



# reporter

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## Decommissioning Commercial Nuclear Power Plants

by David Aquilina, Jane Anderson, David Rodbourne

**Aquilina, Anderson, and Rodbourne were all graduate students in the Humphrey Institute of Public Affairs last year. They jointly prepared a plan B paper: *Decommissioning Commercial Nuclear Power Plants*. A summary of that paper is presented here. The full paper has been published by CURA and is available free-of-charge (see p 16 of this Reporter).**

**David Aquilina has completed his masters degree and is now working as a policy analyst at InterStudy, a nationally recognized health care policy analysis group based in Minneapolis. Jane Anderson has completed her masters degree and is now working with the Minnesota Environmental Quality Board where she serves as public advisor for power plant citing and power line routing. David Rodbourne is currently completing his masters degree and is temporarily working with the Urban Coalition of Minneapolis, researching a case study on weatherization of rental properties.**

For more than two decades, interest in nuclear power has focused on the birth, growth, benefits, and risks of the commercial nuclear industry and in the long run, the still unresolved problem of radioactive waste storage. Since the mid-1970s, and especially during the last three years, the task of decommissioning nuclear power plants after they cease operations has come under increasing scrutiny by public interest groups, plant owners, state utility commissions, and the Nuclear Regulatory Commission (NRC). Although these different forums emphasize different aspects of the problem, the major issues involve alternative decommissioning options, cost esti-

mates, financing, residual radiation limits and other pertinent regulations, and waste disposal.

NRC regulations limit operating licenses for commercial nuclear power plants to a period of forty years including construction time. Upon expiration of a license, a plant owner can either apply for renewal or for permission to terminate the license and decommission the plant. In addition to licensing limitations, a nuclear plant's operational lifetime is a function of engineering specifications, wear and tear during actual operations, changing safety requirements, and, particularly, economic considerations.

When a nuclear plant finally shuts down, for whatever reason and probably about thirty years after it first began generating power, it cannot be "simply" closed, abandoned, or torn down. During ordinary operations, the nuclear fission reaction inside the reactor core generates a flow of neutrons, some of which pass into the steel of the reactor vessel, its components, and the coolant water flowing between the fuel rods. This neutron bombardment produces radioactive isotopes and causes the structural steel of the reactor to become highly radioactive. Additionally, some other equipment, piping systems, and concrete which are not in direct contact with the fission reaction become contaminated, on their surfaces, with radioactive materials and corrosion products. At shutdown, the total build up of induced radioactivity and contamination in a large, 1100 MWe (megawatts electric), commercial reactor may approach five million curries and constitutes a serious environmental and public health hazard for thousands of years. For this reason, nuclear plants must be carefully and systematically decommissioned to

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isolate and contain the sources of radiation within the plant.

### Magnitude of the Problem

Sixty-seven commercial nuclear power reactors with a combined capacity of 155,229 MWt (megawatts thermal) are licensed to operate in the United States. Together these plants generate 11.5 percent of the country's electricity and account for 3.6 percent of U.S. energy consumption. Additionally, the NRC has issued construction permits for eighty-seven new reactors, seventy-two of which are actively under construction. Eleven construction permit applications are pending.

Minnesota has three nuclear generating plants, all owned by Northern States Power. The Monticello reactor is a 545 MWe (megawatts electric) boiling water reactor. The reactors at Prairie Island are both 530 MWe pressurized water reactors. The plants were installed beginning in 1967. Newer plant designs than those used for Minnesota plants include reactor capacities in excess of 1100 MWe.

Power plants comprise only one category of nuclear facilities that must be decommissioned. Processes, equipment, and physical plants at every stage of the nuclear fuel cycle as well as other facilities that use or handle radioactive materials generate unique decommissioning problems. Included are uranium mines, mills, and tailings piles; fuel fabrication plants; spent fuel reprocessing plants; waste storage dumps; military reactors and weapons plants; and research reactors and some medical facilities. Although these examples present diverse and important institutional and public health issues, this summary focuses on decommissioning commercial nuclear power reactors.

### Decommissioning Methods

Existing NRC regulations do not elaborate on decommissioning. The only relatively detailed treatment of it appears in Regulatory Guide 1.86 issued in 1974. That document outlines NRC staff views on acceptable methods for complying with various regulations that apply to closing a plant and terminating an operating license. Four options are described:

*Mothballing* consists of putting the facility in a state of protective storage. Spent fuel, radioactive fluids, and wastes are removed, and minimal decontamination is performed. Essentially, however, the facility is left intact but locked, guarded, and periodically monitored for radiation. The licensee's obligations for maintenance and surveillance would continue indefinitely or until all sources of radiation had decayed to acceptable levels or had been removed from the site.

*Entombment* consists of sealing all of the highly radioactive or contaminated components (the pressure vessel and reactor internals) inside the concrete biologi-

cal shield after first removing the spent fuel, radioactive fluids, wastes, and selected components from the site. The concrete entombment structure should survive long enough to effectively contain and isolate the entombed material as long as significant quantities of radioactivity remain. Appropriate continuing surveillance is required.

*Removal of radioactive components and dismantling* consists of removing from the site all spent fuel assemblies, reactor components, radioactive fluids, and other wastes (much of which is contaminated concrete) having radioactivity above accepted unrestricted levels as defined by the NRC. To fully restore the site to its original condition, the entire facility would be demolished and removed. After removal of all radiation (above specified residual levels), license obligations terminate.

*Conversion to a new nuclear system or fossil fuel system* consists of decommissioning the original nuclear reactor and steam supply system by one of the first three methods. However, the electric generating system and other non-contaminated or decontaminated portions of the plant are retained and used in conjunction with a new steam supply system.

Regulatory Guide 1.86 expresses no preference among these alternatives and does not limit the duration of mothballing or entombment. The entire body of regulations covering nuclear facilities is, however, under review at this time.

### Decommissioning Experience

Although no large commercial-sized reactor has ever been decommissioned, each alternative method has been implemented with substantially smaller nuclear facilities. Sixty-four research reactors and critical facilities and four small scale demonstration power plants licensed by the NRC have been decommissioned thus far. Many of the facilities, rated in the tens or hundreds of watts (thermal), were dismantled. Twelve reactors are mothballed, and plans exist for dismantling two of those, Saxton (28 MWt) and Peach Bottom (115 MWt), after a fifty year waiting period. Another reactor, 190 MWt Pathfinder at Sioux Falls, is mothballed except for its generating facilities which were decontaminated and converted to coal fired generation.

Three of the demonstration power plants are entombed: Piqua (45.5 MWt), Hallam (256 MWt), and Bonus (50 MWt). When entombed, these reactors were estimated to contain, respectively, 260,000 curies, 300,000 curies, and 50,000 curies of radioactivity.

The decommissioning of the Elk River, Minnesota demonstration power reactor is often cited in the literature because it is the only power reactor which has been completely dismantled. The 58.2 MWt boiling water reactor was owned by the Atomic Energy Commission (AEC) and operated by United Power from 1964 to 1968. It was dismantled by the AEC over a three year



Minnesota's Monticello nuclear power plant.

period from 1972 through 1974 at a cost of \$6.15 million (1974), compared to a construction cost of \$6 million. The case is of interest because of the remote cutting tools and techniques that were developed and experience that was gained in dismantling the reactor pressure vessel, internal components and piping systems, and the thermal shield. Wastes were transported to a low-level waste disposal site in Sheffield, Illinois.

### Decommissioning Studies

Two major engineering studies of decommissioning commercial-size reactors (1100 MWe-1200 MWe) have been conducted for the Atomic Industrial Forum and the NRC. Both estimate decommissioning costs and elaborate on the advantages and disadvantages of a variety of approaches to decommissioning including combining mothballing or safe storage with deferred dismantlement (see Tables 1 and 2).

The principal advantages of deferring dismantlement are reduced radiation exposure to workers and the public and reduced costs due to the somewhat simplified techniques available after the major sources of radiation have decayed substantially.

The NRC study, done by Battelle Northwest Laboratory, estimated that for approximately 80 years after shut-down, the isotope cobalt-60 in the irradiated steel of the reactor presents the predominant radiological hazard. However, with a half-life of

5.2 years, it decays relatively quickly, substantially reducing the potential for radiation exposure to workers as time passes. After about 80 years, little can be gained by further deferral of dismantlement because other very long-lived radio-nuclides, nickel-59 (half-life 80,000 years) and niobium-94 (half-life 20,000 years), predominate in determining reductions in the radiation dose rate. The Atomic Industrial Forum and NRC studies concluded that the presence of these isotopes, although not sources of intense radiation like cobalt-60, make the reactor steel a radiological hazard for well over 100,000 years. This fact precludes permanent mothballing or on-site entombment and necessitates dismantlement and long-term storage of selected components from commercial reactors. The NRC study estimated that approximately 74 metric tons of activated reactor components may warrant deep geological storage comparable to that proposed for high-level radioactive wastes.

These generic studies, although very useful, have limitations. Current regulations and technology will change. Site specific characteristics warrant individual plant studies. Previous decommissioning provides only a very limited base of experience for the conceptual studies because of the dramatic differences in scale between those facilities and current commercial reactors. The problems of decommissioning following premature shut-down or an accident also require study. Finally, although

NRC officials and utility representatives have expressed confidence in the cost estimates provided by these studies, some analysts argue that real costs may be more than double the \$40-50 million estimated for "routine" prompt dismantlement, and the accident at Three Mile Island, where clean up costs have been estimated to exceed \$800 million, provides ample evidence of the magnitude of decommissioning costs under unusual circumstances.

### Waste Disposal

Radioactive wastes can be classified by origin, physical and chemical form, and concentration. Those considered as high-level (HLW), a designation not conclusively defined, are characterized by high, penetrating radiation, long duration, and biological toxicity. Such wastes must be effectively prevented from entering the biosphere for tens and hundreds of thousands of years. As yet, no permanent storage facility exists for HLW. Predictions of when one will open have been moved back repeatedly and now target the period between 1997 and 2006, a time when five commercial reactors are estimated to be ready for decommissioning.

At decommissioning, spent fuel must be removed from the reactor core and the on-site storage pool. If unprocessed, and there is currently a ban on commercial reprocessing, it is considered high-level waste. Additionally, selected reactor components containing hazardous cobalt-60 and long-lived radionuclides such as nickel-59 and niobium-94 may require treatment and isolation comparable to other HLW. While these decommissioning wastes are not large relative to the total volume of HLW from all sources, the lack of a permanent disposal site or inadequate away-from reactor spent fuel storage sites, which are now being planned as interim measures, could delay plant decommissioning.

The bulk of decommissioning wastes are considered low-level radioactive wastes (LLW). Such wastes exhibit activity levels far lower than those for high-level wastes but nevertheless require proper management and isolation from the environment for several hundred years. The United States has six LLW commercial disposal sites. Two are closed; a third is closed pending license renewal; and a fourth has reduced intake to 1977 levels. Moreover, there have been problems with leaks and migration of radioactive wastes from some sites.

Prompt dismantlement of a commercial reactor (1100 MWe) is estimated to produce over 16,000 cubic meters of LLW in the form of contaminated concrete and metal as well as processed liquid solvents from decontamination procedures. As with HLW, the volume of decommissioning LLW is not great in relation to the total volume of such wastes from all sources, but the availability

**Table 1. ESTIMATED DECOMMISSIONING COSTS: MAJOR ENGINEERING STUDIES**  
(millions of 1978 dollars)

Decommissioning Method	Atomic Industrial Forum	(Battelle) Nuclear Regulatory Commission	
Prompt dismantlement			
● nuclear structures only	30.3		31.0
● other structures	9.9		8.0
Entombment			
● preparations	11.1		21.0
● annual surveillance	.09		.04
Safe storage/delayed dismantlement at 100 years (nuclear structures only)	20-33*		39.8

\* 108 year delay.

Note: Study options are not strictly comparable: the Atomic Industrial Forum projection is based on a study of a pressurized water reactor producing 1144 MWe (originally reported in 1975 prices) while the Nuclear Regulatory Commission study by Battelle Northwest Laboratory used the same type of reactor producing 1175 MWe. Definitions and assumptions in the two studies also vary.

**Table 2. ESTIMATED DECOMMISSIONING COSTS: NSP NUCLEAR REACTORS IN MINNESOTA** (millions of 1979 dollars)

Decommissioning Method	Monticello	Prairie Island	
		I	II
Prompt dismantlement	54.6	51.7	14.8
Safe storage/delayed dismantlement			
● preparations	14.5	14.0	1.7
● annual surveillance	.09	.09	.03
● removal at 30 years	48.5	45.8	14.9
● removal at 100 years	25.6	32.1	11.6

Source: Study for NSP by Nuclear Energy Services, Inc.; Monticello is a 545 MWe boiling water reactor; Prairie Island I & II are both 530 MWe pressurized water reactors, decommissioned sequentially; estimates include 25 percent contingency.



**Nuclear power plant at Prairie Island, Minnesota.**

of adequate LLW storage could affect the timing and cost of decommissioning.

Decommissioning is not the only source of radioactive waste contributing to the urgent need for adequate long-term HLW and LLW facilities, but the relationship between the two policy problems warrants continuing attention.

### **Financing**

Safe and effective decommissioning requires adequate funding and financial planning. Disposal costs in excess of salvage value, that is negative net salvage, are not uncommon for industrial facilities. However, in relation to nuclear plants, the need to protect the environment and public attaches special importance to financing

decommissioning beyond usual economic and equity considerations.

The financing task is complex. Costs must be estimated on a current basis and then projected 30-40 years (many more years under some options) into the future. This necessitates numerous assumptions about the impact of inflation, changing technology and regulations, earnings rates, and other economic trends. Estimates must be translated into revenue requirements, and then a decision must be made about how those revenues will be collected.

There are many alternative financing mechanisms. Ultimately, government and tax revenues provide a last resort for assuring that decommissioning will be funded and carried out. However, considerations of equity assign the burden to the facility

owner and the beneficiaries of the power generated. Equity rules out paying for decommissioning when it occurs and only subsequently recovering the cost from non-benefiting consumers. Other options include prepayment, collecting funds by various methods over the operating life of the facility, bonding, insurance, and combination methods. Additionally, collected funds can be held either internally by the utility or diverted to external trust funds dedicated to decommissioning.

Financing alternatives may be judged by several criteria: least cost, payment by beneficiaries, equitable distribution among consumers, flexibility to accommodate changing estimates, and assurance of the availability of adequate funds when needed to pay for decommissioning. Because of

the potential risks to the environment and public health if decommissioning is not adequately financed and carried out, some analysts have assigned top priority to the need for assurance, even at some extra cost. An NRC staff analysis of the financing problem adopts this approach. For some, assurance necessitates prepayment, bonds, insurance, or an external fund independent of the utility. This position reflects doubts about depending on the future solvency of a utility or its financial capacity to confront the possibility of decommissioning after an accident and premature shutdown.

Utilities place emphasis on the least cost criteria. They argue that assurance, while necessary, is not a major problem because regulated public utilities will always be able to recover essential operational costs and regulatory commissions are required to permit a utility to cover expenses and earn a fair rate of return. In a 1979 survey of 21 reactor owners by the Edison Electric Institute, the strongly preferred method of cost recovery was an internal depreciation reserve, as opposed to an external fund or other mechanism. Internal funds also provide a utility with a flow of investible funds until expenditures are made for decommissioning.

Balancing these competing criteria and claims and evaluating alternative financing mechanisms is an extremely difficult and arcane process. It is made more so by the tendency of different policy-making entities to exclude some criteria and focus strictly on others. Nevertheless, the task is inescapable.

Thus far these decisions have fallen largely to facility owners and public utility commissions. It is unclear whether the NRC will implement rules requiring particular financial arrangements for decommissioning. Current rules necessitate only a general, pre-licensing assessment of a utility's financial capacity to shut down and safely maintain a nuclear facility, and some argue that the commission has no authority to require more specific arrangements. However, the NRC's mandate to protect public health and safety could provide the basis for more specific requirements. Whatever the outcome, selection of a financing mechanism and appropriate cost estimates should go a long way toward assuring that the cost of decommissioning will be built into the overall cost of nuclear power.

### Financing in Minnesota

Northern States Power currently recovers anticipated decommissioning costs as part of its straight line depreciation rates for Monticello and Prairie Island Units I and II. The rate of accrual is based on estimated decommissioning costs of \$56.7 million (1979) or 10 percent of the installed capital cost of the facilities. Annual accruals equal the cost estimate divided by the projected service life of the facilities. The company has recently revised its cost estimates up-

ward to \$121.1 million (1979) for prompt dismantlement, although no commitment has been made to this decommissioning option.

NSP has petitioned the Minnesota Public Utilities Commission (MPUC) to accept the revised cost estimate and to permit the company to recover sufficient funds from its customers. Under the proposal, customer contributions would be placed in an internal sinking fund and credited with an assumed earnings rate equal to NSP's after-tax rate of return. Although the decommissioning fund would be a separately identified account, the funds would be invested in utility assets and used as collateral for bonds issued to pay for decommissioning in the future. The combination of annual contributions plus earnings would be calculated to produce assets sufficient to cover the future cost of dismantlement, that is the current estimate augmented by an assumed seven percent inflation rate until 2002-2007 when decommissioning should occur. The future cost is projected to be \$762.7 million. Adjustments will be required periodically and as estimates, assumptions, or the proposed method of decommissioning change.

Although charges to consumers will increase based on the revised cost estimate, NSP's analysis concluded that the internal sinking fund would be less costly than external funds, for tax reasons, and would distribute more equitably the costs to consumers over the life of the facilities than the current straight-line depreciation method. If approved, the plan will increase 1980 accruals for decommissioning by \$7.8 million, of which \$5.8 million will be charged to Minnesota customers. Average electricity prices will increase by .036¢/kwh, and the monthly bill for a customer using 500 kwh/month will rise by 18 cents.

The Sierra Club and the Minnesota Public Interest Research Group (MPIRG) contested NSP's plan and argued for an external fund to provide greater assurance of the future availability of decommissioning funds. Participating staff from the Department of Public Service asserted that an external fund would be justified only if tax exempt, otherwise it would be substantially more expensive. NSP arguments reject an external fund as costly, unlikely to be given tax exempt status by the IRS, and unnecessary to assure decommissioning.

The NSP plan will probably be accepted by MPUC. However, the staff has recommended that NSP apply for an IRS ruling on the tax status of an external fund in order to clarify that issue.

### NRC Rulemaking

In 1975 the NRC began an extensive review of its regulations in relation to decommissioning all types of nuclear facilities. A draft generic environmental impact statement should be published this year, and drafts of proposed rules may be available in late 1981. In the meantime, a December

1979 discussion paper suggests the direction of NRC staff thinking.

According to that paper, the primary decommissioning objective would be dismantlement, removal of radiation, and release of sites for unrestricted use at the earliest possible date. Safe storage up to thirty years followed by dismantlement may be allowed but not permanent mothballing or entombment. Residual radiation limits, based on the ALARA concept (as-low-as-reasonably-achievable), might be set to preclude exposures above 5 mrem per year to the maximum exposed individual.

### Conclusion

This brief review only highlights a few of the issues and actors in the decommissioning policymaking process. Although certainly not the predominate question concerning nuclear energy, it is an important one deserving continued attention at all levels.

### References

- Atomic Industrial Forum (AIF) (National Environmental Studies Project), *An Engineering-Evaluation of Nuclear Power Reactor Decommissioning Alternatives: Summary Report*. (AIF/NESP-009, 009SR). Prepared by William J. Manion and Thomas S. LaGuardia, Nuclear Energy Services, Inc., (Washington, D.C.: Atomic Industrial Forum; November 1976), pp. 11-14.
- Minnesota Public Utilities Commission, *In the Matter of the Petition of Northern States Power Company for Depreciation Certification for Expected Decommissioning Costs of the Monticello and Prairie Island Nuclear Steam Generating Facilities*. Initial Brief of Applicant Northern States Power Company, August 1980. Docket No. PSC-80-139-HC; E002/D-79-956.
- U.S. Nuclear Regulatory Commission (NRC), *Technology, Safety and Costs of Decommissioning a Reference Pressurized Water Reactor Power Station*. NUREG/CR-0130. Volume 1. Prepared by Batelle Memorial Institute, Pacific Northwest Laboratory, Richland, Washington. (Washington, D.C.: NRC; June 1978), pp. (3-1)-(3-22).

Photos courtesy of the Minneapolis Tribune.



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# Government Training Service (GTS) Comes of Age

by Thomas M. Scott

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With the passage by the legislature and signing into law by Governor Quie of House File 1138, Minnesota officially acknowledged that the Government Training Service is an idea whose time has come! The state action provides another example of a successful "Minnesota experiment" where an idea is developed at the grassroots, nurtured by cooperative efforts, and emerges as a full-blown partnership between state and local governments.

CURA was one of the sponsors of a conference held in the fall of 1975 attended by representatives of city, county, township, school, and state governments and Minnesota's public higher education institutions. The topic of discussion was the education and training of local government officials and employees. The issue was improving its quality and developing better coordination between the needs of local government on the one hand, and the increasingly overlapping and fragmented competition among the public and private providers of training on the other.

Participants agreed on two points: there was substantial room for improvement in local government training in Minnesota, and a new kind of organization should be created to accomplish this goal. Subsequent negotiations among the interested parties produced GTS, organized under Minnesota's Joint Powers Law. Its original Board of Directors represented the associational instrumentalities of Minnesota local governments—the League of Cities, the Association of Counties, and the School Boards Association—as well as the Minnesota State Planning Agency and the State Department of Employee Relations. Public providers of local government training were represented initially on the Board by the Departments of Community Programs in Continuing Education and Extension and Community Development in the Agricultural Extension Service, the Humphrey Institute of Public Affairs, and CURA.

GTS was a new cooperative venture among Minnesota's local governments. Its unique structure was controlled by representatives of local government. Its purpose was to bring consumers and public providers of local government training together so that needs could be clearly identified, quality insured, and coordination improved.

In addition to a significant number of specific activities and programs, GTS has accomplished two major objectives during

its first four years of existence. First, because GTS is directed by local government people, it has earned the respect and confidence of those interested in local government training throughout the state. GTS is now recognized as the place to go for advice and assistance on all types of local government training. Second, GTS has developed a small but highly effective staff of professionals whose knowledge and expertise are an exceptionally valuable resource available to Minnesota local governments.

In addition to its revenue generating activities, GTS, during its development phase, has received support from local governments as well as the Dayton Hudson Foundation, federal Intergovernmental Personnel Act funds, and CURA. Now that state support has assured a more stable financial base, the GTS Board has acted to consolidate its gains and move in several new directions as well. Specifically, GTS will increase local government participation in its activities. The fact that the Association of Minnesota Townships has joined the GTS Board is a prime example of this effort.

In addition, GTS will take a leadership role in developing training efforts in areas of unmet needs. Through a recently-established subsidy fund, GTS will help make programs more available to units not now able to take full advantage of training opportunities. And GTS will increase its training coordination activities for Minnesota local government.

GTS has now clearly passed the embryonic and experimental stage. It has already developed an extensive array of activities and services; yet the more it accomplishes, the more new ideas and suggestions emerge. With its experience, its qualified staff, its stabilizing finances, and its new commitments, GTS in the next few years will be able to make an even stronger contribution toward improving the quality of local government training in Minnesota.

NOTE: Portions of this article were published originally in the GTS newsletter, *Training Minnesota*, summer 1980, and are reproduced here with the permission of GTS.

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## Transportation Program

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A booklet describing the University of Minnesota's Transportation Program was published this summer. Four departments are actively involved in transportation teaching and research. The Department of Civil and Mineral Engineering offers half of the main transportation courses available, while the rest of the courses are shared by the Departments of Transportation and Business Logistics, Geography, and Mechanical Engineering. Supporting courses and related research can also be found at the Departments of Electrical Engineering, Economics, Architecture, Statistics, and Computer Science. Students may pursue formal degrees with specialization in transportation through either the Department of Civil and Mineral Engineering or the School of Busi-

ness Administration, depending on their particular interests.

The new brochure outlines the transportation program, its faculty members and their areas of research, a selected number of graduate students and their research interests, and the courses available in transportation at the University. CURA helped finance the brochure which was prepared by the Department of Civil and Mineral Engineering.

For copies of the brochure or more information about the Transportation Program, contact: Yorgos J. Stephanedes, Department of Civil and Mineral Engineering, University of Minnesota, Room 103 Experimental Engineering Building, Minneapolis, MN 55455 (612/373-3972).

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# A Model for Bringing Academics into the Minority Community

by Edward L. Duren, Jr.

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**Edward Duren, Jr. is CURA's coordinator for Minority Outreach Programs. He returned to the University of Minnesota and CURA in 1975 from Metropolitan State University. He has also worked with Community Programs for the University's Division of Continuing Education and Extension. For more information about the program described in this report please phone Edward Drury, director of Communityship Personnel Grants, at 612/376-7231.**

All across the country one of the more difficult challenges for university units like CURA is effectively using faculty and student resources to serve the needs of minority communities. Minority communities are often skeptical about what universities can

“do for them” and they are usually unwilling to have more “research” done about them. On the other hand, agencies and organizations serving minority communities have real and often pressing needs and the university does have expertise and knowledge that can be helpful.

The question is how best to bring these needs and resources together?

One answer, begun two years ago under my direction is the Communityship Personnel Grants Program. The purpose of the program is to assist community based non-profit agencies and organizations, particularly those serving American Indian, Afro-American, Chicano/Latino and/or Southeast Asian clientele, in initiating projects requiring short-term assistance. This assistance is provided in the form of a grant

which will allow the agency to hire a University of Minnesota graduate student or faculty member to help with staff development, preliminary research, survey development, program evaluation, issue exploration, or other short-term projects.

Designed this way, the program is able to provide the community agency with short-term personnel assistance to help it solve a particular and specific problem. At the same time the university staff member benefits from the experience with the community agency and his or her education and teaching is thereby enhanced.

Projects funded in the past two years illustrate the broad range of needs of community organizations working with minorities. Grants were awarded for such diverse projects as examining American Indian



**Beulah Compton, Professor of Social Work at the University of Minnesota, conducts a staff training seminar at the Martin Luther King Center in St. Paul.**

burial issues, serving the needs of the hard core unemployed in Ramsey County, and aiding in staff development at several agencies.

One request came from a near north-side organization in Minneapolis concerning the issue of contracts-for-deed. During a period when home mortgage interest rates were rising rapidly, this organization felt more and more persons would be entering contract-for-deed agreements, many not knowing or fully understanding the terms of the agreement or their rights therein. Minorities were thought to be especially vulnerable to many of the questionable marketing techniques being practiced. Thus, this agency sought a graduate student to:

- compile a list of minority contract-for-deed holders on the near northside;
- develop a survey instrument designed to determine how individuals became involved in contract-for-deed arrangements, what promises were made, the condition of the house when seen compared to the condition of the house at the time of the sale and in the terms of the contract, and the specific terms of the contract;
- interview the contract-for-deed holders using the survey instrument.

The graduate student was hired and a draft report completed.

A local Chicano/Latino organization sought a grant for the purpose of "pursuing a social service program that could provide certain social services within a bicultural framework and in a bilingual environment." The objectives they hoped to achieve were ambitious and included:

- conducting a literature search on the mental health and/or social services needs of Latinos,
- organizing new and existing data in such a manner that it could be used in writing requests for funding of needed services,
- and assisting in the development of funding proposals to local and state government.

This organization decided to hire two graduate students, who after three months presented a proposal for seed money to provide services to Latinos in a culturally and linguistically appropriate manner. After several requests for funding were denied, additional help was provided to try and find start up resources. This organization is still seeking funding of their viable concept.

An annotated bibliography was prepared for a local group interested in the black family. It will be used to further the stated goals of this organization including:

- promoting planning for healthy relationships between black people (that is, with self, couples, parent(s)/child, families, and within the community);

- becoming a referral source for therapy-treatment;
- increasing the knowledge of family dynamics for all members of black families;
- increasing the capacity of black individuals and families to cope with stress, conflict, and change whether created by internal or external pressures.

We are currently assisting this group in finding resources which can be used to publish the bibliography.

A report of equal depth and greater length was prepared for a law service which provides bilingual-bicultural legal assistance to local residents. The work sought to add clarity to the impact of undocumented aliens on public assistance programs in the United States and their eligibility for these programs. The final report consisted of over ninety pages of well documented information related to what remains a very important topic. The author of the report received an award for excerpts which appeared in a local law journal.

An American Indian organization sought a Communitary Personnel Grant for the purpose of developing and producing radio program segments on a weekly production schedule for continuous and regional broadcasting. A student was hired with a broadcast journalism background. Over a three month period several segments were research and produced. Each segment provides information on some aspect of American Indian history or culture.

These segments have been used by many radio stations throughout Minnesota, Wisconsin, North Dakota, South Dakota, and Iowa.

A local center for women used a summer grant from our program to hire a graduate student to assist in preparing a report on the feasibility of establishing a resource center for American Indian women. The stated objectives included:

- a survey of twenty individuals and/or agencies regarding the potential need for a resource center,
- a compiling of information and/or data documenting the specific needs of American Indian women in the proposed area,
- and, if found appropriate, development of recommendations regarding the organizational structure, services, and staffing of the center.

Though the final report is still in the draft stage, much valuable information has been obtained concerning the social service needs of American Indian women.

The Minneapolis Urban League indicated that they felt they should provide developmental training for their staff. A student was hired to determine what the staff development needs were. The final report included a list of current skills, a breakdown of the agency by position, future staff development needs, and a proposal for implementation. The project required 156 hours to complete.

Most of the projects we have funded (approximately 90 percent) have been as



**Compton, Clearl Adams, building superintendent, and Janabelle Taylor, program director, review some points during the staff seminar at the Martin Luther King Center.**



straightforward as these. Two projects not yet mentioned are of special note in that they exemplify the complexity Communi-versity Personnel Grants can assume and the varied forms the involvement of faculty, staff, and students can take.

In the fall of 1979 the executive director of the Martin Luther King Center indicated that he would like to provide a series of training workshops for center staff. He felt that some of the workshops should benefit the center's group work staff; some, the administrative staff; and yet others, all the staff. The workshops had to be on Monday afternoons. After additional discussion, a tentative schedule of workshop topics the University could provide was prepared. This was decreased to seven topics of concern:

- management of team and staff,
- human growth and change—implications for social work,
- organizational communication,
- problem solving techniques,
- overview of social policy as related to children,
- social group processes,
- and new urban populations—the Hmong.

By the time arrangements for the workshop were complete, faculty from four University of Minnesota colleges and six departments were involved.

A project of similar complexity was completed in the spring of 1980 for the Integration Review Committee (IRC) of the St. Paul Public Schools. In 1976 the Board of Education, District 625, established the IRC and charged it with the responsibility of monitoring district desegregation/integration policies and determining student, staff, and parental attitudes towards these policies. In the winter of 1980 a member of the panel submitted a Communi-versity Personnel Grant request for assistance in the administration, tabulation, and summation of an attitudes survey that students, staff, and parents were to complete. It was agreed that we would find graduate students to administer the survey to students at two elementary, two junior high and two senior high schools in District 625. In addition, University students would be used to code, keypunch, and otherwise prepare the data for computer tabulation. However, we were unable to obtain the number of students in the time required. As a result, I worked with a community volunteer, the director of Communi-versity Personnel Grants, and two graduate students to administer the survey and prepare the documents for keypunching. Another student was hired to do the keypunching and others to assist with preliminary analysis.

Though the Communi-versity Personnel Grants Program has been successful, it has not operated without problems. We have experienced difficulty finding students

at the times when the agencies needed assistance because most students arrange jobs for the entire year and are not available for projects on a quarterly basis, especially in winter and spring. There has also been difficulty in obtaining graduate students to work in Chicano and American Indian agencies, partly perhaps because students may have mistakenly assumed that these agencies wish to work with students of a similar ethnic background. Thus, the smaller number of Chicano and American Indians in graduate programs at the University has meant a small number of applicants for these agencies. Finally, at least one academic department has been reluctant to release its faculty to work with communi-versity projects. Since faculty are paid pro rata for participation in Communi-versity Personnel Grants, this may prove to be less of a problem in the future.

Despite these snarls it is felt that the Communi-versity Personnel Grants Program has achieved most of what it was designed to achieve. Particularly, it has increased faculty awareness of and participation in practical community problems. It has provided students with practical experience in their area of study. It has provided agencies with much needed program development assistance. It has enabled CURA to be much more aware of immediate community issues and concerns. Finally, it has provided a model for community involvement that can be used by other public and even private organizations.

The Communi-versity Personnel Grants Program has, in short, helped "link" the community and University in a joint effort to resolve practical societal concerns.

Photos by Robert Friedman.

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## Past CURA Projects Have Been Expanded

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What happens to a CURA project after its completed? Sometimes it grows bigger. Two such examples occurred this year. Both projects were originated in the Department of Sociology at the University of Minnesota.

### Patterns of Community

David Cooperman and Lea Hagoel decided recently to turn the results of their study of community relationships in Southdale into a full-scale book. Excerpts of the study were first presented in the *CURA Reporter* in June 1980. The results were also presented to the annual meeting of the American Sociological Society. The favorable responses from these preliminary presentations have encouraged them to go ahead with a full-scale analysis of the data collected.

In response to CURA's request, Cooperman and Hagoel are also involved in adapting the questionnaire they used in Southdale so that it may be used in other neighborhoods. CURA hopes to be able to use the revised questionnaire to prepare community profiles for other parts of the Twin Cities area.

### Funding for Nonprofit Organizations

Joseph Galaskiewicz was recently awarded a grant of \$70,000 from the National Science Foundation (NSF) to extend his research on Twin Cities cultural organizations. CURA funded the early stages of Professor Galaskiewicz's research from 1977 through 1979 and his preliminary results were published in the *CURA Reporter* in March 1980.

In particular, the NSF grant will be used to study the financial support of a broad range of nonprofit organizations from cultural organizations to welfare agencies to neighborhood development groups. Galaskiewicz expects that recent changes in the funding patterns of nonprofit organizations have affected both their administration and programming. Special attention will be given to changes in patterns of corporate support and the effect that these have had. Galaskiewicz and his research assistants plan to interview a random sample of 230 nonprofit organizations, 90 community influentials, and all 206 publicly owned business corporations in the Twin Cities metro area. The results of this study will be published by Academic Press as a book in 1982.

# Whittier: A Revitalization Effort in the Inner City

by Rebecca Lou Smith

Rebecca Smith is a doctoral student in the department of geography at the University of Minnesota. In 1978, CURA published a monograph of hers: *Post-war Housing in National and Local Perspective: A Twin Cities Case Study*.

For the past year Smith has been working with CURA's associate director, Thomas L. Anding, on a study of change and community involvement in the Whittier neighborhood of Minneapolis. A summary of their report is presented here. Copies of the full report (*Community Involvement in the Whittier Neighborhood: An Analysis of Neighborhood Conditions and Neighborhood Change*) are available from CURA (612/373-7833).

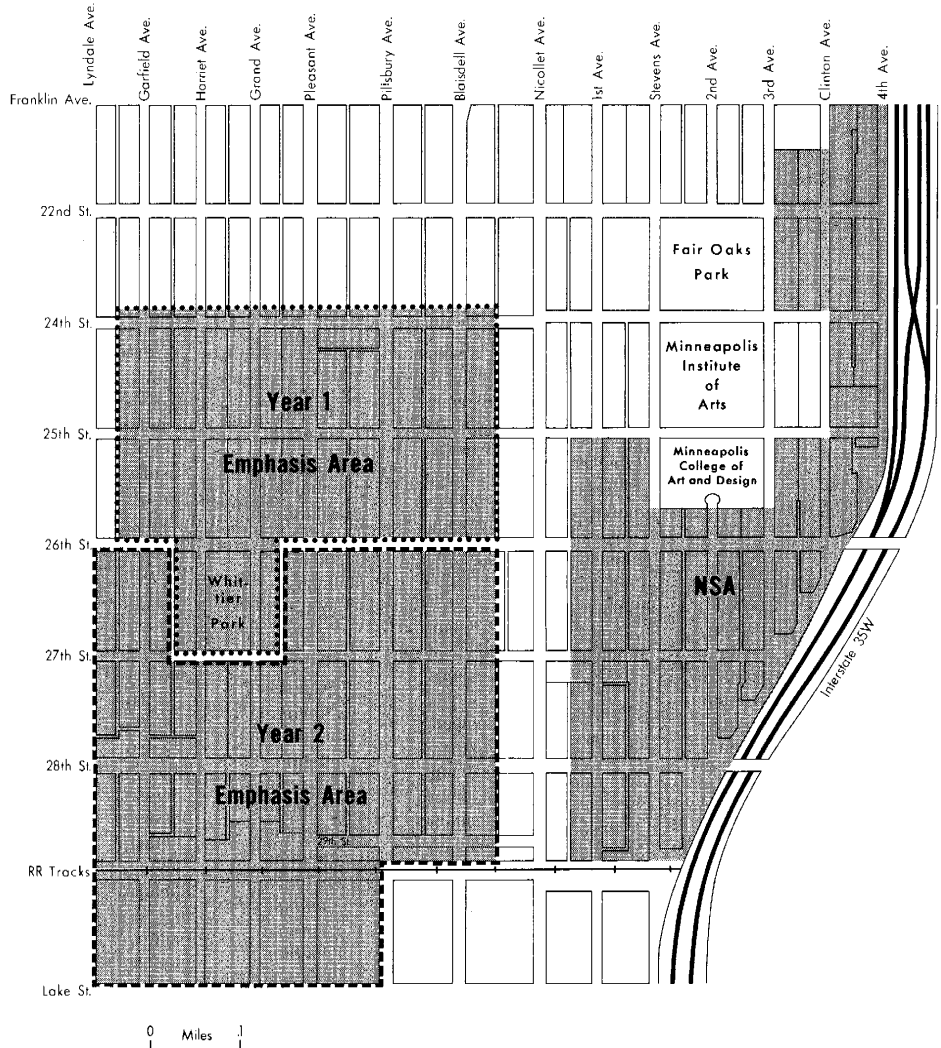
Since January, 1977, the Whittier neighborhood in South Minneapolis has been the target of a vast, privately-funded revitalization effort. The Dayton Hudson Foundation selected Whittier as a pilot neighborhood for what the Foundation deemed would be a comprehensive and innovative approach to neighborhood revitalization: innovative in that it represented a partnership between private business and neighborhood residents, and comprehensive because the aim was to tackle not one, but a variety of neighborhood problems.

The first year of activity, 1977, was devoted to developing an inventory of neighborhood conditions ranging from zoning and land use to resident attitudes. These data served as the basis for establishing planning criteria and implementation strategies for a revitalization program.

Implementation of the program has been coordinated by the Whittier Alliance, an umbrella organization representing the interests of neighborhood organizations, businesses, and residents. The alliance is a non-profit development corporation that operates through a board of directors and four committees representing the major program areas:

- Housing
- Crime
- Business/Agency
- Image

Each committee is responsible for the administration of programs in its area. The inventory of neighborhood conditions



WHITTIER NEIGHBORHOOD AND ITS HOUSING EMPHASIS AREAS

showed that an "overriding concern" of the neighborhood is its image: both residents and visitors have a poor image of the neighborhood in terms of both its physical and social qualities. Hence, in addition to the implicit image-building performed by the other committees, the image committee deals specifically with problems of neighborhood image development.

At the conclusion of each of its first two program years, the Whittier Alliance has conducted an internal evaluation of its programs. The evaluations have dealt with the success of each program in terms of goals

and objectives, and administrative efficiency. Culminating from this evaluation is the program plan for the subsequent year, incorporating recommendations from the evaluation for changes in existing programs and initiation of new programs.

In the spring of 1979, Dayton Hudson and the Whittier Alliance requested that CURA perform an outside evaluation of the work of the Whittier Alliance. Two survey instruments employed in the 1977 neighborhood inventory, the resident attitude survey and the building conditions survey, were readministered in the fall of 1979 for

the CURA evaluation. The updated analysis of neighborhood conditions and resident attitudes provided by the survey data served as a basis for assessing the visibility and impact of the Whittier Alliance among neighborhood residents. The final evaluation report, summarized here, placed Whittier Alliance activities in the framework of neighborhood needs and changing conditions, considered the alliance's effectiveness in solving the neighborhood's problems, and offered recommendations for the alliance's consideration.

## Housing

In 1977, a building conditions survey examined the deterioration and maintenance levels of both the exterior and, when possible, the interior of every structure in the neighborhood. In 1979, the same survey was repeated for the exterior building conditions only. The building conditions surveys showed that most neighborhood structures were in sound condition or in need of minor repair and routine maintenance. Some pockets of serious deterioration, however, were found, especially in the southeast sector of the neighborhood.

The Whittier Alliance developed four housing programs aimed at the rehabilitation of one to four unit structures, an approach based in part on the finding that the smaller structures were the oldest and most deteriorated neighborhood structures. All four programs provided subsidies or loans for exterior rehabilitation, reinforcing an implicit goal of improving the visible neighborhood image.

In its first two years, the alliance gave 235 exterior rehabilitation loans and grants to neighborhood residents, affecting 165 structures, or 17.9 percent of the eligible structures in the neighborhood. With the exception of the Exterior Materials Write-down Program, funded by the community development block grant fund and limited to the Whittier Neighborhood Strategy Area (NSA on map), the housing rehabilitation programs were targeted, during the first half of each year, to a neighborhood emphasis area (see map). During the remainder of the year, program eligibility was open to the entire neighborhood.

The building conditions surveys showed that between 1977 and 1979 structural deterioration in the worst parts of the neighborhood was arrested, although the need for rehabilitation worsened in other parts. Housing quality in the southwest corner of the Whittier neighborhood improved visibly, though there is still serious need for more rehabilitation. Elsewhere, the alliance's efforts have helped provide routine maintenance and minor rehabilitation that is needed to maintain a stable housing stock. Residents perceive that the quality of housing in the neighborhood is improving, which is an important adjunct to any rehabilitation effort.

## Crime

Crime is a serious problem for Whittier residents, both in fact and in residents' perceptions. Whittier, as part of the Powderhorn Planning District, has the distinction of ranking second among the city's eleven planning districts in incidence of residential burglary. To combat the threat of crime, the Whittier Alliance organized a network of block clubs throughout the neighborhood. Thirty-nine blocks were organized during the first two years. However, low attendance at meetings restricted the block clubs' effectiveness.

A more direct attack on neighborhood crime problems, aimed directly at residential burglary, is the Security Hardware Subsidy (SHS). Structured like the housing rehabilitation programs, the SHS subsidized the cost of installing security hardware for owners of one to four unit structures. The program was successful in gaining geographically widespread participation among neighborhood residents, especially in those parts of the neighborhood where burglaries are most common. Numerically, the program was less successful than the housing rehabilitation program, reaching only 10 percent of the target population and only .6 percent of all the households in the neighborhood. The limitation of participants to smaller structures surely hampers the potential effectiveness of the program in reducing burglary, since statistics show that two-thirds of the neighborhood burglaries take place in apartment buildings. The alliance's security hardware subsidy has been available to residents with the greatest fear of crime based on attitudinal data, but not to those with the greatest need for crime prevention strategies.

## Business/Agency

Retail and commercial services account for only a small proportion of the total land use in the Whittier neighborhood. Retail land use occurs primarily along Nicollet Avenue, running north/south through the middle of the neighborhood. At the intersection of 26th Street and Nicollet Avenue, a retail node of neighborhood-oriented businesses provides the central hub of retail activity in the neighborhood. The three boundaries of Lake Street, and Franklin and Lyndale Avenues are also lined with commercial and retail establishments.

A business/agency survey conducted in 1977 found that businesses estimated that just under half of their trade came from neighborhood residents. Much of the Whittier Alliance's commercial redevelopment activities during the past two years have aimed at maintaining or increasing the level of neighborhood patronage by creating a more desirable atmosphere for retail activity.

The emphasis has clearly been on enhancing Nicollet Avenue as the showplace

of neighborhood commerce. Largely with the help of the Whittier Alliance, Nicollet Avenue has been declared an Economic Development Neighborhood Strategy Area, which so far has resulted in the allocation of \$200,000 for projects in the Whittier neighborhood. In addition, the alliance has funded its own program of visual improvements along Nicollet Avenue with the placement of trash receptacles and kiosks. The business/agency committee has successfully lobbied at city hall to gain weekly street cleaning and a beat patrol officer, and has fought against the installation of parking meters along the avenue.

Despite these efforts at improving the neighborhood business district, survey results indicate a decline in patronage of neighborhood establishments by local residents. As compared with 1977, fewer residents reported in 1979 that they primarily used local grocers, restaurants, bars, and nightclubs. Change in patronage patterns since 1977 reflects a decline in the patronage of neighborhood establishments, and a more widely dispersed pattern of activity to locations other than the Whittier neighborhood or downtown. This pattern of patronage is characterized by systematic differences between income groups, and between renters and homeowners. Lower income residents are more likely to patronize neighborhood establishments than are higher income residents.

## Image

The activities of the Whittier Alliance in the areas of housing, crime, and commercial improvement have implicitly been aimed toward improving the tangible aspects of the neighborhood's image. The image committee has been charged with the dual task of enhancing the neighborhood's physical amenities, through administration of the open space and tree planting programs, and of developing neighborhood identity and social cohesion.

The tree planting program is the most visible of Whittier Alliance activities, according to neighborhood residents. Over the last two years, the Whittier Alliance has administered a program to replace lost boulevard trees. As a result, 344 trees were replaced during 1978 and 1979, much sooner than would have occurred under the City of Minneapolis Park Board's tree planting program.

An attitude among residents of not caring about the neighborhood was thought to be the basis for many of the neighborhood's problems, both physical and social. To combat this lack of care, the Whittier Alliance, through its image committee developed a rasher of programs that promote social interaction and create a sense of place for neighborhood residents. Neighborhood-wide social events such as a carnival, a Christmas holiday celebration, and a concert series, have taken place at neighborhood parks and at the Minneapolis Insti-

tute of Arts. 1979 survey statistics show that residents have a generally positive opinion of their neighborhood, and perceive improvements, especially in the area of housing. Yet, residents also appear to have less of the feeling of personal involvement and belonging to the neighborhood that image-building activities seek to develop. It has been especially hard for the alliance to create a sense of place for the many short-term residents in the neighborhood.

### Conclusions

The Whittier Alliance, with its two year record of revitalization activities, is the latest in a long-term effort by neighborhood residents and organized groups to improve the quality of the Whittier neighborhood. In its first two years of activity, the alliance has operated programs that address a wide spectrum of neighborhood problems. The operation of many of these programs has served a minority element of the neighborhood population—those living in single

family homes. The policy decision to gear housing programs to rehabilitation of one to four unit structures is understandable on the grounds that these structures were most in need of rehabilitation. In this decision, the alliance aimed at affecting the majority of structures, not the majority of residents. Restriction of crime prevention efforts to owners of one to four unit structures is less understandable, since the primary victims of residential burglaries are apartment dwellers.

Homeowners, representing 13 percent of the neighborhood's households, have benefited most from the alliance's presence. Survey statistics show that homeowners are most familiar with the alliance and its programs, rate the alliance most highly, and are most likely to take part in meetings sponsored by the Whittier Alliance. The alliance has had very limited success in addressing the problems of the transient, renter population that comprises the majority of the neighborhood's households.

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## Student Papers in the Public Administration Library

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Research papers prepared by masters degree candidates in the Hubert H. Humphrey Institute of Public Affairs are housed in the Public Administration Library after they have been approved by the institute's faculty. Because many of these papers are of interest to our readers, we periodically list recently acquired papers, (*Plan B papers*, as they are called). The Public Administration Library is located in room 365, Blegen Hall, West Bank Campus of the University of Minnesota (373-2892). The faculty advisor for each study is indicated at the end of the entry.

Anderson, Barbara L. Doing more with what we have: a study of housing code enforcement in St. Paul. 1980. 49 p. + appendices. Bradford.

\_\_\_\_\_. Tax exempt bonds for housing: panacea or rapine? 1980. 46 p. Waldo.

Anderson, Jane. Decommissioning commercial nuclear power plants: a policy primer, by Jane Anderson, Dave Aquilina, and David Rodbourne. 1979. 79 p. + appendices. Abrahamson.

\_\_\_\_\_. Outer continental shelf oil and gas development as it relates to marine mammals. 1980. 147 p. + appendices. Geesaman.

Aquilina, Dave. Decommissioning commercial nuclear power plants: a policy primer, by Jane Anderson, Dave Aquilina and David Rodbourne. 1979. 79 p. + appendices. Abrahamson.

\_\_\_\_\_. The rationale for a proposed demonstration project extending medical coverage to former AFDC recipients. 1979. 56 p. Brandl.

Baumgarten, Allan Joel. Critical areas legislation and its implementation in Minnesota. 1979. 54 p. + appendices.

\_\_\_\_\_. Changing populations in Merriam Park, St. Paul. 1980. 46 p. + appendices.

Blazar, William A. Affecting public policy: the analyst's role. 1980. 80 p. Dewar.

\_\_\_\_\_. Patterns of change in Minneapolis industry and patterns of change in Industry Square. 1980. 66 p. Adams

Brusman, William L. Real estate tax assessment of Section 8 rental housing: theory and reality. 1980. 80 p. Bradford.

Capistrant, Gary F. Effective communication of public policy information to members of congress: an examination and portfolio. 1980. 25 p. + appendices. Jernberg.

\_\_\_\_\_. Minnesota nursing homes: a study in classification. 1980. 54 p. Anderson.

Ellwood, Diane. Between stories . . . a report on conversations about living within limits. 1979. 86 p. Dewar.

\_\_\_\_\_. Case study of the State Department's Division of the House Appropriations Committee, 71st Session. Jernberg. (In *Legislative Budgeting in Minnesota, 1979*; see L1 M66L in Public Administration Library.)

Hammink, Paul William. Agricultural development planning in Saudi Arabia. 1980. 39 p. + appendices. Cochrane.

\_\_\_\_\_. Arab economic integration: a new evolving strategy? 1980. 44 p. Sampson.

Horton, Arthur, Jr. Ramsey County Welfare Department: organizational response to community pressure for organizational change. 1980. 27 p. Yesner.

\_\_\_\_\_. A strategy for welfare reform. 1980. 27 p. + appendices. Heller.

Kim, Jong Min. Minnesota federal surplus property activity. 1979. 50 p. Warp.

\_\_\_\_\_. A case study of job change. 1980. 31 p. Warp.

Kopp, Rodney Charles. The business of condominium conversions: a case history in South Minneapolis. 1980. 78 p. Bradford.

Maeder, Susanne R. Regional water forecasting project: Two papers: a water forecasting system for the State of Minnesota. 1979. 65 p.; Target area demand forecasting. 1979. 19 p. + appendices.

Maier, Robert S. Energy conservation and social change: evaluating the technological system. 1980. 21 p. Patton.

\_\_\_\_\_. The target population of state-supported energy conservation information services. 1980. 34 p. Patton.

McMullen, Ron. Lilliput revisited (The role of microstates in world affairs). 1980. 33 p. + appendices.

- \_\_\_\_\_. Prospects and problems of decentralization in the Democratic Republic of the Sudan. 1979. 35 p. + appendices.
- Nakaguchi, Ann Marie. An assessment of community and human services available to the Pacific/Asian community in St. Paul and Minneapolis, Minnesota. 1979. 36 p. Dewar.
- Pearson, Mary Alyce. Evaluating the need for community long term care centers: a case study of Champaign and Cumberland Counties, Illinois. 1979. 46 p. + appendices.
- \_\_\_\_\_. The politics of fluoridation. 1979. 74 p. + appendices.
- Radtke, Eric C. Fiscal limitation in Minnesota: an analysis of the proposal to limit state spending. 1980. 64 p. Heller.
- Tokpa, Henrique Flomo. Education and opportunity in Liberia. 1979. 21 p. + appendices. Mueller.
- \_\_\_\_\_. A review of the Kenyan Development Plan of 1966-70. 1979. 49 p. Cochrane.
- Winter, Gary P. Alternative means of financing urban redevelopment. 1979. 124 p.
- \_\_\_\_\_. An evaluation of the economic feasibility of tax increment finance redevelopment projects and the inflationary appreciation of the valuation of property located in the project area. 1979. 76 p.
- Yowell, Tim. Energy costs and the poor: a policy assessment and proposed strategy. 1980. 82 p. Jernberg.

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## New CURA Publications

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**Community Involvement in the Whittier Neighborhood: An Analysis of Neighborhood Conditions and Neighborhood Change.** Rebecca Lou Smith and Thomas L. Anding. CURA 80-4. Free.

See p. 10 of this *Reporter* for a summary.

**Courses in the Field of Aging: Class Schedule 1980-81.** All University Center on Aging. 27 pp. Free.

Courses concerned with aging at the University of Minnesota are offered in close to fifty different disciplines. This guide to what classes are available when and where is designed to aid the student who is interested in aging find the appropriate classes. This is the third edition of the class schedule, expanded this year to include all University campuses: Crookston, Duluth, Morris, Rochester, Twin Cities and Waseca.

**Courses and Programs in the Environment, 1980-82.** All University Council on Environmental Quality. 79 pp. Free.

Prepared every two years, this course guide brings together information on all courses related to environmental concerns at the University of Minnesota. Classes, programs, facilities, libraries, and other activities relating to the environment are included. The directory covers all of the University's campuses as well as community facilities concerned with environmental issues.

**Decommissioning Commercial Nuclear Power Plants.** David Aquilina, Jane Anderson, and David Rodbourne. CURA 80-6. Free.

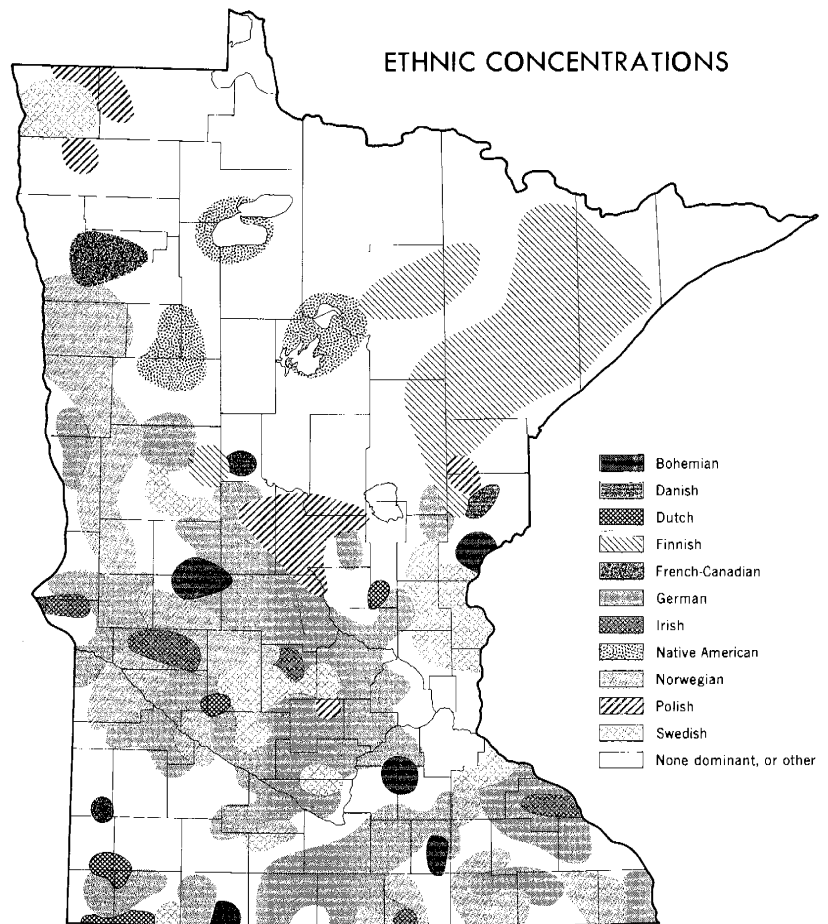
See p. 1 of this *Reporter* for a summary.

**CURA publications may be ordered by phone (612/373-7833) or on the CURA Publication Order Form on p. 16 of this Reporter.**



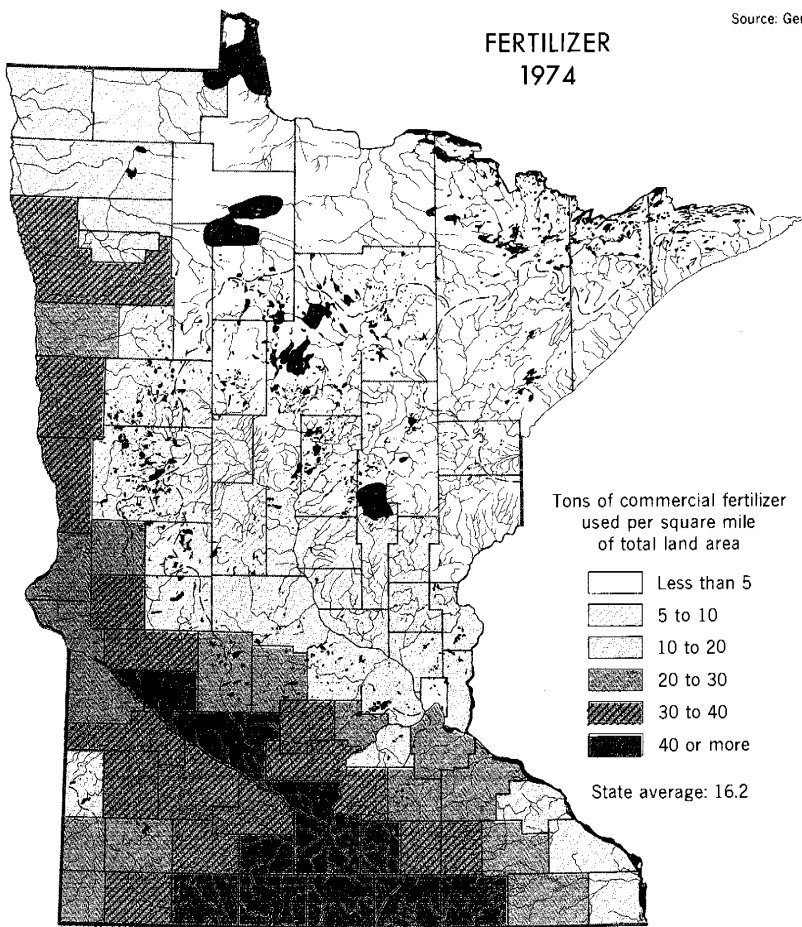
**Atlas of Minnesota Resources and Settlements.** 3rd edition. 1980. John R. Borchert and Neil C. Gustafson. CURA 80-5. 309 pp. 350 two-color maps. 24 tables. \$8.50

This third edition of the atlas has been completely revised, expanded, and updated. In addition to new text material, it includes 350 two-color maps with accompanying tables and graphs. For the first time the atlas makes extensive use of computerized maps. The work is a joint effort of CURA and the Minnesota State Planning Agency. It is designed to bring together and display in a single source a vast amount of information on Minnesota's basic resources and current trends and developments. Examples of topics included are bedrock geology, farm-size changes, export manufactures, weekly newspaper circulation, changes in housing construction, and local government taxes. It should prove to be a valuable resource guide for state and local government officials faced with critical public policy decisions, a good data source for students learning about Minnesota's development, and a fascinating reference work for the general public seeking to learn more about the state.



Source: Generalized and adapted from Marshall, Steinhauer and Qualley

### FERTILIZER 1974



Source: U.S. Census of Agriculture

### MAJOR CHAPTER HEADINGS IN THE NEW ATLAS OF MINNESOTA RE- SOURCE AND SETTLEMENTS

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- Soils
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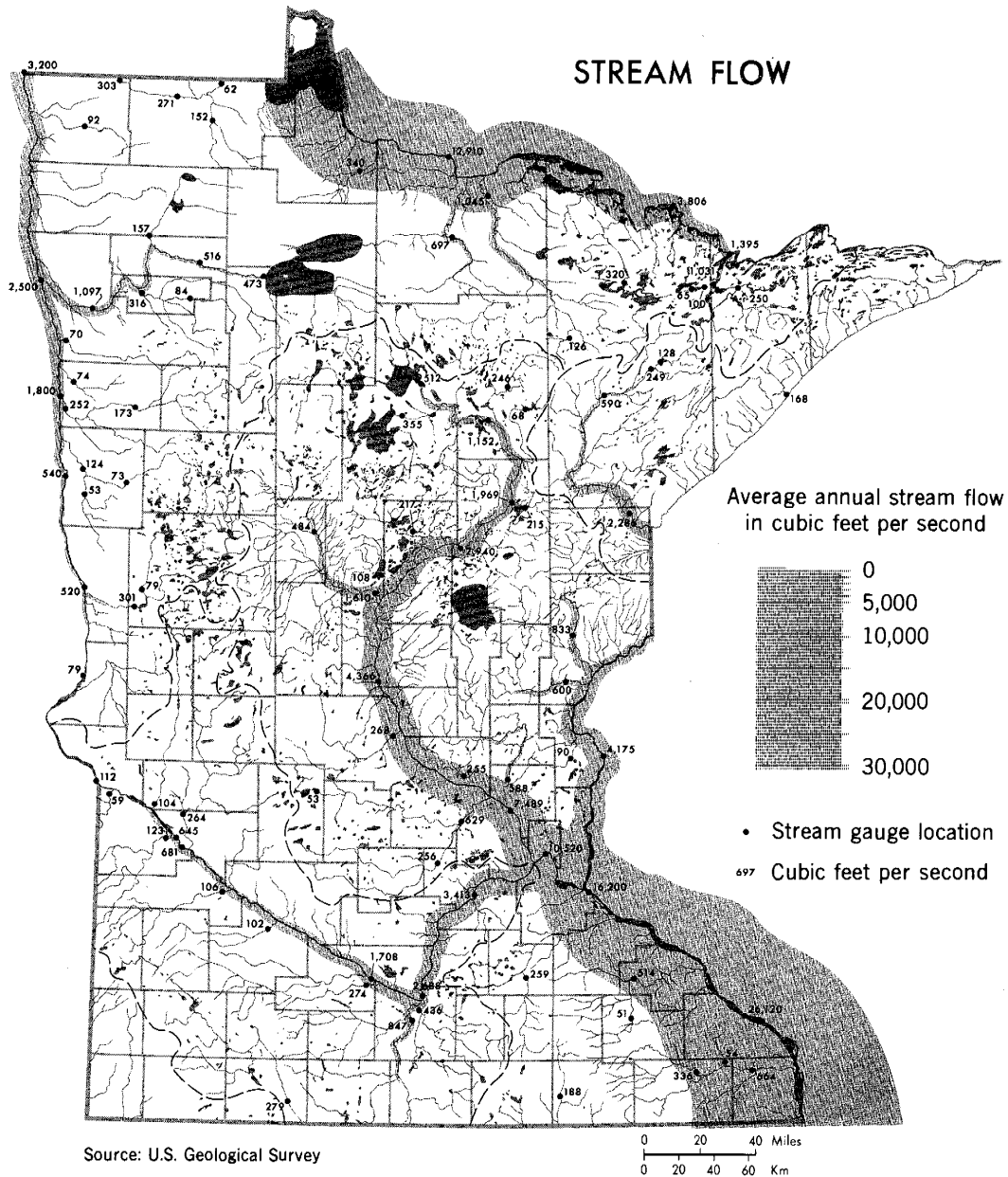
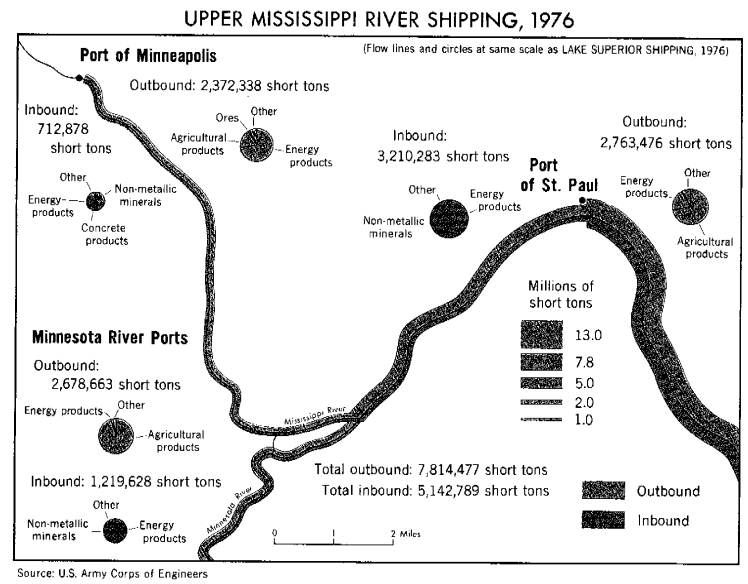
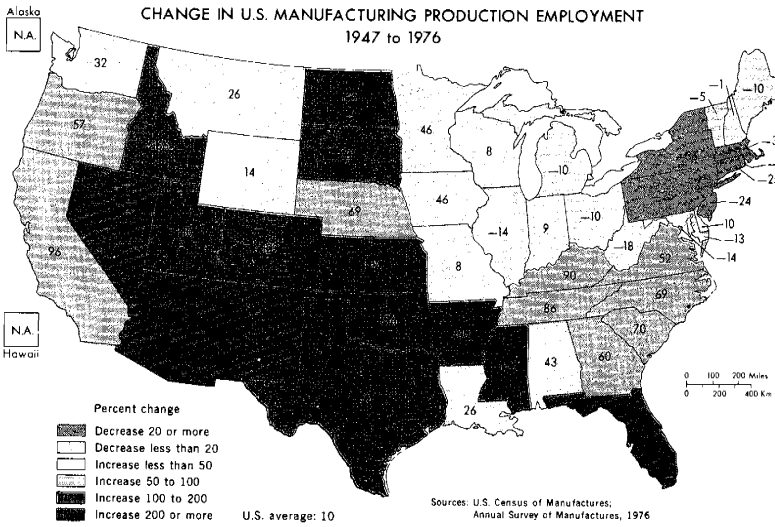
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- Community Involvement in the Whittier Neighborhood.** Rebecca Lou Smith and Thomas L. Anding. CURA 80-4. Free.
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- Decommissioning Commercial Nuclear Power Plants.** David Aquilina, Jane Anderson, and David Rodbourne. CURA 80-6. Free.

## Other Recent Publications

- Annotated Bibliography of Recent Research on Chicanos and Latinos in Minnesota.** Greg Stark, Kathryn Guthrie, and Cheryl Selinsky. CURA 80-1. 56 pp. Free.
- Postwar Housing in National and Local Perspective: A Twin Cities Case Study.** Rebecca Lou Smith. CURA 78-4. 63 pp. Free.
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# reporter

Volume X, Number 3      October 1980

The Center for Urban and Regional Affairs was established to help make the University of Minnesota more responsive to the needs of the larger community and to increase the constructive interaction between faculty and students, on the one hand, and those dealing directly with major public problems, on the other hand.

The **CURA REPORTER** is published by CURA to provide information about:

- what CURA projects are doing
- related programs and projects in the University
- related programs in other Minnesota colleges and universities, and
- actions outside the educational establishment which affect our plans and programs.

Comments and contributions are welcome. Thomas M. Scott, director; Thomas L. Anding, associate director; William J. Craig, assistant director; Judith H. Weir, editor.

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