ALASKA LEGISLATURE SPECIAL COMMITTEE / SUBJECT FILES 8672
92 SCOMM 9: HOUSE SPEC. COMM. ON PERMANENT FUND 1977-78

become more involved in providing or regulating traditionally private services, such as sewer and water facilities; hospitals; public transit; professional public safety departments; and public parks and recreation programs.

The ability of local government to provide the additional community services required by plant construction activities depends primarily on several factors: (1) the availability of unused or underused services existing in the community prior to the work force entering the area; (2) the numbers of new residents; and (3) the availability of revenues to pay for new or expanded services.

These factors tend to vary from one locality to another. Thus we found the range of services that caused problems to be site specific. The most common problems, however, seemed to center on services related to housing development, sewer and water systems, and education. Law enforcement and recreation were less of an obstacle to community response, but still of major importance.

Housing, for some communities, was a major problem brought by the development of the plant. Where vacancy rates and the number of available units are high (as they were at the time of the Diablo Canyon plant construction*) or where the labor force commutes from nearby population centers and does not require new housing services (as at Rancho Seco), housing shortages and associated services are not a significant problem. Where

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*There is some disagreement about this point. See page C-11.

a large proportion of the work force must move to the impacted community, the difficulties become more severe for public officials, even though most of the actual provision of housing remains in the private sector. The need for housing and its related services most severely impacts the work load of the planning and building departments, which issue permits only after ensuring conformity with zoning plans, building codes, shoreline controls, and any existing environmental review.

An increased need for sewage treatment and water supply is also closely linked to the housing demands made by new populations. Some of the case sites investigated benefited from Economic Development Administration grants in the early 1970's to build treatment plants with a capacity many times their existing population. Other communities, however, have found treatment plants to be a limiting factor in their expansion plans. Local officials in the Arlington-Boardman area near Pebble Springs feel sewage treatment has been a problem for them. Rapid growth from both power plants and food processing plants has already brought demands on water and sewer services to near capacity, an estimated two years before the work force is expected to peak. The Economic Development Administration and the Environmental Protection Agency have strict requirements on the ability to show need for new treatment facilities. Because the fate of the Pebble Springs plant is still unclear, the need for new services is unclear, making it difficult for community officials to ask for federal aid

and to plan for community impacts.

The provision of additional educational services and facilities also can cause problems for a local government. The need for such services depends on the family composition of incoming workers. Primary and secondary education are the most typically required needs, although at one site we examined (the WPPSS-2 plant in the Tri-Cities in Washington) there is a growing need for higher education. Classroom overcrowding has been or is expected to be a problem at all sites faced with a construction force temporarily relocating in their area.

The primary problem surrounding provision of education facilities, including classrooms, appears to be ensuring equal distribution of power plant tax revenues among impacted districts and dealing with surplus facilities after the construction force has left. The Skagit rezone contract with Puget Power has required prepayment of utility taxes as far as six months in advance for each school child of a family employed at the power plant site. According to a WPPSS-2 official, Washington codes (RCW 54.36 and RCW 54.28.070) provide a mechanism for placing some revenues from WPPSS-2 where the school impacts will occur.

Traffic control, expanded police patrol routes, and extended fire coverage also were mentioned in interviews as additional services communities were required to provide due to increased population. In very small towns these problems did not appear to be large: present services were usually provided by volunteers, with growth plans calling for one department of public

safety utilizing staff trained both in policy and fire protection. However, in the more highly populated areas additional police and fire stations were required. Where funding for staff and new facilities was unavailable, service effectiveness has been impeded. Both the county and municipal governments provide these services, and their services are shared as needed.

Recreational facilities also were listed by local officials as an area where expansion might be needed. Generally the planning for such expenditures seemed to be a moderate priority item, and the provision of such services was shared by several layers of government--school districts, cities and counties. Regional parks are often provided by state and federal funds and sometimes the utility (Trojan and Rancho Seco). The Corps of Engineers has provided several waterfront parks and docking facilities in the areas abutting the Columbia River (Pebble Springs and WPPSS-2). It should be noted that in the case of Richland, the Corps provided the land and the city is required to participate 50 percent in the cost of development. Maintenance cost is also picked up 100 percent by the city. The power plant sites themselves sometimes serve as park facilities after plant construction is completed. At Rancho Seco and at Trojan the utility donated park land and opened their reservoirs to swimming and boating, with the utility at Trojan also contributing and maintaining a visitor's center.

The need to provide additional community services for population brought by the power plant varies with each specific

plant site. For those sites where services may be required, the major problems that can arise involve funding the additional services. There are also problems in timing the requests for funding from the accelerated local planning process with the more slow moving federal budgetary cycle, which is the source of most funds for special public service programs and impact management.

4.5 Two Unique Management Strategies

During the course of this study we identified two strategies used to try to cope with the social and economic impacts resulting from power plants which we felt were of special significance. The Skagit County-Puget Sound Power and Light Company arrangement is a unique contract rezone agreement which requires Puget Power to make impact payments in the areas of schools and law enforcement. Portland General Electric has created an in-house corporation to provide financial assistance to communities impacted by its projects. Each is described in more detail below.

4.5.1 Skagit County-Puget Sound Power and Light Company Contract Rezone Agreement

In order to obtain the appropriate zoning permit from Skagit County and, at the same time, assist the county in the mitigation of adverse community impacts associated with the construction of its 2-unit, 2300 MWe nuclear project, Puget Sound Power and Light Company (hereafter called Puget Power) entered into an innovative contract rezone agreement with

Skagit County. Puget Power recognized the possibility that the implementation of its project would have adverse impacts, in the form of financial hardship, on the communities near the site. In general, Puget Power agreed to make "impact" payments for schools and law enforcement services to cover the additional costs involved in providing those services during the construction of the Skagit plants. A fixed amount (determined by a formula to be discussed below) is paid to each school district that experiences a rise in enrollment due to the influx of children of construction workers. Costs incurred to law enforcement agencies are determined by a 3-member commission established in the agreement. All impact payments are considered prepayments of taxes.

The purpose of this section is to discuss the background and details of the impact payments section of the contract rezone agreement, although the agreement is not limited to impact payments. It has additional provisions to cover environmental effects, design, construction and land use, investigations and reports, and a fish rearing facility. In addition, the agreement stipulates that there is to be no reprocessing of spent fuel or permanent storage of radioactive waste on site. Puget Power must submit each radiological monitoring program plan and an evacuation plan to the Skagit County Planning Department for review and approval. Lastly, if Puget Power transfers ownership interest to any municipality, public utility district or other third party and, as a result of that transfer, the amount received by the county from property

taxes, privilege taxes and payments in lieu of taxes is less for any given year than the amount paid had Puget Power retained sole ownership, Puget Power must pay or require the third party to pay the deficit. These provisions will not be explored since the discussion focuses upon impact payments as a unique mechanism for helping the management of impacts on communities.

4.5.1.1 Background In 1973, Puget Power filed a petition to rezone 260 acres of a 1500 acre site it had purchased near Sedro Woolley, Washington in order to construct and operate two nuclear power plants. The site was zoned forestry/recreational and residential at that time. There was neither an industrial zone nor provisions for a nuclear power plant for that area in the comprehensive zoning plan. An unclassified use permit was requested by Puget Power and denied by the Skagit County Commissioners on the grounds that classification was too similar to spot zoning and could be challenged in court (Myhra, 1976).

The county planning commission implemented a program to update the comprehensive zoning plan. A new plan was developed dated November 1973, which included an industrial zone coincident with a portion of the nuclear plant site and it was adopted in December 1973. However, prior to granting the permit, the county commissioners requested Puget Power to prepare and submit an Environmental Impact Statement (EIS). After discussions with county planners and the legal counsel to an environmental group,

Puget Power submitted an EIS and an application for a contract rezone on November 20, 1973. Puget Power requested that 260 acres of the 1500 acre site be classified industrial and the remainder stay in its original forestry/recreation classification. The zoning was granted with the execution of the contract rezone on March 26, 1974.

4.5.1.2 Payments to School Districts. Under the contract zoning agreement Puget Power will make payments to the Skagit County Treasurer who will, in turn, disburse the monies to the local school districts. Payments cover the additional costs associated with providing an education for "construction impact" students. These students are the children of "non-resident" construction workers. "Non-resident" construction workers are defined as any construction worker who (1) resides in the county, (2) is working directly on the project as an employee of a construction contractor or subcontractors, and (3) did not reside in the county for more than 30 days during the six months immediately preceding the month during which he first started work on the project. (Skagit County-Puget Sound Power and Light Contract Rezone Agreement. March 26, 1974, pp. 5-2.) Monthly payments are made for each "construction impact" student who is enrolled in a public school on the first school day of any regular school month during the construction period. The construction period is defined in the agreement to be the first month during which the number of construction workers

on the project exceeds 50 and every month thereafter during which the number of construction workers on the project exceeds 50.

These payments are intended to cover additional maintenance and operation costs of each school district. Puget Power agreed to pay the "reasonable" cost of using portable classrooms, if necessary, including the cost of leasing or purchasing the classrooms, transporting the classrooms to campuses, removing the classrooms from campuses, and restoring the campus sites to their original condition after the construction period. Puget Power will also pay the "reasonable" cost of constructing a portable school campus including portable school buildings, administration offices, physical education facilities, and all other buildings and facilities "usually" and "normally" associated with portable school campuses.

If transporting students from over-crowded schools to schools with space available is necessary, the costs associated with transporting the students, including leasing or purchasing buses, will be paid by Puget Power. In addition, Puget Power will pay the "reasonable" costs involved with reopening closed schools, such as necessary remodeling and/or construction to meet state and federal standards.

As mentioned earlier, Puget Power will make monthly payments, within 30 days after receiving itemized invoices from the school districts. The monthly payment for each student is equal to the school district's monthly rate for the fiscal year involved (July 1 - June 30) multiplied by a secondary impact

factor of 1.5. The secondary impact factor of 1.5 is an agreed adjustment to assist each district in meeting whatever additional maintenance and operation costs or other costs it may incur in accommodating additional students who may enroll during the construction period. Such students include, but are not limited to, children of persons who may move to the county as a result of the construction of the project but not be employed directly on such construction (Skagit County-Puget Sound Power and Light Contract Rezone Agreement. March 26, 1974, pp. 5-4). Provision for a cost escalation/de-escalation fraction is included. A school district may apply for advance payments, with documentation, up to six months in advance. Disputes lasting over 60 days are handled by a panel of three arbitrators. The arbitrators represent Puget Power, the Board of County Commissioners, and the respective school district.

Impact payments are considered to be prepayment of taxes and are credited against future special levies or other property taxes. However, the amount credited in one year is not to exceed 20% of the amount levied on the project in that same year. Credits in excess of 20% are carried forward for credit in subsequent years.

4.5.1.3 Payments for Law Enforcement. Puget Power agreed to provide financial assistance to the Skagit County Sheriff and all police departments within incorporated

municipalities of Skagit County during the construction period. Payments are made beginning the first month in which the number of construction workers exceeds 50 and continues until the number of such workers falls below 50.

Financial impact in this area is determined by a 3-member commission comprised of the Skagit County Sheriff, the Sedro Woolley Chief of Police, and the presiding judge of the Skagit County Superior Court.

Costs subject to impact payments include maintenance and operation, personnel, acquisition of equipment, and all other costs directly associated with adding staff members, such as employee benefits.

As in the case of impact payments to school districts, payments for law enforcement are considered prepayment of future taxes.

4.5.1.4 Conclusions. The Skagit County-Puget Sound Power and Light contract rezone agreement appears to be an innovative impact management tool. The ease with which the agreement will be implemented remains a question, since construction has not begun. A problem may arise with determining "reasonable" cost or what comprises a "usual" and "normal" portable school campus. These terms were not defined in the agreement. However, the arbitration mechanism incorporated in the rezone contract may prove an effective tool for settling disputes.

A final note of caution should be included here. Although

contract zoning is acceptable in the state of Washington, based on the precedent established in Myhre v. City of Spokane (70 Wash. 2d 207, 422 P.2d 790 (1967)), its legality is less clear in some other states. Other communities interested in the concept should carefully investigate the legal implications before proceeding. (See Scott, 1973.)

4.5.2 PGE Energy Projects Housing and Community Development Corporation*

Another unique impact management mechanism available to local communities has been developed by Portland General Electric Company (PGE) of Portland, Oregon. In 1976, PGE created an in-house subsidiary, the Energy Projects Housing and Community Development Corporation, with a $1.1 million budget to provide financial assistance to communities impacted by the construction and operation of its 2-unit nuclear power site (Pebble Springs) near Arlington, Oregon and its 522 MWe coal fired plant near Boardman, Oregon. The corporation funds housing and community facilities development, including water, sewer, fire and police protection, education and recreation facilities and services. In 1976, the corporation advanced $42,000 to Boardman, Oregon for sewer development and $120,000 for water facility development. In addition, the corporation bought land near Boardman which has been subdivided and is presently being developed into single family and multi-family dwelling units by the private

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* All information contained herein is from telephone interviews with Mr. Doug Heider, PGE; Mr. Monte Montgomery, PGE, consultant; and Electrical Weekly, February 1976.

sector. Most recently, it provided funds to the community of Irrigon, Oregon so that the Irrigon community could hire its first city manager/administrator for two years in order to develop plans to cope with future growth and its consequences.

A number of factors contributed to the development of the corporation. An impact study done for PGE by Skidmore, Owings and Merrill recommended the hiring of a development coordinator to attend to impact problems in the Boardman-Arlington area. Secondly, PGE learned that $50 million of a $100 million overrun at the Jim Bridger coal fired plant in Wyoming was in large part attributed to excessively high worker turnover. After surveying the Bridger project employees it was determined that the lack of adequate housing, schools and recreation facilities contributed to the high turnover. To prevent this problem at the Boardman and Arlington sites, PGE recognized the need for "pleasant" communities in which the construction workers would live. PGE also recognized that the host communities would need some aid in providing the needed services and facilities. Lastly, to expedite decision making and coordination, the creation of a subsidiary was concluded to be the best strategy. Hence, the corporation was created.

An outside consultant has been hired by PGE to coordinate the corporation's activities and the corporation is governed by three Board of Director members and several officers. The consultant submits the applications for funds to the Board of Directors who make the final decision on whether or not to

fund the request. Communities may solicit funds from the corporation, or as is often the case, PGE may recognize a problem area and contact the appropriate community official or agency to discuss solutions. The corporation then provides funds to implement a solution strategy, ranging from hiring personnel to a specific study of the problem. Any public or private group may submit funding requests to PGE; however, so far PGE has not favored requests from private citizen groups. One request from a private group, for example, was for funding to construct lights for a football field. PGE felt this was beyond the scope of the Energy Projects Housing and Community Development Corporation.

The scope of the Energy Projects Housing and Community Development Corporation is very inclusive in impact categories for which it will provide funds--water, sewer, police and fire protection, education and recreation services and facilities. All communities impacted by the influx of the construction and operation work force associated with the Pebble Springs nuclear project and Boardman coal fired project are eligible to apply for funds. A feature of the corporation is the short time required to process and decide upon an application.

Need is the major criterion in determining level of funding as well as what to fund. There are no pre-established priorities for what will be funded and what will not. In general, there is no obligation to pay back the corporation for funds received. In the case of the aforementioned monies given to Boardman for

water and sewer hook-ups, the funds are considered prepayments for the costs to PGE of hooking up the services in the future when the houses are built. In most instances, funding will come in the form of grants from the corporation. In applications to federal agencies for funds, the Energy Projects Housing and Community Facilities Corporation will provide the percent required as community matching funds.

Chapter V: Fiscal Issues

5.1 Overview

Scattered throughout this report have been discussions of fiscal issues--the financial needs of communities, and the revenues from nuclear power plants which may meet those needs. In order to clarify those issues, this chapter summarizes important fiscal aspects of social and economic impacts.

5.2 Who Pays Taxes?

5.2.1 Property Taxes. The most important source of new taxes is the power plant itself. In general, both the plant and the land on which it sits are real property. Any portion of real property privately owned is subject to the property tax. Private plants on private land pay tax on their entire holdings. Private plants on public land pay tax on the improvements to the property (the plant itself) and perhaps on the value of their leasehold (depending on the state.) Publicly owned plants are exempt from property taxation.

The sum of the property taxes paid by one nuclear unit will be substantial. One way of estimating this tax load is to take a typical real property effective tax rate of 1.6% (Musgrave and Musgrave, 1976, p.351) and apply it to an estimate of the cost of a 1000 megawatt nuclear reactor -- from $500 million to $1 billion, producing an annual tax yield of

$8 million to $16 million, or $16 to $32 million for the common two reactor nuclear plant. At tax rates of 1%, the yield would be $5 million to $20 million.

In contrast, the tax liability of a publicly owned plant is substantially less (and varies considerably by state). During operation of WPPSS-2 at Hanford, the Washington Public Power Supply System will pay no property taxes, but will pay a special privilege tax levied by the state of about $1.5 million per year (Revised Code of Washington 54.28). Ninety-six percent of the proceeds of this tax will be distributed to various local governments in the Tri-Cities area (RCW 54.28.050).

During construction, WPPSS pays sales and use taxes on materials, equipment, and contract labor. We do not know whether publicly owned utilities are subject to sales and use taxes in other states, but it is certainly the case that privately owned utilities would pay such taxes. In addition, construction workers will pay sales and use taxes, and will contribute to increased residential property tax collection. Most of the sales and use taxes go to the state, although many states now allow municipalities to levy an additional increment of sales tax.

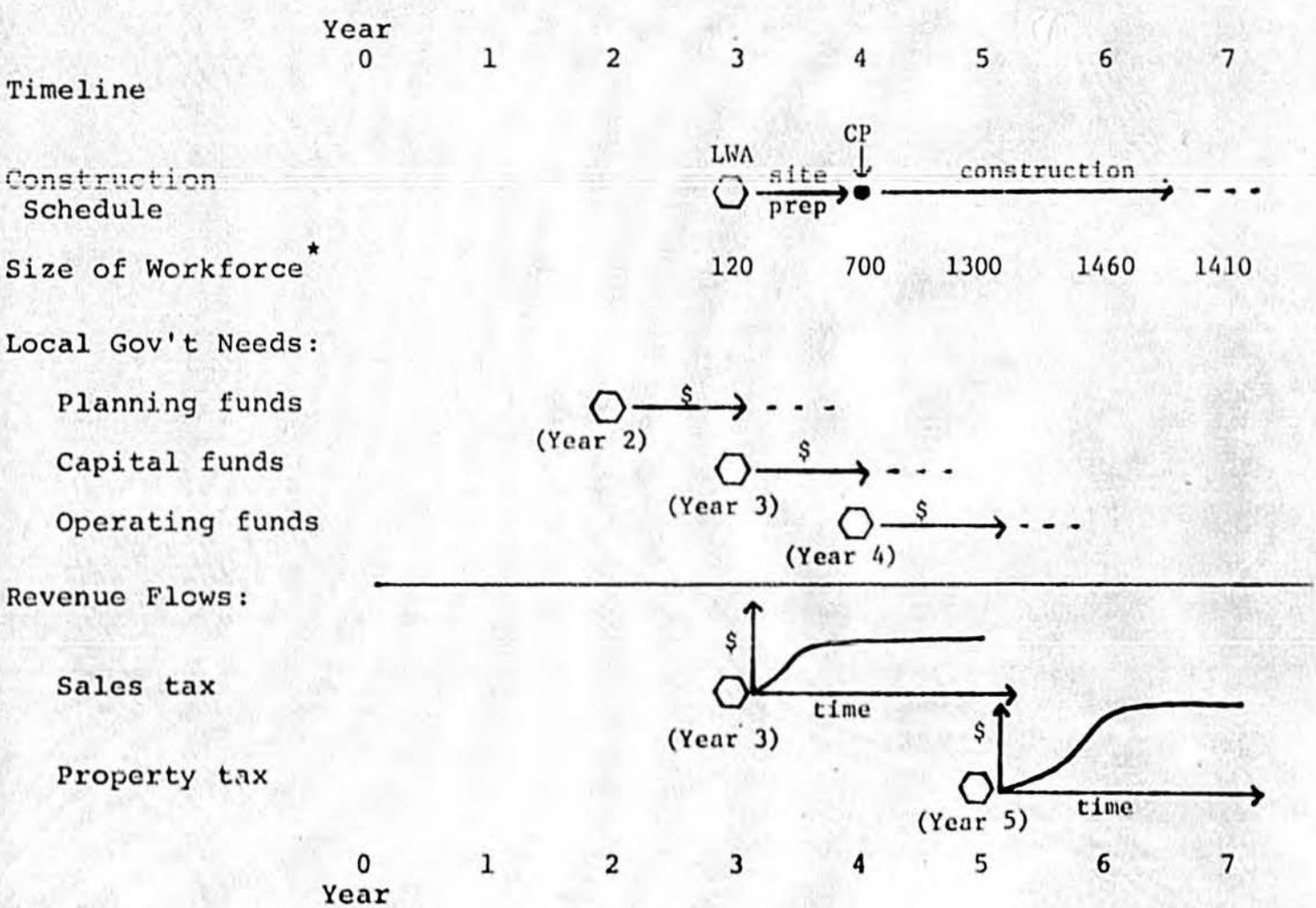
The importance to localities of the sales and use taxes lies not in the total amounts paid by utilities, but in the timing of the payments. Property taxes are payable annually in the year following the assessment of the property. It is possible that the taxing jurisdiction may not receive any tax benefits from an improvement to a piece of property for as much as two years after

the improvement is made. Sales and use taxes, in contrast, are paid periodically by merchants based on their most recent sales, and so new revenues are available to local governments much closer to the time that the existence of a construction workforce requires local government action.

5.3 Timing Problems

A rough explanation of the timing problems faced by a local jurisdiction can be seen in diagram 5.1.

DIAGRAM 5.1: TIMING PROBLEMS



*Based on Table 1 from Appendix D, this paper.

The timeline in this diagram allows approximately three years for the utility to do its internal planning, site acquisition, and receive a Limited Work Authorization from the NRC. The diagram shows that the workforce begins in year 3, has reached half its peak within a year, and has about 90% of the peak workforce on hand by year 5. The sales tax receipts track construction activity quite closely (since they are based on purchases of construction materials for the project and on spending by workers). The property tax receipts lag considerably--only growing after improvements to the property have been added to the tax rolls by the assessor. Yet the local governments need some funds for planning 2 to 3 years before the construction begins. If capital projects are needed, those funds will also be needed before either the workers or the plant itself will be generating revenue. Operating funds for increased local government services will track actual workforce growth more closely, but may still outrun available revenues for those services (e.g., school financed primarily by the property tax).

The bond market is the way local governments ordinarily finance capital projects. However most states limit the amount of debt a municipality can incur to some fraction of the taxable base. If a community is already near its debt limit, it may be prohibited from borrowing additional funds until the new plant is on the tax rolls. A community could then find itself caught--unable to prepare for the construction work force until well after their job is done.

Even if a community has room within its debt limit, it may still be reluctant to borrow. Since property taxes from the power plant will not flow for some time, existing taxpayers would have to shoulder the burden of debt service initially. The Rainer (Oregon) School District solved this problem by issuing bonds containing a special provision that allowed them to defer repayment for two years. At the beginning of the third year, increased property taxes from the Trojan plant were used to begin repayment of the debt. Other taxpayers in the district were unaffected. (For more detail, see page B-13.)

Planning funds could not ordinarily be borrowed by municipalities. As part of their operating budget, they would have to be paid for by current revenues. A small town would not ordinarily have money available to support a substantial planning effort.

The most likely source of planning funds is the utility. In California, utilities are required to provide funds to the Energy Commission, which then disburses them to localities to pay for their planning and review of utility plans. In Washington, state law permits (but does not require) public utilities to pay claims to taxing districts who claim construction impacts (Revised Code of Washington 54.36). In Skagit County, the Contract Rezone Agreement provides for financial assistance to schools and law enforcement agencies, as discussed in 4.5.1.

Assuming that the utility pays for planning costs, another issue arises. Should those costs become a part of the total

project cost, should they be deducted from current utility profits, or should they be credited against future taxes due? We did not investigate current practice of utility rate setters in our three states. However, it is worth noting that the case is strong that these advance payments should be credited against later taxes due. Then the community that will receive the stream of property tax revenue will also bear the cost of planning for the plant. Those communities that do not get any tax benefits will not have to subsidize the other communities by virtue of paying higher electric rates. Note that if the planning costs are included in total project costs, that may expand the capital base of the utility, which will increase its permissible profits. If that approach is taken, the utility's customers will both finance another community's planning and then pay the utility a return on that money.

5.4 Boundary Problems

The foregoing discussion of timing assumed that the affected community would eventually receive the property tax benefits of the plant. For almost any plant, only some affected communities are so lucky. The plant itself is ordinarily located in a rural area, well outside the boundaries of any town. It will fall within the boundaries of the county and of some school district, but those districts will not necessarily be the ones on whom construction workers will depend for services. (See the discussion of the Diablo Canyon school district problem on page C-17 for an example.)

Oregon has attempted to solve this problem (for education only) by the use of tax equalization districts, which distribute

some property tax receipts evenly throughout each county (Oregon Revised Statutes 334). The Oregon approach reduces severe education boundary problems to cases in which plants and nearby towns are located in separate counties. Moderate inequities among school districts within counties still persist, however, and other governmental services are unaffected by the law.

5.5 Summary

Communities that receive the principal social and economic impacts can have fiscal problems for a variety of reasons.

Some receive no property tax from the plant:

a) in states with no property tax equalization mechanisms, any community not encompassing the plant itself;

b) in states with equalization, any impacted community outside the equalization district containing the plant; and

c) communities near publicly owned plants.

Most communities near a plant will receive some increased revenues from sales and use taxes or from privilege taxes, although the amount of revenue from these sources is smaller than the potential property taxes paid by a plant. A community able to levy property taxes on the plant will surely find its increase in tax revenues more than adequate to cover all possible costs of coping with its social and economic impacts. Other communities may or may not find that their revenue growth meets plant induced needs.

Those communities that do look forward to adequate revenue may still have difficulty in getting funds early enough to permit them to mitigate construction workforce impacts as they arise.

Any of these circumstances will mean that either community needs go unmet as power plant construction proceeds, or that plant construction may be delayed until the community can cope with the workforce.

Chapter VI: Analysis of Interrelationships

6.1 Estimates of Lead Times

A major goal for this project was to determine the amount of time required to deal with different social and economic impacts. The six sites we studied provided single estimates of the amount of time provided for certain impacts, but our sample was not large enough to provide information on all impacts, nor to provide several estimates of the time needed to cope with any one type of impact. The most comprehensive set of estimates we have found are those shown in Table 6.1. Information gained from the six sites we studied is presented in the rightmost column of this table. Readers will note that all our cases fell at or above the highend estimates of the Colorado study cited in the table. We are in no position to judge the accuracy of either set of estimates. However, it is our judgment that these estimates can be only rough guides at best. State governments affect the minimum lead times considerably by the extent to which they require permits, environmental reviews, and technical reviews of plans for public projects. States also vary in the amount of time necessary and the ease of achieving long-term financing for public projects. Even within one state, different circumstances, such as the activity of intervenors, or the ease in acquiring property, will cause the time necessary to complete one project

TABLE 6.1: LEAD TIME REQUIREMENTS

URBAN SERVICES	LEAD TIME EXPANSION REQUIREMENTS	PRIORITIES FOR ACTION*	LEAD TIME ESTIMATES FROM BATTELLE INTERVIEWS
Schools	18 - 30 mo.	2	33 mo. (Lucia Mar District, CA)
Police	12 - 18 mo.	2	
Fire	12 - 24 mo.	2	28 mo. (Rainier, OR)
Hospitals	24 - 42 mo.	3	44 mo. (St. Helen's, OR)
Health Services	12 - 18 mo.	2	
Ambulance Service	9 mo.	3	
Transportation:			
County Roads	12 mo.	2	
City Streets:			
Local	9 mo.	2	
Major Thoroughfare	18 mo.	1	
Public Transit	12 mo.	2	
Airport	18 - 24 mo.	3	
Electricity	12 - 18 mo.	2	
Gas	12 - 18 mo.	2	
Telephone	12 - 18 mo.	2	
Water	18 - 24 mo.	1	
Sewer	18 - 24 mo.	1	48 mo. (Boardman, OR)
Flood Protection:			
Major Tributaries	24 mo.	2	
Local Drainage Systems	9 mo.	3	
Solid Waste:			
Collection	6 - 12 mo.	3	
Disposal	9 - 12 mo.	2	
Parks:			
Neighborhood	6 - 12 mo.	3	
Community	12 - 18 mo.	3	
Recreation	9 - 18 mo.	3	
Housing	24 - 30 mo.	1	
Welfare/Human Resources	3 - 6 mo.	3	
Library	12 - 27 mo.	3	
General Administrative Service	3 - 6 mo.	1	
Cultural Facilities	18 - 24 mo.	3	
Governmental Bldgs.	6 - 12 mo.	3	

*Priorities for Action: (1) Plan and design immediately--before new people arrive
(2) Plan but start when people arrive
(3) Plan in general--detail and development after people arrive

Information adapted from Briscoe, Maphis, Murray, and Lamont, Inc., Oil Shale Tax Lead Time Study: The Colorado Oil Shale Region. Prepared for Regional Development and Land Use Planning Subcommittee of the Governor's Committee on Oil Shale Environmental Problems, Denver, Colorado, 1974.

to differ substantially from the experiences of a similar project.*

Diagram 1: Detailed Process for Construction of a School

The process for constructing a school is shown as an example of the activities and time requirements which together add up to the lengthy lead times required for the construction of most capital facilities. The process shown and times given were based on the experience of the Lucia Mar School District near Diablo Canyon. The times shown are estimates only; the district was unable to follow through on the project when voters failed to approve the bonds.

6.2 The Relationship of Impacts to the Timing of Construction

6.2.1 When will impacts occur? There is no set date within the timetable for construction of a nuclear power plant when

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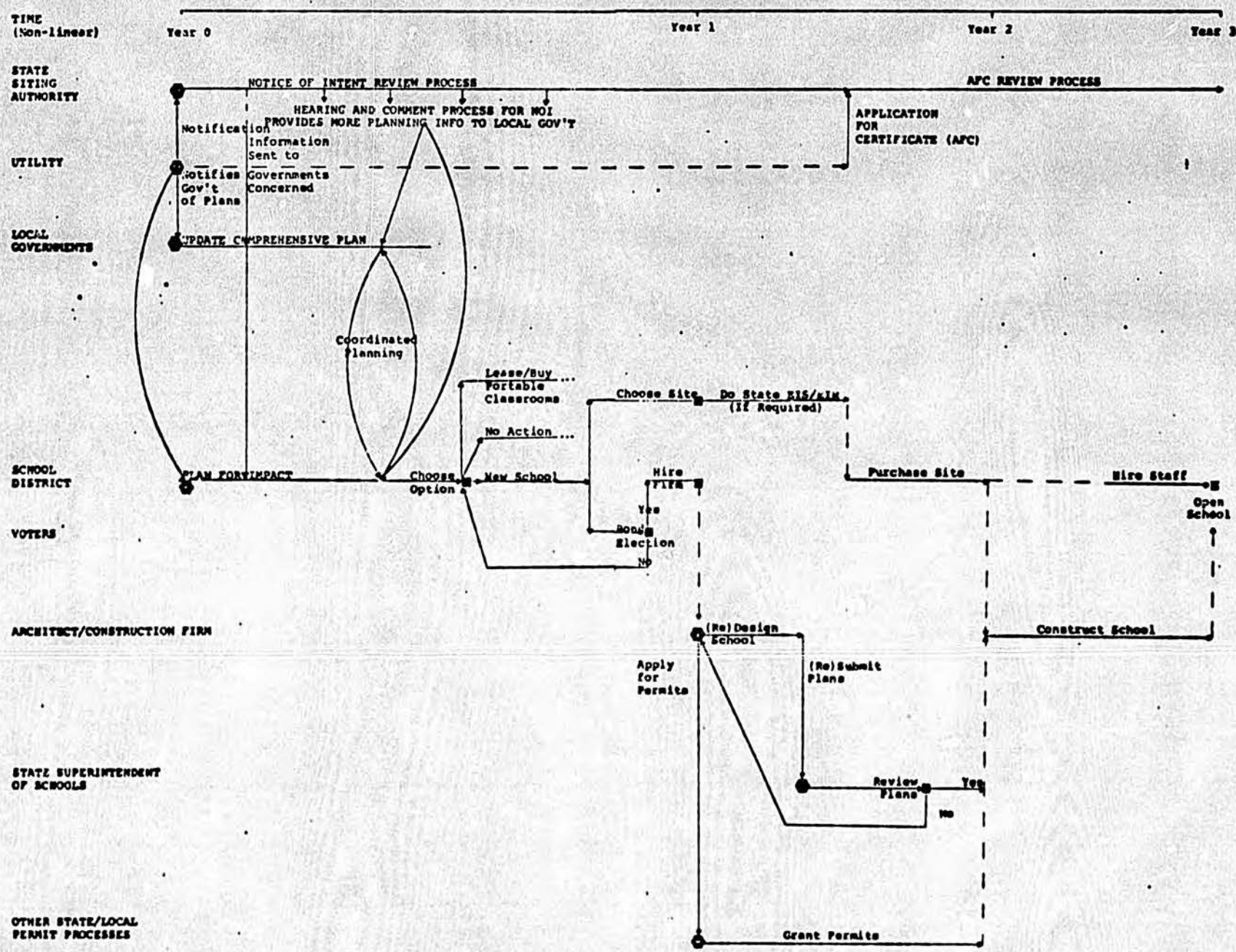
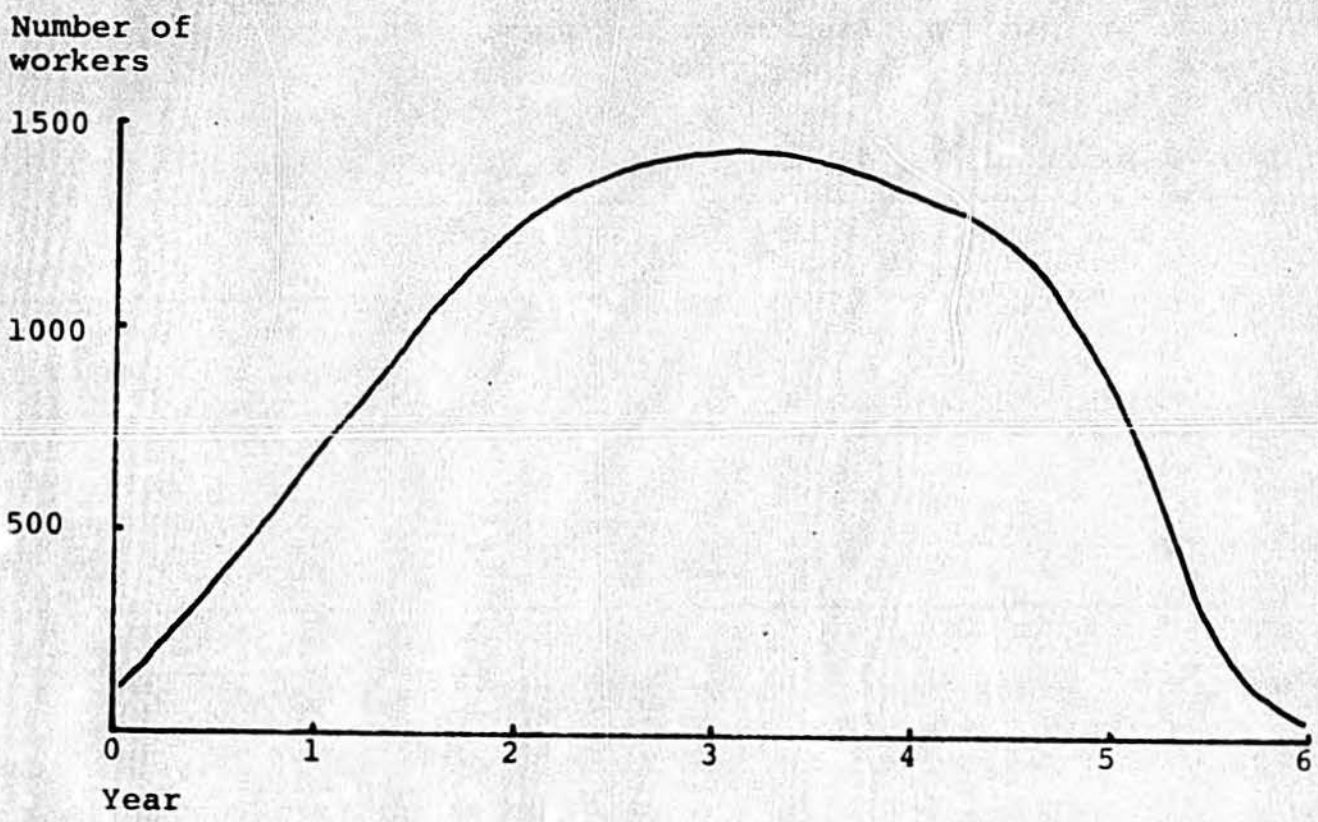
*Readers familiar with statistics might have recognized here an attempt to describe variability in layman's language. Our position is that the Colorado study's estimates may be good estimates of means; we have no way of knowing whether they are biased. However, we are confident that a measure of variability (such as the standard deviation of a sample of lead times) would be high relative to the mean. If the sample was national, part of the variability would be systematic by state, because of the differences among state laws which set the permit, environmental review, and bonding procedures mentioned above. We think that a sample of towns within one state would show less variability than the national sample, because state law sets the general framework for all municipalities. But there would remain substantial variability among projects--due to differences in activity levels of intervenors, competence of local officials, and so forth.

DIAGRAM 6.1: DETAILED PROCESS FOR CONSTRUCTION OF A SCHOOL (Based on California example)



the number of workers on site suddenly increases sharply. One estimate for the number of workers on site is that given in Appendix D, page D-6, shown here in graph form:

DIAGRAM 6.2 WORK FORCE FOR CONSTRUCTION OF ONE 1200 MWe UNIT



It is clear that the work force will be near its peak after two years of construction. The impacts to the community will roughly parallel the growth in the work force. (We are taking a shortcut by using work force growth as a proxy for population growth. For a detailed explanation of how population growth can be predicted, see Appendix D as well as Recht and Greene, 1977.)

For purposes of later discussion we chose the end of year one as a representative target date for the time when a community would have to increase the capacity of a number of its facilities and services. Note that strained capacity is more of a problem with some services than with others. The Colorado Tax Lead Time Study ranked governmental services by their priority, as shown in the excerpt in Table 6.1. They judged that sewers, water, housing, major city thoroughfares, and general administrative services all needed to be ready when people arrived. Other services could be added by doing planning ahead of time, but waiting for population growth before actually beginning the projects.

So the start date for a project to add capacity to a governmental service is actually a function of three factors: the time when capacity will be strained, the length of time it takes to add more capacity, and the importance of having the new capacity ready before any strain occurs.

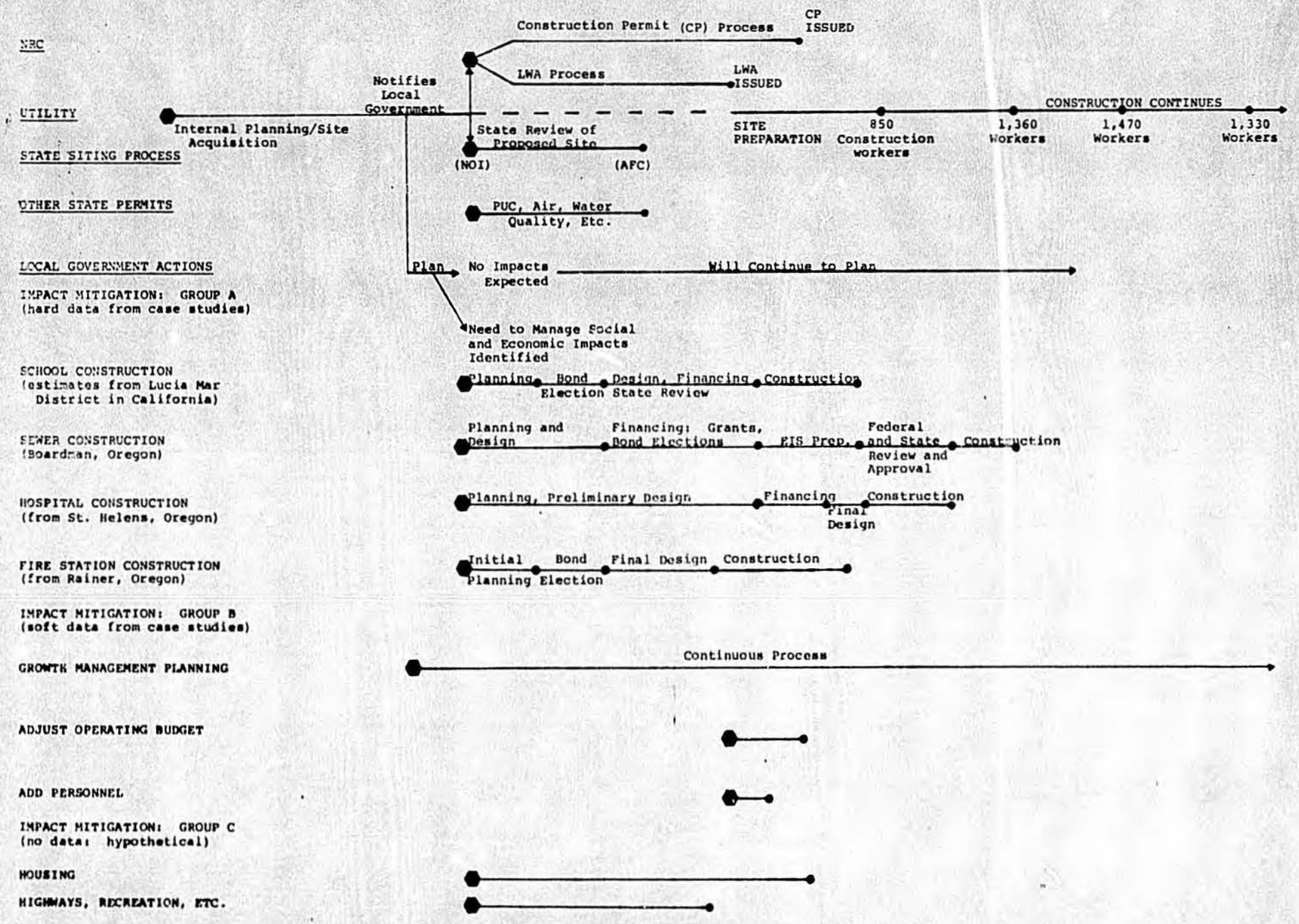
6.2.2 Network Diagrams. A further explanation of the way the timing of impact management actions is related to the schedule for plant construction can be seen in Diagram 6.3. Before examining this diagram and the one following, the reader should be clear as to their applicability. In all our interviews at the six sites studies, we found no instance in

which lack of time was the cause of local governments' difficulties in coping with construction work force impacts. We also found no instance in which plant construction was delayed solely because local governments could not cope with the incoming work force. But the evidence we found did make it clear to us that a combination of plausible circumstances--a short (less than 18 months) state licensing process, a Nuclear Regulatory Commission Construction Permit process of about the same length, and a plant site in a sparsely populated area with limited governmental services--could produce a situation in which the communities would not be ready for the work force when the utility was ready to begin construction. It is this hypothetical but plausible situation which is described in our diagrams.

Diagram 6.3 Impact Management and the Power Plant Construction Process

Diagram 6.3 shows a simplified version of the process for planning, siting, licensing, and constructing a commercial nuclear power reactor. This process is shown at the top of the diagram in the activities performed by NRC, the utility, the state siting process, and other permit granting agencies. We recognize that the amounts of time needed and the relation-

DIAGRAM 6.3: IMPACT MANAGEMENT AND THE POWER PLANT CONSTRUCTION PROCESS



ship of the state siting process to other activities vary from state to state and from time to time as the procedures of NRC and other agencies evolve. The time and relationships shown in Diagram 6.3 are our estimate of a process which includes a state siting procedure similar to that of the state of Washington (proceeding without unusual delays).*

The assumptions implicit in Diagram 6.3 are:

(1) Plant construction will begin when the NRC grants a construction permit, and will not be delayed if the communities are not prepared for the work force.

(2) Local governments will begin planning when notified by the utility of its plans.

(3) Local governments will commit funds for capital projects when their planning shows it necessary, and will not wait until the utility's plans are more certain (such as the date the CP is granted).

(4) Local governments will not suffer delays due to lack of funds.

Under these favorable assumptions, it is apparent that communities can have a substantial construction work force on hand for as much as sixteen months before facilities can handle the growth. But the last

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* The overall schedule generally conforms to that shown for a Two Unit Nuclear Plant, Tennessee Valley Authority, Division of Engineering Design, April 15, 1976. (Cited in Steven C. Schulte, "Overview of Population Requirements--Analysis of Factors Affecting Socioeconomic Impacts of Nuclear Power Plants" (Battelle Pacific Northwest Laboratories, October 1, 1976. This paper is included as Appendix D to this report.)

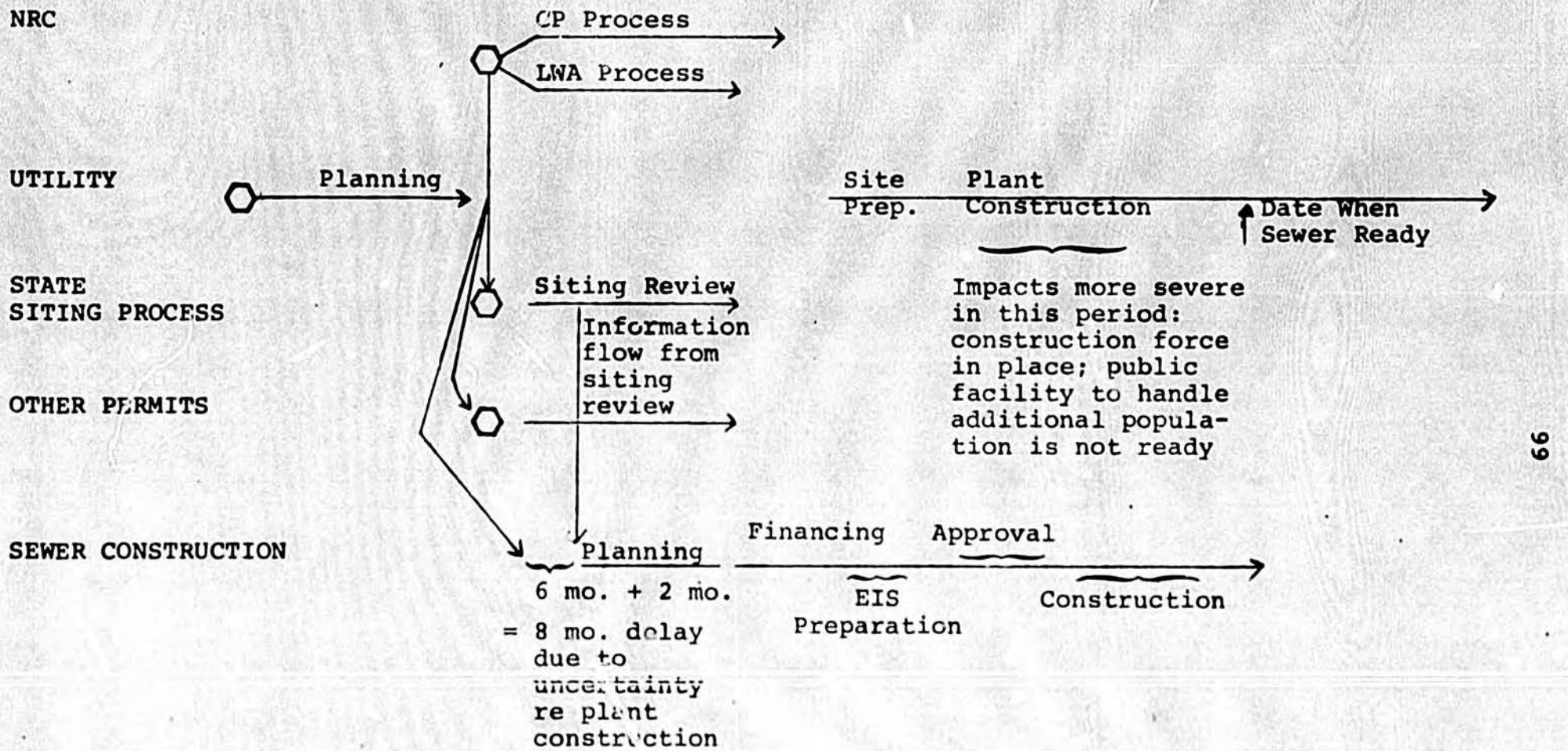
three assumptions are problematical. A local government is unlikely to begin to act when it first receives notice of the utility's intent to construct a plant. Since the utility still must receive a series of government approvals, it will not be clear to the local government that the plant is a certainty. They may naturally resist planning for an uncertain work force. It is likely they will refuse to commit local funds before the plant is certain. If they delay action, there will be additional delays in the overall schedule of the plant.

If the local government begins its planning only after it has received additional information from the state siting authority during the state siting review process, the overall schedule will require an additional six months (as well as the sixteen mentioned earlier).

If the local government refuses to take any steps beyond planning prior to the certain commitment of the utility to the site by state and NRC approval, the overall schedule will require about eight months more (as well as the sixteen months mentioned earlier). Diagram 6.4 illustrates this situation.

6.2.3 What Happens if Communities are not Ready for the Work Force? The judgment of the study team is that the most likely outcome is that the power plant construction will proceed on schedule, and the communities that must accommodate the workers will simply suffer the ill effects of strained facilities

DIAGRAM 6.4: ADDITIONAL IMPACTS DUE TO "UNCERTAINTY" LAG IN PUBLIC FACILITY BUILD-UP



until such time as their capacity can be expanded or throughout the life of the project for those services never expanded. This judgment is based in part on the lack of any examples where communities have been successful in delaying power plant construction because of their inability to cope with the work force. And in part it is based on a belief that the communities lack the leverage necessary to delay plant construction.

One exceptional circumstance may be the community with inadequate sewer or water capacity. The ability to block new construction for these reasons is perhaps the only legally powerful tool available to communities. Sewer inadequacies have been used as a basis for moratoria on housing starts in 226 jurisdictions across the United States, according to a 1973 HUD study (Rivkin, 1975). However such moratoria have several undesirable effects, including sharp rises in housing prices (and rents) within the community, resulting pressure on low income residents, and a transfer of growth pressure to nearby communities without a sewer moratorium or to unincorporated areas (if the county grants the necessary permits) (Hirst, 1975). Only the simultaneous application of a sewer moratoria by all jurisdictions within commuting distance of a plant site could

effectively keep a construction work force away; that prospect seems possible in theory, but unlikely in practice.

6.3 The Relationships of Governmental Processes and Social and Economic Impacts

A simple framework for discussing the role of governments in coping with social and economic impacts takes three steps.

First, the impacts must be predicted. Whoever predicts the impacts produces information.

Second, ways of mitigating the predicted impacts must be devised; the output of this step is a plan.

Third, government organizations must take the actions specified in the plan; this step is commonly called implementation.

The state and local government processes dealing with these impacts were described in chapters three and four. Some state and local processes cause the impacts to be predicted: California and Washirgton's environmental protection acts require sections on social and economic impacts; all three states' energy facility siting procedures require predictions of impacts to be made before a site is approved. There are no formal requirements in state law for plans for mitigating impacts prior to site approval in any of the three states. Skagit County used its zoning powers to require Puget Power to provide information on expected impacts and to agree to prepay taxes to the County so that the County could implement its actions. Washington's energy facility siting law provides a way for impacted communities to petition for payments from the utility to aid in their adjustment.

Federal government processes relate to power plant impacts in two ways. One way is that several federal agencies are potential sources of funds for communities, as was described in Chapter Five. The other major way is that the Nuclear Regulatory Commission requires utilities to prepare environmental reports, which then serve as the basis for NRC prepared Draft Environmental Statements and Final Environmental Statements. Social and economic impacts of the proposed plants form part of each of these documents.

We examined Final Environmental Statements for the three most recent plants in our sample--Pebble Springs, Skagit, and WPPSS-2 at Hanford. The treatment of social and economic impacts differed considerably from one statement to the next.

WPPSS-2. The FES quoted the applicant's estimate of the construction work force, accompanied by the statement that many of those to be employed were already living nearby. (WPPSS-2 FES, p. IV-4). The FES also estimated the number of permanent employees and their impact. (FES, p. V-5). Both the discussion of construction work force and permanent work force are brief assurances that the plant will present no problems for the surrounding communities.

Pebble Springs. The FES found that "the influx of construction workers into the community will place a stress on the housing and community services in the area." (Pebble Springs FES, p. i.) Section 4.4 of the FES presents estimates of social and economic impacts in considerable detail, including economic benefits, changes in population and housing demand,

and effects on capacity of schools, water supply, sewage treatment, hospitals, police, fire, and roads. Section 4.5, "Measures and Controls to Limit Adverse Effects During Construction," contains no detailed information on any actions to be taken to mitigate the impacts described in the previous section. In Section 4.5.2, "Staff Evaluation," a reference is made to plans presented by the applicant "to mitigate the potential impacts on the community arising from the influx of the large work force." (FES, p. 4-9.) The staff (NRC's) then suggests that "cooperative and comprehensive planning" among all concerned will minimize potential problems. The comment procedure on the draft ES resulted in some additional questions. HUD, for example, noted that the DES contained no information on how housing needs would be met. The response of the NRC in the Final ES was that this problem would be addressed by a special study of the applicant.

Skagit. This FES contains a detailed description of predicted social and economic impacts (similar to that in the Pebble Springs FES). The comment process provided a forum for a debate over the magnitude of some of those impacts. The FES does not itself contain a plan for mitigating the impacts, but it does describe briefly the features of the Rezoning Agreement between Puget Power and Skagit County.

Summary. Two of the three FES's estimated social and economic impacts and served as forums for discussing those problems. None of the FES's contained either plans for mitigating impacts, or methods for assuring that plans would be carried out. The only case in which an impact mitigation

strategy appears to be well worked out is the Skagit case in which the utility and the county planned and negotiated an agreement for nearly a year prior to the involvement of either the state or the NRC.

Conclusions on the basis of two or three examples are hazardous. But the evidence points to the idea that the NRC's role ought to be one of insuring that utility/community negotiation like that in Skagit has taken place prior to approval of Limited Work Authorizations or Construction Permits. If a utility can secure the agreement of all the affected communities and taxing districts, that agreement would be more assurance that problems will be taken care of than any existing procedure can give. If utilities know that obtaining this agreement is a precondition for starting construction, they will have to begin negotiating with communities sufficiently early that the communities will have the lead time needed to be ready for the work force. The utilities will also have to help solve the financial problems they create prior to securing agreement.

Chapter VII: Conclusions

7.1 Summary

The construction of a nuclear power plant is a complex process which involves all levels of government at various points. This report has focused on one important segment of the entire process. the role of the state and local governments in the siting process and in planning for and managing associated social and economic impacts.

The major conclusions of this study encompass two types of issues: substantive impacts such as schools, housing and public facilities, and process-oriented issues which affect the intensity and effect of the substantive impacts. The following is a summarized list of the conclusions and recommendations of this report:

1. We discovered that the following facilities and services were most commonly and most severely impacted by the influx of a construction force: schools; public services (sewer, water, police, fire, roads, hospitals); and housing. Overcrowding and overloading were the most common problems.

2. We identified several process issues which directly relate to the effective management of social and economic impacts resulting from power plant construction:

   Coordination is poor among most government agencies, resulting in a poor information flow, and duplication or lack of services.

Early notification of the proposed project to all affected local governments is necessary to plan for impacts and to request outside funding. Early notification can provide adequate lead time (estimated as up to three years for the construction of certain public facilities) to provide the needed additional facilities.

Planning capabilities are important to a local government's success in managing the identified social and economic impacts.

Additional funding is needed by most communities to expand their public facilities and services.

3. On the basis of the above conclusions, we make the following recommendations:

* The NRC should require, as part of the licensing process, that the utility demonstrate that it made efforts to provide the affected communities with early and complete information regarding anticipated social and economic impacts.
* The NRC should formally examine a community's ability to manage expected social and economic impacts as part of its impact assessment process.
* Dialogue should be initiated between state and NRC officials to assure that the NRC process does not hinder state and local efforts to obtain sufficient lead time and funding to cope with power plant impacts.
* The NRC should establish an information office to direct communities impacted by nuclear power plants to the right sources of assistance. The possibilities of establishing such an office at the regional level should be investigated.

7.2 Overview

The major objectives of a state siting process are to improve siting decisions by reducing delay and waste or duplication in the process, and to assure that all impacts are identified and mitigated with minimal disruption to local communities and to the developer's activities. Trying to balance local needs with developer needs and social and economic concerns with energy needs poses difficult and sometimes conflicting tasks. In our examination of state and local efforts to deal with the local effects of nuclear power plant siting, we identified the two types of major issues--substantive and process oriented--summarized above. In the following paragraphs, we present these issues in more detail. The final section consists of recommendations to the NRC.

7.3 Substantive Issues

From the analysis of the case studies, we found fewer dramatic substantive impacts than we anticipated. Although all of the communities experienced some impact related problems as a result of the development of nuclear power plants, none of them perceived their situation as one of unmanageable proportions. This is not to say that such situations are not possible, but that they do not seem likely in the kinds of circumstances experienced by the case studies.

We did identify recurring significant problems in three substantive areas: schools, public services, and housing.

7.3.1 Schools. Schools are impacted by the sudden rise in numbers of students (children of construction workers) during the construction phase of plant development. The temporary duration and suddenness of this impact complicates impact mitigation by local governments. Lack of planning lead time often is due to lack of communication among the developer, local government and school officials. This factor and limited sources of revenue (in the short run, at least) create the problems faced by the local schools. The consequences of this problem are inadequate staffing and facilities, curtailment of extracurricular and some more basic programs and sometimes staggered school hours. While this is usually a temporary problem, its existence can have detrimental effects on the quality of education and on relationships between existing residents and newcomers. This does not seem to be an issue that the NRC would deal with directly, except to require that the utility demonstrate that they have made arrangements to assist in managing this impact if necessary (e.g., through impact payments to school districts as in the Skagit case).

7.3.2 Public Services. The case-study communities experienced problems in managing the impacts on several public services, most notably sewers (Pebble Springs), hospitals and the fire department (Trojan), roads (Skagit and Diablo Canyon) and law enforcement (Skagit). The systems for delivering these services are likely to be overloaded by a sudden influx of population;

it requires time (one to three years) and substantial capital outlays to increase capacity. Particularly in small communities such services may be minimal and planning capabilities for them inadequate. In these cases additional time or technical assistance is needed to plan quickly for needs, before they become critical. In the cases cited above, most of the public service needs were met, but with lag time of six months to one year during which some people received substandard service (e.g., using a small, distant hospital; traveling on inadequate roads and having to cope with greatly increased traffic congestion). Local and state governments have the primary responsibility to assure that impacts on these public services are mitigated in communities affected by nuclear power plants. The NRC, within the context of its current licensing process, can only reinforce state requirements.

7.3.3 Housing. While housing is sometimes considered a public service, it is controlled largely by the private sector. Therefore, management of housing impacts is more difficult to achieve through government actions. In only one community, St. Helens (Trojan) was there a severe housing shortage during the plant construction. Eventually the county was able to obtain federal assistance for subsidized housing which helped to ease the pressure on the housing situation; also, zoning changes helped to allow higher densities in some areas. During the lag time, however, people had to commute long distances or accept substandard housing conditions (particularly

overcrowding). Again, housing is an issue where the utility and local government are the primary parties involved in impact mitigation.

The identification of these substantive areas as ones in which problems tend to occur is verified by experiences outside of these three states. One notable example is the Calvert Cliffs case where three major negative impacts occurred--labor force dislocation, housing and traffic. According to an analysis of this case, these impacts would have been less severe if the county had been better informed and prepared for the potential impacts. (See Howard Needles Tammen & Bergendoff, 1975)

7.4 Process-Related Issues

The problems that have occurred in the management of community impacts related to nuclear power plant development are caused by several common problems in the planning-impact management processes. We discuss these in the following paragraphs.

7.4.1 Coordination. One of the principal findings of this study is the fact that there is little coordination of planning cycles among and within the various levels of government involved in social and economic impacts. Several aspects of the coordination issue include:

1. In the three states examined, there are few formal channels for coordinating actions among various state agencies involved in the siting and impact management processes. Only Oregon is developing a comprehensive list of permits to aid

developers as well as agencies involved. In a more typical case in California our interviews revealed a situation in which two state agencies had recognized the same problem (jurisdictional disparity between the districts receiving revenues and those experiencing adverse impacts) and each was thinking independently about writing and introducing legislation to resolve the problem. This lack of formal channels to provide needed coordination exists between states as well as between agencies in a single state. Problems currently are arising regarding air rights along the Columbia River Basin as a result of power plant and industrial development along the river in Oregon and Washington. Only with the appearance of a problem are efforts being initiated to coordinate planning between the two states.

2. We found also that there is little coordination and communication among small town governments and among local, county and regional agencies even though each is providing services to the same area. This situation may seriously impede the development and implementation of some social impact management efforts. In addition, lack of communication means that not all local officials will have their interests adequately represented to the state and the utility. That is, if there is no communication among local officials, then county representation on the state siting body does <u>not</u> assure that the affected local governments or regional bodies are also represented. One possible

solution to this problem, as described earlier, is to have the state require that a coalition of interested parties be formed. This coalition would be composed of representatives of all local governments and all interested citizens groups. This coalition would then send a representative to the siting council to speak more broadly to local concerns.

3. A major problem in managing local impacts in several of the cases studies has been due, in part, to the timing and nature of coordination between the utility and local governments. In both the Trojan and Rancho Seco cases, the utility did not inform local governments until it was acquiring land and seeking necessary local permits. This failure to inform gave the local governments little opportunity to influence the siting decision or to plan effectively for community impacts. In more recent cases, developers have made earlier contact with the local governments, particularly county governments, as in Skagit and Pebble Springs. Thus the trend toward better public information and coordination between local governments and the utility may be improving. However, as stated in 2, above, there is still a need to identify local contacts more comprehensively to assure that <u>all</u> relevant governments are informed even if they do not communicate among themselves.

Clearly it is not within the purview of the NRC's responsibilities to affect directly state and local coordination issues.

It can, however, play an important supportive role in encouraging utilities and states to coordinate the particular planning cycles involved in the siting and social impact management processes.

7.4.2 Early Notification to Provide Adequate Lead Time. Communities need early notification to allow them sufficient lead time to develop capabilities needed for managing impacts and to plan for anticipated public service needs. The community needs to be informed at least two to three years before the construction force appears in order to plan and develop such facilities as sewer and water systems, roads and temporary housing and school facilities. (See Briscoe, et. al., 1974; Williams, 1976)

The state siting process now provides a vehicle for assuring early notification of local governments. Within the context of these state processes, localities have from twelve months to three years advance warning of an impending impact upon their community. However, the extent of information given to communities is less than sufficient in some cases or is not in a form easily understood and used (e.g., lengthy and technical EIS's). In some cases the developer has initiated contact with the community in its own early power plant planning, providing extensive information on anticipated labor force needs and impacts and plant impacts on physical requirements. However, this early notification still occurs all too infrequently

and most often at the request of the state siting council. More often the state provides this type of information to the communities in the notice of intent or application for certification document--after twelve to eighteen months or more into the developer's planning schedule.

There are some potential costs to early notification; it may cause erroneous expectations of impacts that fail to occur because the site is changed or the impacts are not of the magnitude originally projected. The uncertainty of the project during the siting and licensing processes may keep local governments from actually planning until they know the impacts will, in fact, occur. In this situation, much of the lead time needed to plan is thus foregone. Further work needs to be done to develop mechanisms which can assign the risk associated with early planning to the appropriate parties.

7.4.3 Impact Management. How successfully local impacts are managed in the nuclear power plant development process depends, to a large degree, upon the local government's capabilities for planning for needs related to rapid growth. Small communities, as we found in several case studies (Trojan, Skagit, Pebble Springs) often do not have such capabilities and thus have more difficulty with preparing for impacts even given several years advance notice. In fact, the total range of problems caused by social and economic impacts are influenced significantly not only by the lead time available for planning but also by a community's ability to manage the impacts.

The state siting processes examined generally do not formally recognize the local government's impact management capability as a formal criterion for plant approval. Only Oregon's site evaluation guidelines include this factor as a criterion in the siting decision-making process. The formalization of this factor as a criterion for certification would certainly help to assure that affected communities would receive the necessary assistance (particularly technical) for planning and meeting anticipated needs in such a way as to avoid unnecessary problems and costs to the local area.

7.4.4 Funding. Lack of adequate funding is one of the most serious impediments to the smooth incorporation of a power plant into a community; additional funding may be required for services provided directly to the plant and for any additional community services required by the influx of construction workers. Funding is also necessary for the expanded planning effort in impacted communities; local governments need funds to evaluate the technical information from the project, and to plan for anticipated impacts. All impacted communities share one problem: they will need funds for impact management earlier than those funds would be routinely available. The cause of their problems differ, however.

(1) Jurisdictions that will receive property tax from privately owned power plants face a temporary problem: they need to pay for impact management before taxes begin to flow to

them from the plant. Agreements between the utility and the affected community to prepay property taxes (like the Skagit agreement) seem the best way to solve this problem.

(2) Some jurisdictions do not have the power plant within their boundary. They need money to pay for impacts, but cannot negotiate with the utility for prepayment. There are two solutions. The state can attempt to equalize the distribution of property tax from industrial property--including power plants--as Oregon has done with its Tax Equalization Districts. Then jurisdictions that do not include the plant will still have a future tax claim against the plant, against which prepayments can be made. The other solution is for the utility to make impact payments to all affected communities where prepayment agreements are not possible. Either the states or the NRC might be able to require such payments as a condition of granting permits for construction.

(3) Publicly owned power plants pay substantially fewer taxes; jurisdictions near them receive reduced revenue flows. One solution is to require impact payments by the utility (as discussed above). Another solution is to require the publicly owned plant to make special payments--in lieu of property taxes. Washington uses both approaches: it requires a "privilege tax" to be payed the county and school districts by the Washington Public Power Supply System, and also permits impact payments to be made.

An additional important source of funds for communities is

the federal government. Many communities now rely on federal funds for aid in constructing sewer facilities, roads, and health facilities (to name a few examples). Obtaining federal funds takes time, however (often twelve to eighteen months), even if local government officials know how to identify and apply for such aid. In small communities, officials usually lack this expertise. Although guides to using federal funds are being published (See Williams, 1976), we think lack of information in the communities will continue to cause additional delays. The federal and state agencies concerned with the impact areas (e.g., HUD, possibly NRC, HEW, state planning agencies) should assure that their information is available in understandable and usable form to local governments.

7.5 Recommendations

1. As part of its own licensing process the NRC should require the utility to demonstrate that it has made efforts to provide each of the affected communities and districts with early and complete information regarding anticipated social and economic impacts. Additionally, the NRC should open its own process to the extent practicable in order to provide local governments and the public in general with access to information used in the federal licensing process. Efforts should be made to provide lay interpretations of technical information, so that at least the public gets a general understanding of the nature of the complexities in nuclear power plant development.

2. In its assessment of the environmental, social and economic impacts of a proposed facility, the NRC should formally examine a community's ability to manage the identified social and economic impacts.

3. The NRC should work with the states to determine and implement a consistent timing relationship between the state siting and federal licensing process. While the most recent case studies reveal that state certification is occurring before NRC approval, this has not always been the case. It is not clear if this sequence is established formally. If not, the recommended dialogue should be initiated in order to assure that the NRC process is not hindering state and local efforts to obtain sufficient lead time to cope with power plant impacts.

4. The NRC should establish a local and state government information office which can dispense information to affected governments on impact management strategies, sources of additional funding for communities faced with the need to provide additional facilities to the work force, and other communities' experiences with power plant development. The NRC should also investigate the possibility of establishing such an office at the regional level. NRC representatives at the regional level could facilitate better communication among NRC, the states and impacted communities.

Communities need information, time and resources if they are to be able to cope with social and economic impacts associated with nuclear power plant development. Although the

problem of providing additional resources will ultimately be solved by others, we hope the NRC, through the above recommendations, can work with communities and states to provide the needed information and time. Such cooperation can help insure that construction of a nuclear power plant proceeds in a timely and safe fashion.

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INTRODUCTION TO APPENDICES A, B, AND C

The following three appendices (A, B, and C) contain detailed discussions of the state siting processes in Washington, Oregon and California, and also include detailed descriptions of the six sites we investigated for this study. These appendices have been standardized in terms of format and information to the extent possible; however, extensive differences in some of the sites precluded complete standardization. For example, the Tri-Cities area, near the WPPSS-2 site, is experiencing rapid growth from several large projects. This growth made it impossible to isolate impacts from the WPPSS-2 plant; rather, the Tri-Cities officials presented a more general discussion of how they cope with growth. At the other end of the spectrum, the Rancho Seco site in California (near Sacramento) caused minimal social and economic impacts.

APPENDIX A: THE STATE OF WASHINGTON

Part I: The State of Washington

Part II: The Two Case Studies

Part I: The State of Washington

To determine the state's role in the siting process and in the identification and management of social and economic impacts associated with nuclear power plant construction the following people were interviewed:

Mr. Keith Sherman, Director, Siting Energy Office

Mr. Roger Polzin, Executive Secretary of the Washington Energy Facility Site Evaluation Council (EFSEC)

Mr. Fred Clagett, Senior Policy Advisor, Office of Community Development

Mr. Fred Adair, Director, Office of Nuclear Development, Washington Department of Commerce and Economic Development

A. Siting

The major role of the State Energy Office is to plan for and coordinate energy needs in the state, with primary emphasis on centralizing information necessary for the state to develop and implement energy policies and energy conservation. The state does not get into the business of energy demand forecasting, as do Oregon and California. Rather, Washington's State Energy Office collects available information (from utilities, etc.) and critiques these attempts to forecast demand for the state. The state also does not get into advance site selection for nuclear power plants. The Energy Facility Site Evaluation Council (EFSEC), the designated state body which makes siting decisions, is a recent (1976) outgrowth of the original Thermal Power Plant Site Evaluation Council which was established in 1970. The EFSEC is basically a reactive body in that its

purpose is to react to specific proposals for siting energy facilities in the state. Its scope was broadened to include all new energy facility siting and major modifications of existing facilities at the same time that the State Energy Office was formed in 1976.

Normal functional laws are superseded by RCW80.50, including local laws. While the status of local zoning ordinances is yet to be determined, at present zoning must be appropriate in a proposed site before an applicant may proceed with development plans.

EFSEC is composed of members from 15 state agencies, but there is no formal interaction with these agencies outside of their participation on the council. Likewise the EFSEC's relationship with local government is limited to the local county commission's participation on EFSEC.

The applicant is required to submit an application for site certification which includes social and economic concerns. The EFSEC, upon receiving the application, may contract for independent studies to be conducted when necessary (using the $25,000 permit fee). The Council conducts hearings on the proposed location of the plant; then prepares a written report to the governor stating the application's compliance, criteria specific to the site and transmission line routing (conditions) and recommendation as to disposition. Nuclear power plant site applications must comply with SEPA (State Environmental Policy Act), and thus must discuss the need for power and must present and consider alternatives within their proposal. EFSEC considers need and the alternatives in its evaluation and these

constraints also are considered in the Governors' final approval or disapproval of the site certification. In addition, according to law, the Council must prescribe the means for monitoring effects arising from construction and operation of facilities to assure compliance with the terms of certification. This mandate potentially is a useful tool in spelling out the specifics of impact management. However, the Council will soon have its first opportunity to deal with a specific impact mitigation case regarding a fish-kill incident on the Coumbia River. In this case the utility (WPPSS) was testing the lowering of a dam level and caused the death of thousands of fish accidentally. EFSEC must determine responsibility and reparation for the damages.

Washington law requires that the Council must complete the site certification process within 12 months of receipt of an application, or later as agreed upon between the Council and the applicant. Then the Governor has sixty (60) days to approve, modify or veto the Council's recommendation. The Washington siting process replaces the Notice of Intent process with an initial certification application step, which consolidates and thus shortens the process.

The Council has just set up specific guidelines or criteria for evaluating applications for certification. (WAC Order No. 112, to be published January, 1977.) The Council members give their own individual judgment as to the sufficiency of the application, based on these guidelines, presumably looking most critically at areas with which their agency is most concerned. EFSEC acts as a hearing body, but state agencies

do not contribute to the identification of impacts. (However state agencies could participate as interested parties in the decision.) The EFSEC staff provides the Council with any additional information that is needed, although their initial source of information is data collected by the applicant. The final certification report, when approved, is to be used by state and local agencies as a basis for dealing with impacts and with the local area affected. This points to the importance of the certification; it guides actions to mitigate social, economic, and other impacts and thus must be comprehensive to assure that all impacts are dealt with adequately. This assurance depends on the evaluation by the Council and by intervenors in the hearing process.

The 12-month state siting certification process can begin simultaneously with the NRC licensing process. (Or in some cases the utility may choose to start the NRC process first, or to wait until the state process is well under way.) The NRC relies upon data collected by the utility, independent consultants, communities and counties and the state in its certification process. The EFSEC may interact with NRC in that it is accepted as a party to the NRC licensing proceedings. To date, EFSEC has not actually entered NRC proceedings. Both agencies keep each other informed of their respective hearings. Essentially the state has jurisdiction over land use and public acceptance of the plant; the NRC has jurisdiction over plant design and radiation standards. Local government has jurisdiction only over zoning and this is a questionable power right now.

B. Planning

The state agency which would be primarily concerned with social and economic impacts is the Office of Community Development (OCD). The overall purpose of this agency (located within the Office of the Governor) is to work with state and local governments "to meet both state and local community needs in cooperative planning and development efforts." The OCD works specifically in the areas of (1) community planning; (2) human resources, and (3) management services. However, there are few legal mechanisms for effectuating state and local relationships and coordination. The 1935 local enabling legislation encourages local planning but does not make it obligatory. The state requirement for planning is drawn upon functional lines by agency. While the Office of Program Planning and Fiscal Management (OPPFM) has fiscal planning and coordinating responsibilities for state line agencies, there is no agency which coordinates actual program planning. There is no overall plan (e.g., land-use or development plan) at the state level although work is currently underway to develop a statewide land-use plan. There is no state money for comprehensive planning at local levels; but OCD does administer and monitor HUD 701 planning grants to local governments. This source of money, however, is increasingly limited to land-use and housing elements.

The Office of Community Development (OCD) has field representatives for different programs (e.g., 701 planning, Washington Partnership Forum, transportation planning) who work

with specific communities in the state which ask for assistance or must be monitored for federal funding purposes. Therefore, assistance to local communities tends to be fragmented; field representatives must divide their time among many communities and are concerned with only one area of planning or problem solving. OCD has gotten involved in assisting a few communities that have been impacted by federal projects--most recently in connection with the relocation of North Bonneville and in the Trident-impacted area (currently there is a Trident coordinator in OCD). However, this is the exception rather than the rule.

Because there is no coordinating function at the program level, such coordination seems to happen only when communities are so severely impacted they obviously require substantial state involvement. Where and when OCD assists communities is largely affected by the political process; priorities for this and other agencies are set through the political process (executive and legislative priorities) and are not necessarily coordinated.

OCD's involvement in the energy facility siting process is through its membership (one representative) on the Energy Facility Site Evaluation Council. This person acts as an independent individual bringing the agency's general perspective into the process but not formally representing an agency viewpoint. The OCD representative reviews site applications from social and economic impacts and community development perspectives, determining whether there are deficiencies regarding these issues in the application. Since there have been no guidelines for judging the adequacy of the application in the

past, requirements in the site certification for identifying, monitoring and mitigating social and economic impacts have been dealt with on a site-specific basis, resulting in some inconsistencies. The OCD staff pointed out several needs for local government--a better understanding of land-use planning as a process not a blueprint and the availability of legal assistance to help in dealing with large scale developments and their impacts.

In summary, OCD does provide assistance to impacted local communities, but only as need arises or upon request. This assistance does not include financial aid from the state since no state appropriations have been made for this purpose. (OCD has requested local assistance funds from the legislature but without success.) Lacking a coordinating role, OCD is limited to providing assistance for specific problems which creates a fragmented approach to impact management.

An additional state agency with some involvement in the coordination among the federal, state and local roles in the siting process is the Office of Nuclear Energy Development in the Department of Commerce and Economic Development. This office was formed in the late 1960s (1965 legislation) in order to provide state assistance in the Hanford area's transition from a totally federal to a federal/civil economic base. While the office does not actively promote nuclear energy development, it does represent this state's nuclear development interests. It is a one person office and currently the Director does three things: (1) problem solving particularly focusing upon improving coordination in federal and state siting processes; (2) information

generation from the state on nuclear development and (3) participation on EFSEC as the Department of Commerce and Economic Development's representative.

In the first role, the Director is a member of the Western Interstate Nuclear Board, a group of Western states, under a statutory compact, that work to cooperate with each other in providing state input and influence to the federal nuclear development process. Their primary task is to promote state concerns to the NRC. Currently, they are negotiating with the NRC regarding joint federal-state hearings for site certification and agreement on the division of responsibilities for discharges into the water and air caused by nuclear power plants. Also, the Board lobbies the federal government to accelerate and improve the management of the waste management program.

The Office of Nuclear Energy Development is not involved in the siting process except through its participation on the Energy Facility Site Evaluation Council. This office, however, does get involved with problem solving in the nuclear power area and can bring this expertise to the EFSEC.

Basically the state has three mechanisms through which social and economic impacts are addressed. The first is the county zoning process which determines the suitability of the plant in the specific location (with regard to land use criteria). The second is the Energy Facility Site Evaluation Council which requires in the site certification application that social and economic impacts be identified and techniques to handle them spelled out. In the two most recently approved certifications, the Council has included in the conditions

that any impact cost attributed to the construction and operation of the nuclear power plant must be borne by the utility. The utility may either pay such costs when they are presented to them by the local community (with proper proof) or may take the issue to EFSEC which will decide if the utility is responsible for paying for the management of that particular impact. The site certification document is more than a permit; rather it is a license signed by both the utility and the state, in which both parties have specific responsibilities. The state attorneys make an issue over the fact that the certification is a license rather than a contract. This identification has arisen particularly with argument over the Columbia River fish kill.

The third mechanism is the action(s) of the Office of Community Development which has the responsibility to work with communities in planning and coping with growth and related problems. While this agency is more directly concerned with community development related problems, neither it nor the energy siting council have tried to plan proactively for the social and economic impacts associated with nuclear or other types of energy development. The Council and OCD have both--because of lack of funds and staff--had to take the position of attempting to require the utility to perform long range impact planning.

Part II: The Two Case Studies

Information presented in the following descriptions of the two case studies was gathered from interviews with the following people:

Skagit County:

Mr. Nat Moore, Superintendent, Burlington School District

Mr. Thomas J. Pollino, Superintendent, Mt. Vernon School District

Mr. Robert Schofield, Director, Skagit County Planning Department

Mr. Robert Warnecke, Superintendent, Sedro Woolley School District

WPPSS-2:

Mr. Donald Anderson, Superintendent, Kennewick School District

Mr. Larry Coons, City Manager, City of Richland

Ms. Mary Davis, Community Services Director, Benton-Franklin Governmental Conference

Mr. Robert Eiler, Superintendent, Richland School District

Mr. Bill Gilbert, Physical Development, City of Richland

Mr. Bill Kennedy, Director, Planning Department, City of Kennewick

Mr. George Kloeppel, Executive Director, Benton-Franklin Governmental Conference

Mr. Bob Leedy, Director, Planning Department, City of Richland

Mr. Don Morton, Community Development Director, Benton-Franklin Governmental Conference

Mr. Dan Smolen, Community Services, City of Richland

Mr. J. B. Vetrano, Supervisor, Technical Studies, Washington Public Power Supply System written comments

The Skagit Nuclear Power Plant

A. Background

Puget Sound Power and Light Company currently is planning a nuclear power plant at a site in Skagit County. The first word of the proposed plant came to people in Skagit County in the newspapers in 1973. Puget Power did not notify the County prior to announcing the plant, thus causing relations between Puget Power and Skagit County to get off to a poor start. Relations were at their worst after Puget Power applied for its first permit and was rejected by the Skagit County Commissioners. Puget Power wanted an "unclassified use" permit which was not specifically authorized in local ordinances, but which is often used in King County. The Skagit County Planning Commission approved the "Special Use" permit, but the county commissioners then rejected it. This rejection caused a large negative response from the utility. However, relations improved when Puget Power and the Skagit County Planning Department, under the auspices of the planning director, Mr. Robert Schofield, started negotiating the contract rezone agreement. Since that effort, there has been a great deal of cooperation between the two entities.

Skagit County implemented the rezone agreement with Puget Power which requires impact payments by the utility for education and law enforcement. In addition, it places a number of constraints on Puget Power. For example, no fuel reprocessing plants will be allowed on the site nor will permanent radioactive waste storage be allowed. The impact payments are

actually prepayments on property taxes to be assessed after the plant becomes operational. Once operational, Puget Power will be paying Skagit County $12 million a year in property taxes.

B. Planning and Impact Management Processes

Skagit County has a comprehensive plan and the small cities within the county are all updating their plans now with help from the Skagit County planners. The Planning Department along with the Skagit Regional Council (a one-county council of government) are responsible for the planning and projections made for the county. Skagit County is also a member of the ten county Puget Sound Health System Agency which does health planning.

The Skagit County Planning Department has taken some preliminary steps in the identification of social and economic impacts associated with the plant. Besides updating all of the local small towns' comprehensive plans, the Department is collecting baseline social data to document changes that are presently occurring in the county. The Planning Department is also submitting a number of grant applications to the Economic Development Administration (EDA) for funding to study potential impacts on the water and sewer systems in the area. The county has also just finished an economic feasibility study and a housing assistance plan for Skagit County, which take into account the expected social and economic impacts of the plant.

All the work that is presently being done has required extra resources, and the Department has added two planners and an intern. So far the state has played a minimal role in identifying and managing the projected social and economic

impacts. In fact, the local planner feels he has had difficulty in getting the state agencies to inform him regarding their role in the management of impacts. His difficulty with the state highway department is a case in point. It is anticipated that roads are going to be heavily impacted, with up to 20,000 daily trips on a two-lane state route. Mr. Schofield, as planning director, has been trying to receive some assistance from the state highway department to cope with this impact; however the state did not include such large projections of need for Skagit County in their six-year capital improvement plan, and aid does not appear to be forthcoming.

Puget Power needs two permits from Skagit County. It has already obtained its zoning permit; the other permit which it must obtain is a building permit. There is some dispute over the issuance of this building permit. Puget Power maintains that once it receives the site certification from the EFSEC, it needs no permit arguing that the building permit is part of the site certification. However, according to the Uniform Building Code, Skagit County must require a building permit. This permit will cost Puget Power $3/4 million, a substantial contribution to impact management in the county. The zoning permit has been approved through the contract rezone agreement.

A third type of permit, a "public use" permit, is required by Skagit County for all capital projects such as the type that might be built to accommodate additional population associated with the power plant. This permit takes 30 days to obtain, in addition to the time necessary to prepare any required EIS. An EIS is necessary for all major developments (revised Code of

Washington, 43.21C.030). A shoreline permit requires an additional 30 days for review by the Department of Ecology (revised Code of Washington 90.58).

The process for issuing the public use permit is as follows: (1) an application is made with the Planning Department, (2) a public hearing is scheduled at the time of the next Planning Commission meeting, (3) upon approval by the Planning Commission the request is sent to the County Commissioners who either accept or reject the request. A public hearing is required of the county commissioners if they want to alter the request.

The county budget operates on a calendar year. A preliminary budget is required by July of the previous year.

Three types of bonds can be used in Skagit County: (1) General obligation, (2) Revenue (not used for the last 30 years) and (3) Commissioner's Bonds (bonds that can be floated by the County Commissioner). The county presently is not in debt, but uses money from two sources--Current Expense Funds and General Revenue Sharing.

C. Local Service Impacts

Housing presently is in short supply in the county. Puget Power offered to build houses, but the local developers reacted negatively to this. There is an agreement, however, that Puget Power will provide land if needed for future development. There are places for mobile home parks in the county and in fact the county would prefer to have temporary as opposed to permanent housing because this would prevent excess vacancies when the construction force leaves. The existing mobile home ordinance has been revised and standards tightened. Mobile

home parks are now treated like planned unit developments and require plan approval by the County Planning Department. There is a five to six home/acre density limit and storage facilities must be provided. A new 50-unit motel also has been approved in Sedro Woolley.

Transportation impacts are limited to increased traffic congestion on local roads. There will be a sizable impact on SR 20 which is presently the only road servicing the site. Plans are being made currently to improve the capacity of this road, which is already congested almost to capacity.

There will be no significant impact on outdoor recreational facilities, because of an abundance of local and state parks and the existence of a national forest in or near Skagit County.

County planners do not expect appreciable impacts on health care services. The county presently has three accredited hospitals and a number of physicians and is close to Seattle's more specialized services.

A small impact is anticipated on sewers and water. There are three city sewer districts, and the Skagit County Public Utilities District provides water. All will be running at capacity but Skagit County planners say they do not anticipate the need for and have no plans for new facilities. The present systems can readily serve the 100-150 new residents who will operate the plants.

One control Skagit County has placed on growth is that new construction must first occur within the cities' limits where water and sewer hookups are already present. After the cities are full, construction will be allowed in the outlying areas.

The main force sewer line for the plant will hook up with the Sedro Woolley system, which will bring the system up to capacity. Puget Power already has a limited work authorization for this.

The demand for county services has already been felt in the processing of development related applications. As a result some personnel have been added in planning and related departments of government administration.

There will be an impact on public safety in terms of an increased demand for police and fire services. The provision of additional services are covered by impact payments in the rezone contract.

There is some speculation that the plant may attract unskilled workers who may remain in the county and unable to find work, an event which could increase the number of people seeking welfare assistance. However, welfare is a state function, and the county would not be financially impacted by such a situation.

There are already impacts on land use with increasing demand for housing and shopping developments. The farmers have a strong voice in the county because of the large agricultural economic base in the Skagit Valley. Thus many want the present agriculture-based land use plan to remain as it is. Conflicts could arise between farmers and others if there are substantial pressures to take agricultural lands out of production for housing and other urban development.

The three school districts that are expected to share in the Skagit-related impacts from the construction force buildup

are the Sedro Woolley (3,000 student enrollment), Burlington (2,700), and Mt. Vernon (3,200) School Districts. Because Sedro Woolley are closest to the Skagit plant site, they are anticipating slightly more than one-third of the new student enrollment to come into their district. A range between 300 and 500 students, divided among 12 grades, is the base planning figure for which the district is preparing. This projection is derived from both the utility's impact study and the independent county planning department's analysis of the expected number of new families with school-age children that would locate in the Sedro Woolley area.

A long-range school forecast was made for the district in 1972, but with the advent of the Skagit development, this is now an obsolete document. The district is hoping that Puget Power will update the study when it receives its limited work authorization from the NRC, because of the importance for planning purposes of knowing details such as the age groups of incoming students that can be expected. The Puget Power community representative, in the meantime, is located in Sedro Woolley and is keeping the school district as well as other interested government agencies well informed of utility plans. It is anticipated that as construction begins this ongoing contact with an update of construction force figures will be continued for the benefit of district and other local planners.

The influx of new students upon the Sedro Woolley School District is expected to require minimal new construction. The district at present has excess capacity at the secondary level, and temporary buildings will be used to accommodate the overflow.

Classrooms may need to be expanded at the elementary level, in addition to the use of temporary facilities. Because the Skagit County rezone agreement has provided for utility provision of temporary structures and of operating expenses related to children of the utility's construction force, the Sedro Woolley administrators feel fairly comfortable about their financial ability to manage the increasing enrollment that will arrive with the construction force. What does concern them somewhat, however, is the possibility that the projections may be wrong and that new construction may in fact be required as many more families settle into the district nearest the plant site.

The Burlington School District administration is far less confident of the projections given in the impact studies to date. They are taking a wait-and-see approach to impacts for which they are not willing to make projections. Their response to new students will be to request temporary structures and operating funds from Puget Power when needed, as per the rezone agreement. The district is nearly full to capacity at present but not knowing what to expect for the coming school year, they are making no special preparations for increased enrollment at this time.

The Mt. Vernon administration is concerned that recent speculative housing developments in their area may shift a portion of the family housing demand away from the expected growth in the Sedro Woolley and Burlington areas. In the past few months, for example, over 64 homes have been completed and are awaiting sale, 95 more have been recently sold, and 117 housing starts have been made, all in the three- and four-bedroom

housing market. One major factor in such concentrated new developments is the expanding retail facilities in Mt. Vernon (three shopping malls are presently in operation, with two more under construction). If the Skagit construction does bring families looking for homes into the area, it is likely that they will live in whichever community has housing most readily available, rather than wait for openings in that community which is closest to the site.

Such burgeoning growth will create definite overcrowding conditions in Mt. Vernon's elementary classrooms. At present there is excess capacity at the secondary level, so they feel that an increase at that level will be manageable. But in the elementary grades there are only a few excess classrooms; the use of these would require their withdrawal from uses for other student services. Unlike the Sedro Woolley experience, which has had school levies consistently turned down over the past years, the Mt. Vernon voters have expressed strong approval of the education system in the annual levies which have passed with a 90 percent and 84 percent vote in the last two years. The district is presently planning for new elementary classrooms and a high school gymnasium construction bond, but the issue has not yet gone before the voters. Support for a long-term debt is not expected to be as strong as for the annual levies.

State construction aid will not be forthcoming unless a much larger growth appears than even Mt. Vernon's revised estimates are anticipating. These funds are available only when an annual growth of three percent is demonstrated, and the district expects to come close but probably not to meet that

level. Any new construction must therefore be completely financed by local property taxation.

The natural growth increases are expected to be managed with the upcoming bond levy. Utility provision of portable classrooms will be relied upon to meet the needs of the Skagit-related new student populations which are expected to be short-term in nature. The greatest concern that the school district has is that the facilities to be provided by Puget Power will be delayed because of inadequate preparation for the transfer of funds. They would like to see the funds put into escrow soon, so that they will be available to them as soon as they are needed. As long as they are available and on time, the impact of the Skagit construction force upon the Mt. Vernon School District is expected to be manageable.

The district will receive no monies from the Skagit plant once it is operational. Any operating personnel who settle in Mt. Vernon with school-age children will have to be serviced from general district revenues. By that time, however, the housing boom in Mt. Vernon may have leveled off or even reversed itself, as both the taxing and distance advantage of Sedro Woolley property becomes apparent to long-term residents employed by the plant. Because the numbers of permanent employees will be small, the school district planners do not find it that difficult to work within some uncertainty regarding their residential patterns.

There may be some clashes between newcomers and old timers in the county. However, the Planning Director felt county

residents were a "hearty breed" who could withstand any potential clashes.

Skagit County, through its Planning Department and the Skagit Regional Council, is making progress in the management of social and economic impacts associated with the construction of the power plant. They are assisting local communities in updating their comprehensive plans; they are collecting a great deal of baseline social data to determine natural growth and change from that associated with the plant; they are submitting a number of EDA grants for further studies; and they have also updated their mobile home ordinance. In addition, there is concern that county residents understand the implications of growth in the county, and participate in decisions affecting this growth.

The Washington Public Power Supply System Plant #2

A. Background

Construction began on the Washington Public Power Supply System's first unit at Hanford in August of 1972, immediately after receipt of a Limited Work Authorization from the NRC. Simultaneously, construction started on a Fast Flux Test Facility and a new population nearly equal in number to that of the WPPSS-2 construction force arrived for which planning and services had to be provided. In addition, there was a 1975 mid-summer construction start on two other nuclear power plants, the WPPSS-1 and -4 units, also immediately upon receipt of the Limited Work Authorization. The discussion which follows focuses on the response mechanisms and processes of the area's local

governments to generalized rapid growth pressures, rather than on the identification and management of social and economic impacts associated solely with the single nuclear power unit.

Based upon previous location decisions by Hanford employees in the Tri Cities area, local planners anticipate that over 52 percent of the new population will locate within the three cities of Richland, Kennewick, and Pasco (Management Consulting Services, 1976). Another 19 percent are expected to find homes in the fringe area around the three cities; and the remainder is expected to locate in four neighboring but smaller incorporated towns and unincorporated county land. The interviews, therefore, centered on the experience of the two larger city governments and the regional planning agency (the Benton-Franklin Governmental Conference) in meeting the demands of rapid growth.

The cities had varying experiences learning of the power plant plans from the utility. The city of Richland is itself in the utility business and sits on the WPPSS board, so the city was involved in the siting decision. The Benton-Franklin Governmental Conference was asked by the utility to comment at the WPPSS-2 public hearing and did so, although it was not asked by the utility to participate in later hearings on the WPPSS-1 and -4 units and it did not enter as an intervenor. Although the present Kennewick planning director was not employed during the planning stage of the WPPSS-2 project, he feels that given the state of present communications between the utility and the city, it is likely that Kennewick officials were not informed of the pending development and the impact that it would place on their community. However, according to a WPPSS official, the