

ALASKA LEGISLATURE SPECIAL COMMITTEE / SUBJECT FILES 8672

93 SCOMM 9: HOUSE SPEC. COMM. ON PERMANENT FUND 1977-78

Tri-Cities Nuclear and Industrial Council, the Benton-Franklin Governmental Conference, and the Tri-Cities Chamber of Commerce solicited WPPSS to locate the plant at Hanford instead of the Roosevelt Beach site originally contemplated. The spokesperson felt that Kennewick could not have remained in the dark about these activities. No social and economic impact study of the unit was required before site certification was given to WPPSS-2. The Energy Facility Site Evaluation Council has since required that, prior to certification, such studies be made. Thus the cities and regional planning agency are now at least indirectly informed of future projects through inquiries from EIS consultants seeking data.

B. Planning and Impact Management

The basic variable affecting all planning and management strategies in the Tri-Cities area is the large numbers of new population that must be accommodated within the area over a short span of time. Unlike some other areas, the "boom" which is bringing much trouble to local governments at the present is not expected to "boom" in the future in this area. The planning task has been somewhat simplified in the Tri-Cities region because of the widely accepted assumption that the additional capacity in the governmental organizations will be filled by natural population growth when the construction force leaves. The main difficulty has been, therefore, the timely provision of needed services during a period when revenues have not been increasing as rapidly as the population.

A major problem facing the WPPSS-impacted region is planning on a regional basis for long-term growth. A second problem is the short-term planning requirements of small towns throughout the area which are unfamiliar with and fiscally unable to perform the planning functions themselves. The Benton-Franklin Governmental Conference is providing useful services to fill both needs, but one concern expressed by the staff is that the organization is not integrated into the official system for processing applications and therefore is not informed of potential developments that will require further area-wide adjustments in community service deliveries. It is heavily involved in developing planning guidelines and setting standards to assist localities in solving problems in such inter-city areas as transportation, health care, land use, and housing. However, a good portion of its staff time is also spent dealing with immediate problems that arise because early information was not available either to the impacted community or to itself.

The WPPSS plant will provide several different sources of revenue to the local governments. One source of revenue to the local area during construction of WPPSS-2 is the sales and use tax paid by WPPSS on materials, equipment, and contract labor. (RCW 82.08, RCW 82.12, RCW 82.14, and WAC 458-20-145.) They will result in the payment by WPPSS of about \$33,115,000 in sales and use taxes. Of this, about \$29.8 million goes to the state of Washington, \$3.3 million to Benton County, and relatively minor amounts to Richland, Kennewick and Pasco. WPPSS will pay a privilege tax during operation of the plant as specified by RCW 54.28. It is estimated that this

will be about \$1.5 million per year. The state of Washington receives 4 percent of this amount with the remainder being split 65 percent to Benton County and 35 percent (minimum) to Richland, Prosser, Burbank, Kennewick, Finley and Kiona-Benton school districts. WPPSS is further required to make payments during the construction period to any school district demonstrating an enrollment of pupils of construction workers (RCW 54.36). After allowing for a normal growth in base year enrollment of 3 percent, WPPSS pays one third of the average annual per pupil cost to the district for all construction pupils of the plant. RCW 54.36 also permits WPPSS to make voluntary payments to other taxing districts experiencing a demonstrated impact during construction of WPPSS projects. Twelve taxing districts have asked for funds under this provision for construction impacts and the claim is currently under review.\*

Despite these potential revenue sources, officials from the city of Richland, indicated that the city remains a "bedroom community" lacking in any industrial tax base. Although its boundaries lie closer to the plant site than any other, it is faced with a severe budget shortage. Due to time lags in revenue generation, the Richland Council has had to make budget cuts in 1972, 1974, and 1975 by reducing services which seemed to be the most expendable. Among these was a fire station (leaving one remaining, and a reduction in the fire force of 14 persons). The budget constraint has forced government

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\* Information from Mr. J. B. Vetrano, Supervisor, Technical Studies, Washington Public Power Supply System, letter of December 23, 1976.

planning activities into a reactive posture--they "managed" by "scrambling"--and by giving priority only to those services where a well-defined need was recognized. Their water and sewer capacity has been reached, and the city council has defined a short-term policy of limited growth by authorizing no zoning changes or annexations in certain areas until new facilities are available.

The fiscal situation of Kennewick, by contrast, is more stable, primarily due to the presence of the area's large regional shopping center within its jurisdiction. Although their water supply is strained during the summer watering season, their sewer treatment plant is expected to handle growth for another five to ten years. The city does, however, have some problems related to its rapid growth; its aggressive annexation policy left enclaves of undeveloped county land scattered at the perimeter of the city land. Because of lower county standards, the quality of services and facilities (particularly roads) varies greatly throughout the city. An annexation of the entire fringe area was to have been voted upon in the November 1976 election, although it has now been rescheduled in September 1977. Anticipation of its passage is leading the city officials toward preparation of standardized service planning.

The budget process throughout all Washington local general purpose government is by law on an annual calendar year basis. Budget preparation in medium-sized cities usually begins in June or July with submission to the city manager's office by early September. It is presented to the Council in early November, and adoption follows in December. The long-term capital

budgeting is done in Kennewick and Richland under a six-year Capital Improvement Program. In Kennewick spending priorities are adopted by the Planning Commission after public hearings and the recommendation of the Planning Department, which receives and prioritizes department requests. It is updated each year, with the first year's priorities becoming part of the current year's capital budget and new projects being added to the end year. General obligation (GO), revenue, and local improvement district (LID) bonding is used almost exclusively in the area, although Kennewick has used the councilmatic form without yet reaching its debt limit. GO bonds require approval by 60 percent of the voters in Richland; in Kennewick GO bond issues also require a 60 percent voter approval, while councilmatic bonds can be sold, within prescribed limits, with the majority approval of a City Council.

Provision of housing and its related services are the most severe impact of the rapid population influx upon the local public resources in the Tri-Cities. As boundaries and development expand, roads, sewers, water, electricity, police patrol and fire coverage must also be extended. Building permits have doubled in each of the past five years, and the administration of both the process and the follow up (building inspection) has placed great loads upon the city itself. In Kennewick this staff has grown substantially and Richland has expanded building inspection staff from two persons to five persons during the five year period. In the seller's housing market that exists, the consumer can expect only that the minimum health and safety standards of the Uniform Building Code are

met. Even then overworked building inspectors on occasion miss violations in the health and safety standards.

The permit process varies slightly between jurisdictions, depending on the resources and organization of each. When rezones are required (Benton County does not require a zoning change for residential use in an agriculture district), the process generally takes 60-70 days. The applicant applies to the Planning Commission of the relevant jurisdiction (city or county), and a public hearing can be held within two weeks, (three weeks in Richland) although it usually takes longer. At the same time the applicant should be filing for subdivision approval from the planning department if residential structures are involved, for site plan approval if applicable, and for a shoreline permit from the State Department of Ecology. In Kennewick the site plan permit must be reviewed by the city engineer, the police and fire chiefs, and the public works director, in addition to planning department approval. In Richland a utilities connections permit also must be approved by the Utilities Director for all industrial applications, a temporary requirement resulting from their shortage in water and sewage treatment facilities.

The state of Washington requires that for most publicly processed development permits, a threshold determination be made. State law establishes certain applications which are exempt from environmental review. In Kennewick the threshold determination is made by an Environmental Assessment Committee comprised of the city manager, the directors of public works, parks and recreation, and planning, and the city engineer.

In Richland the threshold determination is made by the Planning Supervisor, and the process has an appeal procedure. If a declaration of significance is found, the process would probably take 65 days to complete: 30 days to prepare the draft; 36 days to review the draft and complete the final review. In assessing plans that included major subdivisions and shopping centers, Kennewick has never declared a development significant. If a finding of significance is made, the EIS drafts would be passed to the Department of Ecology after review and comment by the Governmental Conference.

Only after the EIS determination has been made can the Planning Commission hear testimony on rezone, subdivision, shoreline, and amendments to the comprehensive plan. Its recommendations are sent to the City Council (the applicant is given 30 days to appeal a denial), where a public hearing is again held and the first reading given. Two weeks later, at a second city council meeting, the second reading will be made and the ordinances adopted. The Council will approve the shoreline permit and send it on to DOE for a 30-day review. A building permit will not be issued until DOE approval is received. Once approved, a building permit may be given in as little as a day (for single residences) or as long as two weeks (for large apartment complexes or commercial/industry structures).

Transportation problems exist, but are really serious only at intersections and on major arteries where bypasses would be effective. Hanford employers have scheduled shift changes,

carpooling, and flex time to stagger the ingress peak loading of the roadways through Richland.

Although each city felt the need for more parks or park facilities (tennis courts, swimming pools, boat ramps or docks), none expressed a serious concern over a lack of park space.

Health facilities and service planning are by statute the responsibility of the Central Washington Health Systems Agency and its Benton-Franklin component. The Benton-Franklin Governmental Conference supplies support services.

Education facilities have also been impacted, not only by the WPPSS-2 plant, but also the other nuclear-related growth industries, the expansion of the agriculture-related job market, and secondary growth, particularly in the construction industry. The Kennewick School District has expanded from a 7,500 to 3,000 student enrollment in the last three and a half years, an increase of 20 percent. Under present, newly-revised state standards (measured by square feet per student), its facilities in 1973 were designed for 7,000 capacity. Since then a \$2.4 million bond levy was passed in September 1975 to build a nine-room addition to an elementary school (presently under construction) and a new 800-student junior high school (construction about to begin). In September 1976 a second bond levy was passed for \$1 million to construct two additional elementary schools. In the meantime, the district is presently using portables and double shifting to handle the large overloads.

Funding for the new construction is from a combination of local, state, and utility revenues. State matching monies (in Kennewick's case amounting to nearly \$6 1/2 million) are

available from state education construction funds for areas qualifying with ratios of high growth to relatively low assessed valuations per student. State law (RCW 54.36) requires Washington public utilities to pay (1) operating costs of one third of the annual cost per student from utility-employed families if a threshold growth of three percent is proven; and (2) construction costs if negotiated by the taxing district (although this latter payment is not mandatory by law). WPPSS payments to Kennewick school construction funds equaled \$510,000, about half of which was spent in the outright purchase of portable classrooms. Negotiations over the amount of payment delayed their purchase, however, until 1976, because the utility maintained that until WPPSS construction-family students were actually counted in school enrollments they were not to be held responsible for school district demands for new capital construction.

Completion of all planned school facilities financed by the recent bond levies will bring the Kennewick School District to a 1976 equilibrium (facilities for 9,000 students). By then, however, it will be nearly 1979 and enrollment will be well on its way toward its projected 1981 peak of 12,000. It can be expected, therefore, that students in the district over the next half decade will experience continuing conditions of physical overcrowding, while their parents are asked to approve bond levies for new facilities that are needed just to be able to catch up with existing enrollment.

The Richland School District got off to a comfortable start when it acted early upon WPPSS' population projections

and added six-room additions to two elementary schools and brought three rooms in an old wing of the high school up to code with District funds. Until recently these additions were sufficient to house the student growth experienced from the nuclear- and non-nuclear-related developments over the past three years. The present enrollment of 8,200 students has moderately overcrowded their facilities, and the district, however, has begun raising class size averages from 25-30 or 32 pupils per teacher. Certain neighborhood schools are being especially heavily impacted as developers open large new subdivisions in close proximity to one another.

Two new elementary schools are planned to open in September 1978, with a new junior high following a year later. Local and utility funding is available for this new construction, but state construction funds have not been forthcoming due to its eligibility formula of "unhoused students" and a recent prolonged labor strike which has idled all construction workers at the plant and stopped the anticipated growth of new student enrollment in the school district. Until the new student populations actually arrive, therefore, the state cannot release additional construction funds, and the familiar cycle of overcrowd-improvise-catch up begins for this community as well as Kennewick. A minimum of one and one half years is required from design to final construction on elementary school structures. Two and a half years are required for secondary facilities (junior or senior highs), which include several more specialized areas and are generally much larger structures. Thus, the timing is getting very tight for the Richland district

staff if they are to realize a September 1978 opening of their capital projects. For the time being, however, the strike has brought a temporary halt to their anticipated five to six percent annual growth rate.

The increased capacity from the three new schools, in addition to the portables which will be installed with the utility's construction funds, are expected to suffice through the peak years of the WPPSS construction projects.

In sum, the financial situation for the school districts in the Hanford area being impacted by publicly-owned power plants constructed on tax-exempt land is as follows:

(1) Both plant and land are excluded from the tax rolls; therefore the valuation of the district does not increase as a result of the plant's presence. This lowers the assessed valuation per student ratio for the district if new students are enrolled as a result of plant construction. Without outside assistance, this presents a burden to district taxpayers who attempt to maintain the former quality of education for a larger number of students.

(2) State construction funds are available to areas which demonstrate rapid growth, on a sliding scale determined by the assessed valuation per student ratio. Some relief to district taxpayers is therefore available, as the state picks up an extra share of the capital cost needed for new construction projects.

(3) Utility construction funds also may be provided after negotiating with the school district. Usually these funds are spent on the purchase of portable classrooms, which are used to

house the overflow brought by new students enrolled from families of construction workers.

(4) Operating expenses during the time of plant construction are paid to the school district by the utility at the rate of one third the annual cost per student from a construction worker family. This means that the district taxpayers absorb two thirds of the operating costs to educate each utility-related student, plus 100 percent of the cost for all students enrolled as a result of secondary employment arising out of plant construction.

(5) Once plant construction is complete, a generating tax ("special privilege tax") will be levied and returned to local governmental agencies. It is expected that in the Richland School District this will amount to \$100,000 to \$150,000 annually out of a \$12.7 million operating budget. Therefore the operating costs to the school district accrued from students of the power plant operating force should be covered, but little will remain to cover other expenses.

On balance and from this admittedly non-specific review, it would seem that the financial advantage to the school districts from the plant presence would be slightly negative. The districts will probably "break even" in most expenditure and revenue areas except during the construction phase, when school district operating costs will remain only partially covered by incoming utility impact payments.

APPENDIX B: THE STATE OF OREGON

Part I: The State of Oregon

part II: The Two Case Studies

## Part I: The State of Oregon

To determine the state's role in the identification of and planning for the social and economic impacts associated with nuclear power plants, and to get a general sense of the state facility siting process, members of the team talked to the following people at the state level:

Mr. Dave Hupp, Coordinator, Oregon State Intergovernmental Relations Division

Mr. Walter Pollock, Energy Systems Program Supervisor, Oregon Department of Energy

Dr. Kelly Woods, Energy Facility Siting Coordinator, Oregon Department of Energy

Mr. Bill Young, Director, Oregon State Intergovernmental Relations Division

The following summary is based on those interviews:

### A. Siting

The state agency involved in the siting process for nuclear power plants is the Energy Facility Siting Council. The state requires the utility to obtain a site certificate for construction and operation of a power plant; it is in this context that the state can exercise any direct control over the impacts resulting from such developments.

A Nuclear and Thermal Energy Council (1971) preceded the establishment of the Energy Facility Siting Council and the State Department of Energy in 1975. The Department of Energy (DOE) generally has responsibility for state energy planning and coordination, including mandates to develop forecasts for state demand for energy and to regulate the siting, construction and operation of nuclear and coal facilities. Much of the emphasis

in this department is on developing information on state energy needs and supplies and upon energy conservation planning and implementation. The Energy Facility Siting Council consists of seven public members appointed by the Governor with Senate approval. The local governing body of the affected area is designated as a special advisory group to the Council during specific site certification processes. A major task of this Council is to preside over and coordinate the site certification process, making recommendations to the Governor regarding the approval of applications for site certifications. The Department of Energy is responsible for providing staff support to the Council. The Energy Facility Siting Coordinator is a staff member of DOE and is responsible for liaison between the DOE and the Council. Also, other DOE staff members contribute to the ongoing staff support of this body.

The Siting Council has the power to preempt local zoning or land-use plans, but this is seen as a little used tool (i.e., going against local concerns). Additionally, the Siting Council has the power to require special conditions of the utility, including specific identification of social and economic impacts as well as measures to mitigate adverse impacts. However, while the Siting Council makes site certificates conditional, it does not have clear enforcement powers for managing or monitoring community impacts beyond the site certification process.

There are no specific criteria for what types or degrees of impacts are of sufficient significance to require action by

the utility. Decisions as to what is significant is up to the Siting Council and their staff (using information from the applicant, from other state agencies and from public or private intervenors in hearings). Current rules deal primarily with land-use compatibility; the ability of the area to absorb growth and to cope with social and economic impacts are only a small part of this. Proposed new rules would place more emphasis on social and economic impacts. These include primary and secondary labor force, impact on the private sector, on the housing market, on commercial facilities, on private health care; also impacts on present community living patterns and community character, impacts on the region's economy, on public services and facilities, on public finances and tax revenues. Additionally this impact assessment should include an examination of the ability of the region's present planning process to cope with the plant's related impacts and an identification of sources of funding for districts that may have insufficient revenues to provide needed governmental services.

In Oregon, the siting process takes 26 to 30 months to complete from the initial Notice of Intent (NOI) to approval of the Application for Certification (AFC). A substantial portion of this time is accounted for in the waiting period of 12 months between the approval of the NOI and the filing of the application for certification.

The state siting process includes the following steps:

1. Utility files Notice of Intent to Council;
2. Notice distributed to state agencies for comments-- comments go to utility;

3. Utility files Application for Certification;
4. Application sent to state agencies, local governments--comments go to utility (here the Council can require conditions);
5. Utility files amendment to Application with response to agency comments;
6. If need for special studies found by the Council, will authorize and award contracts;
7. Series of six monthly workshops--each deals with separate section of Application--public and expert input;
8. Final amendments to Application; the Council formulates and approves draft site certificate, if indicated.

After certification, the application goes to state and local agencies for necessary permits. These agencies may attach conditions to permits to assure impact mitigation. The Council has the power to revoke a certification if conditions and rules are violated, or if the public's health and safety is endangered.

Thus, the Council's involvement is limited but it can assist in assuring that social and economic impacts are actually mitigated by the utility.

#### B. Planning

The Oregon State Intergovernmental Relations Division (IRD) is responsible for various local government coordinating functions. This Division was formed in 1968, and has a staff of 14 professionals. The director is directly responsible to the governor and the agency has a strong interdependent relationship with the Governor's office. The scope of this agency includes review of all local and state applications for federal funding (A-95 review) and disbursement of HUD 701 funds except for funds

channeled directly to central cities and to regionals COGs. However, actual program planning and implementation occurs in functional departments in the state. This agency's authority does not include budget review other than that involved in the A-95 clearinghouse function. ORS197, the State Land Use Planning Bill, requires coordination between strong local comprehensive land-use plans and an overall state comprehensive land-use plan. The Land Conservation and Development Commission (LCDC) was created by the bill and has created state-wide goals (14 of them) for land-use planning. The overall goal is for each local area to have a comprehensive land-use plan reflecting various specific elements and integrated with the capital improvement cycle. A recent court case (Baker) has ruled that the comprehensive plan is binding and that it preempts zoning and subdivision ordinances. ORS197 is primarily a process document, setting guidelines for land-use planning as a continuous process that involves coordination between local governments and relevant state and local agencies and involvement of the public.

Although many communities are behind in the original compliance schedule, they do have a process for planning and preparing to manage growth and impacts caused by large developments.

The Intergovernmental Relations Division is concerned specifically about areas experiencing rapid growth and development since such communities frequently need state and federal assistance and get involved in a variety of funding and permit application processes. This agency has divided the state into

geographic regions and has assigned staff to each region to provide technical assistance and coordination with state and local planning programs. Thus they have a key role in assisting local governments in identifying, planning for impacts and particularly in coordinating local, state and federal efforts to plan for and mitigate impacts.

Under new legislation (SB903) this agency will have responsibility for coordinating state permits related to community development. These permits relate to the provision of social services as well as physical development. (Currently they have compiled a list of 186 state permits.) They will seek to coordinate permits on all three levels of government and are encouraging local governments to simplify their permit processes. Also, the Federal Regional Council is making a list of federal permits. The purpose of this legislation and function is not to aid people in getting permits, but to do away with unnecessary bureaucracy--to assure full due process. Permits here are not limited to physical development, but include use permits also. Under this function, the IRD is empowered upon request of the applicant to bring together all required hearings into a single hearing. However, the nuclear power plant siting process is specifically excluded from this legislation. Currently many permits issued at the state level also can be issued by the local government if they choose. Thus, in some cases the state issues building permits, septic tank permits, etc.

The persons interviewed expressed concern about federal influence in disbursements and expenditures of money. In some

cases direct federal-local grant programs create adverse impacts since they bypass the state and thus circumvent the state's coordination efforts.

In the mitigation of community impacts, the state fiscal system is a potential obstacle. Currently there is no adequate working system for equalizing benefits from large developments in order to pay for mitigation of impacts (e.g., tax revenues often go to local jurisdictions other than those which may bear impacts). One problem in the case of energy facility siting is the uncertainty during the licensing process; this uncertainty prevents fiscal planning.

Since the state is on a biennial budget, it is difficult for it to respond to sudden needs; however the state site certification process would seem to assure sufficient lead time to plan and budget for community impact mitigation programs. The state does have an emergency fund that can provide small amounts of "quick" money to deal with immediate needs. This can be allocated outside of the regular legislative process since it is administered by a special committee when the legislature is not in session. Finally Oregon has budgeted \$4 million in the current biennium to help local planning efforts. While this is aimed at local compliance with the State Land Use Planning Act, it can provide timely financial assistance for planning in impacted communities.

The IRD, in short, is the primary state agency concerned about the community impacts associated with nuclear power plants. While they do not administer programs in all areas,

they have the key role of assisting local governments (through field coordinators) in identifying, planning for impacts and particularly in coordinating local, state, and federal efforts to plan for and mitigate impacts.

A final point should be noted regarding a problem that Intergovernmental Relations' staff frequently encounter in working with impacted communities. This problem is one related to the conflicts between old and new residents. Conflicts over differing values and lifestyles can have a significant impact upon efforts to plan and to mitigate impacts (e.g., loss of bond levies, tax base changes, etc.). This is a problem that must be handled at the local level but which also places a constraint on what the state and federal government can do to assist the community.

Part II: The Two Case Studies

Information presented in the following description of the two case studies was gathered from interviews with these individuals:

**The Trojan Nuclear Power Plant:**

Mr. John Cermack, Superintendent, Rainer Unified School District

Mr. John DeFrance, Director, Emergency Services, Columbia County, Oregon

Mr. Brian DeLashmutt, Planning Administrator, Columbia County, Oregon

Mr. Fred Fashaug, Commissioner, Columbia County, Oregon

Mr. Bill Wilson, Director of Instruction and Transportation, St. Helens School District

**The Pebble Springs Nuclear Power Plant:**

Mr. Bus Clough, Portland General Electric Community Liaison

Mr. Matthew Dougherty, Superintendent, Morrow County School District

Mr. John Edmondson, Assistant Superintendent, Morrow County School District

Mr. Lawrence Jones, Superintendent, Arlington School District

Mr. Foster Odum, Mayor of Arlington, Oregon

Mr. Jim Thompson, City Manager, Boardman, Oregon

**The Trojan Nuclear Power Plant**

**A. Background**

Columbia County (population: 29,000) is typical of many rural counties; little planning has been done in the past and

there is a general antipathy toward the restrictiveness of planning. When the Trojan plant was first proposed for this area, the county planning department did not exist. The planning commission was the only planning body in the county prior to 1969. The county has a comprehensive plan, but a very weak one which provides only the most general guidance with no specific land use or housing elements. In addition, much of the undeveloped parts of the county have remained unzoned. A new comprehensive plan currently is being developed to be in compliance with ORS197--the Oregon State Land Use Act.

At the time of the development of Trojan, the county did not participate in the impact assessment for the project, nor did the county rule on the zoning compatibility of the plant because the proposed site was in an unzoned area of the county. As a result of these factors, Columbia county residents and their local governments had little voice in the decisions related to the siting of the Trojan plant or in preparing for the impacts on the community created by the plant.

#### B. Planning and Impact Management Processes

In general, the social and economic impacts felt in Columbia county during the construction of the Trojan power plant were somewhat scattered. St. Helens, the county seat, was one of the most significantly affected communities since it is the major town in the area. The discussion below outlines the impacts in specific sectors of community life and how they were managed.

Most of the impacts from the nuclear power plant centered around St. Helens, the county seat and largest town in the

county (population: 6,212). However, the town of Rainier has received most of the tax revenues since the plant is located in the Rainier School Taxing District (60 percent of local taxes go to schools). (See discussion below on schools.) The major impact and the impact which first surfaced was a housing shortage in St. Helens. During the construction of the plant, most of the 1,000 construction workers sought housing in the county seat because of its proximity to both the plant site and Portland. Vacancy rates were down to 1.5 percent, with no rental houses and only some apartments available. The Columbia County Housing Authority was formed about this time and conducted a study (funded by HUD) to identify the area's housing problems. The major problems centered around the low vacancy rate and the lack of low-income housing; HUD funds were generated to build subsidized housing within the city. These houses were scattered around the city; now all lots in the city are filled. Part of the reason for this compact development is due to the lack of services outside the city limits of St. Helens. Also, development outside of established towns is constrained by two factors: (1) topography (hilly) and (2) timber lands--81 percent of land is owned by timber companies or the county.

The permit process for housing and building construction is still relatively simple in Columbia County. Building permits are issued through the local planning department; usually a two to three day process. Criteria for these permits include consistency between lot size and the zoning for the parcel. There is no specific lot size in unzoned areas, but is determined by the water and septic tank evaluation. Zone changes and

conditional uses are required only in zoned areas. These require approval by the planning commission followed by resolution of the Board of Commissioners, thus the timing of these permits are determined by planning commission meeting schedules. It is of interest to note here that recently the District Court of Appeals ruled (in Columbia County) that mobile homes over a certain size (oversized) are allowed outright on lots, and are considered as legitimate single family dwellings although they are taxed as personal property.

Both the Planning Department and the Roads Department are involved in planning, construction and maintenance of roads. Until recently little transportation planning has been done by these agencies. During the construction phase of the Trojan plant, there were only moderate impacts on the transportation system. The impact was not on the roads themselves, but on the availability of gasoline. Columbia County was one of the areas harder hit by the gasoline shortage, in part due to the traffic generated by commuters (especially from Portland) to the Trojan plant site. More recently there has been an increasing impact on the local transportation system because of current growth of the area as an exurb of Portland.

St. Helens felt some impact on its recreational facilities, particularly ball fields, during the Trojan construction period. In response to the increased demand for these facilities, the city of St. Helens and the County Fair Board each built some new ball fields. There was no perceptible impact on hunting and fishing recreation, possibly because there is such a large capacity for these sports. There are only three small county

parks in Columbia County. The planner pointed out that there are unmet needs for parks, such as a lineal park for hiking, in the county, which at present has no state or regional parks.

A substantial impact was felt by the educational system during the construction of the Trojan plant. The school district almost exclusively impacted by the Trojan power plant was in the Rainier area, which has the plant located within its boundaries. Prior to construction, it was one of the poorest districts in the state, having a very low assessed valuation per student. After construction was completed, it became one of the wealthiest. When news of the siting decision came, the surrounding school districts consolidated from separate elementary and high school districts into a unified system. They quickly made plans for a long-range capital construction program, and on the strength of future revenue issued 17-year bonds to finance the building of an \$8 million community complex. Included in this center will be the elementary, high school, and continuing education facilities, as well as an auditorium, swimming pool, banquet facilities, and playfields. It will be a center for all community activities as well as school functions, as none has been available for civic meetings prior to this time.

Enrollment has increased in the district from 1,200 to 1,700 in the past six years, with a burst of growth in the second and third years of construction. The district was forced to add 13 portable classrooms which it purchased through long-lease contracts with local district funds. The bonds for the new construction were sold in 1973 with the uncommon provision that payments would begin two years after purchase--that is, when the

plant was scheduled for completion and the first full revenues would be received. Such financing arrangements, of course, gave the district a two-year headstart on actual construction schedules, with a commensurate reduction in the time spent by students in portable facilities. With the increased revenue now on hand, the district has been able to add major new program areas to its course offerings. For example, special education programs and a variety of other student services are being handled by ten newly hired staff members. A community school awarding accredited two-year college degrees has been established under the district's management, wholly financed by local area residents and therefore outside the community college system offered through the state education office.

The school district has indirectly benefited from the general growth that is occurring in the community as new people and industry are drawn to the area by its reduced tax rates. Though nearly all families associated with the construction force had left the area by late 1976, the district experienced no permanent drop in enrollment figures. New construction and new families have replaced the old, and a steady growth is expected in the future. An oil refinery is presently under construction in the district, which will provide further revenue, and it is assumed that the primary siting determinant was the low rate levied by the school district.

Other school districts within the county are benefiting to a certain extent by the presence of the plant through the equalization function of the Intermediate Education District (IED). This agency has the authority to levy taxes on all

property within the county, pro-rated for each county according to its assessed valuation per student ratio, in order to pay a certain percentage (approximately 50) of the member districts' operating expenses. Taxpayers in the Rainier School District equalization process find themselves paying approximately \$1.50 for every \$1.00 that is returned to them from the IED funds. It must be remembered, however, that most of the taxes paid in the Rainier District come from Trojan. The obvious problem with this "equalization" scheme is that the remaining one-half of all operating costs plus all capital construction funds must be provided by each individual school district.

The administration staff at the St. Helens School District identified no enrollment pressures at all resulting from the Trojan construction. Two factors accounted for this situation: (1) Trojan contractors were primarily from nearby large population centers (metropolitan Portland, Vancouver-Longview, Olympia) and drew their workers from the union hiring halls located in those areas rather than from the local labor pools. (2) A housing shortage in St. Helens precluded many new residents from moving into the area. The only minor impact being felt during the operating phase is that portion of their budget which is being assisted with IED "equalization" funds. (See above.)

Trojan-related growth created a relatively moderate impact on local health care services. The primary effect was to shock the country into realizing that they were not ahead of growth in the area, particularly with regard to hospitals and retirement homes. As a result the hospital districts sought federal funding (which was refused) and additional taxes in the form of

local bonds to expand the hospital facilities. There is now a new hospital near St. Helens.

At the time of Trojan construction the County Health Department provided various health services such as home nursing visits and inoculations which were able to absorb the additional demands. The state has taken over the provision of limited services; now there are only inoculation and alcohol programs.

There was an increased need for police services as a result of Trojan-related growth in the area. This need was primarily for traffic control and LEAA and CETA funds were used to increase personnel. The staff has since been cut back as the federal funds were available only for a limited amount of time.

Partly due to the potential increased demand on fire services (service to the plant site itself is contracted to the Rainier fire district) fire stations and staff have been expanded. Bonds were passed by the voters; there are now three stations and over 20 full-time staff.

An additional facet of the history of Trojan is the Emergency Services plan. In the state of Oregon, each county is required by law to have implementation plans for the state civil defense plan. Civil defense has been replaced by Emergency Services; the plan deals with various types of disasters, including war, nature, and man-caused disasters. Columbia County employs John DeFrance on a full-time basis to develop and coordinate plans for an incident caused by Trojan. Upon request by the local government, the utility contributed funds to set up this full-time position; currently the office is funded by

50 percent local funds and 50 percent federal funds received through the state Defense Civil Preparedness Agency.

An emergency plan has been written regarding what types of incidents could occur, using information provided by the utility and the State Department of Health. The utility is responsible for dealing with onsite incidents; the state is responsible for dealing with onsite and offsite incidents; and the locals are responsible for offsite incidents. The local plans contain:

- (1) potential incidents;
- (2) methods of notifying residents;
- (3) methods for sealing off the area (e.g., road blocks);
- (4) methods for determining whether to evacuate residents adjacent to the plant;
- (5) evacuation procedures, including identification of reception areas.

These plans have been coordinated with local police, fire, roads departments and hospitals. These agencies have copies of the plan. Also county commissioners are kept apprised of the plans.

The Emergency Services' director has been trained by the NRC in emergency services for nuclear facilities, as have some of the fire and police department personnel. Such training has included radiological monitoring. The primary emergency plans instruct the fire and police personnel to set up road blocks and to evacuate or confine people from the affected area.

The county has incurred an increased cost of \$10,000 per year for this office. However, the director feels that a positive benefit of this cost and service is that it forces the county to deal with emergency services planning and that it has

made equipment available at no cost to the general county government.

There were no impacts in the area of community solid waste disposal that were related to Trojan. During Trojan construction, this service was under the Sanitation and Health Department. Now the Planning Department handles it. Private collectors operate the collection service and a private landfill site. The County Solid Waste Franchise Committee, with staff support from the Planning Department, oversees and has control over rate changes and provision of adequate services and facilities.

In the town of St. Helens, water and sewer are two basic public services provided by local government. St. Helens has a new sewage treatment facility which has the capacity for a population of 32,000. This was built in 1970 under an EPA grant (an EIS was required by the state for this facility). In areas that are not served by sewers, the State Department of Environmental Quality (DEQ) requires a permit for septic tanks. The state evaluation costs the applicant \$75 which covers a soil evaluation (approximately three days for soil analysis); the county must sign off on this permit and then the state charges \$25 for this permit (the sign off is the responsibility of the planning department and it takes two days). Water supplies must be tested and approved by the State Health Department.

The water problems in the county are not due to Trojan, but rather are caused by outdated water systems in some of the smaller towns.

The development of planning and local government is an evolving process, but one that was sped up by Trojan as well as by ORS197. The impacts of Trojan probably did help to establish the Columbia County Housing Authority since it gave them a clear justification and purpose. However local government has experienced cutbacks since the early 1970's because of decreased revenues from timber sales. (Taxes in Columbia County are lower than average due to revenues received from these timber sales on private and county owned, but state managed, lands. These sales have dropped off, because of the building slump.)

The immediate impact of Trojan in the area of welfare was to take people off unemployment and welfare since it did provide some unskilled and skilled jobs. However, after the construction phase, unemployment rose to even higher levels, possibly due in part to people brought to the area by Trojan but unable to find jobs. Welfare and unemployment are state functions, so there has been only an indirect impact on local government.

There was no impact resulting from noise at the plant. Noise considerations, if they had existed, would have been handled through zoning on the local level. The State Department of Environmental Quality sets standards and noise levels for specific types of land uses.

There was little change during the construction of Trojan in retail services. Since growth was perceived as temporary, Portland served as the market for most specialized goods and services. There is some growth occurring now; the general growth of the area is recognized as permanent. Thus there is more incentive to develop more varied retail trade.

No Trojan-related impact was perceived in the area of juvenile affairs. The staff of this county agency has been expanded, but as a result of normal growth.

There appears to be a definite impact on general psychological well-being which started with Trojan and is now continuing with the general growth of the area. People are discontented with growth and the resulting change in their small town lifestyle. In their discontent many people blame local government; however local government is somewhat limited in helping to ameliorate the problems since many residents do not feel land-use planning can prevent growth. In fact many county residents perceive planning only as a tool for growth.

Summary. As one can see in the foregoing discussion, neither the state nor Columbia County developed a comprehensive impact management strategy to deal with impacts associated with the construction of the Trojan nuclear power plant. The lack of a formalized impact management strategy was due to several factors. First, at the time, Oregon had not yet formulated the state siting mechanism. Second, neither the county nor the communities had much planning capability. Since the impacts from the plant were somewhat diffused by its proximity to Portland and the Longview-Kelso, Washington areas, there was not as much perceived need for a comprehensive approach to managing the impacts. However, the problems related to provision of housing and hospital services might have been circumvented had there been a more coordinated effort to manage impacts. Thus, Trojan presents a typical example of the fragmented approach to impact management that has characterized, prior to

the state siting laws, state and local responses to impacts caused by the construction of energy facilities.

### The Pebble Springs Nuclear Power Plant

#### A. Background

To date only geologic and tectonic excavations have been made at the site of Portland General Electric's (PGE) Pebble Springs nuclear power plant. A site certificate has been recommended by the Oregon Energy Facility Siting Council but needs the governor's signature. Intervenors have appealed the Council's recommendation to the courts, and the governor cannot act until this litigation has been completed. The communities in the meantime have assumed a "go ahead" stance and have updated city and county comprehensive plans to accommodate the new populations.

Word of the proposed sites did not "filter down" to the local communities--the reversal was in fact true. It was local action which brought PGE's attention to the possibility of building a nuclear power plant at the original Carty site. When the state siting council refused certification for a nuclear power plant near the Boardman Bombing Range and issued a permit only for a fossil-fueled plant, PGE consultants identified the Pebble Springs site as a promising alternative for the nuclear plant. According to the PGE field representative, Arlington officials at that time encouraged PGE to give serious consideration to locating the plant near their community.

## B. Planning and Impact Management Processes

Boardman and Arlington are unusual small towns in that they have been involved in the planning process for a long period. Completion of the John Day Dam downriver from their townsites brought floodwaters which permanently covered their original towns. The Corps of Engineers, as a result, completely relocated the two towns on higher ground. Corps financial assistance was given only on the condition that the newly-sited towns prepare comprehensive land-use plans to guide development. Thus comprehensive planning came to Arlington and Boardman in the early 1960s; and the results were well liked by the townspeople.

Another event which stimulated planning was the 1973 passage of the Land Conservation and Development Commission Act (ORS197). This act required all Oregon units of government to prepare comprehensive plans, incorporating 14 statewide goals and planning guidelines and coordinating these plans with neighboring jurisdictions and other levels of government. Thus Morrow and Gilliam Counties have already developed an integrated growth policy with the cities of Boardman and Arlington, respectively, as well as with other towns throughout the two counties. Although their comprehensive plans have not yet been approved by LCDC, their basic tools of zoning, permit issuance, and utility service extensions are now guided by an overall growth policy apparently accepted by most of the local units of government.

Another advantage that both Boardman and Arlington have in preparing for the social and economic impact resulting from

the plant is the service of a state liaison field officer from the Office of Intergovernmental Relations. His knowledge of growth management problems and of solutions found in other regions, and the services of his office with its one-stop state permit processing system make his assistance very valuable to these communities. His familiarity with the resources of the various state agencies available to meet the region's service and capital needs have also been useful to the local administrators of the two towns.

A further technique being used to smooth the development process at the Pebble Springs site is the use of a lifetime resident of Arlington, who is well respected, very active in community affairs, and knowledgeable about local concerns and government operations throughout the region, as a PGE field representative and liaison between the community and the power company. Because of this liaison and the rural nature of the area it was possible for all affected communities to have an effective local voice present their concerns to PGE and for PGE's position in turn to be expressed to the local communities by someone they knew and trusted. Company-community relations appear to have greatly benefited as a result of this liaison arrangement.

A final help to the communities in preparing for the impact at the local level has been the strong planning assistance provided by the five-county regional planning agency, East Central Oregon Association of Counties. The Council of Governments allocates federal funds throughout the area and at present, under new leadership, is doing a good job of setting

reasonable priorities among development needs. The populations among the counties view the growth as bringing regional benefits, and consequently have expressed no competitive ill will over the allocation decisions. Although state assistance has been valuable, federal financial aid is required to assure that good growth management actually occurs. To this end the COG's role in processing grant applications for small communities like Boardman and Arlington is a vital function.

Although the construction phase has not started at the Pebble Springs plant, growth is already occurring from nearby agricultural and power plant developments. Thus impacts associated with the nuclear power plant are difficult to separate from the general growth pressures of the area.

The two communities most affected by the neighboring PGE power plants (a coal-fired plant at Carty, in Morrow County, is presently under construction) are Arlington and Boardman, which are expected to draw 52 percent of the new population. Another 22 percent are expected to move into more distant communities within the two-county arc of Gilliam and Morrow counties (Skidmore, Owings and Merrill, 1975). The peak of the labor force is expected in late 1978. Construction force decline in the two plants is expected to be countered by additional power plant construction projects in the area and/or by development of new employment opportunities in non-power related industries (primarily agriculture). The scenario may shift if either legislation or capital financing problems restrict the development of nuclear power, although the growth-based industries are sufficiently diversified, and the potential for coal-fired

plants is good enough so that the communities are not likely to experience any abrupt decline in their growth.

The provision of housing and its related water and sewer services is the most immediate problem confronting the local governments in the Pebble Springs-Carty impact area. The opening of new employment opportunities in a food processing complex in Boardman has accelerated the growth pressure that is just beginning from the Carty construction force. Thus, at present the vacancy rates in both Arlington and Boardman are approaching zero and most of the new housing demand is being supplied by Hermiston, a bedroom community whose tax base is finding it difficult to support the influx of new families and service requirements. The housing plans for Arlington and Boardman are expected, however, to considerably ease the current pressure on their more distant neighbors. The plans include a firm reliance upon the private market to provide the majority of housing units. In addition PGE has provided 100 singles quarters, 50 trailer pads and is in the process of subdividing land for 40 single family units and an apartment complex for its employees' purchase. (See the discussion in Chapter IV on PGE's Energy Projects Housing and Community Development Corporation.) An entire "new town" has been planned by a private developer that will triple the area within the city limits of Boardman. The city will provide the roads, sewers, and water when new facilities have been built. PGE has contributed the cost of sewer hookups for its subdivision lots as matching money for the city's application for EDA funds, with the agreement that the loan will be gradually returned upon sales of the

lots. Yet, present expansion of the new town is limited by the maximum capacity at which both sewer and water facilities are operating. (The design capacity is for 1,000, and the population is now there.) The grant process has been delayed for over a year and a half due to a challenge on the environmental impact assessment. According to the city manager, the challenge was unfounded and could have been settled early had the process allowed for direct refutation on a factual basis. Bonds have been passed for expansion to 7,000 of both the sewer and water systems, but further developments in the Boardman housing market must now wait until the systems can be constructed. The delay has been costly to the surrounding communities that have had to absorb the overflow from the Boardman housing shortage.

In Arlington much of the growth in the last two years (from 490 to 740) can be traced to the Boardman housing shortage. With a water and sewer design capacity of 1,200, there is still room for expansion. Housing is short, but a definite increase in supply from the private market has been observed over the past year. Although mobile home parks are being developed, the concern of local citizens is that an optimal blend of temporary and permanent housing be found. At present a comprehensive plan which includes statements on the proper housing mix is being developed by a consultant based upon detailed and well-thought-out city council objectives. Their growth policy is to provide services for a population of 3,400 people and no more. It is felt that at such a size the town would be able to support a few of the retail services which it now lacks and

a medical professional, while retaining the basic small town characteristics and amenities which it possesses.

The county development policy in both Morrow and Gilliam counties is to locate all new developments around already existing urban areas. But in doing so it has accommodated the preference of the urban areas to regulate themselves by negotiating an Urban Growth Boundary Agreement with the town governments. This is an agreement, entered into by both Arlington and Boardman, that gives each city absolute jurisdiction over land use within a certain number of feet of its boundary. Beyond that point, up to a mile and a half radius encircling the city, the development permits are to be negotiable between the city and county governments. If Gilliam County adheres to its urban center focused growth policy and Arlington clings to its 3,400 population limit, the future may bring a clash between the two governmental units. Such a situation would then be mediated, under present law, by LCDC. Total anticipated population growth resulting from the Carty and Pebble Springs work force in the city of Arlington in the peak year of 1978 is 2,200. Thus the city would be only 500 residents short of its sewer capacity just two years after setting its growth limits.

In the very near term, if the population grows as expected, the water and sewer capacity of Arlington will be reached. A sewer study is underway as a requisite for federal funding to expand the system, but the Economic Development Administration has taken the position that grant applications will not be processed until demonstrable need is shown. With only two-thirds

capacity demanded at present, federal administrators have been reluctant to process Arlington's request. The current uncertainty surrounding the future of the Pebble Springs plant further complicates the issue of demonstrable need. Lead time for project construction is three and one-half years, so the future of Arlington's sewer and water systems is likely to parallel the bottleneck presently existing in Boardman's development timetable.

Zoning amendments and building permits are very easy to attain in the two cities. The process usually requires two to three days, or a week at the most. The conditional use permits which were required for the two power plants took, however, about two months to process. Because the cities are already platted and zoned, the only check on a building permit application is for proper setbacks. Under regulations drawn up to implement a recent act (ORS197), mobile home park standards are set and enforced by the state; the local governments, therefore, only need check for proper zoning of the development. Questions were raised by the local officials, however, concerning the legality of state usurpation of home rule powers, as well as whether adequate enforcement of the ruling would be available. After one week without moving the mobile homes, inspection by the state is required to insure proper lot size and utility connections.

Health and public safety services in the two-county area are limited. Good volunteer fire department help is available, and Arlington has a police force. Boardman and Arlington also rely on the state troopers and the county sheriff's patrol force, both of whom regularly patrol through each area. A problem, however, in areas like this during the construction period

is the lack of adequate detention facilities. Arlington is purchasing an ambulance and has a part-time nurse available for emergencies, but both towns must rely on hospital services at either the Galles or Hermiston when a doctor's treatment is necessary. The COG has worked together with the service area in actively seeking grant funds for a Morrow County health clinic serving three counties and located in Boardman.

The school district in the immediate area of the Pebble Springs plant is the Arlington School District, which finds itself in the enviable position of having not only excess capacity but also an existing capital improvement fund large enough to enable the financing of new classrooms or portable structures if (and when) the need arises, without requiring passage of a special levy or bond issue. If a free-standing new school structure were demanded, however, the superintendent anticipates no reluctance on the part of the district residents to approve the issue. Schools have been traditionally well supported in the area, with the latest two levies passing with 71 percent and 76 majorities.

Existing enrollment in the high school is 57 students, with 116 in the elementary school. The district could double the enrollment at both schools without too much strain, as has already been demonstrated during the construction of the John Day Dam in the early 1960s when the high school served 110 students. The slack presently existing in the system is therefore expected to provide enough of a "time buffer" to prepare for the planning and construction of new facilities if permanent growth is anticipated. Portable classrooms or

additional classroom wings are expected to be easily provided. The district encompasses the Pebble Springs plant within its boundaries and is already receiving inventory taxes from its stored equipment, even though the site preparation has not yet begun. Additional revenue is received from the rich agricultural lands which lie within its taxing jurisdiction.

Planning for the Pebble Springs construction force was completed several years ago, with the PGE impact study estimating the projections for student increases. Actual impacts have been delayed, as the construction start-date has been repeatedly postponed. The residents and school board are no longer poised for imminent action, but are now simply waiting to see when and if the PGE plant activity will begin, thus signalling to them that their updated plans can be put into motion. In the meantime, 24 children have been absorbed into the school system in the 1976-77 school year from the Carty power plant labor force (which has 288 construction workers at present).

The situation of the school district serving the Boardman residents is far different from that of Arlington. The Morrow County School District is coterminous with the county line and therefore encompasses the southern town of Heprer and Ione as well as the north residents of Boardman and Irrigon. The district has a total enrollment of nearly 1,500 students, with approximately 270 students in the high school (grades 7-12) at Boardman and 350 students at the elementary school (grades K-6) 12 miles away in Irrigon. All facilities at the two north end schools are heavily overcrowded, with team teachers loading up classrooms and spilling into hallways, the gymnasium, auditorium,

and lunchroom. Eight new classrooms at the elementary school are under construction, with four new high school rooms just recently completed. In the fall of 1977, 115 new students are expected from the Carty plant families, and these will immediately fill all excess capacity brought by the recent additions.

By the spring of 1978 more over crowding is expected, and approval of a bond issue will be sought from Morrow County residents. This is not expected to be easy, for the last bond levy passed by only a five vote margin, even though that issue contained new facilities for every school in the district. It is hoped that the new tax base revenues generated by the Carty construction will soften the impact of a new bond levy enough so that the idea of new facilities for the north end schools can be sold to other county residents. Capital improvement plans call for construction of an elementary school in Boardman, then a junior high school somewhere in the north end, and an addition to the high school. In the meantime the students will be taught in overcrowded facilities (although the student/teacher ratio is still low, as they are able to hire adequate numbers of new staff) and in temporary structures, which can be purchased if necessary (after advertising a supplemental budget) with surplus reserves at the end of each year. Double shifting has not yet been scheduled as it increases the transportation costs to the district, although it is a likely arrangement for the future.

The reluctance of Morrow County residents to approve new school construction bonds is in part a result of a conservative fiscal philosophy which approves expenditures only upon actual

evidence of need. Therefore the overcrowding of the schools must occur before voters are willing to approve new construction bonds. With a one to one and a half year lead time required for elementary construction and two and a half years required for completion of a secondary facility, the interim inconvenience occasioned by such a philosophy is considerable. However, to a limited extent such caution may be understandable. The PGE study had forecast a very large surge in school population in the Boardman area, brought about by rapid home construction. Two factors, however, have split the growth away from the area: (1) the inability of Boardman's water and sewer treatment facilities to service new households and (2) the decision on the part of area contractors to place new housing subdivisions in the areas where shopping facilities were available. As a consequence the majority of workers on the Carty site are commuting from Hermiston, Umatilla, and even the Tri-Cities in Washington. With new water and sewer treatment plants now under construction, however, and the price of gasoline continuing to increase, the anticipated growth may yet occur, particularly as Pebble Springs construction begins. School planners, however, are estimating that the Boardman population in the next decade will increase to 4,000-5,000 rather than the PGE estimate of 10,000. Whichever prediction is borne out, it is apparent that the Morrow County School District will continue to operate on an overcrowded and improvised basis until population "boom" levels off.

The fiscal condition of Morrow and Gilliam counties, and of each of the towns within them, is solid. The two counties

have the lowest tax rate in the state. Industry is being attracted to the area for this reason, as well as for the developing infrastructure and amenities. The school districts are county-wide. Since 65 percent of the average Arlington taxpayer's share is earmarked for schools, the large amounts contributed by the two plants to their respective school districts decrease all county tax bills substantially. Although increases in the tax base have been thought necessary (Arlington voters approved in November a change from \$25,000 to \$50,000), the increase in actual dollars is nominal and will decrease as construction on the plants continue. Early generation of revenues has also resulted from the Oregon inventory tax, a law that is being phased out, but that is in the interim of considerable importance to this area. Although construction has not begun at Pebble Springs, Gilliam County already has \$23 million on the tax rolls because of equipment and plant pieces stored at the plant site.

Revenue and General Obligation bonds are used exclusively by the two cities; a simple majority is required to pass a bond. The voters have not been reluctant to pass bond levies when a need is perceived, and recent Park, School, and Sewer and Water bonds are examples of identified needs.

APPENDIX C: THE STATE OF CALIFORNIA

Part I: The State of California

Part II: The Two Case Studies

## Part I: The State of California

The following people were interviewed concerning the state siting process and planning for the social and economic impacts associated with nuclear plant construction:

Mr. Gary Heath, Staff Member, State Clearinghouse, Office of Planning and Research

Mr. William Kirkham, Management Systems Officer, State Clearinghouse, Office of Planning and Research

Ms. Kathryn Matthews, Environmental Planner, Energy Resources Conservation and Development Commission

Mr. Clare Poe, Staff Member, Energy Resources Conservation and Development Commission

Mr. Richard Recht, Consultant, Palo Alto, California

### A. Siting

The California Energy Resources Conservation and Development Commission (ERCDC) or the Energy Commission is the state energy planning and regulatory agency. This commission is responsible for planning for electrical energy needs within the state and for certifying all new thermal energy generation facilities. Additionally, it has exclusive authority to set forth and administer standards applicable to new generating facilities (except air and water quality standards).

The permit process has been consolidated so that the Energy Commission conducts the hearing proceedings for all aspects of the state site location, design and performance standards. Unlike the other state energy functions, the California Energy Commission is given a strong mandate and attendant power to plan and implement a state electrical energy plan. The Commission itself, made up of five members appointed by the Governor, presides over the Energy Facility Siting Council.

The following describes the legislative intent of the Act setting up the Commission:

The basic intention of the Act is to centralize into one state agency most of the responsibility for assessing future electricity demands, evolving a plan to meet those demands and to reduce them where they are the product of waste and inefficiencies, to make appropriate tradeoffs between environmental and energy values; and to administer a single certification process in order to lessen the time between application and certification. In these quests, the new state commission is granted exclusive authority to set forth and administer standards applicable to new generation facilities (except air and water quality standards).

The Commission thus has the authority to preempt all other standards applied heretofore by other state agencies and by local governments (including local general plans and zoning ordinances) except, presumably, standards contained in air implementation plans and water quality effluent limitations. Moreover, to a large extent, multiple proceedings before such agencies as local planning commissions, local legislatures and the Public Utilities Commission (which dealt with site location, design and performance standards) have been consolidated into a single proceeding before the new Commission (SEDWAY/COOKE, 1975, p. 53).

The Energy Commission has four main responsibilities: (1) forecasting and planning, (2) certification of facility sites, (3) research and development, and (4) contingency planning for periods of energy shortage. Within the defined scope of this project, we focused on the certification process. The steps in the NOI (Notice of Intent) and AFC (Application for Certification) processes are being revised, and it appears that the place of social and economic impacts in the processes is still unclear. The Sun Desert power plant is the first plant which will go through the process and is not far along at this point. In fact, Jones and Stokes, a local Sacramento consulting firm, is preparing the framework of an EIR "cookbook" for thermal power plants--describing what types of information should be included. By the middle of January 1977, the Energy Commission is anticipating having their EIR guidelines prepared. (They are the lead agency in preparing the EIR for each power plant sited and licensed under their process--they must ensure that the plant is sited and constructed in compliance with the California Environmental Quality Act (Cal. Pub. Res. Code §§ 21000 et seq. Supp. 1976).

California's siting process is lengthy, requiring 36 months from the filing of the Notice of Intent to approval of the Application for Certification (18 months for each of these two steps). California also requires that three alternative sites be presented for consideration in the Notice of Intent and that Application for Certification focus specifically on one of these three sites.

The Energy Commission appears very interested in the consideration of social and economic impacts and local governmental concerns, but as mentioned earlier, is still gearing up its whole

process, and its staff members have few specific answers to how considerations for such impacts will be included in the EIR guidelines. In the meantime, several staff members in the Siting Division are tracking the impact analysis and planning efforts of the communities around the Sun Desert site as they prepare for the major social and economic impacts which are anticipated.

Relating to the local planning process, there are several important points in the certification process, mandated by the law, which should be discussed. First, in both the NOI and AFC processes, as soon as the Commission decides they have sufficient information from the utility, they must publish a summary of the notice or application in "a newspaper of general circulation in each county in which the sites and related facilities, or any part thereof, designated in the notice are proposed to be located. The Commission shall also transmit a copy of the notice to the Public Utilities Commission, for sites and related facilities requiring a certificate of public convenience and necessity, and to other federal, state, regional and local agencies having an interest in matters pertinent to the proposed facilities at any of the alternative sites."

The Commission then requests comments from the appropriate local, regional, state and federal agencies, the Public Utility Commission (PUC) (if a certificate of public convenience and necessity is required), and the Coastal Zone Conservation Commission if a permit is required from them (at present, however, they are giving no permits--arguing that no coastal site is suitable for power plant location).

After the appropriate agencies are notified, the Commission holds public information hearings in the county of the proposed site. These hearings must be held no later than 90 days from receipt of an NOI.

One specific point to note, which has been implemented, is that local governmental agencies are reimbursed for reviewing and providing input to the Notice of Intent and AFC. The agency must submit an estimated budget before they begin reviewing, and then formally request the funds after they have been reviewed. The Commission reimburses the local planning agency directly out of their funds and then bills the utility. To date 30 local government agencies have been reimbursed by the Commission for review of plans for the Sun Desert nuclear plant and a Pacific Gas and Electric combined cycle plant in the Bay area. The Commission has billed the utilities for those costs. The Commission also has an information packet which they distribute to local communities once they receive word from the utility that a site is being considered. In addition, the law establishing the Energy Commission mandates the Commission to consider local plans and ordinances when reviewing the suitability of a proposed site.

An observer of the Energy Commission in California commented that the procedures of the Energy Commission were not working out as well as he hoped. He explained that the Energy Commission originally structured its siting procedures in two stages, the NOI and AFC steps. The first step was to allow for public involvement before decisions were set, at an estimated cost of \$250,000 (per Notice of Intent) to the utility. The process

has evolved, however, to a point where utilities are submitting 2,000 page Notices of Intent at an estimated cost of \$7 million. He thought that ERCDC will ask for \$250,000 from the utility just to study the NOI. The problem, it appears, is that every division of ERCDC asks for information and massive lists of data get assembled. This listing approach means that ERCDC is not setting priorities for what types of information are most useful to its decision-making process. A further problem resulting from the massive amounts of funds and time going into the NOI is that the process and the decisions are actually becoming formalized at a very early point in the siting procedure. Data are less accurate because the point in time which the data estimate is further and further into the future; the amounts of money spent early in this process to collect such data more or less lock the information into the process. Finally, there is a requirement in the NOI that the utility submit three alternative sites for its plant. Each of these communities are of course informed and conflict arises in the community between those who support the project and those opposed to it. Much energy is spent by each of those communities to resolve a conflict which may never occur.

The other standards or regulations which must be met in the siting process are air and water standards. In fact, it is possible a utility can apply for other permits before going to the Energy Commission. Water is obviously a very crucial issue in California, and the water permit is critical. (Also, it is one over which the Commission has no control.) The air quality permits are issued by regional air quality boards. ...

## B. Planning

In California, the Office of Planning and Research (OPR), located in the Governor's office, monitors local government attempts to cope with power plants and is interested in providing assistance to localities. This agency is responsible for comprehensive land use and environmental policy planning for the state but as yet has not developed actual statewide plans. It is empowered to coordinate local and state functional planning as they affect state development and environmental quality. A third responsibility of the agency is to monitor local governments for the consistency between their zoning laws and general plans although currently the enforcement of the zoning consistency law is not carried out. This power potentially provides a mechanism for the state and local government to influence the site certification process and for the state to monitor the growth management planning associated with energy developments.

Currently there is no formal structure within the OPR for providing specific types of technical or financial assistance or services to impacted communities, although such services are being provided to sites currently under construction on an ad hoc basis. At the San Joaquin site, for example, the OPR recently commissioned an impact analysis from several towns to be affected by the four nuclear units. This assistance is to encourage the towns to begin the planning and coordination process.

Another area of impact management which concerns the OPR staff is that of fiscal inequities in the distribution of community costs and benefits attributable to plant construction.

Both San Joaquin and Sun Desert are expected to face considerable difficulties in providing services to workers and their families who must locate outside the taxing jurisdiction of the plant. In response to similar experience in other areas and to the pending difficulties that are bound to occur in these two cases, the OPR is presently drafting an Industrial Siting Bill designed to require tax sharing among impacted jurisdictions. They plan to introduce this bill to the California State Assembly in January 1977.

Since the site certification process is lengthy in the state of California, there does not appear to have been any problem in coordinating planning and budgeting cycles at state and local levels with the siting process. The state learns of the proposed plant from the Energy Commission when it sends the NOI to state and local agencies for comment, early in the 36-month process. This allows the state OPR ample opportunity to assist communities in identifying needs or to respond to community requests for financial assistance for specific services or projects (that would be provided by other agencies). Although the potential exists, the OPR and other state agencies have not yet developed or administered any formal mechanisms for providing technical or financial assistance to local communities impacted by energy developments.

Part II: The Two Case Studies

Interviews were conducted with the following local officials to determine the local role in the siting process; local interaction with state and utility officials; and the local role in the assessment and management of social and economic impacts associated with nuclear power plants.

Rancho Seco

Mr. Earl Fraser, Special Assistant for Planning,  
Sacramento County

Mr. Bernard Guerin, Senior Analyst, Administration  
and Finance Agency, Sacramento County

Mr. Melvin S. Hing, Finance Administrator, Administra-  
tion and Finance Agency, Sacramento County

Mr. Glenn Houde, Superintendent, Elk Grove Unified  
School District

Mr. C. Tobias Johnson, Superintendent, Archoe Union  
Elementary School District

Mr. Paul Shaad, Former General Manager, Sacramento  
Municipal Utility District

Mr. Walt Veda, Chief of Park Planning and Development;  
Department of Parks and Recreation, Sacramento County

Diablo Canyon

Mr. Thomas M. Butch, City Administrator, Arroyo Grande

Mr. Dave Harrow, Environmental Coordinator, San Luis  
Obispo County

Mr. Warren Hoag, City Planner, Grover City

Dr. Robert Hoagland, Superintendent, Lucia Mar Unified  
School District

Mr. Fred Kimball, Former Member, Board of Supervisors,  
San Luis Obispo County

Mr. Norman D. Rich, Principal Appraiser, San Luis  
Obispo County

Mr. Ned Rogoway, Planning Director, San Luis Obispo County

Mr. Terry Sanville, Planning Associate, City of San Luis Obispo

Mr. A. C. Smith, Community Relations Representative, Pacific Gas and Electric Company

### The Diablo Canyon Plant

#### A. Background

Diablo Canyon is a nuclear power plant complex consisting of two units, each approximately 1,100 megawatts. The plant is owned by Pacific Gas and Electric Company (PG&E) a private utility. The utility began planning the plant in about 1965, did geologic surveys in 1966, and began some construction in 1968, according to their public relations man. Construction of Unit 1 is basically complete, while Unit 2 is being completed. The NRC held hearings in San Luis Obispo County in December, preparatory to their decision on an operating license for Diablo Canyon.

Diablo Canyon is located in San Luis Obispo County, in an isolated area of the Pacific Coast. It is about eight miles from the nearest entrance to Highway 101. The nearest population centers are about five miles south of the Highway 101 turnoff; they are the towns of Pismo Beach (population 4,850), Grover City (population 7,325), and Arroyo Grande (population 8,525). The city of San Luis Obispo (population 34,550) is located about eight miles to the north of the Highway 101 exit. The principal governments which had to cope with social and economic impacts from Diablo Canyon were Pismo Beach, Grover

City and Arroyo Grande (the three incorporated areas in the "South County" region); Lucia Mar School District (a consolidated school district serving the South County area); and San Luis Obispo County.

The impacts of the construction work force on the surrounding communities were moderated by a number of factors.

First, construction began at a time when the South County area was somewhat depressed. In the early 1960s, the area had boomed as a result of the space program at Vandenberg Air Force Base (about 30 miles to the south). When that program slackened, South County towns saw vacancy rates climb to ten percent. In Arroyo Grande, total assessed valuation in the town declined ten percent from the previous year. The San Luis Obispo county planning director disagrees with this assessment, however. He feels that other officials' memory of the timing of housing recovery is hazy. His own data showed a sharp increase in mobile home park permits during the time Diablo Canyon construction was underway.

Second, the influx of construction workers was gradual, taking perhaps four years to hit the peak work force, and a similar period of time to decline.

Third, the county was growing due to other factors. In the city of San Luis Obispo, California Polytechnic University was growing fast enough to make the housing situation in that town quite tight, and this growth was having some effects on the more distant towns in the South County area. The South County itself was growing due to rapid increases in the number of people buying retirement homes there and moving in from Los Angeles.

Thus the towns were prepared to cope with the initial population growth due to Diablo Canyon. In later years they did experience some of the problems of rapid growth, but it is clear that Diablo Canyon made only a partial contribution to those problems. The one jurisdiction clearly impacted by Diablo Canyon was the Lucia Mar School District. In 1975 Lucia Mar had 542 students from the families of Diablo Canyon workers (7.6 percent of the enrollment of 7,100). About ten percent of those students were from families who were permanent residents of the district. So the district actually gained about seven percent enrollment due to the plant. The district's difficulty comes not from the additional enrollment as much as from a series of events related to school district financing, which are described below. Its problem is that it cannot tax the plant itself, which is located in an adjacent school district. As a result, Lucia Mar had a substantially lower tax base than its neighboring districts, and has difficulty getting adequate revenue from district residents to cover its needs.

B. Planning and Impact Management Processes

The people we interviewed associated with the county were not aware of substantial impacts on county planning. One aspect of long-range planning which we did find to be affected was the Safety Element of the county and city general plan. The state of California mandates long-range planning by local governments, and is quite specific about what must be done. The Safety Element is one part of the general plan for each jurisdiction. It covers radiation hazard and response to emergencies, among other topics. The San Luis Obispo County Safety Element makes some

attempt to deal with problems created by Diablo Canyon, but the level of detail appears to be only sufficient to comply with requirements for discussion, and is not sufficient to instruct local officials as to their responsibilities.

Pacific Gas and Electric did not have to get a zoning variance for the plant. The site was zoned in a "hold category" and could be used without additional permission. According to a former member of the Board of Supervisors, the plant did require a building permit, which was issued by the County Board of Supervisors following open hearings and investigations into the seismic safety of the site. The routing of transmission lines to the site was discussed at the hearings, but the county had no formal control over where they went. Mr. Smith of PG&E said that the utility did coordinate the routing with the county planning director in order to minimize community unhappiness, even though they were not required to do so.

Officials we spoke to were rather vague about the dates and amount of time involved in the county permitting process. Their experience would be much different now because the State Environmental Quality Act would apply, requiring a full Environmental Impact Report on the plant before the permit could be granted.

Local governmental services to the plant were few. An existing road leading from Highway 101 toward the plant was reinforced and a bridge on that road was replaced. Both actions were needed in order to accommodate construction equipment, and were paid for by the utility. Most heavy equipment was moved by rail to Pismo Beach and trucked from there over the reinforced

road and then over a new road on the site constructed by PG&E. The heaviest equipment was brought directly to the site by barge.

In the future, the county may get involved in the regulation of transport of waste materials. A planner for the city of San Luis Obispo is concerned that the rail route out of Pismo Beach goes over a particularly steep and hazardous mountain pass, and is the scene of derailments about twice a year in his estimate. He is hopeful that the county will intervene in order to insure that the durability of spent fuel casks is not tested by a derailment within the county watershed. This transportation regulation will be a problem for the county during the operational phase, but there is nothing in the process to affect the siting and construction phases for the plant.

The city manager of Arroyo Grande reported to us that an informal count of work force traffic emerging onto Highway 101 at the end of the day showed that 70 to 80 percent of the workers headed south--toward Pismo Beach, Arroyo Grande, and Grover City. We interviewed officials in the two larger cities, Arroyo Grande and Grover City. In both cases we found that the cities were in the fortunate position of having already provided for sewer and water capacity well in excess of their current size. When workers from Diablo Canyon and immigrating retirees caused population growth, neither city had any problem in extending sewer and water service as new construction occurred. Fire and police service were not strained: fire service is done by volunteers, while police forces grew slightly.

As mentioned earlier, schools were the one service which were strained by the additional demands. That strain was not the

should be clear that the more rapid the growth, the more delay there will be in changing assessments, and the more the county, town and special district revenues will lag the demand on their budgets.

The town of Arroyo Grande found its revenues increasing in one other way: As employment at Diablo Canyon went up, citizens paid user charges (such as their water bill) much more promptly.

It is important to note that the county does not have the task of assessing the value of the power plant itself. In California, the State Board of Equalization has the responsibility for determining the value of the real property held by public utilities, and then distributing that value in proportion to the assets which are physically within each taxing jurisdiction. The construction of the Diablo Canyon plant meant that several jurisdictions received taxes, due to the location of the plant itself, assorted equipment, rail yards, or transmission lines within the various districts. But the California system of requiring the state experts to make the assessments sped up the process of collecting those taxes.

The system of financing schools in California is complex; in the case of the Lucia Mar School District, the impact of Diablo Canyon has been exacerbated by the particular provisions of the California financing system, and by the time at which those provisions went into effect.

For many years in California, the level of expenditures in each school district was a function of the wealth of the district (its property tax base) and the level at which the population was willing to tax itself. The wealth of districts varied

result of the timing of processes needed to add capacity classroom, however. If the Lucia Mar School District had had the funds, it would have had enough time to build the schools. The entire process would take about three years, according to the district superintendent.

In California there are two important sources of revenue for local governments--the property tax and the sales tax. The property tax is the only revenue source for schools, and is a major revenue source for counties, cities and towns. The sales tax is less important; of the total rate of six percent, five percent goes to the state while the city or town receives one percent. The sales tax collection process responds relatively well to growth. For example, as the town of Arroyo Grande grew due to Diablo Canyon construction, town sales picked up and so sales tax receipts increased automatically.

The process of property tax collection is a bit more complicated. There is more time lag in between the growth in a town and the increase in tax receipts to reflect that growth. When property values change, the county assessor must review the assessed value of each piece of property. The San Luis Obispo county assessor has a regular review program with a goal of reviewing (on an area-by-area basis) all property at least every five years. When an area is undergoing rapid growth or decline, the assessor tries to update assessments more often, but is constrained by lack of manpower. The assessor does manage to assess new construction and property which has changed hands on a fairly regular basis, so some of the South County property would have paid increased taxes as a result of sales. But it

widely. If large industrial facilities were located within district boundaries, the district could ordinarily afford high per pupil expenditures and low tax rates on its citizens. In an effort to equalize the resources of school districts (and make the districts more efficient), the state encouraged many small school districts to unify in such a way that the unified districts would be approximately equal in wealth. The unification process in San Luis Obispo county took place during the early planning stages for the PG&E nuclear plant. The original site picked by PG&E was at Nipomo Dunes, a coastal site south of the Pismo Beach/Grover City/Arroyo Grande area. Opposition from the local Sierra Club in the mid-60s forced PG&E to change its plan to the Diablo Canyon site. But school planners had drawn up the boundaries for the unified districts in San Luis Obispo county after the Nipomo Beach site was announced. They drew the boundaries in such a way that the Lucia Mar district and the San Luis Coastal district would have approximately equal tax bases. Voters approved the boundaries in a unification election. When PG&E shifted its plant, Lucia Mar district was left with no industrial tax base, while San Luis Coastal had twice the base it expected. In 1976-1977, PG&E will pay \$4.4 million to San Luis Coastal and \$80,000 to Lucia Mar.

The California Legislature later passed a reform in the method of financing schools (S.B. 90) which guaranteed state aid to some school districts. But the level of per pupil expenditure was frozen at the existing levels, which in effect froze the existing disparities. Even if a new plant were now to locate in Lucia Mar district, the school system could not spend

more than \$996 per pupil, the rate established by law, without a vote of the people. In contrast, the San Luis Coastal district is permitted to continue to spend \$1,500 per pupil.

So Lucia Mar School District's difficulties with the Diablo Canyon plant stems from its sense that it ought to have had the property tax base of the plant for its entire district--not just for the impact of the construction work force.

The financing system described above is certain to be changed as a result of a recent California Supreme Court decision in Serrano v. Priest.<sup>\*</sup> The court found that the current system violates provisions of the California Constitution. A lower court judge found that it did, and that judgment has been appealed to and argued before the State Supreme Court. The California legislature is now required to revise the school financing system. Their reforms are not certain but it is likely that the new system will mean that the property taxes paid by the Diablo Canyon plant will be distributed evenly across all school districts in the state. The boundary problem will remain for other local government services besides schools, but it appears that in California the other governmental functions are not as dependent on the property tax.

Aside from the school district, we did not find anyone at any level of government who felt that their operating budgets were significantly affected by Diablo Canyon.

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<sup>\*</sup> Serrano v. Priest, ---- California Reporter ----, (Decided by California Supreme Court on December 30, 1976). ...

The only information we found about capital projects is that discovered about the Lucia Mar School District. Note that their planning and decision process is informal. Capital projects come along only occasionally, and each is considered separately. It may be that there is a reasonable generalization here: Communities small enough to need capital projects to cope with construction work forces are apt to be small enough that there are not formal processes for deciding on those projects. Communities large enough to be constrained by capital budget processes (with their pre-existing priorities for each department) are apt to be too large to need to expand capital facilities.

#### Rancho Seco

##### A. Background

The official announcement of plans for a nuclear power plant for Sacramento was contained in Sacramento Municipal Utility District's (SMUD) Annual Report for 1964. That year marked the beginning of a 10-year program to build the plant.

The first two years were devoted to location and purchase of the site. The SMUD siting group found a suitable site in the southeastern section in Sacramento County. The site offered the advantage of proximity to the planned Folsom South Canal, as it was necessary that it be located adjacent to a canal in the Delta for its cooling water. (There were alternate plans which called for transporting the water by pipeline.) The utility had to build a storage reservoir to hold at least 2-3 weeks water so that the plant would not be susceptible to fluctuations in levels

of canal water--in particular, drainage of the canals for maintenance. They also had to locate the site near a heavy rail line to bring in the heavy (500 tons +) equipment.

The site finally selected was a 2,100-acre ranch which was part of an estate in the process of liquidation. This eliminated the worry of purchase from numerous landowners, and the general manager of SMUD personally negotiated the transaction. During consideration of alternative sites the utility was in touch with a state siting committee, which existed before the Energy Commission. The state committee operated only in an advisory capacity, but SMUD felt it was good public relations to maintain contact with the state. SMUD received a formal letter of approval for the Rancho Seco site from the state committee.

The utility also reasoned that if they contacted the county during consideration of alternative sites, and sought its approval, that the county people would think they had some jurisdiction over SMUD. In fact, SMUD is a state entity under the State Municipal Utility District Act, and the county has no formal jurisdiction over its actions.

In the third year of the 10-year plan (1967) SMUD contracted with Bechtel for the design and construction supervision of a nuclear-fueled plant for the steam generation of electricity. In November 1967, the application for construction was filed with the Atomic Energy Commission; the permit was issued in October 1968. Construction started in 1969. "Original estimates indicated that the plant would cost \$180 million and would require five years to build. Inflation, design modification and a one-year

extension of the construction schedule were expected to increase the cost to approximately \$350 million with completion in late 1974" (Ward, 1973, p. 79). Since 1974, there have been numerous technical problems, so that the plant has actually been down most of the time. According to the Special Assistant for Planning for Sacramento County, estimates range from a \$25,000 to \$500,000/day loss for each day the plant is down.

The construction work force came primarily from Lodi, Sacramento and Stockton. They commuted and therefore did not require much in the way of services.

The planning department of Sacramento County was in the process of revising its general plan for the southeastern section of the county, and holding public hearings, when they first learned of the proposed Rancho Seco plant. According to one interviewee they would have known of the plant at least one year earlier if it had been built by a private utility, since they did review private utility plans. However, because SMUD was public and its own governmental entity they did not have any negotiations with the county prior to announcing the plant at the public hearing.

The county had no objections to the siting of the plant, however they were "embarrassed" at the way they were treated by another public agency. The only costs to them were in terms of the additional writing and drafting necessary to amend the plan.

#### B. Planning and Impact Management Processes

In general, the lead time for planning was adequate for county purposes. There were at least two years from the time

of the public announcement to the beginning of the construction phase. (and there was very little the county had to do in terms of providing services, etc.). Under the present EIR process there would also be adequate lead time of at least two years.

There were evidently no local communities or governments involved--the site is in an isolated, agricultural section of Sacramento County.

Our information indicates that there were no zoning or building permits required for the Rancho Seco site. An amendment was made to the general plan, as mentioned, although most likely more as a formality than as a significant administrative procedure. Essentially the county had no control over the Rancho Seco site. The state apparently didn't have much control either, although they did issue the formal letter of approval.

The Southern Pacific Railroad was required to strengthen its rail line into the site so SMUD could move the heavy equipment on it. The general manager of SMUD at the time felt that the utility probably paid for those improvements "in one manner or another." There were evidently minimal road problems, and none that involved the county.

The county was required to develop an Emergency Services Plan, including in part, provisions for an accident at the Rancho Seco plant.

Discussions with the school districts surrounding the Rancho Seco site and with the suburban Sacramento district closest to it disclosed no direct impacts upon their staffs or facilities. The two school districts nearest the site are the Arcnoe Union

Elementary School District (enrollment 250, one school) and the Galt Joint Union High School District (student population 950, two schools). Both districts bus all students to their respective schools, and it was on their transport systems that the only minor impact came. Busses were rerouted onto side roads during the construction years so as to avoid the heavy truck and commuter traffic on the main east-west highway (104) that runs through the districts and past the plant, then up into the Sierra foothills. Enrollment fluctuated by no more than 25 students throughout the construction years, as the labor force commuted from Sacramento and other populated areas within driving distance.

Because the plant is a public utility, the only indirect impact it had upon the two districts is its withdrawal of 2,000 acres from their tax rolls. State law requires that all public utilities pay local taxes at the rates which are assessed at the time of purchase. The original use of the area was for light cattle grazing, so SMUD is paying between \$300 and \$400 each year to the districts. Anticipated future revenue loss is the main problem associated with the new land use that the district has encountered. Among the 2,000 acres of "frozen" tax revenue lands is a large grove of eucalyptus trees which had good potential for residential development. The foothill location of the area has made it a future growth area for the nearby metropolitan area.

Before plant construction began, the Archoe District annual operating budget was \$190,000. It is presently \$370,000 because of the state's passage of AB1641, an equalization act,

which reallocates a portion of school district revenue area-wide (usually county-wide). (Chap. 323 of California Statutes of 1976.) The minimal revenue generated from the Rancho Seco plant has played no role in boosting the district revenue, of course.

Student enrollment did not change in the Elk Grove Unified School District, a suburb of Sacramento, as a result of plant construction force dynamics. Again, the reason lay in the commuting practices of the construction force. The only noticeable change in the school district's activity came with active participation on the school board and in other district activities of two operating executives from SMUD.

Parks and Recreation was one impact area where the county was involved. As mentioned earlier, it was necessary for SMUD to build a storage reservoir to hold 2-3 weeks of cooling water, and to keep the reservoir constantly full. The utility decided that to increase public acceptance of the plant and to make people feel welcome there, they would investigate the feasibility of building a park around the reservoir. They had to purchase additional property from a rancher to have sufficient land for recreational purposes. They also knew that state funds were available for the development of parks around reservoirs; and although they did not want to be in the recreation business, they made an agreement with the county that if the county would agree to operate the park, SMUD would build it.

SMUD applied for the state funds (authorized by the Davis-Grunsky Act) and received them. The county government agreed

to operate the facility. SMUD hired a private firm to design and build the park; the county had no real control over the project in its construction phase. The county did hire an inspector to oversee the project in an informal way.

The county did have to make some revisions when they took over the park from SMUD, such as the reinforcement of some park buildings, for example. Walt Veda, Chief of Park Planning and Development, thinks that they did collect some money from SMUD to pay these costs. Funds for the maintenance of the park have been very small, and have not been a problem for the county Parks and Recreation Department.

Because the work force commuted from Lodi, Stockton and Sacramento, there were no problems with housing, health facilities, additional water and sewer systems, etc. Because Stockton and Sacramento are fairly large metropolitan areas, if there was unemployment resulting from the winddown of the construction phase, it would probably have been absorbed by the general economic conditions in those areas.

The county does not assess the Rancho Seco plant nor collect taxes from SMUD because it is a public utility. The county assessor looked at his 1970 and 1971 budgets and saw no material impact there resulting from the plant. He thought it might have had an impact on the Herald Fire District but because the county and the fire districts are separate, he could not measure the impact.

APPENDIX D: OVERVIEW OF POPULATION REQUIREMENTS--  
SOCIOECONOMIC IMPACTS OF NUCLEAR POWER PLANTS

By Steven C. Shulte

**Overview of Population Requirements - Analysis of Factors  
Affecting Socioeconomic Impacts of Nuclear Power Plants**

by  
**Steven C. Schulte**

October 1, 1976

**BATTELLE**  
**Pacific Northwest Laboratories**  
**Richland, Washington 99352**

### CONSTRUCTION SCHEDULE AND CONSTRUCTION MANPOWER

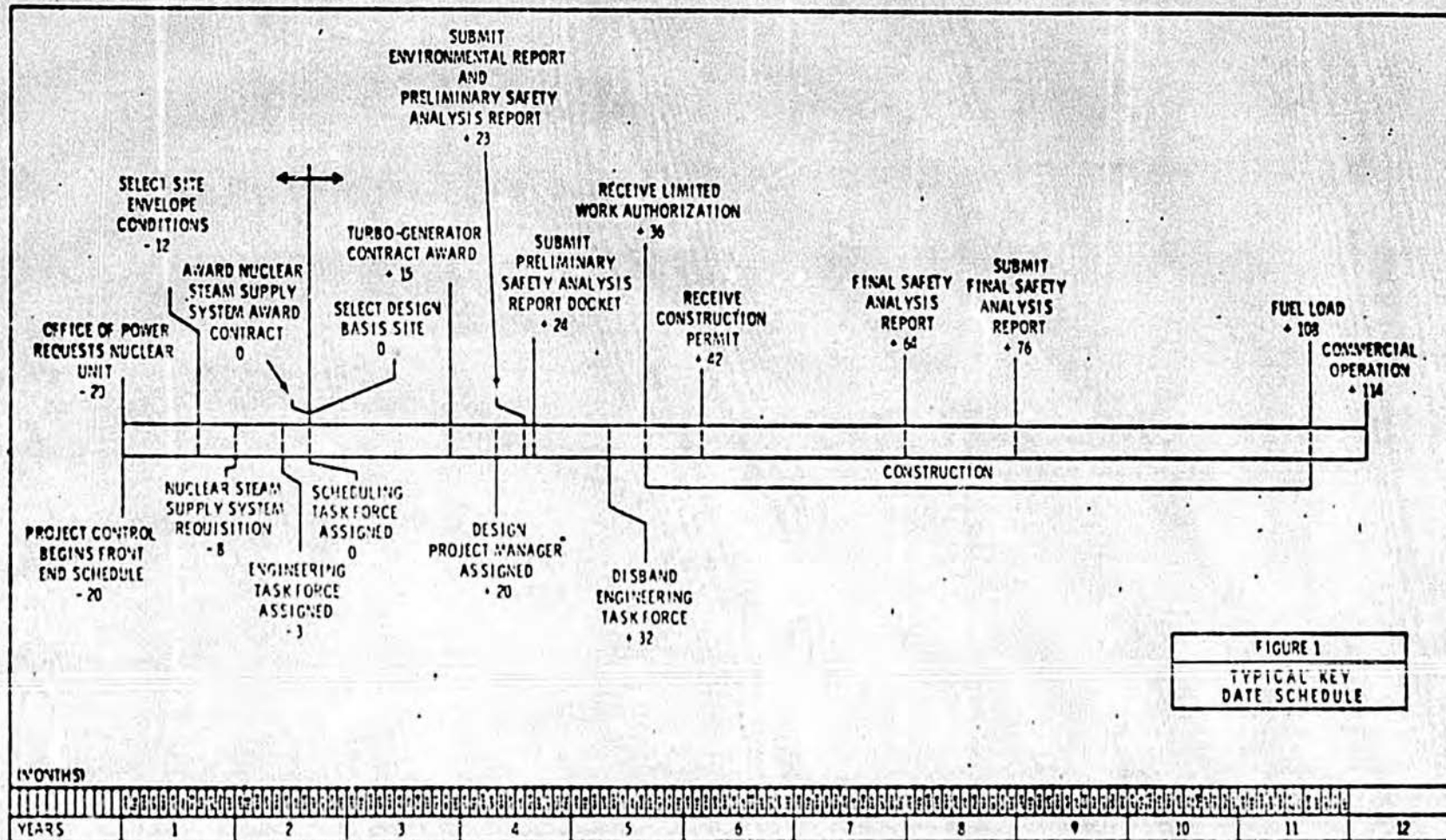
A typical key date construction schedule for a 1200 MWe nuclear reactor is shown in Figure 1. Planning and contracting activities from preliminary nuclear unit request to commercial operation of the unit are included on the schedule.

The actual construction (contracting) activity schedule for the same reactor is shown in Figure 2. Contracting activities from initial site excavation to owner acceptance of the unit are included on the schedule.

The construction work force required for this 1200 MWe unit is shown in Table 1. <sup>(1)</sup> Worker build up on the jobsite is shown by quarter over the six year construction period. The manpower requirement peaks at 1500 workers about 3 years into the construction schedule. An additional 180-200 personnel are required at the jobsite for management and engineering. Thus, total jobsite personnel during the peak manpower period will number 1700 employees. The number of workers required is site dependent and varies as a function of unit design, availability of labor, and worker productivity.

A 1600 MWe nuclear reactor requires 2250 construction workers during the peak manpower period. <sup>(2)</sup> An additional 250-270 management and engineering personnel are required at the peak. Construction of the unit requires 7-1/2 to 8 years.

The occupational distribution by craft of jobsite employees is shown in Table 2. This distribution is taken at the peak manpower period.



SOURCE: Two Unit Nuclear Plant, Tennessee Valley Authority, Division of Engineering Design, April 15, 1975



**TABLE 1. Construction Work Force by Quarter Over a 6 Year Construction Schedule 1200 MWe Nuclear Power Plant**

<u>Quarter</u>	<u>Manpower (Beginning of Quarter)</u>
0-3 1	120
4-6 2	245
4-9 3	370
10-12 4	540
3-15 5	700
16-18 6	850
9-21 7	1000
22-24 8	1150
25-27 9	1300
28-30 10	1360
31-33 11	1410
34-36 12	1440
37-39 13	1460
40-42 14	1470
43-45 15	1475
46-48 16	1440
49-51 17	1410
52 18	1330
19	1250
20	1080
21	910
22	630
23	350
24	180
25	25

Source: Hanford Nuclear Energy Center, Socioeconomic Impacts, K. E. Yandon, 1976.

**TABLE 2. Occupational Distribution by Craft of Manpower Requirements  
1200 MWe Nuclear Power Plant (peak manpower period)**

<u>Occupation</u>	<u>Manpower</u>	<u>Percent of Total</u>
Management	180	10.7
Craftsmen	1244	74.1
Pipe/Steam Fitters	409	24.3
Electricians	185	11.0
Carpenters	135	8.1
Ironworkers	125	7.4
Operating Engineers	123	7.3
Boilermakers	99	5.9
Teamsters	51	3.0
Asbestos Workers	40	2.4
Millwrights	33	2.1
Painters	21	1.2
Sheetmetal Workers	13	0.8
Concrete Finishers	10	0.6
Laborers	<u>256</u>	<u>15.2</u>
<b>Total</b>	<b>1680</b>	<b>100%</b>

Sources: Projections of Labor Requirements for Electrical Power Plant Construction, 1974-2000. U.S. Atomic Energy Commission, August 1974, p. 5.

Construction Work Profile. A Study for the Old West Regional Commission, Mountain West Research Incorporated, December 1975, Table 3-16.

Project Independence. Federal Energy Administration Project Independence Blueprint Final Task Force Report, November 1974.

NEW POPULATION ADDED TO AREA

The number of construction workers available to the jobsite who are initially local residents is entirely site dependent and varies widely. Every project site must be individually assessed to determine the number of workers with required skills that are locally available. A worker is considered locally available if initially his residence is within daily commuting distance of the jobsite. For example, the WYODAK power plant in Wyoming when constructed found only 3.3% of the required labor force locally available. However, the SAN JUAN 1 power plant in New Mexico when constructed found 78.6% of the required labor force locally available. (3)

Local construction worker availability for a specific jobsite can be unexpectedly high because of worker acceptance to commute long distances. Nearly all construction workers will commute to a distance of 50 miles and consider the inconvenience as a requirement of their occupation. A comment from a local labor leader (4) concerning this subject seems especially pertinent:

"For one thing there is great mobility among construction workers, with many of them owning and maintaining their own homes, but also possessing mobile homes which they can and do move to a project, providing it is one of sufficient duration to warrant doing so. However, the numbers given as 'daily or weekly' commuters, represent workers of that particular craft who actually reside within a sixty mile radius of the project location, and who would normally elect to commute. Some of those who have specified 'weekly' commuters are indicative of men who may live as much as 200 to 300 miles away, but who would elect to obtain bachelor facilities, and return home on week-ends. There is a substantial number of members who have worked for considerable periods of time at places such as Wichita Falls, Texas, or Wichita, or Topeka, Kansas, and yet they would not think of moving their families, preferring instead to return home on week-ends.

In my honest opinion, however, by far the majority of the men counted as daily, or weekly commuters can be drawn from towns within the sixty - eighty mile radius."

Non-locals or travelers make up the remainder of the work force required by the jobsite. Only after the number of local workers available has been determined can the number of non-locals required be determined. Non-locals moving into the area and establishing residences are the primary cause of the adverse socioeconomic impacts. Local and non-local worker and family profiles are assumed to be identical, unless specified otherwise, in this report. There are always slight differences between locals and non-locals, but in many instances these differences cannot be adequately quantified and must be neglected.

The thirteen most recent TVA construction projects have averaged 73% of the required labor force initially locally available. The project with the least local labor available had 53% locally available and the project with the most local labor available had 83% locally available.<sup>(5)</sup> It is estimated that a Hanford Nuclear Energy Center would have 50% of the required labor locally available.<sup>(1)</sup> It is critical in any impact study that the initial phase of the study be an evaluation of the amount of local labor available to the jobsite.

The assessment of worker family size is important in determining new population added to an area. Construction workers who are single or who are married with family absent are considered as single workers. Workers bringing at least one dependent into the area with them are considered as family workers. The percentage of single workers in the total work force is partially site dependent but not nearly as variable among sites as the percentage of non-local workers in the total jobsite work force. Table 3 reviews typical values for single worker-family worker mix found today for non-local construction workers.

The assessment of worker family size also involves determining the accompanying number of family members given the worker is not single. Again, the determination is partially site dependent. Table 4 shows typical family size for family construction workers.

**TABLE 3. Single Worker-Family Worker  
Construction Worker Mix  
(non-local workers)**

<u>Source</u>	<u>% Single Workers</u>	<u>% Family Workers</u>
2250 MWe Coal-Fired Electric Generating Plant	40%	60%
Camp Gruber Energy Center	25%	75%
Construction Worker Profile	51%	49%
Hanford Nuclear Energy Center	20-25%	75-80%
Unit High-Btu Gasification Plant	33%	67%
Major TVA Construction Projects	31%	69%

**TABLE 4. Family Size for Construction Family Workers**

<u>Source</u>	<u>Average Family Size (includes construction worker)</u>
Portland General Electric Co. Pebble Springs and Carty Sites	3.17
Construction Worker Profile	3.61
Unit High Btu Gasification Plant	3.5
Camp Gruber Energy Center	3.3
2250 MW Coal-Fired Electric Generating Plant	3.7

Nationally, there are 1.46 workers per family.<sup>(4)</sup> Therefore, in addition to the construction (primary) worker, each non-local family has an additional 0.46 worker to offer the area work force. In other words, for every two non-local workers with families, approximately one new secondary worker is made available to the area's support work force.

A determination of the number of support workers required for every construction worker is also partially site dependent. Table 5 contains values for the number of support workers required for each primary (construction) worker.

**TABLE 5.** Support Workers Required  
(per construction worker)

<u>Source</u>	<u>Number of Support Workers</u>
Camp Gruber Energy Center	1.5
Hanford Nuclear Energy Center	0.5
2250 MW Coal-Fired Electric Generating Plant	0.3-0.9

One factor that often is not accounted for in the support worker/primary construction worker ratio is the additional support workers required to locally produce materials used on the construction jobsite. This factor when included should slightly increase the values found in Table 5.

Figure 3 is a population scenario which might occur during construction of a nuclear power plant. Total population added to the area is site dependent based on the assumptions shown in Figure 3.

Table 6 shows the age profile of local construction workers, non-local construction workers, non-local support workers, and national average age profile. Table 7 shows the education status of workers in the same four categories.