0.74		
Gross Receipts Tax From Production		2.62	
Mount Wheeler Power Inc.	0.42	0.46	0.04
Wells Rural Electric Co.	0.67	0.56	-0.11
Valley Electric Association	0.48	0.34	-0.14
Grand Total[2]	100.00	100.00	0

1 Includes also purchases of Federally-produced electricity.

2 Detail does not add exactly to total because the data for very small taxpayers, such as Harney Electric Cooperative and Raft River Electric, are not shown separately.

The table shows that under the proposed tax system, exporters from Nevada would still retain relatively low tax rates. According to the table, taxes per kilowatt-hour in nearby exporting states range from 0.263 cents in Idaho to 1.218 cents in Washington. When the Nevada sales tax on coal and other fuel inputs is included, the tax burden at 0.25 cents, remains lower than that of other states, except for New Mexico. It would be in the same range as the burdens in New Mexico, Idaho and Utah. It should be noted, however, that the comparisons of Table V-7 are approximate, because it is not possible to allocate tax burdens exactly as between those plants that export and those that sell in-state. The data in the table, for instance, reflect average property tax burdens of power producers in a given state, even though some specific plants may be specializing in out-of-state sales while other specialize in in-state sales.

Table V-7

APPROXIMATE COMPARISONS OF TAX BURDENS ON ELECTRICITY EXPORTS IN SELECTED WESTERN STATES
1987

STATE	TYPE OF TAX INCLUDED	EFFECTIVE TAX PER KILOWATT-HOUR (in cents)
Nevada	Proposed Gross Receipts Tax at 3-3/4 Percent Rate	0.15[1/]
Arizona	Property Tax Arizona Income Tax	0.674
Idaho	Property Tax Kilowatt-Hour Tax Idaho Income Tax	0.263
New Mexico	Property Tax New Mexico Income Tax	0.230
Oregon	Property Tax Oregon Income Tax	0.662
Utah	Property Tax Utah Corporate Franchise Tax	0.294
Washington	Property Tax Gross Receipts Tax (On Exports)	1.218

1/ Including the sales tax on fuel inputs at power plants, the effective tax would have been 0.25 cents. Arizona and Washington also have sales taxes on fuel inputs not included in the table.

Source: These data were derived from a sample of large utilities that are major participants in interstate trade. Companies included are Arizona Public Service, Idaho Power, Public Service of New Mexico, Portland General Electric, Utah Power and Light and Puget Sound Power and Light.

Part VI:

RECOMMENDED METHOD FOR DISTRIBUTING REVENUES FROM THE PROPOSED GROSS RECEIPTS TAX

The proposed shift from the current ad valorem and franchise tax system to a gross receipts tax for electric utilities will require a corresponding change in the method used to distribute the resulting revenues to local government jurisdictions through the State. Such a change must also address the deficiencies of the present distribution system with respect to future construction of large-scale electric power plants.

The approach recommended for distributing gross receipts tax revenues has two principal components that must be treated separately: (1) the revenues that will be generated from the existing utility tax base; and (2) the revenues that will be derived from any new large-scale power plants constructed in the future.

Revenues from the existing tax base must be distributed such that all jurisdictions receive at least as much revenue under the gross receipts tax system as they would have received under the present tax system. While in the long run, changes in the revenues available for distribution will depend on the quantity and price of electricity, any relative changes in the distributions to each jurisdiction must be based on an equitable measure.

Under the proposed distribution scheme, revenues derived from new power plants, such as the White Pine or Thousand Springs projects, will be treated differently. In these cases, a portion of the revenues derived from the gross receipts tax on the new facility will be directed to the situs county, above and beyond the normal distribution it would receive. This distribution would be designed to compensate the local jurisdiction for the fiscal impacts of the plant. The results of this study have indicated that the total gross receipts tax collections from a large power plant would be considerably greater than would be necessary to offset these impacts. Therefore, the remainder would revert to the State as the residual claimant.

The distribution methods recommended for these two components are described in detail in the following sections.

1. Distribution of Revenues From The Existing Tax Base

As mentioned above, the guiding principle of the proposed revenue distribution system is to provide each taxing authority in Nevada with revenues from the electric utility gross receipts tax equal to the revenues it would have received under the existing system of franchise and ad valorem taxes. By design, each jurisdiction, in the initial year of operation of the new system, will receive the exact revenues it would have otherwise received. However, a system that taxes the gross receipts of electric utilities is unlikely to generate exactly the same increase in revenues over time as the existing system. Thus, the hold-harmless formula will constrain aggregate distributions to equal the revenues available from the new gross receipts tax, although the shares claimed by each jurisdiction will reflect the shares received in the initial year, as adjusted for the relative growth in each jurisdiction's assessed value over time.

The revenue distribution formula takes as its staring point a forecast of collections from the new gross receipts tax on electric utilities available for distribution over the upcoming fiscal year. This forecast will be updated monthly as additional information is received on actual collections. In no event will more revenues be distributed than are collected from the new tax.

The initial allocation of gross receipts tax revenues to each jurisdiction should be based on the jurisdiction's share of total collections from all taxes on utilities -- ad valorem and franchise taxes -- in the State for the FY 89/90 period. This amount will be adjusted for increase in assessed values in each jurisdiction relative to the increase in assessed values for the State. After the first year, allocations will continue to be based upon the jurisdiction's prior year share of total distributions, adjusted for relative changes in assessed values.

A special case may arise where a new taxing authority is created during the year. While there is no base amount of revenues with respect to which the new jurisdiction can be held harmless, such a new jurisdiction could be harmed relative to neighboring jurisdictions that receive a share of utility revenues. While the determination of an appropriate share for a new jurisdiction is inherently arbitrary, one possible approach that would avoid a case-by-case examination of the specific facts would be to assign a prior year share based upon first-year non-utility ad valorem revenues as a fraction of total ad valorem revenues raised in the State in the previous year. This formula would require that the new jurisdiction collect ad valorem revenues for at least one year prior to the receipt of an allocation of the gross receipts tax revenues.

The following example illustrates the operation of the proposed revenue distribution system.

STEP 1

Assume electric utility gross receipts tax revenues during FY 90/91 are $66,000 and that this represents a 10 percent growth over prior year collections. Further assume that no large, new electric utilities are in operation. Finally, assume that the increase in assessed values of all jurisdictions in the State is 12 percent. Gross receipts tax collections available for distribution will be equal to the total amount raised from existing electric utilities.

STEP 2

Assume the State has three jurisdictions (J1, J2, J3). During FY 89/90, J1 received $10,000 of ad valorem revenues, J2 received $20,000 of ad valorem revenues, and J3 received $30,000 of franchise tax revenues. State-wide utility revenues were $60,000. The share of total revenues attributable to each jurisdiction is: 16.7 percent to J1, 33.3 percent to J2, and 50 percent to J3. If each jurisdiction were to have had the same percentage increase in assessed values, these percentage would represent the allocation of FY 90/91 collections.

With different growth rates in assessed values for the jurisdictions the allocation becomes as follows:

J1: assume J1 has an increase in non-utility ad valorem assessed value of 5 percent. The formula would add 100 percent to the jurisdiction growth rate, add 100 percent to the 12 percent growth rate for the State, divide the jurisdiction rate by the State rate, and adjust the prior year share by the resulting amount:

$$(105 / 112) \times 16.7\% = 15.62\%$$

J2: assume J2 has an increase in non-utility ad valorem assessed values of 10 percent. The formula becomes:

$$(110 / 112) \times 33.3\% = 32.74\%$$

J3: assume J3 has an increase in non-utility ad valorem assessed values of 15.67 percent. The formula becomes:

$$(115.67 / 112) \times 50.0\% = 51.64\%$$

These shares add up to 100 percent and are applied to the $66,000 of available revenues. In this case, J1 receives $10,309.20, J2 receives $21,608.40, and J3 receives $34,082.40.

2. Distribution Of Revenues From New Electric Utility Plants

The construction of one or more large new electric power plants could lead to a significant increase in revenues, considerably in excess of the amounts currently received by the sub-state jurisdictions from either ad valorem or franchise taxes on electric utilities. Under this proposal, any such revenues derived from new power plants would be divided between the situs county [and its jurisdictions] and the State. It is recommended that the situs county receive a distribution equal to 30 percent of the gross receipts tax revenues from the new plant.

In order to determine the magnitude of the fiscal impacts imposed on the situs county by a new power plant, an analysis of these impacts was performed as part of this study. The fiscal impact analysis was based on the experiences of a sample of 15 counties in Western states where electric power plants were recently constructed. The sample of counties was selected to reflect characteristics similar to those of the rural Nevada sites for the two proposed power plants. The analysis examined both the population impacts and the associated local government expenditure impacts caused by a major plant construction project. (The results of this analysis are presented in detail in the Technical Appendix to this report under separate cover.)

The analysis identified very similar effects on population and spending among the sample counties over the construction and operation phases of the new plants. The experiences of these other low population density counties were aggregated and indexed to the fiscal conditions found in rural Nevada counties and then applied to the specific plant proposals for White Pine and Thousand Springs.

The projected impacts of both plants on the respective counties were found to be substantial. In both cases, over the period of construction, total spending would increase approximately by a factor of two before stabilizing at a somewhat lower level once the plant is brought on-line.

Not all of these fiscal impacts would need to be compensated for with revenues from the gross receipts tax. Power plant construction would result in increases in revenues from several other sources, including sales taxes, ad valorem taxes, and State grant funding for education. The county would receive increased sales tax revenues both from construction expenditures by the utility, and from the personal consumption expenditures of the additional population that is attracted to the area by the power plant. The increased economic activity

stimulated by the plant would also cause increases in the assessed value of property in the county, which would raise ad valorem tax collections. In addition, the school districts would receive increases in state grant funds, which are distributed based on school attendance, as a result of growth in the school age population.

Table VI-1 presents the projected net impacts of a large electric power plant on revenues and fiscal expenditures in White Pine and Elko counties, accounting for increased revenue derived from each form of tax. The county is assumed to begin receiving 30 percent of the gross receipts tax revenue from the operation of the first unit of the plant in year three of construction. The plant is assumed to consist of four separate generating units which are brought on-line sequentially over an eight-year period, with a total generating capacity of 2,000 MW, and a construction period of eight years, similar in scale to the two proposed power plant projects.

As the tables show, the projected revenue increases from sources other than gross receipts would be sufficient to offset increased expenditure requirements over the life of the project. Elko County is projected to have a positive net change in revenues for each year of construction and operation. In White Pine County, the projection shows that during years 2, 6 and 8 of construction there would be a net negative change. However, the cumulative impact on revenues over the life of the project is sufficient to cover these shortfalls and it is anticipated that the county would be able to raise the necessary funds from other sources in the interim. While the fiscal impact varies from year to year over the entire construction period, cumulative increases in revenues exceed increases in expenditures by $15.3 million in White Pine County and $40.5 million in Elko County.

2.1 Allocation Of Revenues Among Neighboring Jurisdictions

While the analysis of the fiscal impacts of plant construction indicate that sufficient tax revenues will be available during the construction and operation of a new electric power plant to satisfy the needs for associated public services, the allocation of these revenues between neighboring counties may be inappropriate to the respective fiscal needs. If a plant were to be constructed near the border between two counties, the situs county would receive virtually all the additional tax revenues, while both counties would incur fiscal impacts.

Table VI-1

Impact of New Plant Construction Under Proposed Gross Receipts Tax*
(000's of 1987 Dollars)

	White Pine County				Year From Start of Construction				
	1	2	3	4	5	6	7	8	Operation
Total Increase in Expenditures	1,716	6,826	6,953	5,925	8,535	20,543	12,828	13,559	9,800
Increased Sales Tax Revenue Due to Plant	1,629	3,163	7,164	8,806	11,223	10,674	7,465	5,328	3,491
Increased Sales Tax Revenue Due to Personal Consumption	314	549	816	1,064	1,237	1,397	1,110	725	602
Increased Ad Valorem Revenue Due to Population Growth	143	250	372	483	563	636	506	330	274
Increased State Grant Funds For Education	480	835	1,243	1,638	1,925	2,188	1,781	1,225	1,044
Distribution of Gross Receipts Tax Revenue From New Plant (30% of total gross revenue)	0	0	1,242	1,242	2,483	2,483	3,725	3,725	4,967
Net Impact	850	(2,029)	3,884	7,308	8,896	(3,165)	1,759	(2,226)	578
Cumulative Impact	850	(1,179)	2,705	10,013	18,909	15,744	17,503	15,276	---

* Estimates are based on a plant consisting of 4 generating units, each with a capacity of 500 MgW. The projected construction period is 8 years with individual units coming on-line in the third, fifth, seventh, and ninth years after the start of construction.

Table VI-1 (cont.)

Impact of New Plant Construction Under Proposed Gross Receipts Tax*
(000's of 1987 Dollars)

Elko County	Year From Start of Construction								
	1	2	3	4	5	6	7	8	Operation
Total Increase in Expenditures	1,034	4,079	4,260	4,007	5,774	14,221	8,712	9,342	6,752
Increased Sales Tax Revenue Due to Plant	1,629	3,163	7,170	8,812	11,234	10,685	7,482	5,344	3,513
Increased Sales Tax Revenue Due to Personal Consumption	301	524	779	1,016	1,181	1,334	1,060	692	574
Increased Ad Valorem Revenue Due to Population Growth	222	387	577	751	873	986	784	511	424
Increased State Grant Funds For Education	406	705	1,050	1,384	1,626	1,849	1,504	1,035	882
Distribution of Gross Receipts Tax Revenue From New Plant (30% of total gross revenue)	0	0	1,242	1,242	2,483	2,483	3,725	3,725	4,967
Net Impact	1,524	700	6,558	9,198	11,623	3,116	5,843	1,965	3,608
Cumulative Impact	1,524	2,224	8,782	17,980	29,603	32,719	38,562	40,527	---

* Estimates are based on a plant consisting of 4 generating units, each with a capacity of 500 MgW. The projected construction period is 8 years with individual units coming on-line in the third, fifth, seventh, and ninth years after the start of construction.

It does not appear likely that this problem will arise to a significant degree in the case of either of the two proposed power plants. On the other hand, if other large new plants should be constructed, such situations could occur. The question of a fair allocation of available revenue between counties does not appear to be readily amendable to a legislatively-mandated formula. The specific facts and circumstances of each potential construction project are so diverse as to require a State body, such as the Nevada Tax Commission, to determine an equitable allocation of sales tax and gross receipts tax revenues between the affected counties.

Separate entitlements would be calculated during the construction phase and during the operation phase of a large new electric power plant. The following types of governments would be entitled to receive impact alleviation distributions:

- County governments in situs counties;
- Other governments in situs counties, such as cities and special districts -- if the Nevada Tax Commission determines that their budgets are impacted by the construction and/or the operation of large new electrical utilities; and
- Governments located in areas adjacent to situs counties, but not far from the new electric utilities -- if the Nevada Tax Commission determines that their budgets are impacted by the construction and/or operation of such utilities.

3. Establishment Of A Contingency Fund

The State may wish to increase the proposed tax rate of 3.75 percent (for example to 4.0 percent), with the additional revenue dedicated to a contingency fund. This fund would be available to cover any shortfalls in anticipated revenues resulting from the potential response to the new system of out-of-state utilities or customers.

As discussed in Part V of this report, a share of the tax revenue is derived from transshipments of power through the State. If, for example, purchasers of the transshipped power were to decide to avoid the Nevada tax by shipping electricity by an alternate route, gross receipts tax revenues would fall. The contingency fund would allow a build-up of funds to cover such unanticipated reductions. If, after a period of time, it were to be determined that the contingency fund was no longer needed, accumulated revenues in the fund, plus the continuing inflow from the .25 percent incremental rate, could either be added to general revenues or returned to ratepayers.

APPENDIX A

The data used to determine the tax base and the tax liability of an electric utility under the proposed gross receipts tax are drawn mainly from FERC Form 1. A sample of the procedure that would be used to calculate the tax base and tax liability, along with the principle sources of information to be used in the computation are presented in the worksheet on the following pages. All references to page numbers and other specific data items refer to FERC Form 1.

Worksheet for Computation of the Gross Receipts Tax

(a) Total power production expenses in Nevada (such as shown for individual plants on line 34, page 402), do not include purchased power: (A) $_____

(b). Prorated administrative and general expenses, applicable to line (A)

(i) Find the ratio of total administrative and general expenses (line 167, page 323) to total electric operation and maintenance expenses (line 168, page 323) Ratio: (B1) _____

(ii) Multiply amount calculated for A by this ratio (this is prorated administrative and general expenses): (B2) $_____

(c) Depreciation and Amortization Charges applicable to the plants included in section (a) above.

These charges are shown on a company wide basis on page 336 in column e. Show only the total that pertains to the plants included in section (a): (C) $_____

(d) Earnings on equity and interest on debt, apportioned to production plants:

(i) Establish the net value of the production plants in section (a), measured as the average of the beginning and the end of the year. This is the value shown in line (6) of page 110 as it pertains to these plants: (D1) $_____

(ii) Find a debt/equity ratio for the company. Take total long-term debt, the average of the beginning and the end of the year (line 22, page 112) and divide this by the sum of proprietary capital, the average of the beginning and end of the year (line 14, page 112) and long-term debt (line 22, page 112). This division yields the debt ratio: (D2) _____

(iii) Obtain the interest cost on long-term debt in the current year, line 52, page 117: (D3) $_____

(iv) Divide D3 by the amount of long-term debt (line 22, page 112). This yields the effective interest rate: (D4) _____ %

(v) Obtain interest charges apportioned to production plants by multiplying D1 times D2 times D4. The result is: (D5) $_____

(vi) Obtain the earnings rate allowed by the Public Service Commission in the state where the company is headquartered during the current year: Allowed rate of return: (D6) _____ %

(vii) Obtain equity earnings apportioned to production plants by multiplying D1 times [1 minus D2] times D6. The result is: (D7) $_____

(e) Earnings need to be grossed up to a pre-tax basis.

(i) List state (or states) with income taxes, and percent of total sales by plants in section (A) to each such state:

(E1)

State: _____ Percent sales: _____ %
State: _____ Percent sales: _____ %

(ii) Apply appropriate formula to percent sales considered in (i). Under California's three-factor formula only one factor, sales, is subject to California tax, since the property and payroll factors are in Nevada. Hence, for California, take one-third of its tax rate of 9.3 percent. Applicable tax rate: (E2) _____ %
_____ %

(iii) Multipy percent (E1) by applicable tax rate (E2) and obtain effective plant state income tax rate: (E3) _____ %

(iv) Obtain the combined federal and state income tax rate. Take the statutory 34 percent to represent the federal rate. Take: (1 less E3) times the federal rate, plus E3. This gives the combined income tax rate: (E4) _____ %

(v) Take equity earnings apportioned to production plants (D7) and divide by (1 minus E4), where E4 is the combined income tax rate. The result is earnings on equity grossed up to a pretax basis: Grossed Up Earnings: (E5) $_____

(f) Finally, the components of the tax base are added together: Total tax base is the sum of (A), (B2), (C), (D5), and (E5):

(A) $_____

(B2) $_____

(C) $_____

(D5) $_____

(E5) $_____

(F) Total Constructed Revenues $_____

Appendix G

Final Report, Volume II

STUDY OF ELECTRIC UTILITY TAXATION AND REVENUE DISTRIBUTION IN NEVADA

TECHNICAL APPENDIX: ANALYSIS OF THE FISCAL IMPACTS OF NEW POWER PLANT CONSTRUCTION ON SITUS COUNTIES VOLUME II

Prepared for:
Nevada Legislative Commission
Subcommittee on The Methods of Distribution
of Revenues From Taxation
of Electric Power Plants

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November 1988

Analysis of the Fiscal Impacts of New Power Plant Construction on Situs Counties

The construction of two large new coal burning power plants, the White Pine and Thousand Springs power projects, is currently under consideration in Nevada. The primary sites for these two proposed plants are White Pine county and Elko county, respectively. These plants both have planned generating capacities in the range of 1,500 MgW to 2,000 MgW, making them comparable in size to the Mohave Plant in Nevada, or the more recently constructed Intermountain Power Project in Utah, and considerably larger than the 500 MgW North Valmy plant in Nevada. Both of the new plants would be comprised of several individual generating units with a generating capacity of approximately 500 MgW each. The units would be built and brought on-line sequentially over a period of years.

Large-scale power plant construction such as that envisioned for these two projects can have a substantial impact on the local economy of the situs county. This is especially true in sparsely populated counties like White Pine and Elko, where the level of local government expenditures and the infrastructure for public services is limited. Recent power plant construction projects in the western United States have been accompanied by the "boomtown" phenomenon. Boomtowns are small, underdeveloped areas that experience rapid growth in population over a relatively short period of time. Under these conditions, county populations frequently double during plant construction. The rapid expansion of the population due to the influx of construction workers, their families, and others moving to the area as a result of the increased economic activity, imposes substantial fiscal burdens on the local government.

Major expenditures on the part of the local government for capital improvements, and for increased public sector employment and services are often necessary. The rapid increases in population caused by plant construction may require expansion of schools, water and sewer systems, roads, medical and social services, and police and fire protection. The financial resources required to meet the demands for expanded service levels are frequently beyond the means of the local government. Assistance from the state, the utility, or both, is normally required to alleviate these impacts.

The magnitude of the fiscal impact of power plant construction on a situs county is difficult to estimate with precision. However, useful insights into the extent of these impacts on local government expenditures, especially relative to the resources available for alleviating the impacts, can be gained through the analysis of the experiences of other localities that have undergone analogous construction booms.

As part of this study, an analysis was performed to project the impact of power plant construction on rural counties in the Western United States, such as White Pine and Elko counties in Nevada. The model was designed to estimate the level of expenditures required to offset the fiscal impacts of power plant construction on the local governments of the situs county.

The sections that follow describe the analytic framework of the model, and the resulting estimates of the fiscal impacts of power plant construction on low population density counties in Nevada. These impacts are compared to the financial resources that would be available to the local government jurisdictions in the situs counties under the proposed system of electric utility taxation and revenue distribution. The estimated fiscal requirements developed in this analysis have served as the basis for evaluating the proposed system of electric utility taxation as it would apply to situs counties in Nevada (see Volume I of this report).

1. Analytic Framework

The impact analysis is based on the experiences of a number of counties in western states where electric power plants were recently constructed. Data from 15 plants were collected to determine the effects of plant construction activities on county population growth and the level of county expenditures. This information was used as the basis for developing projections of the effects of large-scale power plant construction projects on situs counties similar to those in Nevada.

A summary of the location and size of the 15 case study plants is presented in Table 1.

Table 1

Characteristics of Electric Power Plants Included in the Case Studies

Plant	County and State	Number of Units	Capacity (MgW)
North Valmy	Humboldt, NV	2	529
Coronado	Apache, AZ	2	822
Craig	Moffat, CO	3	1339
IPP	Millard, UT	2	1406
Hayden	Routt, CO	2	465
Colstrip	Rosebud, MT	4	2273
Huntington	Emery, UT	3	1340
Boardman	Morrow, OR	1	561
Laramie River	Platte, WY	3	1710
Cholla	Navajo, AZ	4	1151
Jim Bridger	Sweetwater, WY	4	2034
Homer City	Indiana, PA	3	2072
Clay Boswell	Itasca, MN	4	1073
Coal Creek	McLean, ND	2	1012
Pawnee	Morgan, CO	1	500

These particular plants were selected because of the similarity in their characteristics to White Pine and Elko counties in Nevada based, in part, on four criteria:

(1) Location in the Western portion of the country;
(2) Low population density;
(3) No major nearby population centers; and
(4) Recent construction of a large coal-fired power plant.

Historical population data for each of the counties was readily available through the U.S. Census Bureau. In most cases, information on the size of the plant labor force was also available for each year of construction. A number of plants kept extensive records of their labor usage. Several studies on this topic have also been published relating to migration of workers during power plant construction that served as a useful resource in this analysis, including Socioeconomic Impacts of Power Plants, Construction Worker Profile, and Characteristics and Settlement Patterns of Energy Related Operating Workers in the Northern Great Plains.

In contrast to the availability of demographic information however, detailed historical data concerning county fiscal expenditures was only available in three of the cases:

- Intermountain Power Project, constructed in Millard, Utah, from 1980 to 1986;
- Laramie River Plant, constructed in Platte, Wyoming, from 1975 to 1986; and
- Craig Plant, constructed in Moffat, Colorado, from 1975 to 1986.

Data from the case studies were used to develop a set of standardized relationships between the size of the plant, the duration of construction, the labor force, and the level of local government expenditures.

The fiscal impacts of power plant construction on the situs county are driven by changes in the population over the course of the project. As mentioned previously, these changes can be substantial relative to pre-construction population levels. The project draws construction and operating personnel into the county, some of whom migrate on a long-term basis bringing with them spouses, children, and other independents. The increased level of economic activity also induces others to move into the area to take advantage of enhanced employment and business opportunities. The case studies and other literature on this topic demonstrate a fairly consistent pattern of employment and population growth associated with power plant construction.

Information on the change in expenditure patterns exhibited somewhat greater variability, due in part to the limited number of observations, but also due to the differing needs of each county for major capital outlays over the course of construction. Nonetheless, the three cases examined provided the basis for projecting the increase in expenditure levels over the baseline of these expenditures in the absence of the plant.

The aggregate impact of power plant construction on county expenditures differs depending on the size of the existing population, which is directly related to the adequacy of the infrastructure to absorb the impact. Therefore, in order to provide a basis for generalizing the fiscal effects of construction to counties with differing characteristics, these impacts are measured on a cost per man year basis. This way it is possible to determine the increase in expenditures required for each year of construction and operation based on the size of the workforce.

As described in Volume I of this report, the present system for taxation of electric utilities and revenue distribution in Nevada contains several mechanisms for providing additional revenue to situs counties to offset some of these fiscal impacts. This compensation is derived from sales taxes on purchases of equipment and materials used in plant construction, and from ad valorem taxes on the addition to the property tax base represented by the new plant. The proposed tax system retains the portion of these offsets derived from the sales tax, and replaces the ad valorem revenue from the current system with gross receipts tax revenue derived from the new plant. In addition to these compensatory revenues, the situs county will benefit from increased sales tax revenue from the personal consumption expenditures of the expanded population base created by the power plant project.

The analysis estimates the magnitude of the revenues from each of these sources, and nets them out of the impact calculation. This provides an estimate of the net increase in fiscal expenditures that will be required as a result of plant construction beyond the expenditures that would have been made without the power plant project.

2. Measurement of Population Growth

The impact of power plant construction on local government expenditures is a function of the growth in population that occurs as a result of the project. These changes in the size of the population can be divided into four principal categories: (1) Construction workers; (2) Operating personnel; (3) Spouses and dependents; and (4) Secondary population (people who migrate into the area due to increased economic opportunity). The growth of the population within each category fluctuates over the course of construction.

The most significant impacts on local government expenditures are caused by the portion of the labor force that migrates into the area, establishing residency on a relatively long-term basis. The construction workforce for large scale projects tends to be somewhat transient; Because of the fluctuations in the skilled and unskilled labor pool required over the course of the project, some jobs may last a few months or a few years. Operating personnel, however, tend to have more permanent positions, and are more likely to establish long-term residency in the area.

Employment data obtained from case studies of ten plants completed within the past ten years was used to develop a

standardized employment pattern for large-scale power plant projects. These case studies included the following plants:

- Craig
- Intermountain Power
- Laramie River
- Boardman
- Coronado
- Homer City
- Clay Boswell
- Coal Creek
- Cholla
- Valmy

The employment data for each of these plants is presented in Tables 2 and 3. Table 2 contains data on construction worker employment while Table 3 contains data on employment of operating personnel. The construction period varies from plant to plant, depending on numerous factors such as plant size, regulatory controls, and weather. Figure 1 shows the standardized employment pattern for construction workers and operating personnel derived from these case studies.

While the period of construction and the level of employment for each of these plants varied, the pattern of employment over time was very similar. The employment curves for each of these plants are presented in Figures 2 through 11. These employment patterns were standardized based on the percentage of the total workforce that was employed as a function of the percentage of construction completed. This standard was then used to estimate the change in employment levels over the course of construction for a typical project of this type given information on the duration of the project and total employment. The employment pattern presented in Figure 1 is based on the laborforce estimates and the projected eight year construction schedule for the White Pine power project.

As Figure 1 shows, employment of construction workers increases steadily until it reaches a peak when the project is about 75 percent complete. At this point, employment begins to decline rapidly, reaching zero in the final year of construction. The number of operating personnel slowly increases during construction as portions of the plant are brought on-line. Full operating employment is reached after construction is completed, when all generating units are brought on-line. The size of the operating workforce remains relatively stable over the life of the plant.

Table 2

Construction Worker Employment in Full Time Equivalents At Various Power Plant Construction Pr
With Rated Capacities of Between 500 MgW and 2100 MgW

	Boardman	Cholla	Clay Boswell	Coal Creek	Coronado	Craig	Homer City	IPP	Laramie River
Rated Capacity (MgW)	561	1151	1073	1012	822	1339	2072	1406	1710
Year Construction Began	1976	1973	1976	1975	1975	1975	1973	1981	1976
Period of Construction (Quarters)									
1	288	86	58	180	165	190	41	370	155
2	280	328	253	200	240	380	144	550	253
3	300	453	45	175	288	570	136	440	444
4	330	418	98	210	271	760	160	720	667
5	410	668	203	300	470	914	205	920	865
6	485	537	335	550	549	1068	264	1320	1218
7	450	610	348	600	549	1222	235	1880	1907
8	600	584	641	900	571	1375	257	2370	2223
9	830	810	913	1250	901	1462	353	3000	2122
10	1000	1146	1260	1350	1131	1551	505	3030	2220
11	1010	1391	993	1375	1362	1639	596	3770	2446
12	970	1334	1262	1750	1494	1725	802	3240	2538
13	1085	1423	1279	2000	2042	1609	375	3580	2427
14	1450	1061	1333	1850	2404	1493	1043	3410	2223
15	1566	879	694	1425	2486	1377	1203	3630	1906
16	1350	797	276	1275	1946	1260	1271	2410	1589
17	860	810	95	1250	1698	1157	954	1910	1271
18	425	961		975	1549	1054	548	1840	1124
19	350	963		775	1053	951	301	1350	963
20	120	880		500	881	850	157	790	802
21		845		200	140	679	69	500	641
22		671				518		300	448
23		400				357		90	299
24		188				167			150
25						300			
26						433			
27						566			
28						700			
29						718			
30						736			
31						754			
32						770			
33						632			
34						494			
35						358			
36						220			

Table 3

Operating Personnel Usage At Various Power Plant Construction Projects

Period of Construction (Quarters)	Boardman*	Clay Boswell	Coal Creek	Coronado*	Homer City*	IPP	Laramie River*	White Pine EIS
2			36					
4		106						
6		130	48			40		10
8		138				80		25
10		164	200			140		25
12		172				230		45
14		190	285			310		85
16		259				420		145
18			329			450		225
20						500		300
22								365
24								465
26								530
Operation	125	259	530	469	363	520	350	530

* Indicates plants for which only workforce data for plant operation was available.

FIGURE 1

Typical Employment Pattern for an Eight Year Power Plant Construction Project; by Type of Worker

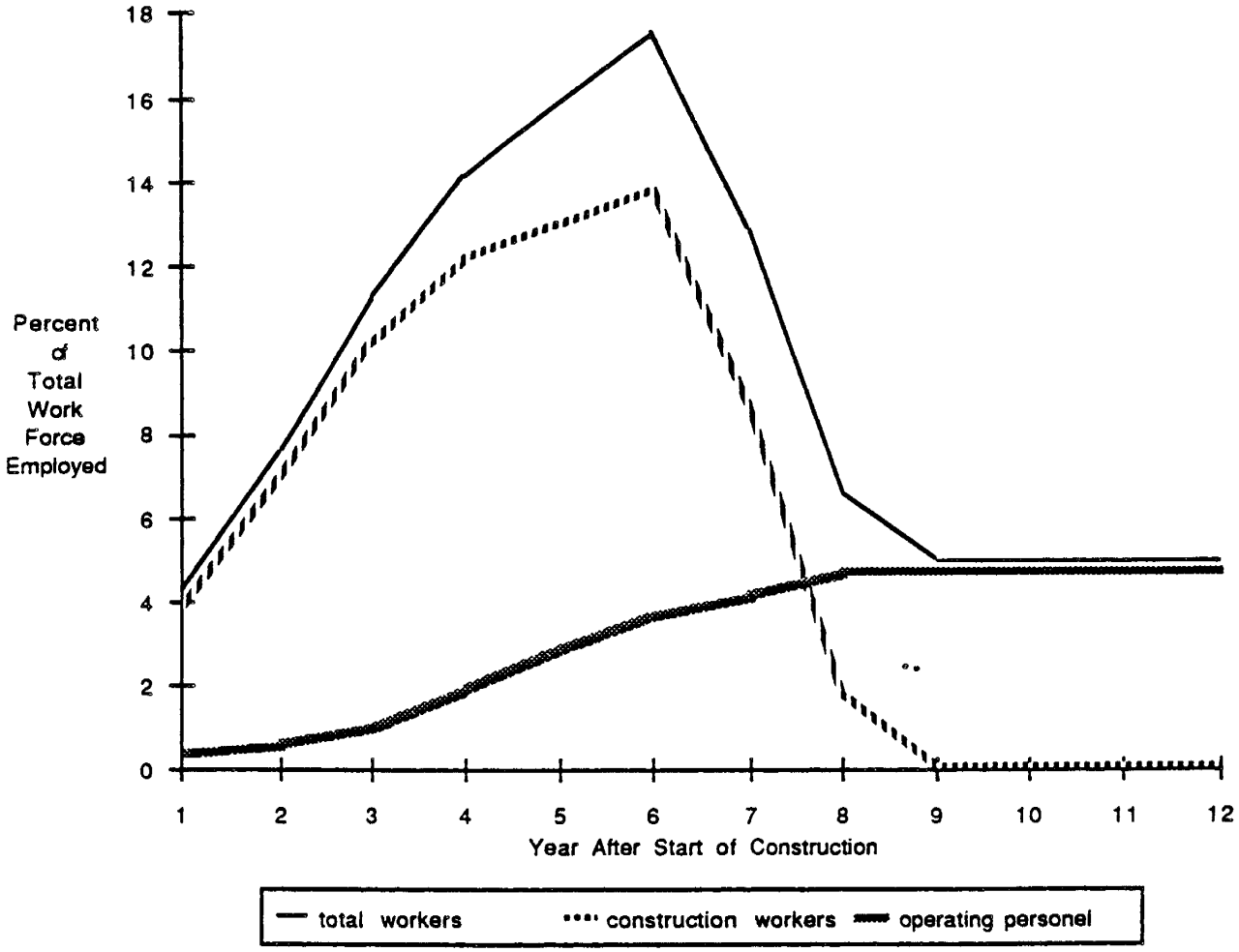
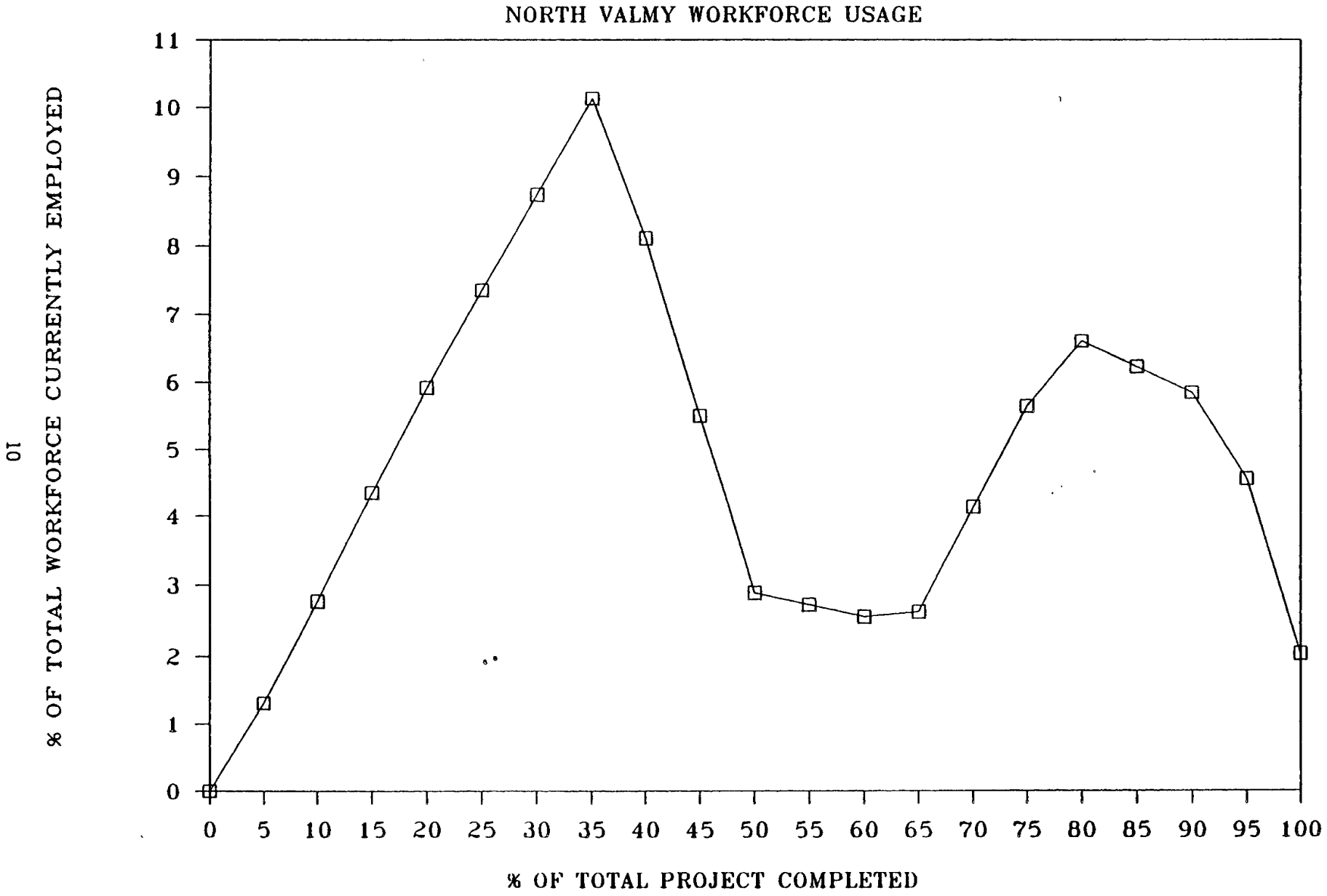


FIGURE 2


NORTH VALMY WORKFORCE USAGE
% OF TOTAL WORKFORCE CURRENTLY EMPLOYED
0
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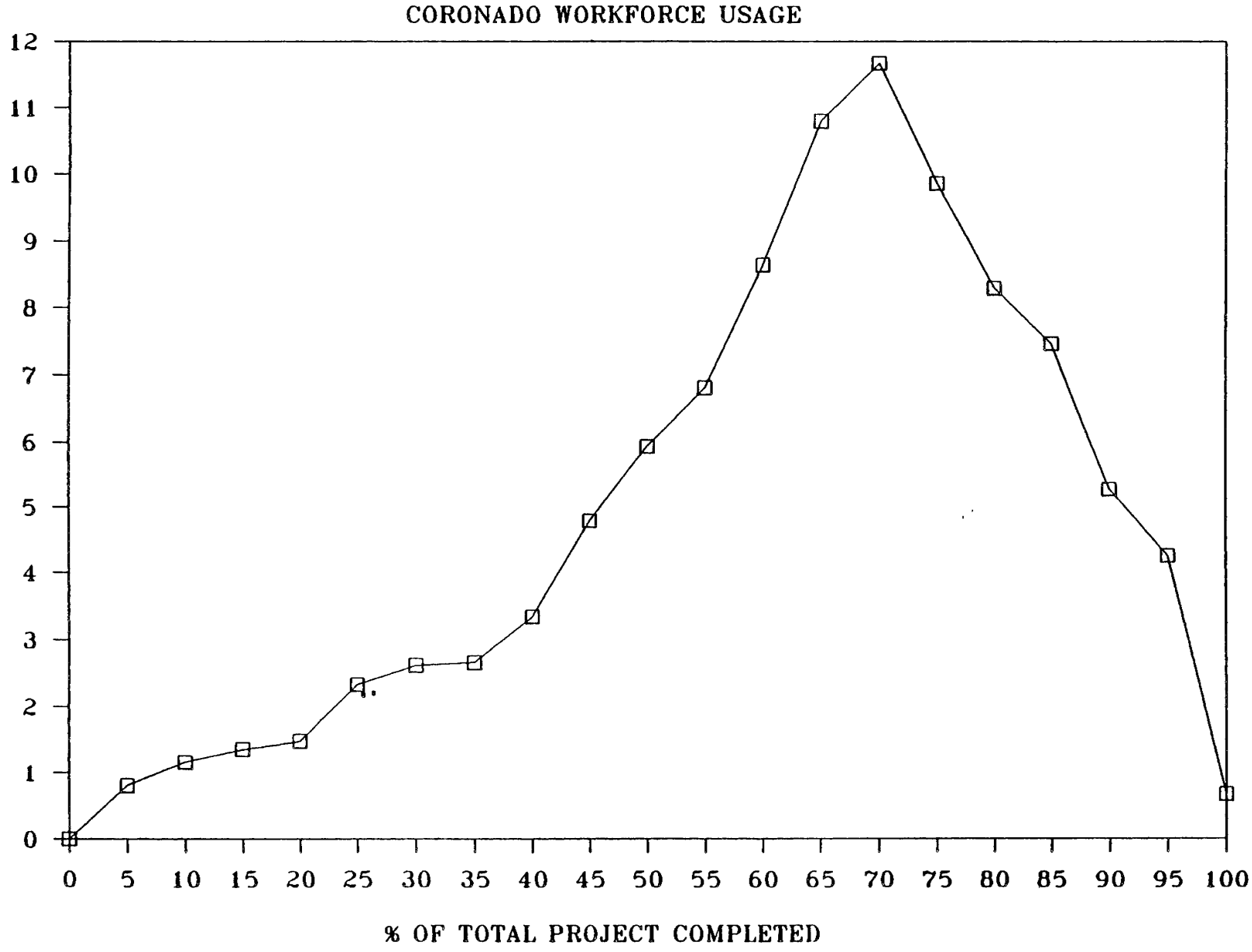
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100
% OF TOTAL PROJECT COMPLETED

FIGURE 3


CORONADO WORKFORCE USAGE
% OF TOTAL WORKFORCE CURRENTLY EMPLOYED
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75
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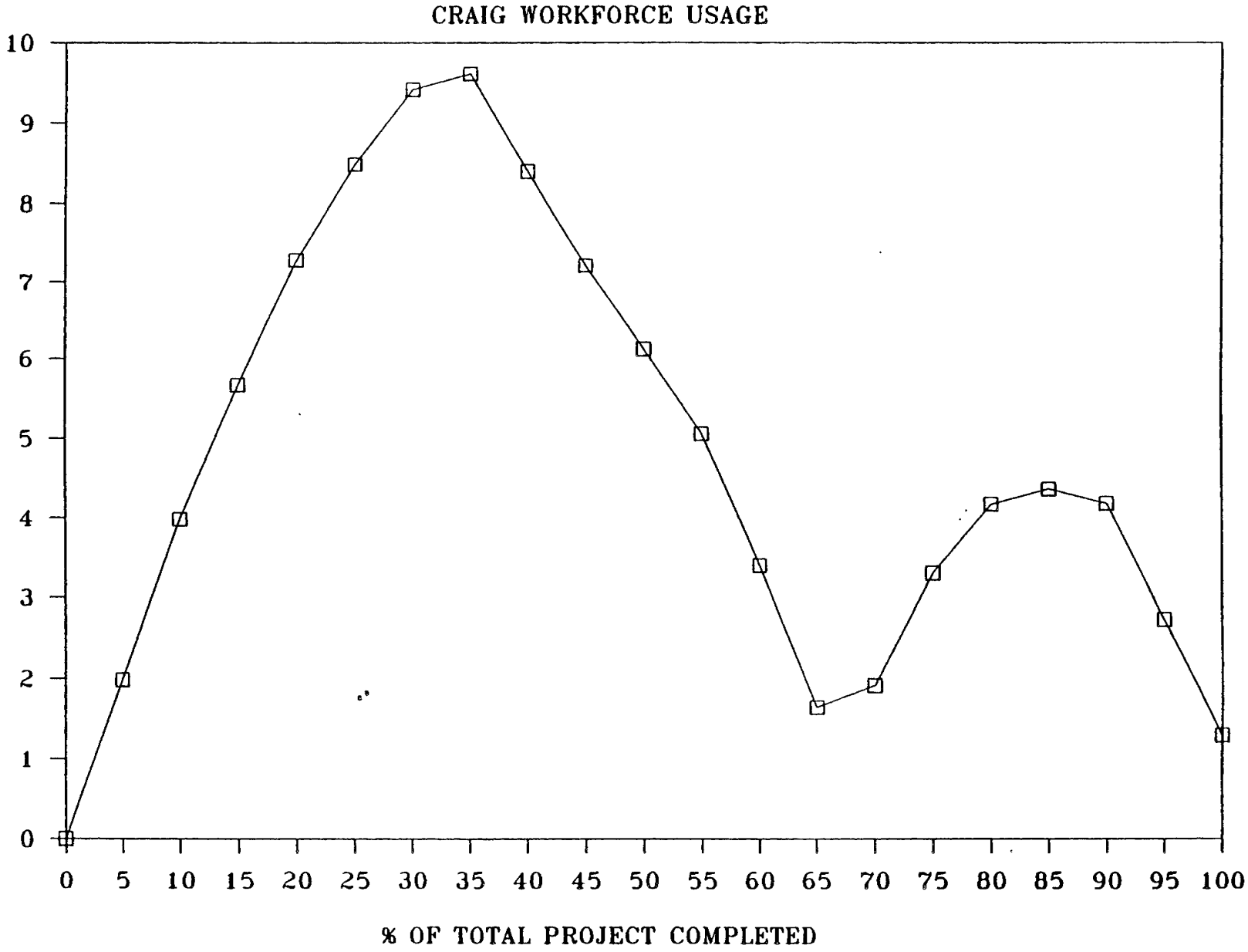
100
% OF TOTAL PROJECT COMPLETED

FIGURE 4


CRAIG WORKFORCE USAGE
% OF TOTAL WORKFORCE CURRENTLY EMPLOYED
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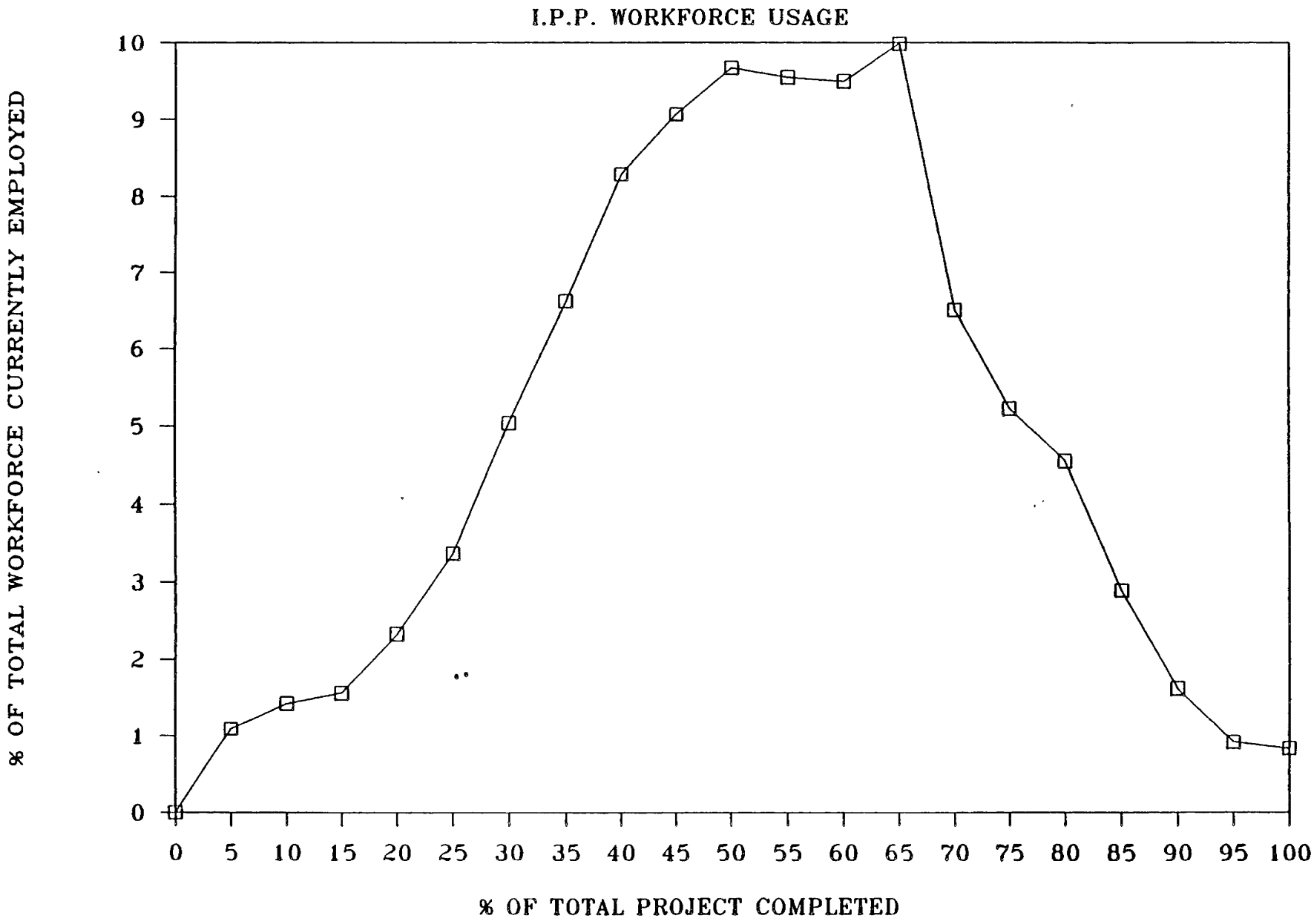
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100
% OF TOTAL PROJECT COMPLETED

FIGURE 5


I.P.P. WORKFORCE USAGE
% OF TOTAL WORKFORCE CURRENTLY EMPLOYED
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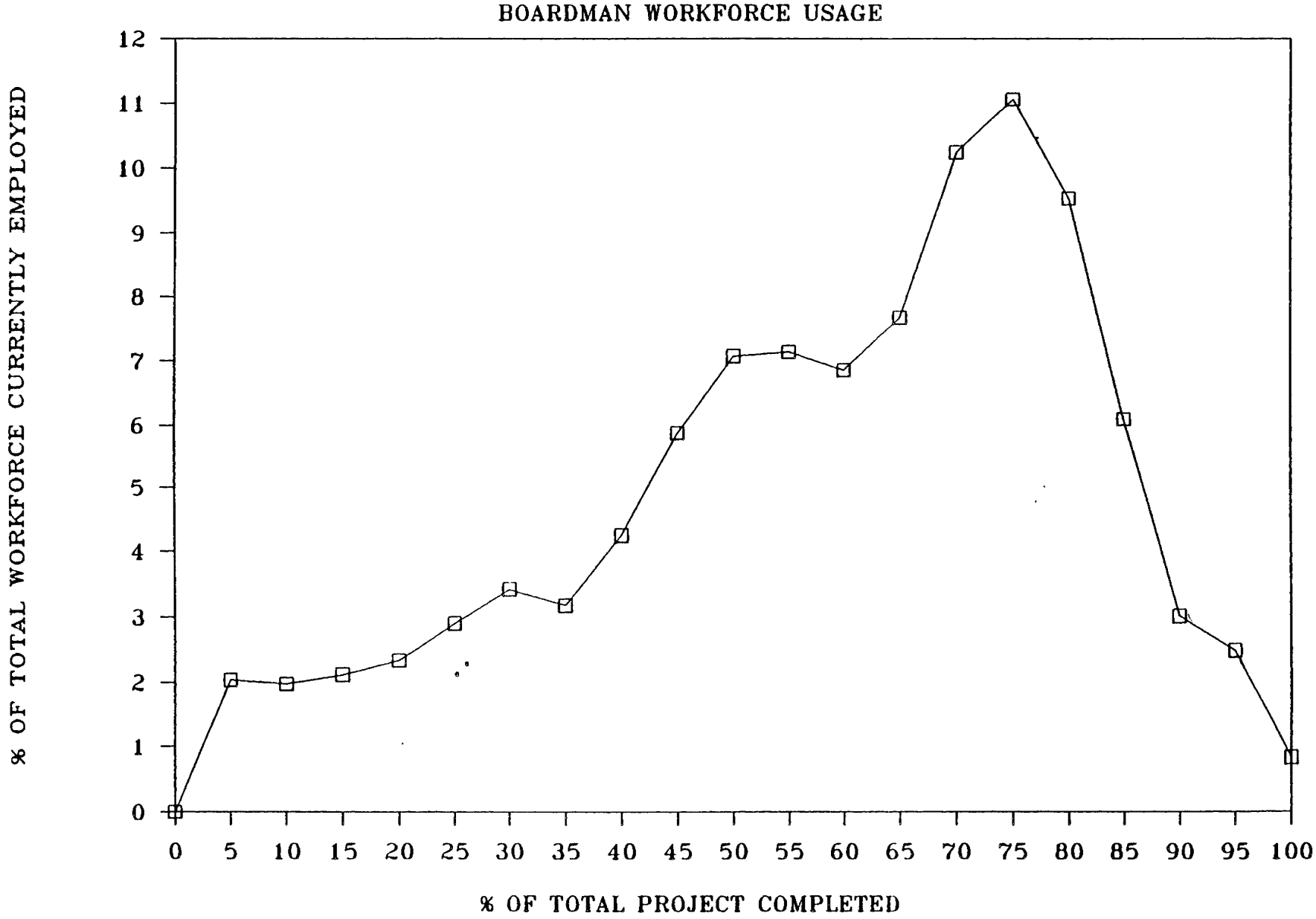
% OF TOTAL PROJECT COMPLETED

FIGURE 6


BOARDMAN WORKFORCE USAGE
% OF TOTAL WORKFORCE CURRENTLY EMPLOYED
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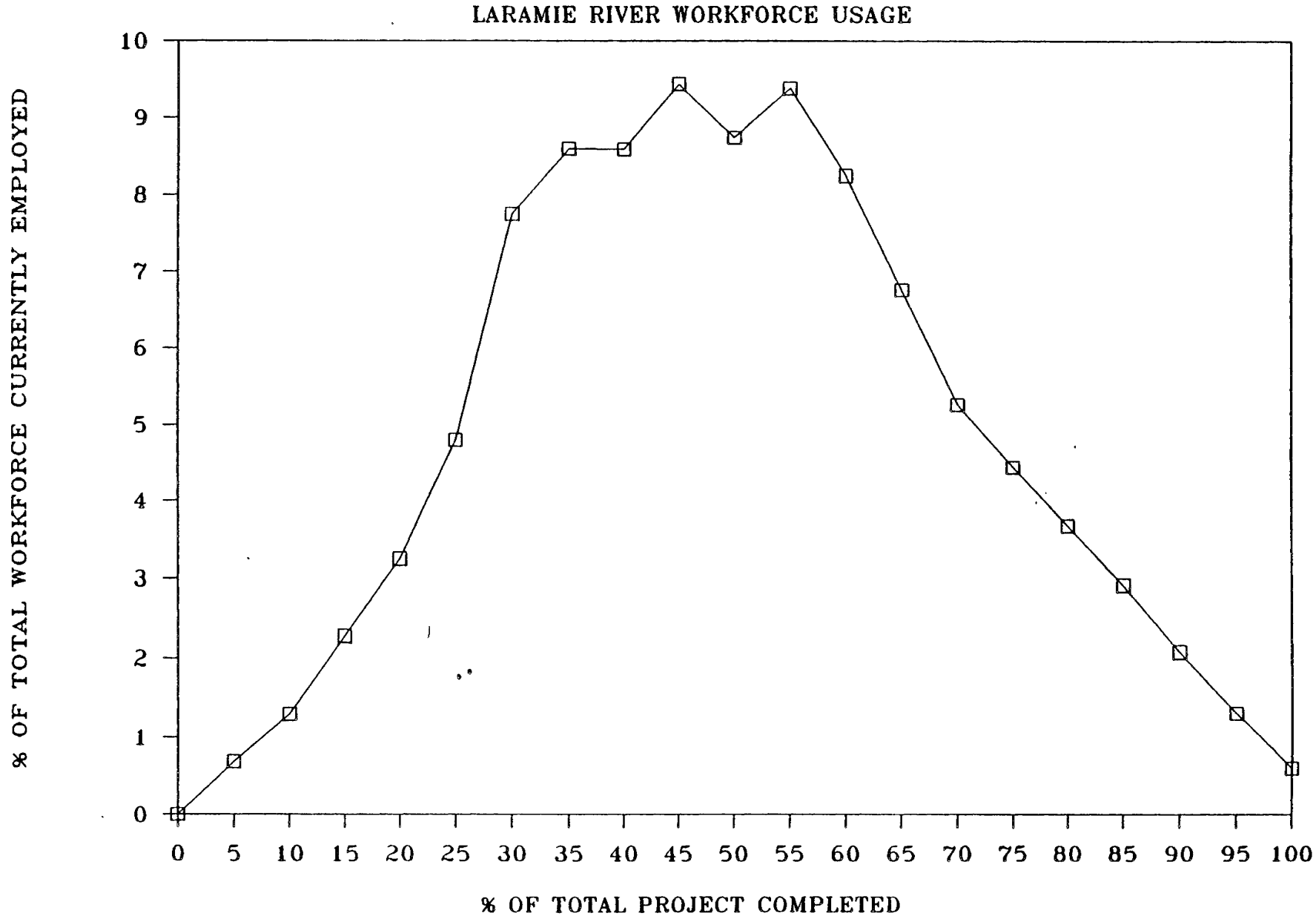
% OF TOTAL PROJECT COMPLETED

FIGURE 7


LARAMIE RIVER WORKFORCE USAGE
% OF TOTAL WORKFORCE CURRENTLY EMPLOYED
0
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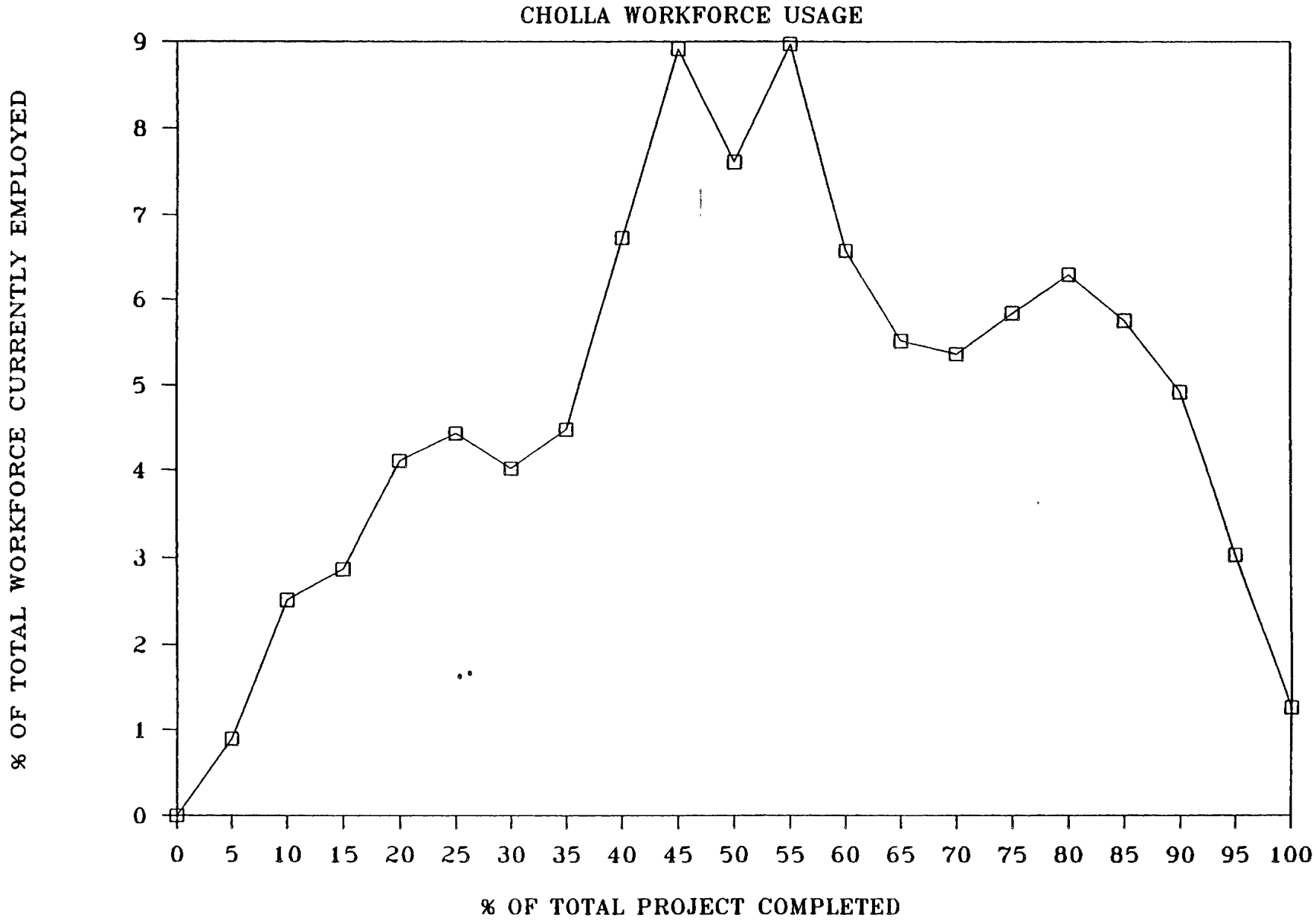
% OF TOTAL PROJECT COMPLETED

FIGURE 8


CHOLLA WORKFORCE USAGE
% OF TOTAL WORKFORCE CURRENTLY EMPLOYED
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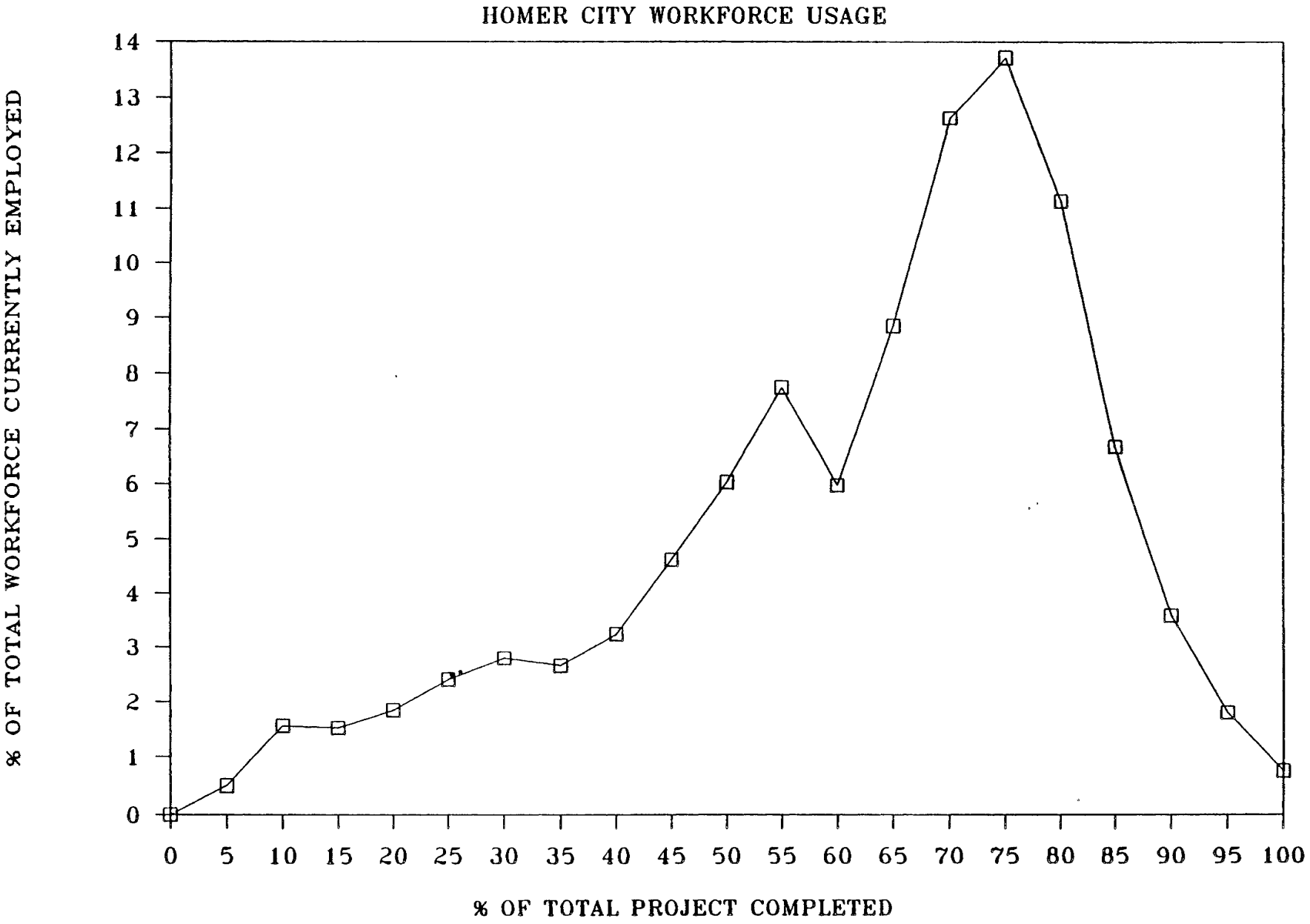
% OF TOTAL PROJECT COMPLETED

FIGURE 9


HOMER CITY WORKFORCE USAGE
% OF TOTAL WORKFORCE CURRENTLY EMPLOYED
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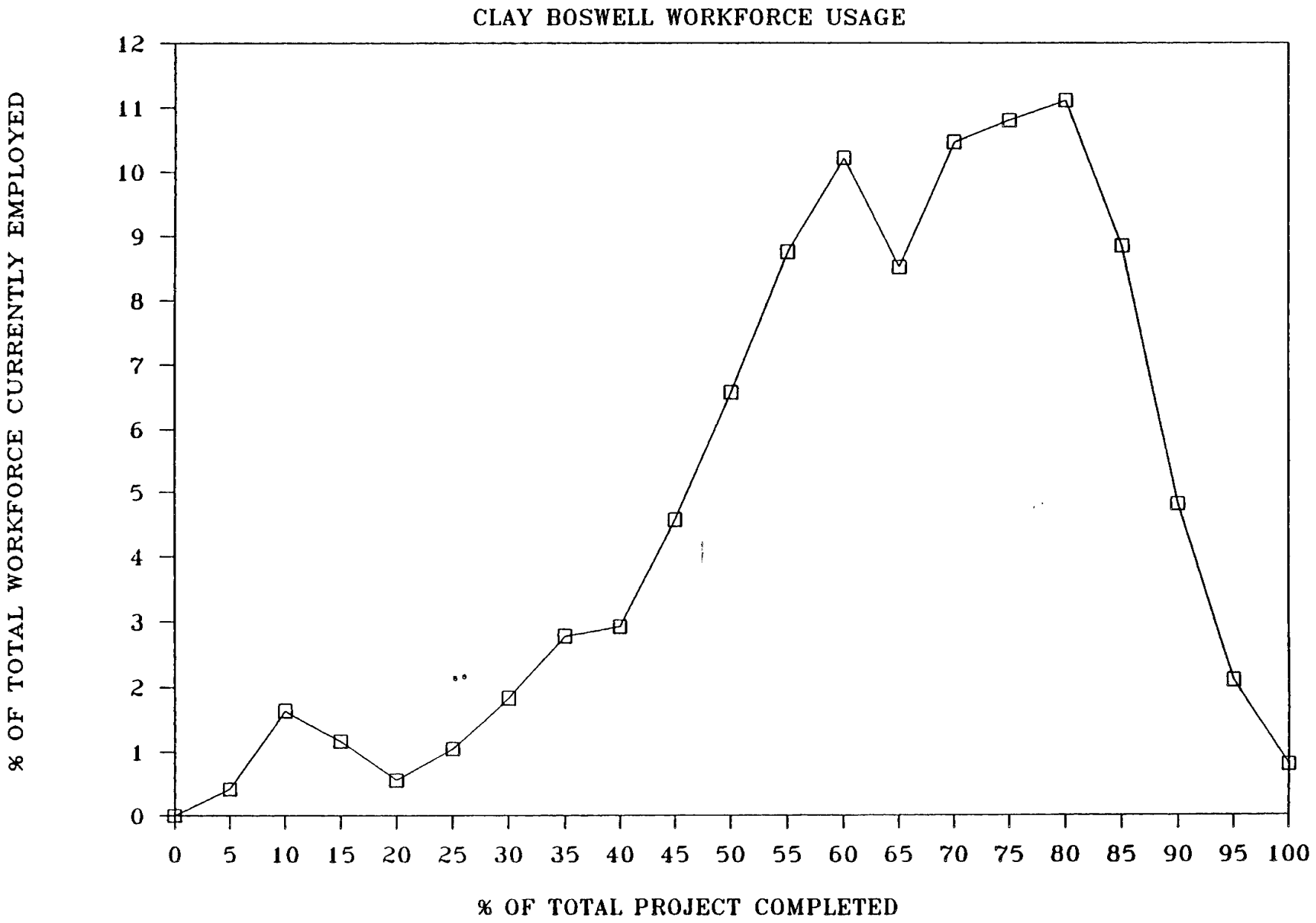
% OF TOTAL PROJECT COMPLETED

FIGURE 10


CLAY BOSWELL WORKFORCE USAGE
% OF TOTAL WORKFORCE CURRENTLY EMPLOYED
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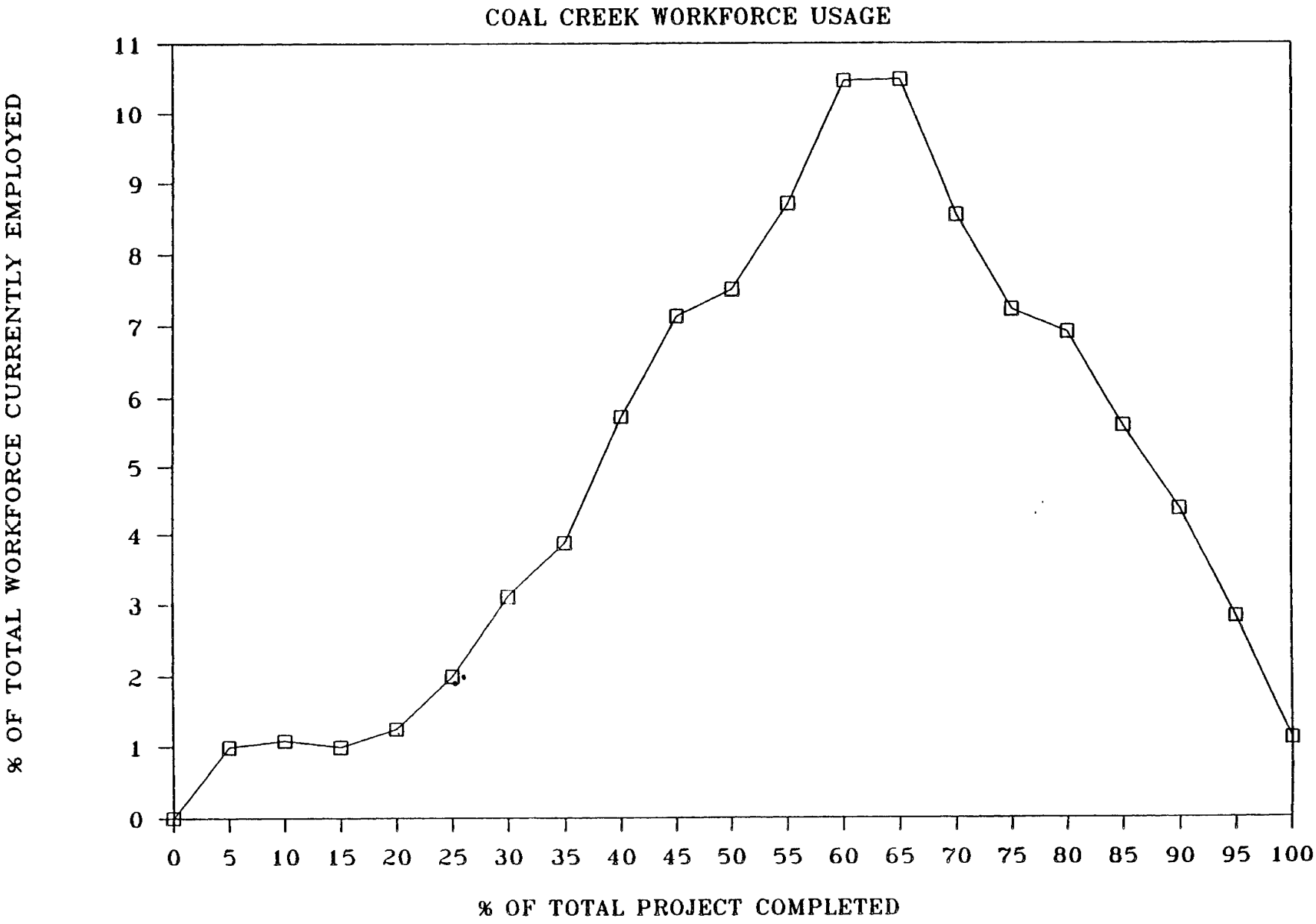
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100
% OF TOTAL PROJECT COMPLETED

FIGURE 11


COAL CREEK WORKFORCE USAGE
% OF TOTAL WORKFORCE CURRENTLY EMPLOYED
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0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100
% OF TOTAL PROJECT COMPLETED

Table 4 shows the size of the plant workforce as a percent of total employment in each category over the course of the project.

Table 4

Direct Employment By Percent of Workforce Employed in Each Year of Construction

Year	Construction Workers (Percent)	Operating Personnel (Percent)
1	5.5	2.2
2	9.9	3.2
3	14.5	5.3
4	17.3	9.9
5	18.4	14.7
6	19.6	18.9
7	12.2	21.5
8	2.6	24.3
Total	100.0	100.0

The secondary population growth effects of plant construction, also referred to as induced or indirect population growth, include those who migrate into the region as a result of the additional employment created in various trade and service sectors of the local economy. This population growth is highly correlated with operating and construction personnel and will have a similar pattern of growth over time.

The measurement of secondary personnel is dependent on the estimates of construction and operating personnel. Previous studies by Leistriz et al, Impacts of Energy Development on Secondary Labor Markets: A Study of Seven Western Counties, and Characteristics and Settlement Patterns of Energy Related Operating Workers in the Northern Great Plains, and the Electric Power Research Institute (EPRI), Socioeconomic Impacts of Power Plants, as well as data from the Intermountain Power Project Socioeconomic Monitoring Report prepared by Paul Nelson Associates, were used to estimate the size of the secondary population as a function of the number of construction or operating personnel.

The number of spouses and other dependents migrating into the area with plant workers tends to depend on the stability of the expected duration of employment.

Construction workers, whose jobs are temporary (although they may last for several years), are more willing to commute greater distances, and are less likely to migrate into the area or to relocate their spouses and children. Operating personnel tend to have more permanent positions and are far more likely to migrate into the area with their families on a permanent basis.

Estimates of the proportion of construction and operating personnel that would migrate into the area, and the relative number of dependents that would be associated with them were made using data from eleven plants (Coronado, Craig, Hayden, Colstrip, Emery, Huntington, Intermountain Power, Boardman, Laramie River, Cholla, and Jim Bridger) and from information contained in the EPRI study titled Socioeconomic Impact of Power Plants. The employment and demographic data from the plants was aggregated and normalized to determine the typical relationships found between plant employment and the number of inmigrant spouses, children, and others.

These relationships are best described by an example, as presented in Table 5. For simplicity, this example is based on a plant labor force of 1,000 construction workers, and 1,000 operating personnel, although in reality equally high levels of employment would not occur. In this case, out of a workforce of 1,000 FTE construction workers, 617, or 61.7 percent would migrate into the county and establish a permanent residence. Of those, 302, or 49 percent would bring spouses. This workforce would also bring 483 children, of which 186, or 61.6 percent would be of school age. The empirical relationships between workforce and population growth used in the analysis are presented in Table 5.

Similarly, 68.9 percent of the operating personnel would migrate into the area, bringing with them 537 spouses, and 854 children, of which 331 would be of school age. The growth in the resident population created by these inmigrants would result in further inmigration of some 972 people not directly associated with the power plant.

Table 5

Estimated Relationship Between The Power Plant Workforce And Population Inmigration

A	B	C	D	E
I. Construction Workers	In-Migrant Workers (.617)x(IA)	In-Migrant Spouses (.49)x(IB)	In-Migrant Children (1.6)x(IC)	School Age Children (.616)x(IC)
1,000	617	302	483	186
II. Operating Workers	In-Migrant Workers (.689)x(IIA)	In-Migrant Spouses (.780)x(IIB)	In-Migrant Children (1.59)x(IIC)	School Age Children (.617)x(IIC
1,000	689	537	854	331
Secondary Population	Related to Construction Population (.1)x(IB+IC+ID)		Related to Operating Personnel (0.4)x(IIB+IIC+IID)	
972	140		832	

Based on the estimated workforce distribution pattern presented in Table 4, and the relationship between the total workforce and each of the various population groups presented in Table 5, the demographic impact of power plant construction on a situs county can be estimated.

Aggregate employment levels at the White Pine plant, and the period of construction, which was assumed to be eight years, were based on projections contained in the White Pine Power Project Environmental Impact Survey.

Table 6 presents the aggregate workforce estimates for construction workers and operating personnel for the White Pine power project. The construction laborforce is estimated to reach its peak level of just over 1,500 workers in year 6 of the project. The level of operating personnel is projected to increase gradually until the plant goes fully on-line in year nine. At this point, operating employment is estimated to be about 530 workers.

Table 6

Estimated Construction/Operating Employment For White Pine Power Project By Category

Year	Construction Workers	Operating Personnel	Total Secondary Population
1	433	48	123
2	782	70	207
3	1142	115	314
4	1362	216	449
5	1452	321	565
6	1542	414	669
7	963	469	618
8	203	530	540
Operation	0	530	503

This projected distribution of the total workforce growth was used to estimate the size of the in-migrant population based on the relationships presented in Table 5. Table 7 shows the size of the population that would migrate into White Pine county by type. Similarly, Table 8 shows the portion of the operating workforce that would migrate into the county, and the dependents that would accompany them.

Table 7

Projected Population In-Migration Due to the Construction Workforce for White Pine Power Project

Year	Workers	Spouses	Children	School Age Children	Total
1	269	132	211	130	612
2	485	238	380	234	1,103
3	708	347	555	342	1,610
4	845	414	662	408	1,921
5	900	441	706	435	2,047
6	956	468	750	462	2,174
7	597	293	468	288	1,358
8	126	62	99	61	287
9	0	0	0	0	0

Table 8

Projected Population In-Migration
Due to the Operating Workforce
for White Pine Power Project

Year	Workers	Spouses	Children	School Age Children	Total
1	33	25	40	25	98
2	43	37	59	36	144
3	78	61	97	60	236
4	147	115	182	112	444
5	218	170	271	167	659
6	281	220	349	215	850
7	319	249	395	144	963
8	360	281	447	276	1,088
9	360	281	447	276	1,088

3. Fiscal Impacts of Power Plant Construction

As discussed previously, the substantial magnitude of the population growth caused by construction of a new power plant has a considerable impact on the fiscal requirments of the situs county. In order to determine the resources that would be required to satisfy the need for increased expenditures, an analysis of the magnitude of the resource needs of the situs county was conducted. This analysis focused on the increased level of situs county expenditures that would be required over and above the baseline of current spending levels.

Historical information on the expenditure patterns in three other counties where major power plants have been constructed in recent years was used as the basis for measuring the fiscal impacts of power plant construction. These counties included Moffat, Colorado, Millard, Utah, and Platte, Wyoming. Construction of the Craig power plant in Moffat County, Colorado began in 1975 and was completed in 1986. Construction of the Intermountain Power Project (IPP) in Millard County, Utah, occurred over the period from 1980 to 1986; and the Laramie River power plant in Platte County, Wyoming was built over the period from 1975 to 1986.

For each of these counties, historical government expenditure patterns before, during, and after plant construction were examined. These expenditures were divided into two primary categories based on the information available: (1) general expenditures, including streets and

roads, police, fire, and water and sewer; and (2) education expenditures. Differences in reporting procedures precluded an analysis of expenditures at a more detailed level. Capital expenditures were separated out of these general expenditures in order to provide a consistent basis for treating them in the analysis. These expenditures are presented in nominal dollars for each of the three counties in Table 9.

In order to treat capital expenditures on a consistent basis, the annual capital expenditures of each county were amortized over a 20-year period. This approach assumes that the lump sums of capital outlays would be financed through debt, rather than cash payments. The assumption was necessary to smooth the effects of unexplained differences in capital spending patterns across the sample counties, such as large one-time expenditures at different points in the construction process. The interest rate used in the amortization of these costs was 7 percent. The column titled "Amortized Stream of Capital" in Table 9 shows the annual payment resulting from new debt accumulated during each year of construction. For example, in year 2, Moffat county spent $2.9 million, of which $2.7 million was for non-capital outlays. $276,000 was spent on capital, which comes to an annual payment of $26,000 when amortized over twenty years. In order to find the total debt incurred in each year, the amortized stream of capital from each of the previous years were summed. In the case of year 2 of construction in Moffat county, the total is $33,000 -- the sum of $7,000 for year 1 and $26,000 for year 2.

In this analysis, education expenditures were treated the similarly to general county expenditures except that capital expenditures in this category were not accounted for separately. The data available on expenditures for education were such that capital costs could not be separately identified. Therefore, as shown in Table 9, only total expenditures were used in the analysis.

Based on the expenditure data for these three plants, a standardized expenditure pattern for counties undergoing a power plant construction project was developed. To do this, the expenditure patterns of each of the three case study counties were converted to real dollars, as shown in Table 10. These data show the pattern of county expenditures during the period of construction. The baseline level of expenditures for the year prior to plant construction was subtracted from total expenditures in each year of plant construction to determine the real increase in the level of expenditures resulting from the power plant project. This pattern describes the change in expenditures attributable to plant construction over time in each county.

Table 9

Expenditures During Power Plant Construction in Three Sample Western Counties
(Thousands of Nominal Dollars)

Year After Start of Construction	General County Expenditures: Total General Expenditures	General County Expenditures: Expenditures Less Capital Costs	General County Expenditures: Amortized Stream of Capital	Total Education Expenditures
Moffat County Colorado				
1	$2,636	$2,557	$ 7	$2,385
2	2,940	2,664	26	3,012
3	3,438	3,167	26	34,87
4	4,126	3,835	27	4,416
5	5,398	5,217	17	4,669
6	6,154	5,778	36	5,529
7	7,627	7,617	9	5,940
8	8,731	8,630	0	7,171
Millard County Utah				
1	1,458	1,483	0	4,065
2	2,826	2,750	7	4,848
3	3,489	1,854	154	5,039
4	4,097	3,557	51	6,902
5	5,122	2,166	279	7,100
6	5,248	4,791	43	8,092
7	5,143	5,030	11	9,148
Platte County Wyoming				
1	1,377	1,112	25	2,042
2	2,372	2,372	0	2,441
3	2,264	2,264	0	3,031
4	1,818	1,738	8	3,598
5	2,924	2,094	78	5,113
6	2,849	1,901	89	6,327
7	2,710	2,071	60	7,442

Table 10
Change in Spending Due to Construction
(1987 dollars)

Year After Start of Construction	General Expenditures			Education Expenditures		
	Millard	Moffat	Platte	Millard	Moffat	Platte
1	-1,955	905	2,586	-1,123	577	1,658
2	712	467	4,020	585	1,008	1,456
3	-375	739	1,248	125	1,099	846
4	357	1,508	575	605	2,249	816
5	-32	3,574	795	547	2,725	1,572
6	1,286	9,503	854	1,401	8,498	2,682
7	3,266	5,205	1,863	4,471	2,991	6,420
8		9,975			6,903	

Ratio of Increased Spending Per Worker
to Baseline Per Capita Spending

Year After Start of Construction	General Expenditures			Education Expenditures		
	Millard	Moffat	Platte	Millard	Moffat	Platte
1	-5.93	1.39	16.24	-1.80	0.91	3.65
2	2.16	0.72	25.24	0.94	1.59	3.20
3	-1.14	1.14	7.84	0.20	1.73	1.86
4	1.08	2.32	3.61	0.97	3.54	1.79
5	-0.10	5.50	4.99	0.88	4.29	3.46
6	3.90	14.63	5.37	2.25	13.39	5.89
7	9.91	8.01	11.70	7.18	4.71	14.11
8		15.36			10.87	

Generalizing the estimated expenditure increases due to plant construction in these other counties to the proposed power plant projects in Nevada involved three additional steps. First, the expenditure patterns were standardized to adjust for differences in the duration of the construction period for each project. Second, an adjustment was made to account for differences in the level of per capita spending between the three sample counties and those in Nevada. Third, the resulting relationships between spending and labor force changes were applied to the current per capita expenditure levels and projected plant construction labor force data for the Nevada counties.

Standardizing the spending patterns of the three sample counties was done by taking the percent of total labor expended in a given period (measured as percent of total full time equivalent [FTE] worker years expended) as a function of the percent of the project completed in each period (i.e. number of periods completed divided by total duration of the project). The expenditure patterns were standardized to an eight year construction period based on proposed construction plans for the Nevada power projects.

The adjustment for differences in the level of per capita expenditures between the counties was made based on the assumption that if per capita expenditures in one county were higher than another prior to construction, they would be adjusted to a similarly higher level during and after construction. That is, the relative level of expenditures would remain the same. So that if a county's preference was to fund public serivces at a very high level prior to plant construction, it would continue to fund services at a relatively high level during and after construction. Likewise, if a county provided minimal services prior to construction, it would continue to provide minimal services during and after construction, although total expenditures would be higher as a result of the construction related growth.

Adjusting for the differences in the level of per capita spending between the sample counties and the target counties in Nevada involved two steps. First, the estimated increases in spending from construction, shown in Table 10, were divided by the number of construction workers (in FTEs) in each period. The result represents the average increase in expenditures per worker. Second, these average increases were divided by the baseline per capita costs in each county, giving the ratio of the increase in spending per worker to the baseline per capita costs.

The average of these ratios from each of the three counties was then applied to the level of current per capita spending in the target counties in Nevada and the projected number of workers for the White Pine and Thousand Springs projects to determine the change in expenditures that would occur as a result of construction of these proposed power plants. This computation was performed separately for general and educational expenditures at the county level, as well as for the largest town in the situs county. (It was assumed that spending by the town would increase in proportion to its share of total spending in the county.)

The current per capita spending data used in this analysis were based on information contained in the Census of Governments: Compendium of Government Finances, and the Census of Governments: Finances of Public School Systems. These data are shown in Table 11.

Table 12 shows the resulting estimated increases in expenditures for White Pine and Elko Counties.

4. Revenue Generated By Power Plant Construction

Under the proposed system of taxation and revenue distribution, there will be three mechanisms through which additional revenue is provided to situs counties to offset the fiscal impacts of power plant construction. First, sales tax revenues resulting from purchases of materials and equipment used in plant construction are to be distributed to the situs county. For a large-scale coal plant, these taxable purchases can exceed $1 billion over the course of construction and would provide a substantial source of revenue. Second, revenue from sales taxes on personal consumption items would increase as a result of the growth in population due to construction activities. Third, a portion of the funding for education that goes to the school districts is provided by the state in the form of a matching grant. These funds, which ensure a minimum level of resources per student, would increase with the growth in the school-age population.

Nevada's three sales taxes, SCCRT, BCCRT, and LSST, would provide a primary source of additional revenue to a situs county. The potential magnitude of these revenues was estimated in order to determine the relief they would provide relative to the additional expenditures that would be required by the situs county as a result of plant construction. Estimates of the level and pattern of sales tax revenues were made based on spending information from four power plant construction projects and the results of a study by Oak Ridge National Labs. Table 13 shows the spending pattern for each of these plants over the period of construction.

Table 11

Selected General and Educational Expenditures For White Pine and Elko Counties
(Thousands of 1987 Dollars)

	General Expenditures	Educational Expenditures
White Pine County	4,875	5,889
Elko County	7,415	1,581

Table 12

Estimated Spending Increases Resulting From Construction of Proposed Large Power Plants
(Thousands of 1987 Dollars)

Year from Start of Construction	White Pine County		Elko County	
	General	Education	General	Education
1	1,411	305	767	267
2	5,720	1,106	3,111	968
3	5,507	1,446	2,994	1,266
4	3,559	2,366	1,935	2,072
5	5,122	3,413	2,785	2,988
6	11,347	9,196	6,170	8,051
7	7,591	5,237	4,128	4,585
8	7,623	5,936	4,145	5,197
9	5,509	4,291	2,996	3,756

Table 13

Taxable Expenditures as a Percent of Total Expenditures from Recent Power Plant Construction Projects

Year of Construction	Percent of Total Expenditures — Plant				
	Valmy	Pawnee	Craig	Laramie River	Oak Ridge
1	4.83	10.97	15.00	0	1.00
2	8.41	6.79	34.00	6.3	3.00
3	13.24	18.98	26.00	32.10	11.00
4	21.00	41.01	10.00	32.44	34.00
5	31.22	13.97	8.00	24.57	33.00
6	21.30	8.24	7.00	4.61	14.00
7					4.00
Total	100.00	100.00	100.00	100.00	100.00

Two sources of data were used to estimate the level of spending on taxable purchases of materials and equipment that would result from construction: (1) Estimates appearing in the tax model of the White Pine Power Project in the Study of the Methods of Taxing Electical Power Plants and Distributing the Resulting Revenue (Bulletin No. 85-8); and (2) a survey of power plant construction conducted by the Policy Economics Group. The plants surveyed included: Craig, Laramie River, Boardman, Hunter and Pawne.

Information from these sources indicates that approximately 40 percent of total construction costs are spent on taxable materials and equipment. Assuming a total cost of $3 billion for a new power plant, approximately $1.2 billion would be taxable. At present rates in Nevada, $45 million in sales tax revenue would accrue to the county. This calculation is based on a tax rate of 3.75 percent which is the combined rate of taxation for SCCRT, BCCRT, and LSST.

The expenditure patterns for the plants shown in Table 13 were standardized, in the same manner as the labor curves described previously, to reflect changes in expenditures as a function of the proportion of construction completed. Thisstandardized spending pattern was then used as the basis for distributing the cost of plant construction over an eight year period to reflect the projected timeframe for construction of the proposed White Pine and Elko projects.

The estimated total supplemental sales tax distributions over the course of construction, shown in Table 14, are based on the estimated pattern of construction expenditures using current tax rates.

Table 14

Sales Tax Redistribution to Situs County Resulting From Construction of a $3 Billion Power Plant

Year of Construction	Estimated Spending Pattern (Percent)	Estimated Construction Spending ($ Million)	Supplemental Revenue Distributed to the County ($ Million)
1	3.62	43.4	1.6
2	7.03	84.4	3.2
3	13.98	167.8	6.3
4	17.63	211.6	7.9
5	21.06	252.7	9.5
6	19.84	238.1	8.9
7	10.77	129.2	4.8
8	6.02	72.2	2.7

In addition to the sales tax revenues from construction expenditures, situs counties will receive increased sales tax revenues from the personal consumption expenditures of the construction-related population. The revenues from personal consumption expenditures were estimated based on historical patterns in White Pine and Elko counties using data from the U.S. Bureau of the Census. It was assumed that the per capita consumption patterns of in-migrants would be similiar to those of the current population. Therefore, revenues would increase by the product of per capita tax payments and the number of in-migrants. Under this approach, revenue would be understated since sales taxes generated by those who are not in-migrants are excluded.

In addition to the increased revenue from sales taxes, the fiscal impact of plant construction on school districts will be partially offset by the grant funds provided by the State. For every student enrolled at the beginning of a school year each school district receives State funding to provide a minimum level of educational expenditure per student. The increase in the school-age population due to construction will increase the level of funding to the school district.

Table 15 shows the projected revenue increase in state grant funding to school districts that would be received by White Pine and Elko counties under the proposed projects. These projections are based on estimates of the growth in school-age population described earlier.

Table 15

Increase in State Matching Funds for Education
(Thousands of 1987 Dollars)

Year of Construction	White Pine	Elko
1	480	406
2	835	705
3	1,243	1,050
4	1,638	1,384
5	1,925	1,626
6	2,188	1,849
7	1,781	1,504
8	1,225	1,035
9	1,044	882

5. Revenue to the Situs County Under the Proposed System

The recommended system for the taxation of electric utilities and the subsequent distribution of receipts includes an additional mechanism for alleviating the fiscal impacts of plant construction on situs counties. A portion of the revenue from the gross receipts tax generated by the new plant would be distributed to the situs county.

Table 16

Comparison of Projected Fiscal Impacts with
Estimated Gross Receipts Revenue Distributions
During Power Plant Construction
(1987 Dollars)

Year After Start of Construction	Projected Fiscal Impact		Revenue From Gross Receipts Tax ($ Millions)
	White Pine	Elko	
1	850	1,524	0
2	-2,028	700	0
3	3,884	6,558	1.24
4	7,308	9,198	1.24
5	8,896	11,623	2.48
6	-3,165	3,116	2.48
7	1,759	5,843	3.73
8	-2,226	1,965	3.73
9	578	3,608	4.97
10	578	3,608	4.97

Under the proposed system, as soon as a new plant is brought on-line, revenues from the gross receipts tax paid by the utility for that plant would be apportioned between the state and the situs county. The proposal calls for the situs county to receive 30 percent of the gross receipts tax revenue derived from the plant as long as it is in operation. This level of impact funding is estimated to exceed the increased fiscal requirements resulting from the power plant project, and would insure that the county is fully compensated for these impacts both during plant construction and operation.

The projected streams of revenue from this source for hypothetical plants similar to those proposed for White Pine and Elko counties is presented in Table 16. This projection covers the period from the first year of plant construction through the second year of full operation. These projections assume that the plant consists of four separate generating units of 500 MgW capacity each, giving a total finished capacity of 2000 Megawatts, and that it is constructed over a period of eight years.

During the first 2 years of construction the plant would not generate electricity and therefore, no gross receipts revenue would be collected. During this time, it is estimated that adequate funds for impact relief would be generated through the current system of reallocating construction-related sales tax revenue to the situs county in Elko County. White Pine will run a deficit during the second year which is offset by surplus run in the first and third year. During the third year of construction, the plant begins generating tax revenue from one of the generating units, which provides gross receipts tax revenue that would be allocated between the county and the State.

As shown in Table 16, the proposed system would provide revenues to White Pine and Elko counties of approximately $14.9 million over the course of construction. The proposed system insures that situs counties are generously compensated for the fiscal impacts during the construction phase and for the ongoing effects of the plant during the operation phase.