REPORT BY THE U.S.

General Accounting Office

Wyoming Wastewater Treatment Facility Proves Unsuccessful

In 1973 a wastewater treatment facility was designed principally to treat wastes from a cheese manufacturing plant in the small Wyoming town of Thayne. Today, the $1.15 million failing facility partially treats only 106 sewage hookups in Thayne, while the cheese plant discharges its highly concentrated, untreated wastes directly into a local waterway.

The project also has been beset by such problems as poor design, construction, and plant operation; inadequate program and financial monitoring by the Environmental Protection Agency; and ineffective program management by Thayne.

GAO is making several recommendations about the project's financial activities.

CED-81-94

JUN 15 1981

UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

COMMUNITY AND ECONOMIC
DEVELOPMENT DIVISION

B-199267

The Honorable Alan K. Simpson
United States Senate

The Honorable Malcolm Wallop
United States Senate

The Honorable Richard B. Cheney
House of Representatives

As requested in your February 6, 1980, letter and subsequent discussions with your offices, this report discusses the reasons why the Thayne, Wyoming, wastewater treatment facility failed and answers nine other questions you asked about the facility. The report shows that no single entity caused the facility's problems but each party contributed, particularly the local cheese company that continued to overload the facility.

The report makes recommendations to the Administrator of the Environmental Protection Agency about the project's financial activities.

As arranged with your offices, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of the report. At that time, the report will be sent to the appropriate congressional committees; the Director, Office of Management and Budget; and the Administrator, Environmental Protection Agency. Copies will also be sent to other parties upon request.

Henry Eschwege

Henry Eschwege
Director

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REPORT OF THE U.S. GENERAL ACCOUNTING OFFICE

WYOMING WASTEWATER TREATMENT FACILITY PROVES UNSUCCESSFUL

D I G E S T

The Thayne, Wyoming, unsuccessful wastewater treatment facility can best be described as a case history in poor management by the Federal, local, and private entities involved. The project so far has been largely a waste of taxpayers' money.

PROJECT MANAGEMENT PROBLEMS

The $1.15 million facility is now being used by 106 sewage hookups in Thayne, while the cheese plant--for which the facility was principally designed--discharges its untreated wastes directly into a local waterway.

Throughout its history, the facility has been beset by problems.

--The spray irrigation system chosen for the project was high-risk because it could ice up in Thayne's harsh winters and needed a high level of operation and maintenance.

--The cheese manufacturer, the Star Valley Cheese Corporation, continually overloaded the capacity of the facility to treat wastes, in one extreme case 985 percent higher than its capacity.

--The project design had deficiencies. For example, the water storage pond was too small, as was the amount of land on which the treated wastewater was sprayed.

--The construction company that built the facility did a poor job. Liners of the storage pond were improperly installed and the land receiving the sprayed water was not properly prepared.

--Operation and maintenance activities were neglected.

--Severe odor problems, particularly during summer months, occurred because the cheese plant had high discharge levels and the system did not function properly.

--allowed Thayne to use 34 percent of the modification and repair funds for architectural and engineering services, an amount far in excess of the grant agreement; and

--may have overpaid construction, repair, and modification costs by about $95,000. (See p. 26 to 32.)

GAO did not comprehensively review all project costs. Its limited review of construction and engineering costs indicated, however, that a comprehensive evaluation of costs is needed, particularly of the engineering and construction costs.

EPA regional officials stated that EPA would perform a final audit of the Thayne project and try to recover any Federal funds that the audit shows should be disallowed.

RECOMMENDATIONS

Because resolving Thayne's and Star Valley's pollution problems is dependent on court and State of Wyoming actions, GAO is not making any recommendations about the treatment facility's operational problems.

On the financial management matters, GAO is recommending that the EPA Administrator:

--Require the regional administrator for region VIII to collect from Thayne the funds due the Federal Government for the industrial cost recovery payments Thayne collected.

--Require EPA's Inspector General to perform a comprehensive and detailed audit of all costs associated with the Thayne project. If ineligible or unsupported costs are found, EPA should recover these costs. (See p. 32.)

AGENCY COMMENTS

EPA, Thayne, and the Tudor Engineering Company provided critical and explanatory comments on this report. The Wyoming Department of Environmental Quality chose not to comment (see app. V). The Star Valley Cheese Corporation did not respond to GAO's request for comments. The construction company went bankrupt.

--Most of the new construction items provided for in a $617,000 grant amendment were never installed. (See p. 7 to 22.)

No single entity alone has caused Thayne's problems, but each party contributed to the problems that have led to the project's failure. The Environmental Protection Agency (EPA) appeared to submit to pressure from the State of Wyoming to approve a treatment level far below the level EPA thought was necessary. In addition, EPA inspected the initial facility too early to detect the construction problems; $617,000 in additional Federal funds had to be provided to try to correct the problems. EPA's monitoring failed to detect that most of the more recent construction work was not being done and that grant funds were being used for architect/engineering services in excess of amounts allowed in the grant agreement. Further, EPA should have required Thayne to limit the cheese plant's discharge when it became evident that the discharge was causing the treatment plant to malfunction.

Thayne's problems began with its decision to build a facility considered high risk by its engineer. Thayne never was able to reach agreement with the cheese plant to have it limit its discharge into the treatment facility, even though the cheese plant's high discharge levels ultimately forced Thayne to cut off the cheese plant 6 years after it began overloading the system. Thayne also provided little control over its architect/engineers; nearly 34 percent of a $617,000 grant amendment was used for architect/engineering services that should have been questioned by Thayne.

The Star Valley Cheese Corporation made no real effort to reduce its discharge to a level compatible with the treatment plant's design capability. Not until EPA issued a notice of violation against the company in March 1979 did the company install pretreatment equipment; even this action did not effectively reduce the high discharge levels.

FINANCIAL MANAGEMENT PROBLEMS

Through lack of adequate monitoring, EPA

--did not collect from Thayne and remit to the U.S. Treasury more than $11,000 in industrial cost recovery payments that were made by the cheese company for using Thayne's system.

Contents

In a May 14, 1981, letter (see app. II) commenting on GAO's draft report, EPA said that GAO's general conclusions were incorrect and damaging to the interest of the Federal Government, particularly GAO's reference to EPA's responsibility for the failure of Thayne's treatment facility. EPA said that fundamental to the statutory scheme and EPA's implementation of the program is the principle that a muncipality that accepts a construction grant is responsible for the administration and successful accomplishment of the project. GAO has considered EPA's comments and has revised the report accordingly.

While GAO recognizes the responsibility of grantees in the construction grant program, it maintains that EPA must carry out a strong oversight role over the grantees, particularly small grantees such as Thayne, who are especially hard hit by pollution control requirements because of higher per capita costs and lack of technical expertise.

EPA agreed to adopt the recommendations on collecting the industrial cost recovery payments and to perform a detailed audit of all Thayne project costs, as resources permit.

Thayne's and Tudor's comments and GAO's evaluation of these comments appear in appendixes III and IV.

GLOSSARY

BOD - biochemical oxygen demand	A measure of the amount of oxygen consumed in the biological processes that break down organic matter in water. Large quantities of organic waste (as in wastewater from a cheese making plant) require large amounts of dissolved oxygen. The more oxygen-demanding matter, the greater the pollution. The treatment process is designed to remove the BOD from the wastewater.
Crop cover	Grass and legume species irrigated with wastewater from a sprayfield treatment system.
Effluent	A discharge of pollutants into the environment, partially or completely treated or in their natural state.
Point source pollution	Sources of pollution that can be readily identified, such as factories and sewage treatment plants.
Sprayfield treatment system	A land treatment process which adds air to wastewater and exposes the aerated water to light in a storage pond. The water is then sprayed on the land, which provides further treatment by infiltration of water through the pores or spaces of a rock or soil.
Storage lagoon	A shallow pond, usually man-made, where sunlight, bacterial action, and oxygen interact to restore wastewater to a reasonable state of purity.

ABBREVIATIONS

DEQ	Wyoming Department of Environmental Quality
EDA	Economic Development Administration
EPA	Environmental Protection Agency
GAO	General Accounting Office
SVCC	Star Valley Cheese Corporation

CHAPTER 1

INTRODUCTION

In 1972 concern over pollution spurred the Congress to authorize a multibillion dollar grants program to help municipalities restore and maintain the chemical, physical, and biological integrity of the Nation's waters. But when Thayne, Wyoming, a small town with little technical expertise or experience in wastewater treatment construction became involved with Federal and State environmental agencies and with an industry on which its economy depends a great deal, difficulties occurred. This report discusses the many problems concerning Thayne's wastewater treatment facility.

Located in the mountainous Upper Star Valley of Northwest Wyoming, Thayne, with a population of 350, is about 60 miles south of Jackson, Wyoming, and the Grand Teton Mountain Range. Its location and altitude--almost 6,000 feet above sea level--are subject to harsh winters with frequent below zero temperatures and heavy snowfalls. Flat Creek and the Salt River both flow near Thayne, and pollution of the two waterways has concerned both the Environmental Protection Agency (EPA) and Wyoming's Department of Environmental Quality (DEQ).

PROJECT HISTORY

The Thayne wastewater treatment project was designed to stop pollution of Flat Creek and the Salt River. Although project plans began in 1971, the pollution of these two waterways had been occurring for years. Pollution was primarily attributable to Star Valley Cheese Corporation (SVCC)--a small, locally owned cheese cooperative that was important to both the economy of Thayne and the Star Valley. SVCC was discharging its untreated wastes (from the conversion of milk to cheese) directly into these waterways. In contrast, the sanitary wastes from Thayne were for the most part adequately treated by septic tanks and were not causing a pollution problem.

As early as December 1957, the Wyoming Department of Water Pollution Control began asking SVCC to control its discharge. At that time, however, SVCC was financially troubled and could not afford to treat its industrial waste as required by State and Federal water pollution laws; thus, little was done to correct the problem.

In response to increasing pressure from Wyoming's water pollution control agency to treat its discharge, SVCC hired an engineering firm in 1970 to study the problem. SVCC told Wyoming officials in August 1970 that it would have a sewage disposal system operating within 2 years. However, SVCC's engineering firm--citing the availability of Federal funding for publicly owned wastewater treatment projects--suggested to the company in March 1971 the possibility of joining Thayne to build

The facility, however, did not always function properly because of design, construction, and engineering problems and SVCC's continual overloading of the treatment plant. Odor problems caused numerous citizen complaints, and treatment operations ceased in the summer of 1978. In July 1978 Thayne was awarded an additional $617,000--$317,000 from EPA and $300,000 from the Economic Development Administration (EDA)--1/ to correct deficiencies in the existing system. However, it became evident that SVCC's discharges would make the repaired system inoperable, and on August 6, 1980, Thayne disconnected SVCC from the treatment system after the two parties could not reach any agreement on limiting SVCC's discharge. On November 15, 1980, the State of Wyoming filed a complaint against SVCC for violating its discharge permit conditions.

Thayne is now using the facility to partially treat the wastes from its 106 hookups.

PROJECT COST

As of September 30, 1980, payments from various sources to Thayne for designing, building, repairing, and modifying the Thayne treatment facility and collection system were $1.15 million. Thayne requested $80,600 as of September 5, 1980, but EPA is withholding further disbursement pending a final audit. The following table summarizes the payments and approved grant amounts by each entity:

Source	Payments	Percent of total	Approved grant amount
EPA	$ 645,321	56	$709,000
EDA	261,256	23	300,000
Thayne	a/166,743	14	N/A
Bond payment	b/ 82,454	7	N/A
Total	$1,155,774	100	

a/Includes $130,000 from the Farmers Home Administration, Department of Agriculture.

b/Represents a surety bond collection by Thayne for a contractor's failure to complete the project. (See p. 30.)

1/EPA administers the EDA grant.

a project to treat SVCC and Thayne's combined wastes. In December 1971 SVCC and Thayne began negotiations to annex to Thayne the land where SVCC was located for the purpose of obtaining Federal funding for a combined sewer project. Negotiations were successful; SVCC's land was subsequently annexed to Thayne in 1972.

To be eligible for Federal funds for a sewage treatment system, Wyoming was required to certify that a system was needed to either prevent water pollution or to correct a health hazard caused by the existing system. In 1973 DEQ certified that Thayne's septic system could potentially cause a health hazard. EPA, DEQ, and Thayne officials told us that only two or three septic tanks in the community were causing problems and that repairs could have easily been made to correct these problems. Further, the septic system was not discharging into area streams.

The State official who certified that the septic system could cause a health hazard did not document his reasons for the certification and is now deceased. Another DEQ official, however, commented that DEQ probably "stretched the truth a little" when it certified that the septic tanks posed a potential health hazard. Many local and State officials, as well as the Wyoming congressional delegation, were aware of SVCC's economic importance to the area and wanted a municipal system that would be able to process SVCC's wastes. However, without certification of Thayne's need for a treatment system, EPA could not have funded the system.

EPA regional grant officials said that they approved the project because of strong political interest in saving a financially ailing cheese company. Also, an EPA regional attorney said that in 1972 and 1973 it was EPA's national policy to consolidate municipal and industrial projects when possible. However, he added that, in retrospect, perhaps EPA should not have funded the Thayne project.

The system was funded in July 1973 when EPA provided a $342,000 grant to build a sewage collection and sprayfield treatment system capable of treating the combined wastes of SVCC and Thayne. The project was estimated to cost $456,000. In June 1974 EPA increased its grant to $392,000 as project costs increased to $522,000.

As designed, 96 percent of the treatment plant's capacity would be used by SVCC; Thayne would use the rest. Construction of the treatment facility and collection system started in 1974; by February 1975 the treatment facility was treating SVCC's wastes, and by the summer of 1977, Thayne's 106 sewer hookups were completed. EPA granted 2 permits: one to SVCC to discharge into the treatment plant and the other to Thayne to discharge onto the sprayfield.

OBJECTIVE, SCOPE, AND METHODOLOGY

We conducted our review of the Thayne sewage project at the request of Senators Alan K. Simpson and Malcolm Wallop and Congressman Richard B. Cheney. Their February 6, 1980, letter (see app. I) asked us to review the history of the project to determine what actually happened and to address nine questions that concern such matters as the need for the project, EPA's approval of the type of project, the reasons for the project's failure, and the economic effect on Thayne if SVCC were disconnected from the system.

To conduct our review, we visited the Thayne project several times and held many discussions with a variety of agencies and officials that have been involved with the project. We discussed the project with the Mayor and clerk of Thayne, Wyoming; EPA's region VIII enforcement and water division officials; and Wyoming's administrator of the water quality division of DEQ and its staff engineers. We also spoke with the president of Nelson Engineering Consulting Engineers and Surveyors (the initial designer and engineer), staff engineers of the Tudor Engineering Company (the present engineers for Thayne), and the plant manager and legal counsel of SVCC.

We examined various planning documents; inspection and engineering reports and studies; town council minutes, and correspondence maintained by EPA, DEQ, Thayne, and Tudor Engineering.

We obtained financial information relating to the costs of the project from various sources including Thayne's town clerk, Tudor Engineering officials, and EPA grants administration officials. We did not perform a comprehensive audit or review of the project's financial position but relied on information developed and provided by Wyoming's State examiner. We relied on Thayne's requests for EPA funds to determine the project's costs, and we made a limited evaluation of the project's construction and engineering costs. EPA's Office of Inspector General has not performed any audits of the Thayne project but has issued a critical report on the construction grants program. The report entitled "EPA's Construction Grants Program--Increased Oversight or Continued Waste?" was issued on March 31, 1981. We considered this report in our analysis of EPA's response to our draft report.

We obtained information about the importance of SVCC to Star Valley's economy from an economic study completed in 1974 by the University of Wyoming's Agricultural Extention Service, the Wyoming Department of Economic Planning and Development, and the Wyoming Department of Agriculture. Information about SVCC's future plans was obtained from SVCC's plant manager.

Officials of five cheese companies, the United Dairy Industry Association's Research Incorporated, and the Whey Products Institute

LEGISLATION GOVERNING THE PROJECT

The Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500) and the Clean Water Act of 1977 (Public Law 95-217) are the two primary pieces of legislation affecting the Thayne project. The 1972 act authorized EPA to make Federal grants of up to 75 percent of the cost of designing and constructing a municipal wastewater treatment facility. The 1977 act provided for Federal grants of up to 85 percent if the project involved alternative and innovative technologies.

The 1972 amendments state that it is the policy of the Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate water pollution. EPA has transferred certain review and approval functions under the construction grant program to the States as they are able to assume them. Such functions include reviews of project plans and specifications, bid and contract documents, and operation and maintenance manuals. EPA, however, is responsible for ensuring that Federal requirements are met by all grant applicants.

Municipalities are responsible for planning, designing, constructing, operating, and maintaining waste treatment facilities. Most municipalities, especially the smaller ones, hire consulting engineering firms because they do not have the engineering capability to plan, design, and supervise treatment facility construction.

The National Pollutant Discharge Elimination System, created by the 1972 amendments, is the principal tool used to enforce discharge requirements. Under the act, discharging any pollutant into the Nation's waterways without a permit is illegal. Any violation of the permit is a violation of the law, and the violator is subject to fines, imprisonment, or both.

All point sources dischargers (see glossary), including industrial treatment plants; municipal treatment plants; certain agricultural, forestry, mining, and fishing operations; and other commercial activities are required to obtain a permit. The permit system is administered by EPA or an EPA-approved State program. Permits in Wyoming are administered by DEQ.

Generally, a National Pollutant Discharge Elimination System permit, which is issued for fixed periods not exceeding 5 years, specifies (1) discharge limitations for specific pollutants or substances, (2) schedules setting forth the type of actions required and time frames necessary to comply with the discharge limitations, (3) requirements for self-monitoring of wastewater flows and of specified pollutants, and (4) periodic reporting of plant compliance.

CHAPTER 2

HOW AND WHY THE THAYNE FACILITY FAILED

The Thayne wastewater treatment facility was built in 1975 to stop pollution of nearby waterways by treating wastes generated principally by a cheese manufacturing plant located in Thayne. Yet, more than $1 million and 6 years later, the treatment facility sits basically idle, as the cheese plant discharges its untreated wastes directly into Flat Creek. The project can best be described as a case history in poor management by the Federal, local, and private entities involved. The project so far has largely been a waste of taxpayers' money.

Throughout its history, the facility has been beset by problems.

--The spray irrigation system chosen for the project was high risk because it could ice up in Thayne's harsh winters and needed a high level of operation and maintenance.

--SVCC continually overloaded the capacity of the facility to treat wastes, in one extreme case 985 percent higher than its capacity.

--The project design had deficiencies. For example, the storage lagoon capacity was too small, as was the amount of land on which the effluent was sprayed.

--The construction company that built the facility did a poor job. Liners of the storage lagoon were improperly installed and sprayfield land was not properly prepared.

--The system's operation and maintenance was neglected.

--Severe odor problems, particularly during summer months, occurred because the cheese plant had high discharge levels and the system did not function properly.

--Most of the new construction items provided for in a $617,000 grant amendment were never installed.

THE 1972-1977 PERIOD: THE SYSTEM INSTALLED WAS A FAILURE

In 1971 Thayne hired Nelson Engineering of Jackson, Wyoming, to do background studies for a treatment facility. In April 1972 Thayne authorized the firm to design a treatment system capable of handling wastes from both SVCC and Thayne. In July 1972 Nelson Engineering proposed aerated lagoons, at an estimated cost of $473,000, as the most economical way to treat the combined wastes. However, at about the same time, an Idaho equipment

gave us information on the uses of lactose, the relationship between increased milk production and pollution levels, and general dairy industry research.

We made no technical determinations about the design capability or capacity of the treatment plant. Rather, we relied on information obtained by EPA and DEQ.

Further, DEQ strongly encouraged using a sprayfield irrigation system because it was less expensive to construct and operate.

EPA approved the sprayfield system

In December 1972 Thayne applied to EPA for a grant to construct the sprayfield irrigation system and included Nelson Engineering's report. Before EPA's grant approval, DEQ also reviewed the plans and specifications and concluded that the sprayfield system would provide an effective and satisfactory method of treatment.

In July 1973 EPA approved the project, which was designed to treat 1,300 pounds of BOD (see glossary)--1,250 pounds (96 percent) from SVCC and 50 pounds (4 percent) from Thayne, and provided funds to construct it. Estimated project costs were $522,000; EPA provided $392,000 to construct the collection system and facility, depicted in the diagram on the next page. The diagram is a rough representation of the facility. It is not drawn according to scale and is meant to show the flow of wastewater through the facility and the relationship of the parts to the whole facility.

EPA's approval process has been a point of controversy. Thayne officials believed that EPA's approval of the project constituted its assurance that the facility would work as designed. EPA does not agree.

Section 203 of the Clean Water Act, as amended, states in part that

> "* * *Each applicant for a grant shall submit to the Administrator for his approval, plans, specifications, and estimates for each proposed project for the construction of treatment works* * *."

EPA, in its implementing regulations, however, stipulates that its approval of projects' plans and specifications is for "administrative purposes only" and does not relieve the grantee of its responsibility to design and construct a project that will stop pollution in accordance with Federal laws. This means in effect that EPA generally will review only the treatment process proposed, and then only in a limited manner. It will satisfy itself that components are properly sized to adequately treat anticipated waste flows. EPA does not critically review the electrical or mechanical aspects of a design, its structural soundness, or the quality of the materials to be used. EPA believes that these details are the responsibility of the design engineer.

Before approving the design, EPA regional officials requested that the wastewater receive 85 percent treatment before being sprayed on the land. However, the past administrator of DEQ'S Water Quality Division strongly disagreed with EPA. He stated that

company presented a spray irrigation method of sewage treatment to Thayne and SVCC officials. Subsequently, Thayne's Mayor instructed Nelson Engineering to consider this method of treatment.

The sprayfield system was considered risky by the design engineer

In December 1972 Nelson Engineering proposed a spray irrigation system for Thayne, but its report noted that it was a high-risk system. The report pointed out that major factors affecting such a system would be the weather, site selection, and effective long-term operation and maintenance of the system--all of which proved to be prophetic in the failure of the system. Among the risks involved in selecting a sprayfield system, the report warned, were the following:

--Sprayfield irrigation is relatively new; however, given proper design, a good site, and guaranteed high-level operation and maintenance, the system can be an effective and economical treatment method.

--Weather conditions in Thayne are extreme; however, these systems are reportedly operating successfully in Wisconsin under similar conditions.

--More sprayfield irrigation treatment facilities have failed due to poor or unintelligent operation and maintenance than for any other reason. It is absolutely necessary that a public body considering the use of this method of treatment be prepared to initiate and sustain the necessary action to guarantee long-term operation and maintenance that the system will require. Only with such willingness should this system design be considered.

Although the records were not always available or clear as to why the sprayfield irrigation system was selected over Nelson Engineering's first proposal of aerated lagoons, the available information indicates that Thayne wanted to cut costs. Although SVCC officials alleged that EPA insisted that Thayne adopt the sprayfield system, we could find no support for this contention.

The president of Nelson Engineering stated that the sprayfield system was adopted because

--Thayne could not afford the aeration lagoon method of treatment (which also would result in some minor discharge into area streams),

--the Federal Water Pollution Control Act and EPA encouraged facilities that did not discharge into waterways, and

--land was eligible for EPA funding.

no valid engineering reason existed for this requirement and that it would cause project costs to more than double. The administrator consequently asked that the Wyoming Governor pressure EPA to eliminate the requirement. The records do not clearly tell what then happened; however, the design that EPA ultimately approved provided for only 25 to 50 percent treatment of the wastewater before it was sprayed on the land. A report prepared by Thayne's current engineer (Tudor Engineering) after the project experienced severe operating problems noted that this level of treatment before spraying was not acceptable for a spray irrigation system and consequently this decision was a contributing factor to the resulting odor and sprayfield operation problems.

SVCC overloading problems

SVCC's overloading of the facility has been cited by most parties as the primary reason why Thayne's treatment facility failed. Although the facility began operating in January 1975, we could find no records of any SVCC discharge tests until July 1975. At that time, three DEQ measurements showed SVCC's average organic discharge into the treatment facility to be 1,979 pounds of BOD, or 52 percent greater than the facility's 1,300 pound-BOD designed capacity.

Excess BOD amounts such as these measurements show can cause problems. When BOD amounts are higher than the treatment facility's capacity, a lower level of waste treatment occurs, the facility may experience operation and maintenance problems, and, ultimately, there is pollution to the receiving body of water or land.

As facility problems became more evident, there was stepped-up activity to measure SVCC discharges. For example, in November 1977 Tudor Engineering measured SVCC's discharge as high as 12,800 BOD, or 985 percent greater than the facility's designed capacity.

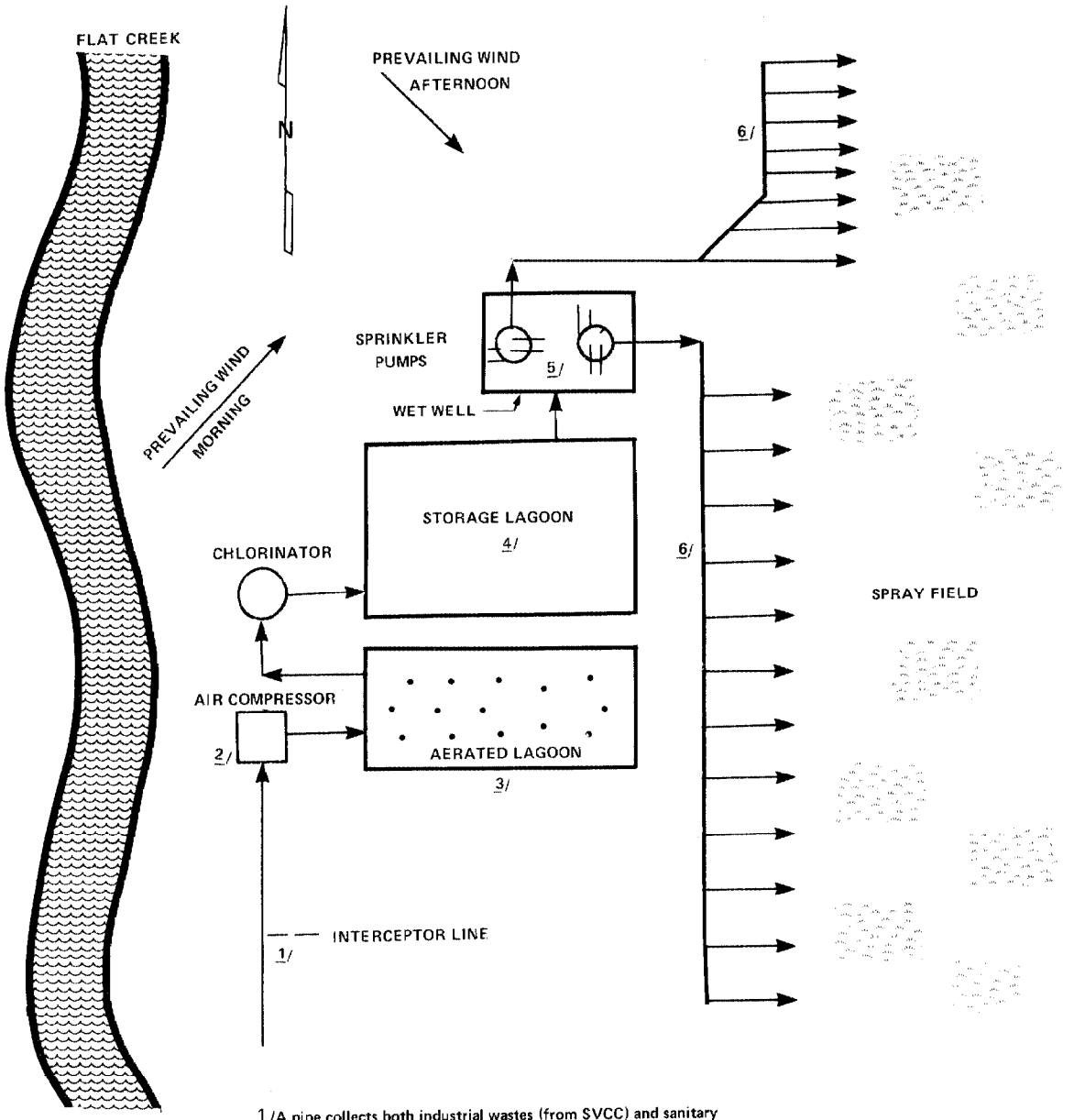
Although we did not find any documents showing that Thayne tried to limit SVCC's discharge between 1975 and 1978, Thayne officials told us that the facility's operator frequently asked SVCC officials to limit the discharge, but SVCC continued to overload the system. DEQ issued a notice of violation and a cease and desist order to SVCC in October 1975. SVCC continued its discharge into Thayne's system, and DEQ took no further action until 1978 when it tried to again limit SVCC's discharge.

Design deficiencies

Reports by EPA and Tudor Engineering, prepared after problems with the facility became evident, identified the following design deficiencies:

--The lagoon storage capacity was too small.

SCHEMATIC OF THAYNE WASTEWATER TREATMENT SYSTEM



1/A pipe collects both industrial wastes (from SVCC) and sanitary wastes (from Thayne's 106 sewer hookups which are mostly residential) and feeds them into the aeration pond.

2/This building primarily houses air compressors which pump air into the wastewater in the aeration pond.

3/Air is pumped into the wastewater in this pond to provide some treatment. The pond holds the water for 24 hours.

4/Water is stored in this pond for about 3 days before it is pumped to the sprayfield.

5/This building primarily houses the pumps and controls for pumping wastewater from the storage pond to the sprayfield.

6/Sprinkler heads spray the wastewater (pumped from the storage ponds through lateral pipes) over about 37 acres of land with a crop cover. Treatment then occurs as the wastewater percolates downward through the soil.

TOWN OF THAYNE

the concrete aeration building, and unfinished construction work. In July, DEQ inspected the project, confirmed the construction problems, and requested an indepth EPA inspection. EPA inspected the facility and collection system in September 1975 and confirmed the construction problems. The contractor went bankrupt, and project construction stopped in October 1975.

These problems led to operational difficulties. Reported examples by EPA, DEQ, Tudor Engineering, and Booth Brothers and Company (an Iowa engineering company Thayne hired to review the project) include the following:

--The sprayfield was laid improperly and sprayfield pipes were not buried. As a result, with the onset of cold weather, pipes ruptured and sprinkler heads froze, adversely affecting the land treatment process.

--Rubberlike liners in the storage and treatment ponds were improperly installed. With use, the liner in the storage pond punctured and deteriorated and was sucked into the sprayfield pumps.

--Thayne had problems retaining an operator for the facility, and certain day-to-day maintenance activities were neglected.

--The guidance manual needed to operate and maintain the system was not available until 1 to 1-1/2 years after operations began.

--The automatic sprayfield controls did not work properly and had to be manually operated. Also, the sprayfield was not sprayed equally.

--Scum that accumulated on the aeration and storage ponds had to be scooped off manually, but this task was not always done.

In their comments on our draft report, Thayne stated that another reason for the system's failure was that virtually no construction inspection services were provided by Nelson Engineering during the initial construction of the facility. We discussed with the president of Nelson Engineering the extent of inspections his company performed. He said that for a good part of project construction Nelson supplied a resident engineer to monitor project progress.

Odor problems

A technical assessment report of the facility, which EPA prepared at our request in September 1980, showed that the construction and operation problems and the excessive industrial discharge by SVCC combined to cause a severe odor problem.

--The amount of land allowed for the application system was inadequate.

--No provisions were made for the removal of sludge and scum from the lagoons.

--The sprinkler heads selected were not made with wastewater characteristics in mind.

Nelson Engineering, the system designer, disagreed that there were design deficiencies and pointed out that the system worked. A July 1978 EPA report prepared by the University of Wyoming concluded that treatment did occur sometimes in excess of the plant's design capacity, although odor problems became severe. However, EPA officials believe some design oversights occurred. In particular, they noted that the sprayfield design did not include wastewater storage during unfavorable winter weather conditions, which would have required a storage capacity of about 150 days. Building the storage was economically unacceptable to Thayne.

A September 1980 EPA report stated that Nelson Engineering's sizing the facility at 1,300-BOD did not constitute a design deficiency. EPA later told us that it was unreasonable to assume that Nelson Engineering could have anticipated SVCC's excessive discharge levels, given SVCC's past history of a static production level and limited growth potential because of its poor financial condition.

Nelson Engineering's 1972 report based the facility's size on 4 weeks of flow measurements and five composite samples of SVCC discharge samplings. It concluded that although production would increase approximately 20 percent within a few years, it assumed that the additional organic discharge from increased production would be offset by improving the plant's waste management procedures, such as water conservation. However, in October 1975, when SVCC was sold to Masson Cheese Corporation, SVCC increased its production threefold and changed the types of cheese it made. Our discussions with several cheese industry officials indicate that, while increases in production can proportionately increase the organic discharge level, changes in the types of cheese products made do not necessarily affect organic discharge.

Construction defects led to operation and maintenance problems

When were serious construction problems detected? According to DEQ's chronology of events, EPA inspected the project in June 1974, shortly after construction began, but noted no problems. Neither EPA nor DEQ conducted any inspections during the following 13 months. However, in June 1975, a citizen of Thayne complained about 49 breaks in the sewer collection line, cracks in

On July 24, 1978, Thayne was awarded the $300,000 EDA grant increase. The EDA grant amendment showed that these funds were to be used for project repairs and modifications that were ineligible for EPA funding. It specified that EDA funds would cover the following.

Item	Amount
Sewer line inspection	$ 25,000
Sewer repairs	100,000
Intake and control building modification	12,000
Existing lagoon modifications	36,000
Irrigation modification	35,000
Other (administrative, architectural, and engineering fees and project inspection)	92,000
Total	$300,000

Further, the EDA grant provided:

> "That this grant amendment is adequate to fund correction of any deficiencies in the existing facility and that the cost of any subsequent modification of this wastewater treatment works will be borne solely by the grantee."

Changes for which grant funds were provided did not occur

According to Thayne officials and their records, EPA, which administers the EDA grant, had paid about $536,000 of the $617,000 as of July 31, 1980. Yet, the Thayne system we saw during our September 1980 visit differs considerably from the one described by the grant amendments. In comparison with the initial system (see p. 10), the only new features were two flow-monitoring stations and added aeration capacity to the storage pond. Repairs to the existing system were also made, as follows.

- --The collection system pipe was repaired. These repairs cost about $85,000 and took 2 years to complete.
- --The aeration pond was dewatered, regraded, and relined with a rubberlike material.
- --The storage pond was also dewatered, regraded, and relined with a rubberlike material and aeration was provided.
- --The pumps were cleaned and repaired; new sprayfield controls were installed. A Tudor Engineering official added that a screen was placed in the duct leading from the storage pond.

The Mayor of Thayne described the odor as a nauseating, sour-milk smell, which resulted in numerous citizen complaints beginning in the summer of 1976. The Mayor told us that it was the "last straw," and in the summer of 1978, after about 3 years of operating the facility, Thayne stopped sprayfield operations.

THE 1978-1980 PERIOD: ATTEMPTS TO DEAL WITH PROBLEMS FAILED

In 1977, seeking solutions to the project's many problems, Thayne dismissed Nelson Engineering and hired Tudor Engineering. In August 1977, Tudor provided Thayne with a "Sewage System Improvements and Engineering Evaluation and Feasibility Report," which outlined the basic problems as odor and high maintenance and operation costs resulting from freezing during the winter months. Tudor cautioned Thayne that the report was based on a short-term investigation and that, as circumstances developed, minor refinements to it would be made. However, the report noted that the basic concept of dealing with the plant's problems and the cost estimates were adequate for decisionmaking and funding purposes.

Tudor's report estimated that the modifications and repairs would cost $592,000 and would include the following:

Major construction items	Estimated cost
Install pretreatment facility, including biological reactor, clarifier, and controls	$250,000
Construct high-rate percolation beds	45,000
Repair existing lagoon liner	25,000
Modify existing intake and control building	12,000
Provide partition for existing lagoon	11,000
Repair and rehabilitate existing sewer lines	100,000
Clean and inspect sewer connection lines	25,000
Nonconstruction costs	124,000
Total	$592,000

In September 1977 Thayne applied for $617,000 in Federal funds: $317,000 from EPA and $300,000 from EDA. EPA approved the $317,000 grant increase on December 28, 1977, increasing its total funding to $709,000. The EPA grant amendment described the project as providing:

> "Sewage collection and treatment facilities to include aerated lagoon, biological reactor, high rate percolation beds, landscaping, chlorination facility and irrigation system."

--In September 1978 DEQ recommended to the Mayor of Thayne that Thayne and SVCC agree on specific limitations on the flow and organic discharge to the project. In November 1978 the Mayor notified SVCC officials that this agreement was needed. Since that time, Thayne and SVCC held numerous discussions and exchanged correspondence, but an executed agreement was never reached.

--In February 1979 DEQ suggested a format for such an agreement.

--In March 1979 EPA issued a notice of violation citing SVCC for excessive discharge to the treatment plant. This notice ordered SVCC by May 1979 to (1) take necessary actions to bring its discharge into compliance with its permit and EPA regulations and (2) develop a plan for treating its wastewater to a quality and quantity acceptable to Thayne officials (this plan was also to specify a BOD limit on SVCC's discharge to the Thayne system).

--In April 1979 DEQ again informed Thayne that an agreement to limit its discharge was needed under its permit and ordered Thayne to submit a draft agreement before May 10, 1979.

SVCC's counsel responded to EPA that SVCC intended to install evaporation equipment to pretreat its discharge to the treatment facility to approximately 2,000 BOD. He added that SVCC would be in full compliance by September 1, 1979. EPA accepted this schedule of compliance. However, SVCC did not reduce its discharge level, although it installed evaporation equipment to pretreat its discharge to Thayne. For example, samples of SVCC discharges that Tudor took from September to October 1979 showed 3,600-BOD per day discharges from SVCC and samples DEQ took in March 1980 showed 5,100-BOD discharges per day.

Operations cease

Because all attempts to limit SVCC's discharge had been unsuccessful and because Thayne was eager to resolve the SVCC discharge problem, EPA, DEQ, Tudor Engineering, and Thayne officials held an August 1979 meeting to determine their course of action. Two options were presented. The existing system could be used for the town only and SVCC could take care of its own wastes or a facility could be built to treat their combined wastes. According to memorandums of this meeting:

--EPA would support expanding the existing facility from 1,300-BOD to 2,000-BOD but would limit SVCC to a maximum of 1,750-BOD. Construction to treat more than 1,750 BOD from SVCC could not receive EPA funding. An EPA regional attorney later told us that support did not necessarily mean financial support and that how a 2,000-BOD facility would be paid for was not discussed.

--Two flow monitoring stations costing $35,000 were constructed.

Although some repairs and modifications occurred, much of what the additional funds were to accomplish had not been done. Specifically, the biological reactor and high-rate percolation beds were not built. Further, 34 percent of these funds were used to pay Tudor Engineering for architectural and engineering services.

EPA is now withholding future payments until it makes a final review of the eligibility of the costs incurred. The additional payment requests made as of September 5, 1980, total $80,600 and include $63,456 for construction and $17,144 for engineering services.

A picture of uncertainty and confusion emerges between July 1978, when the additional $617,000 was provided, and September 1980, when most of the repair work was finally completed. Although the $617,000 in Federal funds were provided to Thayne to construct such items as a biological reactor and rapid infiltration beds, Thayne did not decide which items to construct until December 10, 1979--1-1/2 years after the additional funds were provided.

By this time, $175,000 of the $617,000 had already been spent for engineering services. Tudor Engineering officials stated that their services included analyzing the expected organic discharge and developing several facility design schemes. They added that, for their initial August 1977 proposal (p. 14), they had to rely on the data available at the time to estimate the facility's organic load. Because controversy arose over the prior data's accuracy, they conducted additional tests on SVCC's discharge and developed two flow schemes in March 1978. One scheme was for a facility with a 2,000-BOD capacity and cost $759,000. The other scheme was for a facility with a 12,900-BOD capacity. At an estimated cost of $2.2 million, it would treat the equivalent sewage of about 76,000 people. The records are not clear as to the decisions reached in regard to the 12,900-BOD facility scheme, but we assume that it was rejected because of the expense. Tudor Engineering officials stated that the 2,000-BOD scheme was predicated on SVCC's ability to control and limit its discharge, since a discharge level that was too high would destroy the system.

SVCC discharges continued to overload the facility

After the facility ceased treatment operations in the summer of 1978 and raw sewage was discharged into Flat Creek, EPA, DEQ, and Thayne intensified their efforts to limit SVCC's discharge.

On November 15, 1980, the State of Wyoming filed a complaint against SVCC for violating the discharge permit conditions and urged the court to fine SVCC $10,000 per day.

EPA officials were unaware of the lack of construction work

Some EPA regional officials were not aware that the scope of the project had changed or that much of the funds provided had been used for a facility much smaller than envisioned by the 1978 grant amendment. The EPA section chief responsible for the Thayne project informed us in March and April 1980 that (1) Thayne was using the 1978 grant funds for a project with a 1,750-BOD treatment capacity, (2) biological reactors and rapid infiltration beds were being constructed, and (3) the existing facility was being rehabilitated. He added that the new construction work would be completed by the spring of 1980 with the $317,000 in EPA funds that had been provided. However, while visiting the facility in April 1980, we learned that

--no biological reactors were being built and there were no plans to build any,

--Thayne officials were negotiating a 300-BOD limit for SVCC (including some allowance for SVCC's restaurant and sanitary wastes) since the designed system capacity forced such a limit, and

--rapid infiltration beds and additional storage ponds could only be built if EPA provided an additional $227,000.

Tudor Engineering officials informed us in September 1980 that after repairs, the facility's organic treatment capacity would be about 450 BOD. However, when EPA and DEQ approved the repair work in October 1979, the project capacity was set at only 130 BOD. Because the facility's capacity had decreased so dramatically after additional funds were provided to repair it and because of the differences in BOD estimates, we asked EPA regional officials to review the facility's technical capability. EPA reported in September and October 1980 the following information:

--Overall, Thayne's existing sprayfield system is capable of treating, on a year-round basis, the initial organic design level, that is, 1,300 BOD. However, Thayne's lagoons could not handle such a loading level in the event of sprayfield system equipment failure or adverse weather conditions.

--Thayne would reach a decision on alternatives by December 10, 1979, based on SVCC's ability to meet the 1,750-BOD level and certain other requirements.

--Additional discharge sampling would be done because SVCC had expressed concern that prior reports on its discharge levels were inaccurate and that the proposed facility's capacity (2,000 BOD) was overdesigned. 1/

--Thayne would continue to give SVCC the opportunity to join with the town for waste treatment purposes.

--Thayne would proceed in the fall of 1979 with system repairs for the town's wastes only.

However, Tudor Engineering officials stated that, by the August 1979 meeting, not enough funds were left to make the changes to the facility as required by the most recent grant amendments, or even to complete the work required so that the system could be used for only the town.

Finally, on December 10, 1979, Thayne officials decided that since SVCC would not agree to limit its discharge and agree to pay for the additional costs of enlarging the system, the most feasible action they could take would be to repair and modify the existing project to accomodate only the town's wastes.

In discussing the reduction in scope, an EPA regional attorney stated that although changes in scope require written approval from the regional administrator, this was not done and the project was informally reduced in scope.

In March 1980 Thayne imposed a limit of 300 BOD on SVCC and advised SVCC of this limit. Thayne also informed EPA that an agreement regarding the discharge was being worked out with SVCC; however, no agreement was reached.

Thayne officials told us that the community made numerous attempts to negotiate a discharge rate with SVCC that would be compatible with Thayne's treatment facility. The Mayor of Thayne told us that SVCC gave the town promises but no action and that the town council, concerned about an EPA-threatened enforcement action, decided that the only course left to them was to disconnect SVCC from the system, which they did on August 6, 1980.

1/Additional tests conducted by Tudor Engineering during mid-September to October 1979 showed that SVCC exceeded 1,750 BOD on 19 of 22 test days.

While such treatment would not meet discharge permit requirements, a DEQ official told us in January 1981, that the State has not taken enforcement action because Thayne has applied to DEQ for a modification to its discharge permit to allow for surface discharge during the winter. DEQ is also considering providing Thayne with funds to construct storage beds for use during the rest of the year. In its comments on our draft report, Tudor stated that the system adequately treats the wastewater generated by Thayne during all but the coldest winter months.

Thayne's operational problems may not yet be over. The repairs made to the collection system may not be adequate. A Tudor Engineering official informed us that problems with the collection system will persist and the leaks might get worse over the life of the facility. He also said that the collection system is in poor condition and if it failed dramatically, the facility's treatment capability could be affected.

DEQ estimated that it would cost about $700,000 to adequately repair the collection system. A DEQ official pointed out that a more cost effective solution to Thayne's problem may be a return to the use of individual septic tanks. He estimated the complete installation and purchase of septic tanks to be about $1,500 per house. Since there are 106 sewage hookups in Thayne, most of which are residential, a rough cost estimate of this option is about $160,000, if all the homes need new septic systems. This estimate may be high; many of the septic tanks previously used by Thayne residents may still be functional.

In November 1980 the State of Wyoming filed a complaint against SVCC for violating its discharge permit conditions.

CONCLUSIONS

Thayne's project history illustrates the types of problems that can occur as a result of deficient management. No single entity has caused Thayne's problems but no one party is blameless either.

EPA appeared to submit to pressure from the State of Wyoming to approve a treatment level far below the level it thought necessary. EPA was also unaware of the construction problems until DEQ, acting on notification by a Thayne citizen of possible construction defects, requested EPA to perform an indepth inspection 15 months after EPA's June 1974 inspection. Also, EPA's limited review of the $617,000 grant amendment work did not disclose that most of the new construction work was not being done and that funds were being used for architect/engineering services in excess of amounts budgeted in the grant agreement. Further, EPA should have required Thayne to limit SVCC's discharge when it became evident that the discharge was causing the treatment plant to malfunction.

--At the current level of repairs and with the current storage capacity of the lagoons, the sewage project is adequate to treat 130 BOD.

--At the current level of repairs and with minor modifications, the sprayfield could treat 450 BOD, from both Thayne and SVCC, provided the industrial discharge from SVCC was greatly reduced and pretreated. Supplemental irrigation water would probably be needed to maintain a healthy crop cover on the sprayfield. Also, an additional 15 to 20 days of wastewater storage capacity should be provided to allow for equipment failures or adverse weather conditions. An odor problem could continue to develop during the summer months.

--If all sprayfield deficiencies were corrected (which would require additional funding), the sprayfield would be adequate to treat 1,300 BOD. However, 15 to 20 days of additional wastewater storage capacity would still be required to allow for equipment failures and adverse weather. The potential for odor problems would be high through the summer months and would make the system unacceptable.

In October 1980 the EPA region modified its position that the system was adequate for year-round operation. EPA's regional director of the water division informed us that EPA had learned that the sprayfield system could not be used during the winter months without serious concern for freezing and rupturing of the sprayfield laterals. The director said that this problem resulted, during the recent repair work, from installing sprayfield control valves that did not allow the laterals to properly drain. Thus, the water remains in the laterals between spray cycles and is subject to freezing during the winter. He added that, as initially designed and constructed, the lateral control valves allowed the lateral to automatically drain following each spray cycle. The EPA regional director also informed us that the sprayfield control valves were paid for with EDA funds and were installed at the direction of Thayne's engineer.

As a result of this latest development and the evaluation EPA conducted, EPA's position is that Thayne should install, at no expense to EPA, sprayfield laterals that would rapidly drain following each spray cycle and should also operate the sprayfield year-round for only the town's wastes. EPA expects Thayne to operate the facility in this matter or to install some other facility (that does not discharge waste into local waterways) without further EPA financial aid. If Thayne refuses to meet EPA's expectations, steps will be taken to recover EPA construction grant funds.

However, Thayne decided against operating the entire system during the 1980-81 winter season. It used the treatment facility only to aerate the wastes before discharging them into Flat Creek.

EPA COMMENTS AND OUR EVALUATION

In a letter dated May 14, 1981 (see app. II), commenting on our draft report, EPA objected to our conclusion in the draft report that because EPA is responsible for assuring the need for the facility and the fiscal integrity and quality control over the construction grants program, it bears the ultimate responsibility for the failure of Thayne's treatment facility. EPA said that this conclusion is premised upon a serious misunderstanding of the basic philosophy underlying EPA's wastewater treatment works construction grants program. Fundamental to the statutory scheme and EPA's implementation of the program is the principle that a municipality that accepts a construction grant is responsible for the administration and successful accomplishment of the project. A municipality's failure to complete a grant project constitutes a breach of the grant agreement that will disqualify costs for grant funding.

EPA stated that by concluding that it is ultimately responsible for a grant project's failure, the draft report severely undercuts EPA's efforts to make clear to municipalities that they are primarily responsible for the successful completion of grant projects. EPA added that, clearly, this is contrary to the Federal Government's interest in maintaining clear lines of responsibility and in holding grantees accountable for how they spend Federal grant funds. Specifically, EPA said that our conclusion may jeopardize EPA's efforts to hold municipalities accountable for project failures and responsible for compliance with the Clean Water Act. EPA also stated that the draft report encourages municipalities to neglect their project management duties.

Our conclusion in the draft report that EPA was ultimately responsible for the failure of the Thayne project was based on EPA's broad responsibility for abating water pollution nationally. We have considered EPA's comments and have revised the report accordingly.

We recognize that EPA regulations state that municipalities are primarily responsible for the successful completion of their projects and are accountable to EPA if the projects fail to meet their intended purposes. But EPA also has a clear oversight role that it must prudently exercise. EPA's role stems from its basic responsibility for abating water pollution and as the Federal Government's agent in disbursing Federal funds. We do not advocate, as EPA's comments suggest, that EPA perform a duplicative function for approving plans and specifications

Thayne, as grantee, is responsible for administering and successfully accomplishing the project. Its failures were many, beginning with its decision to build a facility considered high risk by its engineer. It never was able to reach agreement with SVCC to have it limit its discharge into the treatment facility, even though SVCC's high discharge levels ultimately forced Thayne to cut off the cheese plant from the system 6 years after SVCC began overloading the system.

SVCC made no real effort to reduce its discharge to a level compatible with the treatment plant's design capability. Not until EPA issued a notice of violation against the company in March 1979 did SVCC install pretreatment equipment, which failed to work effectively because of continued high discharge levels.

EPA must now take decisive action to resolve the problems that still exist. DEQ's suit against SVCC will probably result in a consent decree requiring SVCC to a schedule of compliance specifying certain actions to resolve its pollution problem. EPA would then have to closely monitor the adequacy of DEQ's enforcement of the compliance schedule to ensure that SVCC has taken the actions the schedule requires.

Regarding Thayne's current discharge, DEQ will be testing it to determine whether it exceeds State pollutant levels. If the level is exceeded, EPA can take several actions. It could require Thayne to operate the existing system. This action would involve considerable additional funds to repair the sprayfield and storage lagoons, build rapid infiltration beds, repair the collection system, and operate and maintain the system year round. Besides the high cost to repair and modify the existing system, this option has the additional drawback of the continuing operation and maintenance costs, which Thayne may not be able to afford without the user charge payments it once received from SVCC. There is also the additional risk of trying to repair a facility with a history of problems.

Another option that could be considered would involve abandoning the existing system and returning to a septic system Thayne once used. Section 201(h) of the Clean Water Act of 1977 provides for Federal financial assistance for a septic system for individuals when certain conditions are met. As we pointed out in our November 3, 1978, report entitled "Community-Managed Septic Systems--A Viable Alternative to Sewage Treatment Plants" (CED-78-168, dated Nov. 3, 1978), septic systems are environmentally sound, technologically feasible, and cost effective.

Because resolving Thayne's and SVCC's pollution problems is dependent on court and DEQ actions, we are not making any recommendations about the treatment facility's operational problems.

controls relying primarily on the actions of third parties to properly perform and administer grant projects with only limited EPA or State oversight have resulted in significant amounts of waste, abuse, and mismanagement. Priority must be given to directing that resources be expended for increased project review and oversight.

or inspecting construction work. These functions belong to the grantee or its architect/engineer. Rather, EPA should assure itself, before it disburses Federal funds, that a potential grantee has the management and financial capability to effectively carry out a construction grant project and that during construction, the grantee's inspectors are adequately monitoring construction progress in accordance with the approved design.

Oversight is particularly important to small communities such as Thayne, where the sometimes harsh economic and social consequences of meeting Federal standards for pollution control requirements hit especially hard because of higher per capita costs and a lack of technical expertise. Our report on this subject entitled "EPA Should Help Small Communities Cope With Federal Pollution Control Requirements" (CED-80-92, dated May 30, 1980) delineated the small communities' problems. The Thayne project had similar problems, such as the lack of engineering expertise at the local level.

The need for significant improvements in oversight procedures and controls was highlighted in an EPA Office of Inspector General report dated March 31, 1981. The report consolidated the results of special EPA investigative work and other EPA and GAO reports on the construction grant program. The report noted major deficiencies in virtually every aspect of project administration.

"1. Grants were awarded to grantees who were not ready to proceed and who did not have the technical or administrative expertise to properly manage the project.

2. Deficient work by consulting engineers and contractors has permitted the building of treatment works which were poorly planned and inadequately constructed at excessive costs to the public.

3. EPA and State reviews were not sufficiently comprehensive to identify significant deficiencies in design, plans and specifications, construction, or management of grant projects.

4. Even in those instances where EPA was aware of significant problems, Agency officials frequently did not effectively deal with these problems in a timely manner."

The report stated that by allowing such weaknesses to exist, EPA has created a climate in which waste and abuse thrive and little is done to protect the public interest. Efforts to administer the program with limited resources and major emphasis on grant award and payment have been a failure. Systems and

Thayne collected $34,256 in industrial cost recovery payments from SVCC during the period February 1, 1975, through July 31, 1979, when Thayne suspended further collection of SVCC's payments. (We did not evaluate whether the payments were reasonable.) We calculated that Thayne collected $22,202 from SVCC through December 27, 1977, of which $11,101 plus interest should have been remitted to EPA. However, as of mid-September 1980, Thayne had not sent EPA any of the amount collected. Thayne officials said that they were aware that these funds were due the U.S. Treasury and have set the funds aside for that purpose. However, they told us that without some sort of payment request, they were reluctant to pay EPA.

EPA does not request grantees to remit the industrial cost recovery payments. Also, EPA's project officer for Thayne told us that the region does not have the resources to keep track of who does or does not remit these payments.

PROBLEMS WITH ARCHITECTURAL/ ENGINEERING FEES

EPA needs to (1) determine whether Tudor Engineering's fees were reasonable and (2) have better control over the payment of these fees.

Architectural/engineering costs appear high

The architectural and engineering fees paid to Tudor Engineering appear high when compared with fees normally paid for engineering services. EPA and DEQ officials stated that engineering services on sewage projects normally run 8-10 percent of the total construction cost but could be as high as 15 percent. However, since Tudor Engineering began engineering work for repairing and and modifying the project, it has been paid $212,000, or about 34 percent of the total estimated costs during that period. As of September 5, 1980, Tudor Engineering had requested payment of another $17,144. In contrast, Nelson Engineering (Thayne's first engineers) received about $38,000, or 7 percent, of project costs.

Both EPA and DEQ officials agree that Tudor's fees seem high. Tudor Engineering officials said that the high fees occurred because they had to continually design and redesign the project as the negotiations with SVCC took more than 2 years. Further, Tudor Engineering officials commented that EPA and DEQ directed some of the redesign efforts. Thayne officials said that they authorized Tudor to perform these services and they were certain that the services were performed.

We do not dispute that Tudor rendered services, only that architectural/engineering services on this project were high when compared with the norm and that much of the grant funds that were to be used for repair and modification work were used

CHAPTER 3

EPA'S FINANCIAL MANAGEMENT CONTROL

Adequate financial management is essential to protect the Federal taxpayer and the financial integrity of the construction grants program. We observed the following areas of concern which merit EPA's attention:

--EPA's failure to collect from Thayne and remit to the U.S. Treasury more than $11,000 in industrial cost recovery payments;

--the grantee's use of about 34 percent of modification and repair funds for architectural and engineering services, an amount far in excess of the grant agreement amount;

--possible overpayment of construction costs of about $95,000.

INDUSTRIAL COST RECOVERY PAYMENTS HAVE NOT BEEN PAID TO THE U.S. TREASURY

The Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500) provided that when an industrial firm, such as SVCC, used a municipal treatment facility, it had to pay the grantee (the community) the additional cost associated with building a facility capable of serving the industry and the community. Industry's share of the costs was usually based on its wastewater characteristics, such as the strength and volume. One purpose of this requirement was to prevent an industrial user of a municipal system from gaining a competitive advantage over an industry that constructed its own system.

The grantee was required to return to EPA each year 50 percent of the amount collected plus interest. In turn, the EPA Administrator was to remit this amount annually to the U.S. Treasury. The remaining 50 percent was to be used by the community, primarily for future expansion or reconstruction of the project, but 20 percent of this portion could be used as the grantee saw fit.

On December 27, 1977, the Congress declared a moratorium on collecting the cost recovery payments from that date until June 30, 1980. However, under the moratorium, a community could continue to collect the payment and invest the amounts collected until EPA advised it on how the sums should be distributed. On October 21, 1980, the Clean Water Act of 1977 (Public Law 96-483) was amended, which, among other things, repealed the industrial cost recovery provision retroactive to December 27, 1977. If grantees had collected industrial payments after March 1, 1973, and before December 27, 1977, these payments had to be used in accordance with the regulations in effect at that time. The grantee had to determine what action was appropriate with respect to industrial payments collected after December 27, 1977.

and approval. An EPA regional attorney told us that he had received the August 1977 agreement but had not yet approved it. He added that the final audit would determine whether the engineering costs were eligible for Federal reimbursement and approval.

Thayne officials told us that they were unaware of EPA's requirements for a formal written agreement for the engineering contract. However, according to a 1977 EPA report, a letter was sent in August 1973 to Thayne containing the grant agreement, grant conditions, and Federal regulations covering the grant. The regulations required a formal written agreement. That same month, Thayne officials replied that they read the agreements with their attorney and engineer and understood the requirements. Tudor Engineering officials stated that they were aware of the requirements but offered no explanation as to why they did not follow the requirements. Tudor later advised us in May 1981 that it had followed the requirements by submitting the necessary agreements, forms, and associated documents to Thayne and pressured EPA for a review. We could find no evidence, however, that EPA ever asked Thayne for a formal agreement.

EPA payment procedures

The payment procedures followed in this project provided little control over grant fund disbursement. First, Tudor Engineering officials submitted invoices to Thayne for approval. Thayne officials stated that they did not review the payments for support and assumed that the costs were correct. Tudor Engineering officials then consolidated other project invoices and prepared a payment request on which both Thayne and Tudor Engineering officials certified that the costs were in accordance with the terms of the project and were correct. Once certified, the payment request was sent to EPA for payment. EPA then paid Thayne, which distributed the funds. EPA stamped on the payment requests a statement that the payment was processed without review and that future requested amounts are subject to reduction if subsequent audits reveal that unallowable or ineligible costs have been included in this request.

EPA regional grant officials told us that for the sake of expediency, they do not compare the payment requests with the grant estimates but only compare payment requests with the total grant amount. Thus, although the engineering services exceeded the amount in the grant agreement by $117,500, EPA raised no questions about this amount. Had EPA compared the grant's budgeted amount with the actual payment requests, EPA would have seen that actual engineering costs significantly exceeded estimated costs.

An EPA headquarters official in the Grants Administration Division told us that EPA follows the standards set forth in Office of Management and Budget Circular A-102, Attachment O, which governs State and local grantee procurement. The circular basically places maximum reliance on the grantees' management of their own procurements and allows Federal Government involvement only through the audit process.

for engineering services. As discussed in chapter 2, the project envisioned by the grant agreement was never completed.

Engineering cost payments exceeded grant limits

Tudor's charges for engineering services were $117,500 more than the amount in the grant agreement between EPA and Thayne.

Tudor Engineering's 1977 report to Thayne for repair, modification, and construction of Thayne's collection and treatment facility estimated the total cost at $592,000 with other fees, which included engineering fees of $124,000. This report formed the basis for EPA's approval of the $617,000 grant to Thayne.

In 1977 Thayne submitted to EPA an unsigned engineering agreement between Thayne and Tudor. Thayne submitted EPA Form 5700-41, which certified that the proposed prices were complete, current, and accurate. The draft agreement and EPA Form 5700-41 showed engineering services of $94,396, or 16 percent of the estimated $592,000 cost. EPA's approved grant of $617,000 included $94,396 for engineering fees.

Item	Estimated amounts in the draft agreement	Actual payments
Basic architectural/ engineering services	$43,293	$ 83,249
Construction inspection	28,885	80,138
Other architectural/ engineering services	22,218	48,498
Total	$94,396	$211,885

The Thayne/Tudor engineering agreement

Tudor Engineering submitted the draft engineering agreement to EPA in September 1977, but the agreement was not signed by either Thayne or Tudor Engineering. Thayne and Tudor officials told us during our fieldwork that a signed agreement existed, but they could not produce it. Tudor officials told us that the unsigned agreement was not a valid agreement and that instead they had an implied agreement with Thayne officials. Thayne officials told us that they verbally authorized Tudor to provide services. Thayne's attorney characterized such action by the parties as a valid contract even though it may not be in writing.

On March 10, 1981, Thayne's counsel told us that a signed engineering agreement between Tudor and Thayne dated August 9, 1977, was discovered and was being submitted for EPA's review

EPA regional grant administration officials agreed that overpayments were made in the construction cost category. We did not try to determine if overpayments existed in other cost categories such as architect/engineering services and inspections. The regional officials said that a final audit will be conducted to cover these other categories and that they will disallow any ineligible costs and take steps to recover the funds. In all likelihood, this would be accomplished by withholding the overpaid amount from the final grant payment; $102,000 remains to be disbursed as of September 30, 1980. If the ineligible costs exceed $102,000, Thayne will have to pay the balance from its own funds.

We find it disturbing that EPA could permit payments in excess of federally mandated ceilings. Although the final audit should pick up ineligible costs, years often pass before such an audit is made. Also, disallowed costs can be a hardship on grantees since they have already spent the funds.

CONCLUSIONS

Throughout Thayne's project history, EPA seems to have paid little attention to the financial matters except to disburse funds. EPA's handling of the financial aspects of the Thayne project shows a disturbing lack of financial control and monitoring. EPA also failed to collect industrial cost recovery payments as required by law. Based on our limited review of construction and engineering costs, EPA should comprehensively evaluate all project costs.

RECOMMENDATIONS

We recommend that the EPA Administrator:

--Require EPA's Inspector General to perform a comprehensive and detailed audit of all costs associated with the Thayne project. If ineligible or unsupported costs are found, EPA should recover these amounts.

--Require the region VIII regional administrator to collect from Thayne the funds due the Federal Government for industrial cost recovery payments.

EPA COMMENTS

EPA did not agree with our conclusion that EPA's financial management control was inadequate. It believes that its system is consistent with Government-wide grants management policies.

CONSTRUCTION COSTS WERE OVERPAID

Our review of construction contracts and payments indicates that as of July 31, 1980, EPA may have overpaid Thayne $94,660 in construction costs. We obtained from Thayne's records the payments Thayne made to its contractors for construction items, repairs, and modifications. We then applied the Federal funding percentages to these figures to determine the maximum amount of payments that EPA and EDA should have provided to Thayne and compared this amount with the total payment Thayne received. The chart below shows the results of this analysis.

Payments for Construction, Repairs, and Modifications

	Construction	Repairs and modification	
Payments by Thayne to contractors	$561,734	$155,150	a/$716,884
Applicable percentages	75%	100%	
Maximum payments allowed	421,300	155,150	576,450
Actual payments Thayne received from:			
EDA	---	113,568	
EPA	475,088	---	
Total payments	475,088	113,568	588,656
Amount overpaid (difference between payments made and maximum payments allowed)	$ 53,788	$(41,582)	$ 12,206
Bond recovery			b/82,454
Total amount overpaid			$ 94,660

a/Includes a contractor payment of $23,187, which was based on a payment request; the actual payment was not verified.

b/Thayne received $82,454 from a bonding company when the initial contractor went bankrupt before project completion. We determined that this amount was necessary to complete the initial construction and repair and modify the treatment facility. Thayne placed $44,000 in the bank and used the rest for the project. Thayne told us in May 1981 that it had spent the $44,000 to further repair and modify the system. Depending on how the $82,454 is allocated between construction costs and repair costs and between Thayne and EPA funds, the amount overpaid will vary accordingly.

CHAPTER 4

RESPONSE TO OTHER QUESTIONS IN THE REQUEST LETTER

This chapter contains our responses to five questions ie the February 6, 1980, request letter; the other four questions were addressed in the preceding chapters.

WAS A 1973 AGREEMENT A CONTRACT?

The request letter (app. I) stated that a July 27, 1973, letter from SVCC's president to the Mayor of Thayne stated that the town and company had come to an agreement that

> "the company would intend to use the sewage disposal system for the life of the project, or for as long as the company is in operation."

We were asked to evaluate whether the agreement was binding on the town.

In its entirety, the letter reads as follows:

> "Mr. James Brooks and Mr. Harvey Hormberg of the Environmental Protection Agency in Denver, Colorado have requested that we confirm in writing the agreement that was reached between the Star Valley Swiss Cheese Company and the Town of Thayne, Wyoming in the March 29, 1973, Board of Directors' meeting regarding the proposed sewage disposal system. In that meeting it was agreed that the Star Valley Swiss Cheese Company would pay, on a monthly basis, 35 percent of the Federal share of the capital cost of the project. It was further agreed that the company would intend to use the sewage disposal system for the life of the project, or for as long as the company is in operation."

The apparent purpose of this letter was to comply with EPA regulations requiring that a grantee obtain letters of intent from each significant industrial user of the wastewater treatment facility. Letters of intent are for the benefit and protection of the grantee and may provide a basis for obligating the industrial user to help pay the capital cost. Unless one can imply an agreement from the terms of the letter or the course of conduct of the parties by the Town of Thayne (1) to build a wastewater treatment facility and (2) to process SVCC's wastes, there is nothing explicit in the agreement that obligated Thayne.

Whether this letter represents an implied contract binding Thayne to build a wastewater treatment plant to process SVCC's

EPA agreed to review Thayne's industrial cost recovery system, determine the amount due to the U.S. Treasury, and direct Thayne to make payment. EPA also stated that its Office of Inspector General will conduct a detailed interim audit of the Thayne project as resources permit, and the region will request the office to perform a final audit at closeout.

WERE THE USER CHARGES THAYNE COLLECTED USED PROPERLY?

The request letter stated that SVCC's attorney claimed that the user charge SVCC paid to Thayne had been put to a variety of nonsewer plant uses. We were asked to determine if this were true and where the user charge had been going.

The Wyoming deputy state examiner, whose staff has audited Thayne's financial records, stated that the town was applying user fees properly and that such fees were indeed being placed in the sewer fund and being used for maintenance and operation of the sewer system.

The town records showed that more user charges had been collected than had been spent on operations and maintenance.

WHAT ECONOMIC EFFECT WOULD RESULT IF SVCC WAS REMOVED FROM THAYNE'S SYSTEM?

The request letter asked whether SVCC would close down if it were taken off the town's system and what would happen to Star Valley's economy if this occurred.

Based on a September 1980 discussion with SVCC's plant manager, SVCC will not close down even though it has been disconnected from the town's system. The manager stated that the company, seeking a solution to its problems, was exploring the possibility of disposing of dairy wastes through a gasohol/alcohol plant. Earlier discussions indicated that SVCC was considering developing its own treatment or pretreatment system.

Loss of the cheese company would be a severe blow to the Upper Star Valley's economy. By updating data from a 1974 University of Wyoming Agricultural Extension Service report, the Wyoming director of industrial development said that closing SVCC would result in an $18.4 to $39.5 million loss to the valley's economy and bring on a major economic recession or depression.

SVCC is the only processing facility in the area for the valley's dairy farmers. If SVCC closed, the dairy farmers would have to ship their milk to other processing facilities, which are more than 70 miles away in Idaho and Utah.

It should be noted, however, that the cheese company and dairy industry are not the sole economic forces in Star Valley. The 1974 report showed that the timber industry accounted for more sales dollars in the valley than the dairy industry.

wastes can only be determined from a thorough consideration of all the facts and circumstances. An enforceable contract can exist even if it is not in writing, but the parties must mutually agree to contract and the contract terms must be adequately fixed to determine the respective rights and obligations of the parties. However, whether in fact such a contract can be implied, and what the respective rights and obligations of SVCC and Thayne are, can more properly be resolved in a court of law if SVCC should choose to do so.

COULD THE PROJECT QUALIFY AS INNOVATIVE AND ALTERNATIVE TECHNOLOGY?

The request letter stated that SVCC's attorney claimed "the spray field sewer system in Thayne was a pilot project affording a good opportunity for research." We were asked to evaluate (1) whether Thayne's system was a pilot project compared with other such dairy treatment plants, (2) if so, whether it would qualify for full funding under the Clean Water Act of 1977, and (3) whether this type of system would work in Thayne's climate.

Some cheese plants we contacted also used sprayfield irrigation systems, but there was no consistent use of such a system by the cheese industry. Nelson Engineering's design report stated that although sprayfield irrigation was a relatively new sewage disposal method, successful operations were reported in Wisconsin under similar weather conditions to Thayne's.

Section 202(a)(2) of the Clean Water Act states that any grant made after September 30, 1978, and before October 1, 1981, for any eligible treatment works using innovative or alternative wastewater treatment processes shall receive 85 percent Federal financing. Section 202(a)(3) adds that for any such grant, the EPA Administrator can fund 100 percent of the costs of modifying or replacing any facilities constructed if the facilities have not met design performance specifications, unless the failure to meet the specifications was attributable to negligence and had significantly increased capital or operating and maintenance costs.

An EPA regional attorney stated that since the Thayne project was funded in July 1973, it did not qualify for the 85-percent funding. He said that even if the project had been funded after September 30, 1978, the negligence of the many parties involved, which contributed to the system's failure, would have prohibited 100-percent funding.

The EPA attorney added that if the Thayne project were funded today, the sprayfield system would be considered as an alternative treatment process because of Thayne's elevation and weather.

APPENDIX I

DICK CHENEY
WYOMING

Congress of the United States

House of Representatives

WASHINGTON, D.C. 20515

February 6, 1980

Dear Mr. Staats:

Enclosed is some background information from the Counsel for the Star Valley Cheese Corporation of Thayne, Wyoming, Mr. Goulding, and other information regarding the Environmental Protection Agency and the Town of Thayne's wastewater treatment plant. We are requesting that the General Accounting Office report on this material for the following reasons.

M. Goulding's letter raises many questions about EPA's actions during the time the Town was attempting to receive funding for the plant, and the Town's use of the sewer user funds. Mr. Goulding's letter is indicative of how many people perceive this situation in the State. The EPA denies Mr. Goulding's allegations.

After the Federal Water Pollution Control Act was passed in 1972, the Town of Thayne applied to the Environmental Protection Agency for funds for a wastewater treatment plant. The EPA approved the funding, and the EPA and the State approved a spray field lagoon system for the Town. Construction on the plant began. Connected to the Thayne facility, and the primary contributor to the system, is the Star Valley Cheese Corporation. Unfortunately, the Thayne wastewater facility has never adequately taken care of the area's needs, and, consequently, raw sewage, which is primarily lactose from the Cheese Factory, is being dumped into Flat Creek. The stench and the odor from the lactose has permeated throughout the Star Valley. The EPA has filed a notice of violation on the Cheese Plant due to the lactose being dumped into the creek. Various meetings have been held with the Cheese Factory, the Town of Thayne, the EPA, the Wyoming Department of Environmental Quality (DEQ), the Governor's office, our offices, and other interested parties to determine if the Star Valley Cheese Corporation could afford to stay on the Town's system when the moratorium on Industrial Cost Recovery is lifted; if the Corporation could market its lactose and reduce its BOD level; and how to modify the existing system to either handle the Town's wastewater alone or with the Cheese Factory's effluent. Currently, the Cheese Factory has indicated that they wish to continue to use the Town's system, and the EPA and the DEQ have allowed a 30-day testing period to determine if the Cheese Factory can reduce its effluent to 300 pounds of BOD per day. The Town of Thayne does intend to build its own system this Spring with or without the Cheese Factory.

CAN SVCC MARKET LACTOSE?

The request letter asked what alternatives were available for marketing lactose. 1/ Lactose has been the principal organic waste that SVCC has discharged into the Thayne treatment plant. SVCC could market this valuable commodity while reducing the plant's discharge load. Lactose is used in a variety of products including

--animal feed;

--nonfat dry milk substitutes;

--beverages, bakery products, and confections; and

--gasohol.

SVCC sells some lactose to a farm in Idaho for animal feed. The SVCC plant manager said that the company is also exploring the possibility of independent investors building a gasohol or alcohol facility that would use some of the lactose, but EPA told us in October 1980 that no definite plans have been made.

1/Lactose or milk sugar is derived from drying the organic discharge of the cheese-making process.

APPENDIX I

8. What are the alternatives for marketing the lactose? The DEQ has indicated various uses for the lactose such as gasohol.

9. Will the proposed design to repair the facility work, and is it adequate?

We would appreciate a written report on this matter with your recommendations. Since the Thayne Town Council has passed a resolution cutting the Cheese Factory off the Town's sewer system on May 1, 1980, we would appreciate your report by June 1, 1980. Also, we would appreciate some interim briefings on this matter. Since Senator Simpson intends to be in Thayne on Monday, February 11, 1980, we would like some indication from the GAO on whether or not they intend to look into this matter by that time. Enclosed is a list of contacts that we have compiled for your use. If you have any questions, please feel free to contact Karen Spencer in Congressman Cheney's office at (202) 225-2311.

Thank you very much for your assistance.

Best regards,

Malcolm Wallop
U. S. Senator

Alan K. Simpson
U. S. Senator

Dick Cheney
Member of Congress

The Honorable Elmer B. Staats
Comptroller General of the United States
General Accounting Office
Washington, D.C. 20548

enclosures
ks

APPENDIX I

Mr. Goulding's letter is the Star Valley Cheese Corporation's case against the EPA. The Town of Thayne, the DEQ, the Governor's office, and others, all have raised various points on this matter, many in conflict with each other. We have attempted to find agreement on these various issues. However, we have found it impossible to come to any firm conclusions based on such conflicting information. Therefore, we have concluded that an independent review of this situation by the General Accounting Office would provid the necessary and objective conclusions about what actually has happened. For these reasons, we are requesting that the General Accounting Office review this matter and address the following questions:

1. According to DEQ, the original septic tanks that the Town originally used only needed to be upgraded. Is this true or did the Town require a wastewater treatment facility?

2. Exhibit 6 of Mr. Goulding's letter is a July 27, 1973, letter from the President of the Star Valley Swiss Cheese Company to the Mayor of Thayne stating that the Town and Company had come to an agreement that "the company would intend to use the sewage disposal system for the life of the project, or for as long as the company is in operation." Is this agreement binding on the Town?

3. Mr. Goulding claims that the EPA insisted on the spray field system. Is this true?

4. Mr. Goulding also claims that "the spray field sewer system in Thayne was a pilot project affording a good opportunity for research." Was this system a pilot project compared to other such dairy treatment plants at that time? If this is so, would it qualify for full funding under the Clean Water Act of 1977, Section 17, Subsection(a)? Also, would this type of system work in the climate at Thayne?

5. Mr. Goulding says that "because of design and construction defects, the spray field sewer never functioned properly." Would this be due to design defects, construction defects, and/or operation defects?

6. Mr. Goulding says that the Cheese Factory has paid the sewer user charge. However, he claims that "the money has been put to a variety of non-sewer plant uses." If this is true, where has the user charge been going?

7. Would the Star Valley Cheese Factory close down if it were taken off the Town's system? What would happen to the economy of the Star Valley if this does become the case?

EPA is responsible and accountable to the President and the Congress for the abatement of water pollution nationally. EPA's Regions, supported by State water pollution control staffs, review facilities plans and design specifications in an effort to enhance local capacity to complete a grant project successfully. However, EPA reviews and assistance do not relieve grantees of their primary responsibility for the success of a grant project. As responsibility for project oversight is delegated more completely to the States, municipalities, with State oversight and support, will remain primarily responsible for project management.

By concluding that EPA is ultimately responsible for a grant project's failure, the draft report severely undercuts EPA's efforts to make clear to municipalities that they are primarily responsible for the successful completion of grant projects. Clearly, this is contrary to the Federal government's interest in maintaining clear lines of responsibility and in holding grantees accountable for how they spend Federal grant funds. Specifically the GAO's conclusion may jeopardize EPA's efforts to hold municipalities accountable for project failures and responsible for compliance with the Clean Water Act.

With respect to GAO's second broad conclusion that EPA's financial management control is inadequate, we believe that EPA's system is consistent with government-wide grants management policies. EPA relies upon the financial management systems of its grantees, and grantee certifications that their payment requests are correct. EPA reviews the payment requests to assure that grantees comply with grant conditions and regulations, and that the payments do not exceed the grant amount. This system is designed to ensure prompt reimbursement of the grantee's costs. The grant allowability of all project costs is verified at project closeout.

Apart from our objections to the draft report's general conclusions, the report contains a large number of factual errors. Major errors including those concerning EPA's industrial cost recovery, user charge, and operation and maintenance manual requirements are discussed in the attached comments. We recommend that the facts stated in the report be reviewed thoroughly with officials of EPA Region VIII, DEQ, Thayne, and SVCC.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

14 MAY 1981

OFFICE OF
PLANNING AND MANAGEMENT

Mr. Henry Eschwege
Director
Community and Economic Development Division
United States General Accounting Office
Washington, D.C. 20548

Dear Mr. Eschwege:

The Environmental Protection Agency (EPA) has reviewed the General Accounting Office (GAO) draft report entitled, "The Thayne, Wyoming, Wastewater Treatment Facility: A Case History of Poor Management." Attached are EPA's comments on the draft report.

The draft report reaches general conclusions that are incorrect and damaging to the interest of the Federal government. The major flaws in the draft report's general conclusions are explained briefly below. Comments amplifying those points are attached. We request that the conclusions reached in the report be thoroughly reviewed and corrected before the report is released in final form. We are available to discuss the report further to avoid additional misunderstandings or confusion concerning EPA's construction grants program generally or the Thayne project in particular.

The draft report reaches two broad conclusions. First, it concludes that all parties involved in the project including EPA, the Wyoming Department of Environmental Quality (DEQ), the Town of Thayne, the designers and builders of the wastewater treatment system, and the Star Valley Cheese Company (SVCC) share blame for the project's failure. Second, the report concludes that EPA's financial management controls for the project were inadequate.

In reaching the conclusion that all parties involved in the Thayne project share responsibility for its failure, the draft report concludes that "[a]s EPA is responsible for assuring the need for the facility and the fiscal integrity and quality control over the construction grants program, it bears the ultimate responsibility for the failure of Thayne's treatment facility." This conclusion is premised upon a serious misunderstanding of the basic philosophy underlying EPA's wastewater treatment works construction grants program. Fundamental to the statutory scheme and EPA's implementation of the program is the principle that a municipality that accepts a construction grant is responsible for the administration and successful accomplishment of the project. A municipality's failure to complete a grant project constitutes a breach of the grant agreement which will disqualify costs for grant funding.

GAO note: Page numbers in appendixes II through IV referring to our draft report have been changed to agree with page numbers in the final report.

COMMENTS

A. EPA's Comments on GAO's Conclusions

1. Comments on GAO's Conclusions Concerning Responsibility for the Project's Failure

a. General Comments

GAO's conclusion that EPA is ultimately responsible for the Thayne project's failure rests on a serious misunderstanding of the basic philosophy underlying the wastewater treatment works construction grants program authorized by the Clean Water Act, 33 U.S.C § 1251 et seq. Under the program it is fundamental that the states are responsible for selecting and certifying projects for funding and that the municipalities receiving grant assistance are primarily responsible for the success of grant projects.

The GAO is correct in stating that EPA is ultimately responsible for assuring that the only projects that receive grant assistance are those that are necessary and cost effective. Sections 212(2)(B) and (C) of the Clean Water Act 33 U.S.C. §§ 1292(2)(B) & (C), make this clear. However, the Act does not contemplate that EPA take on the responsibility for planning, designing or building municipal wastewater treatment facilities. The responsibility to plan, design and build facilities to meet the Act's enforceable requirements rests squarely upon the grantees.

The regulations implementing the construction grants program forcefully make clear that an EPA grant is a public trust that places upon the grantee the nondelegable and nontransferable responsibility to administer and complete the project successfully. EPA's regulations* explain:

> . An award of a grant shall be deemed to constitute a public trust. It is the responsibilty of the grantee to comply with this subchapter [EPA's general grant regulations] and all terms and conditions of the grant agreement, efficiently and effectively manage grant funds within the approved budget, complete the undertaking in a diligent and professional manner, and monitor and report performance. This responsibility may be neither delegated nor transferred by the grantee. 40 C.F.R. § 30.210 (1980).

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*/ Although not all of the quoted regulations were effective on the date that the Thayne grant was awarded, they accurately state EPA's consistent position concerning the responsibilities of those involved in a federal grant project.

APPENDIX II

In summary, Thayne has primary responsibility for both successful completion and financial management of a grant project. Region VIII will continue to work with Thayne to develop a satisfactory wastewater treatment system, to assure compliance with the requirements of the construction grants program, and to determine finally the grant allowable project costs.

We appreciate the opportunity to comment on the draft report prior to its issuance to Congress.

Sincerely yours,

Roy N. Gamse
Acting Assistant Administrator for
Planning and Management

Attachment

As the regulations quoted above make clear, EPA does not review plans and specifications or inspect construction work for the purpose of finding and correcting defects. Instead, EPA's oversight is oriented toward ensuring compliance with the requirements of the Clean Water Act and EPA's regulations. EPA's design review is primarily for the purpose of checking for compliance with Act and regulations and for the general feasibility of the project. The details of the design are left to the professional judgment of the grantee's engineer. EPA's construction inspections, which vary from project to project depending upon its cost, complexity and duration, are not designed to be a substitute for inspection of the work by the grantee's engineer and on-site representative. EPA's inspections provide basic information on project progress and major problems encountered. Of course, when EPA design reviews or construction inspections do report deficiencies, they are brought to the attention of the grantee and its engineer.

A detailed review by EPA of design and construction work performed on grant projects would be tantamount to a duplication of the work that the grantee pays its engineers and other contractors to perform. EPA has repeatedly explained its position to the GAO and made clear to GAO investigators that EPA does not have the resources necessary to recheck thoroughly all design work or inspect thoroughly all construction work. Nevertheless, the draft report's conclusion that EPA is ultimately responsible for the failure of the Thayne project indicates that the GAO believes that EPA should take action to assure that work done by grantee's engineers and construction contractors is free from defects and to provide substantial technical assistance to grantees. Compliance with that recommendation would constitute a duplication of effort and require a massive increase in the amount of agency resources allocated to the oversight of the construction grants program.

Apart from the resources and duplication of effort problems, EPA's assumption of the ultimate responsibility for ensuring a project is properly administered and successfully completed would leave grantees with insufficient incentive to manage grant projects prudently and to hold the engineers and other contractors performing the work accountable for defects. Further, relieving municipalities of full responsibility for the success of their wastewater treatment works construction programs would severely undercut the Federal government's position that municipalities are responsible for compliance with the Clean Water Act regardless whether Federal assistance is available.

- The grantee bears primary responsibilty for the administration and success of the grant project, including any subagreements made by the grantee for accomplishing grant objectives. Although grantees are encouraged to seek the advice and opinions of EPA on problems that may arise, the giving of such advice shall not shift the responsibiity for final decisions to EPA. The primary concern of EPA is that grant funds be used in conformance with applicable Federal requirements to achieve grant and program objectives and to make optimum contributions to the betterment of the environment. Id. § 30.600.

- Review or approval of project plans and specifications by or for EPA is for administrative purposes only and does not relieve the grantee of its responsibility to design, construct, operate, and maintain the treatment works described in the grant application and agreement. Id. § 35.935-1.

- The grantee is responsible for the administration and successful accomplishment of the project for which EPA grant assistance is awarded. The grantee is responsibile for the settlement and satisfaction of all contractual and administrative issues arising out of subagreements entered into under the grant (except as § 35.936-6 [EPA's bid protest procedures] provides) in accordance with sound business judgment and good administrative practice. This includes issuance of invitations for bids or requests for proposals, selection of contractors, award of contracts, protests of award, claims, disputes, and other related procurement matters. Id. § 35.936-5.

Municipalities generally contract with consulting engineers from the private sector for the preparation of plans and specifications and the management and inspection of construction work. EPA provides grant funds for the procurement of those services. The municipalities are responsibile for selecting engineers that are capable of performing work of high professional quality. Clause 2 of Appendix C-1 of EPA's construction grants regulations, 40 C.F.R. Pt. 35, Subpt. E, the EPA-required provisions for engineering agreements,* explicitly states that "[t]he engineer shall be responsible for the professional quality, technical accuracy, timely completion, and the coordination of all designs, drawings, specifications, reports, and other services furnished by the engineer." Clause 2 further requires that "[t]he engineer shall, without additional compensation, correct or revise any errors, omissions, or other deficiencies in his designs, drawings, specifications, reports, and other services."

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*/ Although the clauses in Appendix C-1 were not required at the time the original grant was awarded to Thayne, Thayne's failure to hold its engineers to the standard outlined in Clause 2 would constitute imprudent management.

As the regulations quoted above make clear, EPA does not review plans and specifications or inspect construction work for the purpose of finding and correcting defects. Instead, EPA's oversight is oriented toward ensuring compliance with the requirements of the Clean Water Act and EPA's regulations. EPA's design review is primarily for the purpose of checking for compliance with Act and regulations and for the general feasibility of the project. The details of the design are left to the professional judgment of the grantee's engineer. EPA's construction inspections, which vary from project to project depending upon its cost, complexity and duration, are not designed to be a substitute for inspection of the work by the grantee's engineer and on-site representative. EPA's inspections provide basic information on project progress and major problems encountered. Of course, when EPA design reviews or construction inspections do report deficiencies, they are brought to the attention of the grantee and its engineer.

A detailed review by EPA of design and construction work performed on grant projects would be tantamount to a duplication of the work that the grantee pays its engineers and other contractors to perform. EPA has repeatedly explained its position to the GAO and made clear to GAO investigators that EPA does not have the resources necessary to recheck thoroughly all design work or inspect thoroughly all construction work. Nevertheless, the draft report's conclusion that EPA is ultimately responsible for the failure of the Thayne project indicates that the GAO believes that EPA should take action to assure that work done by grantee's engineers and construction contractors is free from defects and to provide substantial technical assistance to grantees. Compliance with that recommendation would constitute a duplication of effort and require a massive increase in the amount of agency resources allocated to the oversight of the construction grants program.

Apart from the resources and duplication of effort problems, EPA's assumption of the ultimate responsibility for ensuring a project is properly administered and successfully completed would leave grantees with insufficient incentive to manage grant projects prudently and to hold the engineers and other contractors performing the work accountable for defects. Further, relieving municipalities of full responsibility for the success of their wastewater treatment works construction programs would severely undercut the Federal government's position that municipalities are responsible for compliance with the Clean Water Act regardless whether Federal assistance is available.

EPA believes that the management, design and construction of grant funded projects should remain a local responsibility and that the technical expertise necessary to perform those tasks should be left in the private sector and procured competitively by municipalities. Practically speaking, we believe that EPA's limited resources are best used to develop and enforce rules and procedures that provide incentives to assure that grantees will procure high quality consulting engineering services at fair and reasonable prices, hold those performing work accountable for defects, and prudently manage grant projects. The technical support EPA provides should be directed toward assisting the states in assuming oversight responsibility for the program. The construction grants program provides two strong incentives for grantees to assure grant projects are properly managed and successfully completed. First, EPA provides grant assistance for a grantee's procurement of the expertise necessary to properly manage, design and construct a grant project. Second, EPA disallows funding for the costs of mismanagement or defective work.

By issuing a report concluding that EPA is ultimately responsible for a grant project's success, GAO severly undercuts EPA's efforts to make clear to municipalities that they are primarily responsibile for the success of grant projects and accountable for project failures. The report confuses the accountability issue and encourages municipalities to neglect their project management duties. Clearly, this is contrary to the Federal Government's interest in maintaining clear lines of responsibility and holding grantees accountable for how they spend Federal grant funds. As explained above, GAO's conclusion may jeopardize EPA's efforts to hold municipalities accountable for project failures and responsible for compliance with the Clean Water Act.

b. Specific Comments

Specifically, in respect to the Thayne project the draft report suggests that EPA may have funded defective work, rework to correct defects, and unreasonable engineering fees. The construction grants program does not allow grant funding for the costs of defective work or of work that replaces, through duplication or substitution, work previously funded under the program. Of course, grant funding is not allowed for unreasonable costs. To the extent that such costs have been funded on the Thayne project, EPA will disallow the costs and attempt to recoup the funding.* Further, the grantee will be required to protect EPA's investment in the system by either restoring it to proper operation or refunding the grant to EPA.

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*/ The extent to which the Economic Development Agency grant funds may be used to fund costs of defective work, rework, or mismanagement is a question that EDA must answer.

Although the draft report identifies many management, design, and construction problems that may have contributed to the failure of the Thayne wastewater treatment system to perform as expected, clearly the major cause of the system's failure is the organic overloading caused by SVCC's discharges. In a spray irrigation system, treatment is primarily accomplished by plant uptake of nutrients (BOD) and percolation of wastewater through the soil. Land treatment of cheese factory waste has been sucessfully employed in cold weather areas. When the Thayne facility was originally designed, monitoring of its cheese factory discharge indicated that a 1300#/day BOD facility would adequately treat the cheese plant effluent. Factory production rates and the in-plant whey drying equipment at the cheese factory supported the engineer's conclusion. Excessive pollutant loading in the form of organic material (BOD) from SVCC, up to 985% of the design capacity, approximately 12,500#/day BOD, was not contemplated in the original design nor was the removal of the in-plant whey drying equipment. As a result, treatment could not be accomplished with the project as designed.

When it first became apparent that SVCC's discharges far exceeded the 1300#/day BOD which the Thayne system was designed to handle, the project had to be reevaluated. Consistent with the construction grants program philosophy that municipalities are primarily responsible for a project's success, EPA Region VIII looked to Thayne and its engineers to solve the organic overload problem. Region VIII agreed to provide additional funding for the construction of facilities necessary to allow it to treat 2000#/day BOD. This would have allowed SVCC to discharge 1750#/day BOD to the system. However, Thayne was unsuccessful in its attempts to persuade SVCC to control the strength of its discharge. As a result, Thayne was forced to disconnect SVCC's service.

Thayne still has the responsibility to protect the Federal interest in the system by correcting any design and construction defects. Thayne will have to finance this work without EPA grant assistance. If Thayne is unable to recover the increased costs from those responsible for the defects, Thayne will have to locate other sources of funding. Thayne should consider requiring SVCC to pay the costs of repairing those portions of the plant built to serve SVCC.* SVCC may have a commitment to pay for the portion of the plant constructed to serve it regardless whether it chooses to control its discharge in a way that allows it to use the facility.

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*/ As explained below on page 7, the Clean Water Act no longer requires municipalities to collect ICR payments after December 27, 1977. However, this change in the law does not prohibit a grantee from collecting the payments from industrial users for the purpose of making improvements to their treatment system.

As to SVCC's discharge, EPA's enforcement action should assure compliance with Clean Water Act. EPA suggests that SVCC cooperate with Thayne and help finance the work necessary to accommodate the SVCC discharge. Use of the existing system to treat SVCC's wastewater will probably require substantial modifications to the existing system and additional pretreatment by SVCC.

[GAO COMMENT: These comments are addressed on p. 23.]

2. Comments on GAO's Conclusions Concerning Financial Management

a. General Comments

Just as EPA relies on grantees for the successful completion of a grant project, EPA relies upon grantees' financial management systems. The draft report suggests that EPA Region VIII should have more completely reviewed Thayne's payment requests to assure that they were accurate and within the estimates provided in Thayne's grant application. EPA provides grant funds to grantees on a reimbursement basis for costs which grantees certify. In accordance with instructions in EPA's Grant Administration Manual, EPA reviews payment requests to ensure that grantees comply with grant conditions and regulations, and that the payments do not exceed the grant amount. EPA based these instructions on the provisions of Attachment H to Office of Management and Budget Circular A-102. Attachment H is designed to assure prompt payment to grantees for grant allowable costs. Circular A-102 requires EPA to provide grantees specific payment request forms and does not permit EPA to request additional back-up documentation.

EPA does verify the grant allowability of costs and compliance with grant conditions and regulations at project closeout. Project closeout occurs after completion of construction and final inspection, provided the project is operating properly. At closeout, EPA determines the amount EPA owes the grantee or the amount the grantee must refund to EPA. EPA has not verified final costs on the Thayne project. As stated previously, however, EPA does not participate in cost of defective work or unreasonable costs. If such costs have been funded on the Thayne project they will be disallowed during project closeout.

[GAO COMMENT: We do not suggest, as EPA contends, that the regional office should have reviewed Thayne's payment requests to assure that they were accurate. We suggest, however, that the regional office compare the request amounts with the amounts estimated in the approved grant agreement. This additional step would not require any extensive or time-consuming analysis and could be done in conjunction with EPA's current practice of comparing the request amounts with the total approved grant amount. As we pointed out on p. 28, EPA's existing practice failed to determine that the engineering costs being paid out significantly exceeded estimated costs.]

b. Specific Comments

The draft report states that EPA did not adequately review Thayne's payment requests to assure compliance with grant conditions requiring the development of user charge (UC) and industrial cost recovery (ICR) systems and an operation and maintenance (O & M) manual. At the time the grant was made to Thayne in 1973, EPA required that a grantee have its UC/ICR systems in place and an O & M manual approved at the time of project closeout. The requirement that EPA stop payment under the grant at eighty percent until an UC/ICR system was approved was implemented later, and not made retroactive to existing grants. Similarly, regulations regarding payment restrictions on the completion of an O & M manual were implemented after the Thayne grant award and not made retroactive.

[GAO COMMENT: We have revised the report to recognize these facts.]

The 1977 amendment to Thayne's EPA grant did require that a UC system be approved prior to the payment of more than eighty percent of the $317,000 provided under the amendment. EPA provisionally approved Thayne's UC system on May 10, 1980, and gave final approval on June 10, 1980. At the time of final approval only seventy-five percent of the EPA funds provided by the 1977 amendment had been paid, but some of the requests for EDA grant payments were erroneously charged to the EPA grant. As a result, it appeared that EPA had exceeded the eighty percent limit on payments under the 1977 grant amendment. In fact, EPA did not exceed the limit. EPA Region VIII has taken steps to correct the erroneous EDA charges.

[GAO COMMENT: We have deleted information relating to this matter from the report.]

Thayne's O & M manual was approved on July 26, 1976. No further revision of the manual is required for the modifications and repairs made to the plant so far.

[GAO COMMENT: We have deleted data relating to the operation and maintenance manual.]

The draft report further states that EPA has not taken appropriate steps to collect the portion of the ICR payments made to Thayne that are due the United States Treasury. At the time of the grant award to Thayne, there was no regulation governing the payment of the Federal share of ICR collections to the United States. Subsequently regulations were issued on August 21, 1973, (40 C.F.R. § 35.928-2) which required grantees to remit the Federal share of ICR payments to the United States Treasury on an annual basis. EPA Publication MCD-45, ICR Guidelines, issued in February 1976, restated the annual payment requirement. EPA Publication MCD-44, ICR Program Information, issued November 1976 included more detailed instructions (including a sample check). EPA has not established any procedures for issuing bills to grantees for the Federal share of ICR payments. EPA depends upon grantees to comply with the regulation requiring annual payments.

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Thayne collected ICR from 1975 to 1977, when Congress in Public Law 95-217 imposed a moratorium on the repayment of the Federal share of ICR payments for treatment works use after December 27, 1977. The moratorium was followed in October 1980 by Public Law 96-483 which repealed the ICR requirements back to December 27, 1977. In November 1980, to clarify the effect of Public Law 96-483, EPA headquarters issued instructions again directing grantees to make ICR payments to the United States Treasury for use of treatment works before December 27, 1977.

Region VIII will review Thayne's ICR system to ensure it collected the appropriate amount of ICR payments from SVCC and will instruct Thayne to repay the Federal share to the United States Treasury.

[GAO COMMENT: We agree with EPA's promised action. We will follow up with the region to determine whether the ICR payments from Thayne have been repaid to the U.S. Treasury.]

Contrary to the conclusion on page 29 of the draft report, regulations in effect at the time of Thayne's original grant did not require review of engineering contracts. At the time of the grant amendment in 1977, engineering contracts in excess of $100,000 required EPA approval prior to award of the contract. Since Tudor's estimated contract was below $100,000, no formal EPA approval was requested. EPA has advised Thayne that since the contract price for engineering services now exceeds $100,000, EPA will perform a detailed audit of costs at final closeout. GAO was similarly advised during their investigation.

[GAO COMMENT: The information pertaining to the orginal grant has been deleted.]

The distribution of costs shown on page 3 of the draft report does not represent the distribution of costs shown in Region VIII's records. The amounts should be corrected as follows:

Distribution of Costs

Source	Shown	Actual
EPA	$645,321	$671,087
EDA	$261,256	$232,490

[GAO COMMENT: We believe the distribution of payments that we show on page 3 is correct and should not be changed. The total amount of grant funds expended is $906,577 (not $903,577 as EPA's figures show). We traced each EPA check to Thayne's cash receipts journal and bank statements. Various sets of EPA regional office records showed different costs for EPA and EDA. Partial payment request records maintained by the regional grants office show $645,321 for EPA and $261,256 for EDA. Other records in the grants office and the financial management office show $674,087 for EPA and $232,490 for EDA.

We considered the partial payment request records to be more accurate because they are source documents from Thayne. In five cases, the grants office adjusted the request records to redistribute the costs between EPA and EDA. Apparently these changes were not reflected in the financial management records. We advised the EPA regional office of the discrepancy on several occasions during our review and asked EPA to explain it. No explanation was provided.]

On pages 30-31 of the draft report, a chart showing payments for construction and rehabilitation indicate an overpayment of $94,000 in grant funds. Discussions with GAO investigators have revealed that Robinson's $69,000 contract to complete the original work was improperly allocated by GAO between construction and rehabilitation and should have been allocated only to the construction column.

[GAO COMMENT: We did not agree during our discussion with EPA officials that the Robinson contract (one of Thayne's contracts) was improperly allocated to the repairs column. We believe that the $69,986 paid to Robinson should be allocated between the construction column and the repairs column, and should not be placed totally in the construction column as EPA suggests. Thayne officials told us that Robinson was engaged to complete work on Smith's contract that Smith did not perform (construction column) and repair faulty construction that Smith did perform (repair column). Further, Robinson was paid in part with $39,154 of bond funds Thayne received in settlement from the bond company because work was not completed on time and "not going forth" and because some of the work that had been done was not in terms with the contract and had to be repaired or replaced.

We were unable to determine exactly how much of the Robinson contract should be allocated to each column. The final audit will determine the precise allocation.]

EPA participated in seventy-five percent or approximately $45,000 of the Robinson contract, pending resolution of the dispute between Thayne and Larry D. Smith, the original contractor.

[GAO COMMENT: We are unable to determine how EPA arrived at the $45,000 figure. Thayne's town clerk told us that Thayne paid Robinson $39,154 with part of its bond settlement. EPA's participation in the balance settlement would be limited to $23,124 (75 percent of the balance of $30,832).]

Further, Region VIII will determine whether the bond settlement of $82,000 on the Smith contract should be credited first against the Robinson contract, at the time of project close-out. In the meantime, Thayne has requested payments of $62,676 for additional work in place under the H-K construction contact. Region VIII has not yet processed these requests for payment, on the advice of GAO. In a recent meeting between EPA and GAO, GAO agreed to review the figures shown in the table on page 31, and revise them to reflect the actual financial status of the project and the break-down between EPA and EDA participation.

[GAO COMMENT: Although EPA stated that it had not processed the $62,676 payment request, its records show that this amount was paid in June 1980. We confirmed this fact with Thayne officials.

Before completing our audit, we told EPA regional officials that it appeared that EPA had overpaid Thayne by a significant amount. We suggested that the region make no further payments to Thayne until EPA performed an audit to determine if in fact Thayne had been overpaid. On two occasions an EPA regional attorney assured us that EPA would conduct this audit, but EPA has not yet done so.

We agreed to review our figures in the table showing the EPA overpayment, but did not agree that the figures were incorrect and should be changed as EPA's comment suggests.]

B. EPA's Responses to GAO's Recommendations Concerning Financial Management

1. Responses to GAO's Recommendations to the EPA Administrator

GAO Recommendation: Require the Regional Administrator for EPA Region VIII to collect from Thayne funds due the Federal Government for industrial cost recovery payments that Thayne collected.

EPA Response: Region VIII will review Thayne's industrial cost recovery system, determine the amount due to the United States Treasury, and direct Thayne to make payment in accordance with the grant agreement and EPA regulations.

GAO Recommendation: Ensure that no further payments be made to Thayne until EPA's regulations on engineering agreements, user charge ordinances, and agreements, and operation and maintenance manuals are met.

EPA Response: Since the payments to Tudor Engineering now exceed $100,000, Region VIII will perform a detailed audit of the contract's costs at project closeout. Region VIII has already approved Thayne's user charge system and operation and maintenance manual.

2. Response to GAO's Recommendation to the EPA Inspector General

GAO Recommendation: Perform a comprehensive and detailed audit of all costs associated with the Thayne project. If ineligible or unsupported costs are found, EPA should recover the amounts due it.

EPA Response: The Office of Inspector General will conduct a detailed interim audit of the Thayne project as resources permit. Since the audit may involve potentially sensitive issues, the review will be performed by the Inspector General's in-house staff. As EPA's regulations require at closeout, Region VIII will request

that the Office of Inspector General perform a final audit of the Thayne project. Those audits will assure that the costs claimed by Thayne and paid by EPA are allowable for grant funding. EPA will attempt to recoup any funds paid for unallowable costs. Of course, EPA will not close out the Thayne project until the wastewater treatment system is performing adequately.

[GAO COMMENT: We agree with EPA's planned action.]

May 5, 1981

Mr. Henry Eschwege
Room 6146, GAO Building
441 G. Street N.W.
Washington, D.C. 20548

Re: Draft Report regarding Thayne, Wyoming
Wastewater Treatment Facility

Dear Mr. Eschwege:

I am writing to you to provide comments on behalf of the Town of Thayne, Wyoming to the GAO regarding the draft of the GAO proposed report regarding the wastewater treatment facility in the Town of Thayne, Wyoming.

The specific responses of the Town to this draft report are contained in the comments provided with this letter, and in the responsive comments prepared by the Town's engineer, Tudor Engineering. The Town requests that both the enclosed comments and the comments submitted by Tudor Engineering be included together with this letter as the Town's reponse to the draft report. The purpose of this letter is to provide some background information regarding the history of the project which is not contained in the draft report.

The Town of Thayne is a small town and has been a small town since its incorporation. Most of Thayne's citizens are long-time residents of the Town. The Mayor and council members are people who have full time private occupations and serve the Town in addition to carrying on their private businesses. None of us are engineers or accountants, and none of us has any special knowledge of the technical aspects of sewage treatment. We are small town people trying to provide for the needs of our neighbors and our community. Neither I nor any of the present members of the Town Council were serving as Mayor or members of the Town Council when the wastewater treatment project was begun. Thus, we do not have first hand knowledge of discussions and meetings which took place in the early years of the sewage treatment project. All of the members of the present town government do have considerable general knowledge of the problems and failures of the plant as initially constructed, as it has been a matter of considerable public concern in the Town of Thayne for a number of years.

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In the early 1970's the swiss cheese factory was owned by local people, residents of Star Valley. As noted in your draft report, the swiss cheese factory was causing pollution problems and pressure was being brought to bear against the factory to solve those problems. Apparently, an engineer hired by the factory determined that federal funds to solve the factory's pollution problems could be obtained if a municipal treatment facility was built for the cheese factory and for the town. The town of Thayne didn't need a waste-water treatment facility at that time and still doesn't. There may have been two or three septic tanks and leach fields which were in disrepair in the early 1970's, but these could have been easily repaired or replaced without significant expense. However, the town "had" to have a treatment plant so federal funds could be used to treat the factory's industrial wastes. Tremendous pressure was brought to bear on the town to help save the cheese factory. It was not just local pressure in Star Valley to help the farmers and dairymen who owned the factory. State and federal elected officials and state and federal agencies saw the combined treatment facility as the "answer" to a serious and longstanding problem and vigorously threw their support behind it. The town agreed to the proposed project to help local people who owned the factory and local people who worked in it. Thayne people, like other small town Americans, try to help their neighbors.

The Town hired Nelson Engineering from Jackson, Wyoming to do the engineering and design studies for the facility. The nature and scope of the facility were determined by Nelson in conjunction with the Department of Environmental Quality and EPA, which agencies controlled the design of the facility. The Town relied on the experts in DEQ and EPA to make certain that the sewage facility would be designed properly and would be able to solve the sewage problems caused by the cheese factory. Unfortunately, Nelson Engineering did not provide any significant construction inspection services during the initial construction of the Town's treatment system. As a result there were many major deficiencies with the system which rendered it inoperable from the beginning. The collection lines were seriously damaged through installation and, even after considerable repairs, remain a permanent and serious problem for the Town. The spray field lines were installed so poorly that they ruptured when they were energized, thus rendering major portions of the spray field inoperable.

In addition to the initial construction problems, the situation with the cheese factory changed drastically. The local owners of the cheese factory, the neighbors whose pleas for help had been responded to initially by the Town, sold the cheese factory to out of state owners. These new owners changed the manufacturing process at the cheese plant and greatly increased the discharge from the plant. Thus the Town found itself stuck with a poorly constructed sewage treatment system which never really worked, and vastly increased amounts of industrial waste from the cheese factory being shipped to the Town's plant for treatment. The Town struggled with the problems of the defective system and the excessive discharges from the cheese factory for years. Horrible odors resulted from the treatment facility and the residents of the Town had to endure almost unbelievable conditions. The cheese factory contended that the Town was responsible for receiving all of the wastes which were generated by the cheese factory and the various regulatory agencies contended that the Town was responsible for a solution to the problem since the Town was the owner of the treatment facility. Just as in the beginning, the Town was being whipsawed between different groups. The Town sought and received additional funds to upgrade the system, and retained a new engineering firm to provide technical consultation. During this time the Town realized that even an upgraded system as contemplated could not treat the industrial wastes from the cheese factory unless those wastes were strictly limited and controlled, so the Town began its efforts to assure that those wastes would be controlled and limited before an upgraded facility was begun.

In February of 1979 a meeting was held at the Thayne town hall which included the Town, DEQ, EPA and cheese factory owners, among others. At this meeting the Town stated clearly to all parties that the Town would build a system for the Town's use only unless the cheese factory could clearly and firmly commit itself to limit its industrial wastes to an acceptable level according to a timetable which was agreed upon at the meeting. Representatives of both the DEQ and EPA approved the Town's approach to the problem and the proposed timetable. Unfortunately, the timetable was pushed back through political pressures placed upon the Town, and the Town government, in an attempt to accommodate all parties, accommodated additional delays in order to give the cheese factory every possible opportunity to participate in the treatment facility.

In August 1979, the Town met again with DEQ and EPA and a further course of action was agreed upon. At this August meeting it was agreed that the Town would conduct tests during the fall of 1979 to determine whether the cheese factory could limit its industrial wastes to a level which could be treated by an enlarged Town facility. At the same time the Town would complete certain repairs during the fall of 1979 which would be useable by either a Town-only system or a Town and cheese factory system. In September and October, 1979, the Town was given approval by DEQ and EPA for plans for a Town-only system. The tests conducted by the Town during the fall of 1979 clearly established that the cheese factory could not meet the discharge levels necessary for a combined facility, and the Town determined in a December, 1979 meeting to complete a system for the Town's use only. After making this determination the Town applied for an amendment to its grant agreement in early 1980. The construction of the Town-only system was commenced in 1980 and the system was partially completed. At the present time the system is in operation, but due to the refusal of the DEQ and EPA to fund the rapid infiltration basins which they approved as part of the Town-only system, the Town is forced to discharge from the system into an adjacent stream during the winter months when the spray field cannot be operated.

The Town believes that it has followed a reasonable course in trying to solve the major problems related to a sewer plant which the Town never needed. The Town also believes that the Town's present enginner, Tudor Engineering, has done a good job for the Town under extremely difficult circumstances. As noted in the Town's specific comments, it is grossly unfair to judge the actions of the Town's engineer and the costs for services provided by the Town's engineer through a comparison with the estimated costs of normal sewage treatment projects. The Thayne wastewater treatment project can hardly be described as a normal treatment project by any stretch of anyone's imagination.

The course of conduct followed by the Town and its consulting engineer was clearly known to both the DEQ and EPA. Both of these agencies were fully aware of the problems faced by the Town and the difficulties involved in attempting to solve those problems. Both agencies fully supported the program undertaken by the Town in the last few years to reach a final decision regarding the treatment of wastes from the cheese factory and to construct a system for the Town only after it was determined that the cheese factory was incapable of limiting its industrial wastes. The Town

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Council, perhaps mistakenly, relied upon the experts in DEQ and EPA to openly and fairly advise the Town as to what was necessary to meet the statutory and regulatory requirements of these agencies. The Town relied on these agencies and had no reason to do otherwise.

Now the Town is left with a sewer system it never needed and doesn't want, and the problem of the cheese factory wastes is still unresolved. The Town of Thayne would like nothing better than to give the entire system back to the state and federal governments and return to the use of septic tanks, but that unfortunately is not possible. The Town is faced with continuing problems with the defective collection system and no money to pay for repairs to this system. The Town is faced with perpetual costs of operation and maintenance of the sewage treatment facility. Trying to be good neighbors, the people of the Town of Thayne have been burdened with objectionable odors, a defective sewage treatment system and long-range financial burdens. I hope your report will clearly document these facts.

The Town requests that the comments submitted with this letter, as well as the comments from the Town's engineer, be included as part of the comments of the Town of Thayne in repsonse to your draft report.

On behalf of the members of the Town Council, I thank you for the opportunity to provide these comments to your agency.

Very truly yours,

Charles Dana

Charles Dana, Mayor

May 5, 1981

COMMENTS ON DRAFT GAO REPORT

The following comments are provided by the Town of Thayne in response to the draft GAO report.

On page 3 of the draft, a statement is made that the additional grant funds received in 1978 were not used for the equipment specified in the grant agreement, but were used primarily for architect and engineering services. As noted more fully later in these comments and in the comments of Tudor Engineering, this statement is incomplete, and does not take into account the fact that the granting agency was fully aware that the funds were not used by the Town to construct a facility which would work no better than the original Town facility and the reason why the funds were not so used. The statement does not reflect the course of conduct which took place over several years, which conduct included both the EPA and DEQ.

[GAO COMMENT: We address this comment later on in this appendix.]

On page 7 of the draft, reference is made to problems which beset the facility. Unfortunately, there is no mention made of the fact that virtually no construction inspection services were provided by Nelson Engineering during the initial construction of the facility, which caused the system to be inoperable before it ever began to treat any wastes. This problem was major and fundamental, and the absence of any adequate consideration of it in the draft report is a serious deficiency.

[GAO COMMENT: We discussed with the president of Nelson Engineering the extent of inspections his company performed during construction of the Thayne facility. The president told us that for a good part of the project construction, Nelson supplied a resident engineer to monitor project progress. He said that the firm probably did not supply as much inspection service as Thayne wanted, but that Thayne did not advise Nelson of how much inspection should have been provided until Thayne fired it. The president said that Nelson monitored the construction of the project full time during the initial project and the collection line repairs and part time during the wrap-up work. He said that Nelson met with the Thayne town council periodically and told them of the project delays and construction problems.]

On page 7 it is stated that "Thayne's facility operator neglected routine maintenance activities". The Town does not know what this statement means, or how this alleged neglect caused problems for a facility which was incapable of operating. The Town requests that the GAO detail the incidents upon which this general statement is based.

[GAO COMMENT: We based this statement on an EPA report which stated that it was evident Thayne has not adequately maintained or operated the facility. Examples cited were:

--There were no operating records.

--Bar screens were plugged with cheese solids.

--The sprayfield was used during periods of high winds.]

On page 7 it is stated that "most of the new construction items provided for in a $617,000.00 grant amendment were never installed". Aside from the fact that the Town chose not to use the funds to build a system which also would have been incapable of solving the problem, this statement has no relevance to the major problems which beset the facility, its inoperable condition before it began to treat wastes and the massive overloads of industrial wastes which were generated by the cheese factory.

[GAO COMMENT: While we agree that the cheese company's overloading and construction difficulties were the major reasons for the plant's failure, the statement about the construction items not being installed remains valid.]

On pages 7 and 8, a statement is made regarding spray irrigation equipment. It is important to note here that the Town of Thayne did not invent the spray field concept, and simply pursued systems which were recommended by the DEQ and the EPA.

[GAO COMMENT: Our report does not imply that Thayne invented the sprayfield concept. We disagree with Thayne's statement that Thayne simply pursued the sprayfield system. We point out in the report that the Mayor of Thayne instructed the engineering company to consider a sprayfield system after the company had proposed another type of system.]

On page 9 of the draft in the third paragraph there are statements regarding assurances which were given to the Town that the sewage treatment facility would work. There were representations made by both the EPA and the DEQ that the spray field treatment system would work, and the Town of Thayne relied upon the specific representations of these regulatory agencies in approving the system which was constructed.

The extracts of the clean water act and EPA regulations set forth on page 9 of the draft bear no relationship to the actual course of events which took place between the Town and EPA. The Town agreed to build the sewage system it didn't need in reliance on the representations of EPA and DEQ that the project would work. EPA and DEQ specifically reviewed and approved the design of the initial treatment system and the Town was never advised by these agencies that although they were telling the Town what kind of system to build and how to build it, they would have no responsibility for any design deficiencies or other problems with regard to the treatment system.

[GAO COMMENT: We state on p. 8 that we could find no support for Thayne's contention that EPA insisted that Thayne adopt the sprayfield system.]

The statements on page 9 regarding the level of treatment prior to application to the spray field demonstrate the kinds of political pressure with which the Town of Thayne was being whipsawed by various government officials and agencies, which pressures had little relationship to the legitimate needs of the people of Thayne or the possibility that the treatment facility would be capable of performing adequately.

[GAO COMMENT: None.]

On page 11 it is noted that the SVCC discharged wastes substantially in excess of the design capacity of the original Town facility. The Town agrees that this took place consistently after the ownership of the facility changed hands and was one of the two major causes of the failure of the system. The Town takes exception to the statement that "excess BOD loadings such as these measurements show can cause problems". The Town believes that the excess discharge levels from the cheese factory did cause problems and disputes the statement in the draft report that the problems from such overloading were only potential.

[GAO COMMENT: We are not disagreeing that SVCC's discharges did in fact cause problems. The purpose of the statement Thayne takes exception to was to explain how excess BOD loadings at any treatment facility can affect the facility's operation.]

On page 11 of the report there are various design deficiencies in the system discussed. It is important to note that the Town was never advised of the fact that storage capacity would be necessary for winter weather operations. In addition, the 1978 EPA report which is cited on page 11 did not deal with the over all situation at the treatment facility, and was limited to the question of whether snow pack treatment could occur. The citation of this report as evidence that the over all system worked is extremely misleading and not justified.

[GAO COMMENT: Regarding the point that Thayne was not advised about winter weather operations, it should be recognized that Thayne's architect-engineer had responsibility for designing the systems.

Our report did not state that the EPA study said that the overall system worked. We stated that treatment did occur, sometimes in excess of the plant's design capacity, although odor problems became severe.]

On page 12, construction defects in the system are discussed. There is nothing in this discussion regarding the failure of Nelson Engineering Company to provide construction inspection services, or the major construction defects in the system which resulted from this failure. The statement on page 11 that "the construction problems led to operational difficulties", should be changed to read "the construction problems prevented the system from ever working".

The statements on page 13 regarding the spray field are incomplete. The lines in the spray field were improperly constructed, so that when they were energized they ruptured. This was the major cause of the failure of the spray field system.

On page 13, reference is again made to the absence of certain "day to day maintenance activities" at the treatment plant. The Town does not know what the report is referring to in this statement and requests that detailed incidents be set forth in the final GAO report.

[GAO COMMENT: We addressed this comment earlier.]

On page 13 three additional "problems" are set forth which have little relationship to the conditions which existed. The absence of a guidance manual for operation and maintenance of the plant had little to do with the construction defects or the overloading from the cheese factory. The allegation of "frequent operator errors" with regard to the spray field are not correct. The spray field was operated as much as possible in light of the defective construction which caused considerable portions of the field to fail. It was not operator error which caused the failure. The statement regarding scum accumulation on the ponds in

the facility is difficult to comprehend. Even if the Town's plant operator had been capable of walking on water, the removal of scum from the facility would have had no relationship to the construction defects or overloading problems which were present.

[GAO COMMENT: We believe our report adequately outlines the design, construction, and operation and maintenance problems that contributed to the failure of the Thayne facility.]

The discussion on page 13 of the odor problems which resulted from the facility does not begin to document the inconvenience and suffering which was borne by the citizens of the Town of Thayne as a result of the plant's failure. In addition, the information is incorrect in stating that the odor problem led to the facilities' downfall. The odor problems did not cause the facility to fail. Its inoperative condition and the overloading from the cheese factory caused the failure. The odors were only symptons of the underlying problems.

[GAO COMMENT: We deleted the phrase "which led to the facility's downfall."]

The information regarding the termination of operations on page 14 of the draft report is incomplete. The plant stopped operating only after the Town tried many operational solutions which didn't work. The Town went to the length of having the pumps pulled out of the pump houses with an overhead crane at considerable expense, which itself appears to indicate a design deficiency. The Town stopped running the treatment facility because it wouldn't run. Every time the Town tried to operate the pumps the liner was sucked into the pumps and burned up the pumps. It was not the frustration of the Mayor or the complaints of the citizens which caused the liners to be sucked into the pumps.

[GAO COMMENT: We pointed out the problem with the liners on p. 13 of the report.]

On page 14 of the draft is is noted that the 1977 report prepared by Tudor Engineering contained "concept and cost estimates which were satisfactorily accurate for decision making and funding purposes". Although this point is more fully considered in the report submitted by Tudor Engineering, the Town feels it is important to note that the report prepared by Tudor was prepared on available information, which information Tudor discovered to be incorrect in December of 1977. After this discovery Tudor notified the appropriate agencies of the nature of the incorrect information. This, in part, explains why the Town elected not to build the facility contemplated in the 1977 grant amendment. Given the waste discharge levels from the cheese factory, the facility contemplated in the grant amendment would never have worked.

[GAO COMMENT: We believe that Tudor Engineering did not adequately perform an evaluation of the reasons for the plant's problems before recommending the $592,000 in changes to the facility. Tudor should have determined that SVCC was overloading the system and the extent of the overloading and suggested to Thayne a course of action based on the major problem. We discuss this matter further in our analysis of Tudor's comments.]

On page 15 of the report there is language extracted from the EDA grant regarding the adequacy of the 1978 EDA grant to correct all of the problems facing the Town's treatment system. The Town does not dispute that this language appeared in the grant or that it appears in all such similar EDA grants. The Town notes in this regard that the Governor of the State of Wyoming offered this money to the Town and his personal representative put pressure on the Town to take the funds, on the basis that the cheese facility could not be shut down because of its economic importance to Star Valley. Again the Town tried to solve the problem through the only funds available.

[GAO COMMENT: None.]

The draft report contains a comment on page 15 that the changes envisioned by the grant amendment did not occur. As noted earlier, it was discovered in December, 1977 that the information upon which the initial report of Tudor Engineering had been based was incorrect and this fact was made known to all interested agencies. The changes envisioned did not occur because the Town elected not to build a facility which was patently incapable of solving the problem.

[GAO COMMENT: We comment in our response to Tudor's comment (app. IV) about Tudor's incomplete determination of the causes for the system's failure. The fact remains that the EPA-approved grant amendment was to provide for certain repairs, modifications, and new construction items that were never performed. The project envisioned did not occur basically because Thayne was unable to cause SVCC to lower its discharge into the treatment facility for almost 3 years before Thayne cut off SVCC from the facility in August 1980.]

On page 18 the draft report questions whether about $200,000.00 of EPA funds have been properly spent under the grant agreement. The Town's position in this regard is that EPA was actually aware before the grant was made that the facts underlying the initial report of Tudor Engineering had been found not be correct and that the overloading problems at the Star Valley cheese factory were much serious than anticipated. The EPA had close working contact with the Town at all stages of the project thereafter, and specifically approved the course of conduct taken by the Town after this period of time. The grant amendment which contemplated

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the combined facility could not be amended by the Town until a final determination had been made as to what kind of treatment facility would be finally constructed. The participation of EPA and DEQ in the process of making the final decision regarding the treatment facility makes it difficult for the Town to understand how the question is now raised that funds granted by the EPA were not properly expended.

On page 17 certain historical facts are presented regarding the events which transpired in 1978 and 1979. Unfortunately, there is no mention made here of the meeting which took place in Thayne, Wyoming in February of 1979. At this meeting, which included DEQ, EPA and the cheese factory owners, the Town declared its intention to construct a facility for the Town's use only if the cheese factory could not demonstrate its intention and ability to limit its industrial wastes into the treatment facility in accordance with a specific timetable, which timetable was agreed to be all parties at the meeting.

[GAO COMMENT: These comments by Thayne (and Tudor in app. IV) make repeated mention of the many efforts and meetings which Thayne and Tudor held with EPA and many other parties. Participants at these meetings discussed the many problems with the project, the high discharge levels that were being detected from SVCC, and the possible options which Thayne was considering. However, nothing definite resulted from these meetings.

Comments by Thayne and Tudor refer to a February 1979 meeting which was held with EPA, DEQ, and other parties. However, the records and correspondence on this meeting indicate that Thayne was considering the option of a town-only system and that a decision would be made by May 16, 1979. The records of the meeting indicate that EPA knew the problem was being worked out and that SVCC's discharge was too high. However, the meeting did not result in a definite change to the project.]

On pages 17 and 18, mention is made of a meeting held in August, 1979 which included the Town, EPA and DEQ. The information regarding this meeting is incorrect or incomplete in two aspects. First, both the DEQ and EPA gave their specific support for the construction of a town-only sewage treatment facility in the event that the cheese factory could not demonstrate its ability to meet the discharge limits required for a combined facility. In addition, the Town's construction activities in 1979 were specifically designed to leave open either option to the Town. The information on page 18 indicates that these repairs were adequate only for the town-only system, and that information is not correct.

[GAO COMMENT: The minutes of the August 1979 meeting do not indicate that DEQ gave its specific support for a town-only facility. We deleted the statement that the repaired system would be adequate for the town's wastes only.]

On page 18 mention is made that the regional counsel of EPA indicates that the project was informally reduced in scope. Insofar as the Town of Thayne was aware, the EPA had taken all actions required by the EPA rules in order to approve the reduction in scope of the project, with EPA having full knowledge of the course of conduct pursued by the Town leading up to the decision to reduce the scope of the project.

[GAO COMMENT: None.]

On page 19 there is some extremely distressing information regarding the knowledge and awareness of EPA regional officials that the scope of the project changed. EPA had actual knowledge from and after February 1979 that the Town was considering the construction of a Town-only facility. EPA specifically approved this course of conduct and participated in subsequent meetings at which the decision regarding a combined facility or a town-only facility was further discussed. Attached to these comments is a copy of part of the minutes from the February 1979 meeting which included all of the parties to this problem. Review of this document clearly demonstrates that EPA had knowledge of the proposed reduction in the scope of the project as early as February 1979. Additional information verifying EPA's knowledge and approval of the reduction in scope of this facility is being supplied by the Town's engineer.

[GAO COMMENT: We obtained our information in March and April 1980 principally from the EPA regional section chief familiar with the Thayne project. When he provided us with that information, no firm decision had been made by Thayne to change the scope of the project by cutting off SVCC from the system. (This was done in August 1980.)

The fact that the officials did not know that the proposed construction items were not being constructed is valid.]

On pages 20 and 21 reference is made to the fact that the Town spray field system cannot be operated without damage during winter months. Apparently the EPA has stated that they will require the Town to modify the spray field to insure that it can be operated on a year-round basis. The Town's design of a modified spray field system in conjunction with rapid infiltration beds and storage ponds for winter use was part of the approved Town-only project which has been partially constructed. The Town believes that it is practically impossible to operate the spray field on a year round basis, regardless of the type of valve used, without causing major damage. The Town applied to DEQ to modify the Town's discharge permit to allow discharge from the facility during the 1980-1981 winter after the Town was denied funds

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to complete the storage ponds and infiltration beds and was denied that permission. The Town will continue to seek permission to discharge during winter months until funds have been made available and the remainder of the winter time portion of the Town's system has been constructed.

[GAO COMMENT: None.]

On page 26 and 27 reference is made to the industrial cost recovery program. The Town presently has certain funds which are held for reimbursement to the federal government pursuant to the industrial cost recovery program. The Town has never taken issue with its ultimate obligation to pay over these funds to the United States treasury, and has consistently stated only that it must receive a voucher from the appropriate federal agency before it can pay over these funds. Such vouchers are required for the expenditure of municipal funds by the laws of the State of Wyoming. When a proper voucher is submitted, these funds will be paid over.

[GAO COMMENT: EPA told us that it will collect the funds from Thayne. See p. 32.]

Pages 27 through 29 present considerable material regarding the engineering services provided to the Town by Tudor Engineering, and the costs involved in these services. The Town does not dispute that substantial sums were required for engineering services. However, the Town believes it is fundamentally misleading to compare the costs of engineering services provided in this project with the costs associated with a normal sewage project. The history of the Thayne sewage treatment project has been anything but a normal history, and the engineering services which were required of Tudor Engineering were extensive and demanding. The Town believes that the cost of engineering services associated with this project should be judged on the basis of the actual history of the project and not some theoretical norm which bears no relationship to what took place.

[GAO COMMENT: The reason we raised the issue of the high architect/engineering fees was to advise EPA that the fees should be carefully evaluated during its final audit. Our review did not attempt to determine what actual services Tudor provided to Thayne.]

With regard to the agreement between the Town and Tudor Engineering, it is regretable that the GAO report omits to note that there is presently in existence a contract between the Town of Thayne and Tudor Engineering for the provision of engineering services. A copy of this contract was provided to the Denver office of the GAO, but for reasons unknown to the Town, that office failed to mention or include consideration of this contract in its report. The best available information to the Town indicates that a former town attorney attempted to negotiate another contract in

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a form acceptable to the EPA, and required only written approval from the EPA of certain provisions in the new contract in order to recommend its approval by the Town. Although the EPA gave telephone assurances to the former attorney of the Town that such approval would be forthcoming, no written documentation was ever given to the Town of Thayne and no further mention of an additional contract between the Town and its engineer was ever made to the Town by EPA. As noted earlier, the Town relied upon the EPA as the expert agency in administering its own programs.

[GAO COMMENT: Our report clearly describes the situation about the engineering agreement and recognizes the signed agreement between Thayne and Tudor.]

On page 31 mention is made of the recovery which the Town of Thayne received from the bonding company which bonded the contractor who began work on the inital sewage treatment facility and then went broke. The Town agrees with the draft report that it is the Town's obligation to expend all of the bond recovery funds for repair and modification of the Town's system. The Town has expended all of the remaining funds from the bond recovery to further repair and modify the Town system, as the Town has paid over all of these funds in partial satisfaction of the Town's obligation to HK Contractors who completed the rehabilitation of the Town's sewer system in 1980.

[GAO COMMENT: We have updated our report based on these comments on p. 30.]

On pages 31 and 32, reference is made to alleged construction overpayments. The Town of Thayne's position is that there were no overpayments made with regard to the Town's sewer treatment project which result in any liability on the part of the Town of Thayne to any other party or agency. The Town of Thayne worked closely with the DEQ and EPA in attempting to solve the problems related to the sewage treatment facility. The Town of Thayne was and is not sophisticated in matters such as those related to the administration of federal sewage treatment projects and justifiably relied upon state and federal officials. The Town of Thayne believes that it has acted reasonably and responsibly in attempting to deal with conflicting political and economic pressures and an unnecessary sewage treatment system, and that it is not responsible legally or otherwise for any "overpayments" which may have resulted during the history of the project.

[GAO COMMENT: If EPA's audit shows that Thayne has been overpaid or that Thayne spent funds for items which are not eligible for Federal participation, Thayne is liable for such overpayments and must make restitution.]

This would mean the Cheese Plant would have to construct their means of disposing of their waste, which would be very costly to them.

E.P.A. asked for reasons why Sept. 1, 79 is not ample time for them to have the problem worked out. They said the study could take three months at least, and how much longer is anybody's guess. They also indicated, the study is based on volume, and their daily volume is not near enough at this time.

Attorney Huff told the Cheese Plant representatives, that the discharge from their plant is higher than any other cheese plant he is familiar with. He said other plant are doing a better job in cutting down, and also pre-treating before it enters the system. The high load causes odor, pumping and disposal problems. The Town Sewer System was disigned for taking care of 1750 # of BOD daily. The present amount of 16,000 going into the system daily is too high to handle. Attorney Huff said his information was based on the monitoring data taken by personell from his agency, when they were in Thayne, recently. He also indicated the production rate and discharge is greater now than at the beginning of the system. Benson denied this. He said, the plant has less waste, and input today, than there ever has been. Huff made it clear, the E.P.A. is looking to the Cheese Plant to cut down all waste and do it very quickly. He said their approach is to get it out. They don't care how. Violating the designed load limit will mean trouble. He said if the E.P.A. so desires, they could come down very hard on the Cheese Plant.

Attorney Knoll feels a private study by the cheese plant would be faster than waiting for the State study, and suggested it be done this way. Attorney Huff asked the plant owners if they had a Consultant they could hire to do this study. The answer was yes, and he suggested they hire them tomorrow, and then keep their agency informed as to the progress.

Attorney Phibbs, after consultation with Don Armstrong and Mayor Dana, informed the group, the Town would give them until May 15, 1979, to decide definitely what their plans would be. If the cheese plant is not doing everything possible to take the necessary steps to get the Lactose removed, on May 16, 1979, the plans for a system to take care of the needs of just the town would be submitted to the E.P.A. AND D.E.Q.. If the town takes this route, and constructs a system, without the Creamery, it could be completed this year. Necessary funding will also be decided at that time. Jim Brooks assured the town officials, that should they divorce themselves from the Creamery, they would be out of the Industrial Cost Recovery, and would not be responsible for the Cheese Plants share of funding. Attorney Phibbs asked what situation the town would be in, should they go it alone, and were committed, and then could not meet the Sept. 1, 1979 deadline. He felt the assurances from the E.P.A should be in writing, in the event that different personell might be involved by that time.

The NOTICE OF VIOLATION the E.P.A. is planning to issue calls for dates, and certain steps required to be taken.
The Agreement with the Town and the Cheese Plant will have to be made within 30 days after receiving the order.
The date to expend the funds will tentatively be June 1, 79
The date for final compliance will be Sept. 1, 1979.
E.P.A. wants a Compliance Schedule.

Don Armstrong asked about the waste presently going into the River from the Treatment Plant, and what the Town is facing in the form of violation if it continues.

APPENDIX IV

LUIS W. RIGGS
ROBERT N. JANOPAUL
STANLEY H. FROID
DAVIS C. TOOTHMAN
PAUL E. POTTER
KEITH D. BULL
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TUDOR ENGINEERING COMPANY

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DONALD L. ARMSTRONG
ROBERT B. STANNARD

United States General Accounting Office May 4, 1981
Community and Economic Development Division
Washington, D.C. 20548

Attn: Henry Eschwege, Director

Subject: Thayne Wyoming Wastewater Treatment Facility 668

Dear Mr. Eschwege:

Tudor Engineering Company would like to thank you for the opportunity to respond to the draft report on The Thayne, Wyoming, Wastewater Treatment Facility. It is evident from the Draft Report, that the Thayne project does not fit into the carefully structured framework of the standard EPA project. It is our feeling that the facts contained within the report are essentially correct although we do have concerns and comments about the background and interpretation of these particular facts in the context in which they were developed.

Attached please find a more comprehensive list of comments concerning the draft report and a chronolgy of events. There are three (3) areas that we would highlight as being our concerns with the thrust of the draft report:

1. Tudor Engineering Company was selected from a field of three (3) consulting engineers and became the project engineer for the Thayne project as stated in the draft report. The existing condition of the system and magnitude of the Town's problem were as follows:

   a. The severe odors emanating from the sprayfield operation could be smelled 5 miles beyond the Town limits

   b. The system was inoperable and in near complete failure of the collection system, pond liner, sprayfield controls and sprinkler laterals due to construction related problems.

   c. The system was severely overloaded by the SVCC discharge.

   d. The Town was under a great pressure from citizens, business and regulatory agencies to correct the problems in an expedicious manner. For instance, EDA grant requirements stated that construction must commence in 90 days from grant acceptance.

TUDOR ENGINEERING COMPANY

2. When selected Tudor Engineering Company developed a close working relationship with the Town. Tudor advised the Town as to the problems, solutions, and ramifications while attempting to maintain a straight line to ultimate project completion. This straight line to completion was modified by (a) identification to the actual problem, (b) economic and political influences on the Town and (c) changes in regulatory perspective and requirements for the project.

3. The Thayne project was not the first EPA project for Tudor Engineering Company. The Tudor Project Manager served as the State Department of Environmental Quality project officer prior to joining Tudor Engineering Company. As the State official directly charged with the EPA grant projects within Wyoming, I was well versed in the requirements, procedures and implementation involved in a municipal grants project. As such both the firm and the Project Manager understood the regulations, rules and requirements and endeavored to meet the intent and letter of the regulatory and grant requirements. The volumes of letters, memos, phone calls, meetings, reports and other communication validate the effort Tudor made to inform the various parties of the constantly changing project.

Again we thank you for this opportunity to address your draft report. If we can provide other comments or answer further questions concerning our involvement in this project please feel free to call upon us.

Very truly yours,

TUDOR ENGINEERING COMPANY

Donald L. Armstrong, P.E.
Manager of Engineering

DLA/sjw
encl:

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ATTACHMENT NO. 1

COMMENTS TO THE DRAFT GAO

REPORT

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Page 4 Line 3

Thayne terminated sprayfield operations during December 1980, when freezing occured causing damage to sprayfield risers. The concern of the town was based on experiences of 1975, '76 and '77 when damage occured to the sprayfield during operation.

[GAO COMMENT: Our information differs from Tudor's. The town clerk told us in January 1981 that Thayne did not operate the sprayfield at all during the winter of 1980, in anticipation of damage to the sprayfield risers.

The sentence has been deleted from the report.]

Page 7 Line 5

The draft report states that the treatment facility sits basically idle, while the system no longer treats waste from the SVCC plant. The system now adequately treats the wastewater generated by the Town of Thayne during all but the coldest winter months.

[GAO COMMENT: We did not determine the extent of treatment of Thayne's wastewater.]

Page 7 Item 7

The failure to construct the proposed new items did not in any way contribute to the failure of the Town of Thayne's treatment system. Failure of the Town of Thayne treatment system can be attributed entirely to poor construction, non-existent construction inspection and callous overloading by Star Valley Cheese Company.

[GAO COMMENT: The report did not state that the system's failure resulted from the failure to construct the proposed items. The purpose of the statement was to show that not all the funds EPA granted to construct certain items were used for those items and that the EPA project officer was not aware that this was occurring.]

Page 12 Paragraph 1

The original design engineer states that the system worked. This statement is based on the 1978 University of Wyoming report that included that treatment did occur. Treatment occured in many phases of the project: aeration cell, the storage cell, the sprayfield, the snowpack in winter, but at no time did all of this treatment constitute a working treatment system. Its hard to envision that the Town of Thayne saddled as they were with extreme odors, frozen and ruptured lines, operation and mtainenance expenses, surface runoff to stream, and other continuing problems would classify the Thayne treatment system as successful. The reason for the draft report well validates that the system did not and has not worked as the original designer had envisioned.

[GAO COMMENT: None.]

Page 13 Third Item

The report states that certain day-to-day maintenance activities were neglected. These maintenance activities, as far as Tudor could determine from the very first experience in 1977, played no part in the failure of the system.

[GAO COMMENT: An EPA report stated that maintenance activities did play a part in the system's failure.]

Page 13 Paragraph 1-Odor Problems

The report leads one to believe that the Mayor, because of the odor shut the system down in 1978. The facts are, that from 1976 until the eventual shutdown in 1978 the Town tried many procedures to cope with the odor problem. These included the addition of hydrogen peroxide, chlorination, operational techniques including full pond and shallow pond, effluent recycle back to the aeration pond to increase the storage and dissolved oxygen content. It was not until the summer of 1978 when the rubber liner in the storage pond completely failed,and was sucked into the pumps, that the Town shut the system down because of the physical impossibility to continue sprayfield operations.

[GAO COMMENT: We have changed the report to remove the implication that the odor problems led to the facility's downfall.]

Page 14 Paragraph 1 - Attempt to deal with problems failed

Tudor's report of 1977 states that refinements would be made. This report was completed in 5 weeks time at the direction of the Town and regulatory officials. The report was based on all available documents and data accumulated by the Wyoming DEQ, University of Wyoming, Environmental Protection Agencies and those in the Town's hands. This existing documentation, as was proven by December of '77, documented approximately 20% of the actual loading entering the treatment system.

By December of 1977 Tudor had questioned the data due to the first samples taken from the treatment plant. DEQ began informing all parties of the high loads found and continued until the final report prepared in March of '78 which documented the severe overloading from the Cheese Plant.

[GAO COMMENT: We questioned a Tudor official as to the reason that Tudor did not perform tests of the BOD loadings from SVCC before making its report. As we noted on p. 11, DEQ tests in 1975 showed overloading by 52 percent of plant capacity. The Tudor official said that Tudor relied on the data it had been provided because Thayne wanted a report quickly. He said Tudor knew of the 1,979 BOD data but also saw other data which showed lesser BOD levels. He added that Tudor believed, after performing an analyses of the system that existed, that it was capable of handling 2,000 BOD, the same amount the DEQ data showed.

We continue to believe, however, that Tudor should have determined the extent of the BOD overloads before suggesting to Thayne the $592,000 in construction and repair items that Thayne later requested from EPA.]

Page 15 Item 1

Some repairs were made to the collection system. These repairs took approximately 2 years worth of time and cost approximately $85,000.00

[GAO COMMENT: We added this information to the report.]

Page 16 First Item

The report states the flow monitoring stations were not in use at the time of the inspection. The reason the flow monitoring stations were not in use were because of the EPA ICR moritorium. The use of the monitoring stations is totally in doubt now as the ICR program has been cancelled and there is no utility for these monitoring stations.

[GAO COMMENT: None.]

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Page 16

The course of events documented by memos, letters and other documents, from the first Tudor report in August 1977 to the actual disconnection of the SVCC on August 6, 1980 is detailed in the attached chronology and summarized below.

From the time that Tudor first determined that SVCC was discharging greater than 2000 BOD* to the Thayne system, (Nov 77) the engineers and the Town worked in concert to insure all parties, specifically DEQ, EPA and SVCC clearly knew and understood that the original Tudor budget could not cover the costs of the necessary construction to treat all of the SVCC existing wastes.

Beginning in the summer of 1978 the Town, DEQ & EPA began the process of insuring that SVCC did not exceed the mandated 2000 BOD limit.

In February 1979, all concerned parties including DEQ, EPA, SVCC, FmHA, DEPAD, Univ. of Wyo., the Town and Tudor met and discussed very pointedly that 2000 BOD was the maximum allowable SVCC loading. At this meeting the Town informed all parties that the"Town only"system would be constructed if the SVCC didnot reduce their discharge to the 2000 BOD. As SVCC waivered in their commitment to reduce their loading, the Town continued on a course of conduct to insure a bid opening for construction occured in Aug 1979.

The Town and Tudor met with the DEQ Administrator and the EPA project engineer and grants attorney in Cheyenne on May 11 to review the plans which would be offered for bids.

After the May 1979 meeting, serious questions arose as to the continued participation of SVCC in the Thayne system. In response to a request from Governor Herschler to allow SVCC additional time to make its decision, the Town with concurrance from SVCC elected to prepare two bid packages: the first for a 2000 BOD biological reactor, and the second a "Town only" system. SVCC was informed and concurred that

*defined the same as in the GAO report -4-

Page 16 (cont.)

all expenses incurred by preparation, and publishing two bid packages would be reimbursed to the Town. This was to insure that the Town, (EPA funds) paid for only one set of plans and specifications. The two sets of plans were subsequently advertised for bid due to the time necessary to comply with the legal advertising and adequate contractor review. After several delays and continued inaction by SVCC, the contractors were informed that bids would be received on the "Town Only" system. This decision was concurred with by DEQ as a result of consultation with the Town and Tudor just seven days prior to the bid opening.

Immediately after the bids were opened, a meeting was held with all parties. The result of the meeting was three fold:

1. A 45 day sampling period to validate the SVCC discharges, after completion of inhouse pretreatment.
2. Set December 10, 1979 as the decision date to proceed with either a biological reactor or a "Town Only" system.
3. Authorized construction, after negotiation, of work items required by both projects so as not to unduly prejudice the Dec. 10 decision.

The DEQ approval and Permit to Construct for the "Town Only" system (which did not include biological reactors) was issued on Sept. 26, 1979. The EPA Director, Office of Public Facilities and Grants, Water Division, in the Oct. 22, 1979 letter to the Town states that..."The plans and specifications for rehabilitation and modification of the wastewater treatment works for the referenced project have been reviewed by the Wyoming DEQ and recommended for approval. This office hereby approves the plans and specifications".

As a result of the concentrated sampling program conducted as directed by the regulatory agencies, and the total lack of response of the SVCC,

Page 18 (cont.)

the Town made the decision in Dec. 1979 to terminate the SVCC usage of the wastewater system. This fact was communicated in a letter from the Town's Attorney to the SVCC with all parties receiving copies. As a result of the December meeting Tudor prepared a request for grant amendment which was approved by the Town and submitted. In March 1980, the Wyoming DEQ received the grant amendment which officially requested the project scope be reduced and modified for a "Town Only" system.

WITH THESE FACTS IN MIND IT IS HARD TO ENVISION THAT EPA PERSONNEL WERE TOTALLY UNAWARE OF THE ONGOING CONSTRUCTION DIRECTION IN MARCH AND APRIL 1980.

From as early as April 1978, Tudor and the Town tried to educate the EPA and DEQ that a 2000 BOD biological reactor would only work if the SVCC significantly reduced their excessive loading to previously established levels.

The confusion spoke of on page 16, paragraph 3, was created by the SVCC attempt to cloud the issue that the severe problems were created by their excessive discharge that had placed the Town in this particular position. The Town and Tudor acting together, made a consistent conscientious effort to establish a straight line to completion of the project. The buffeting action of the various agencies, parties, etc., served only to slow the process but, not by any means, to detract from the ultimate completion within the established guidelines, rules and regulations. This buffeting of time and expense included the following examples of work required by regulations or regulatory agency direction:

- Preparation of two industrial cost recovery (ICR) programs based on two different EPA stipulated industrial shares.
- Design and construction of monitering vaults for ICR compliance ($34,690 construction cost)

Page 16 (cont.)

- Attempt to eliminate the surface discharge by bidding a portion of the project during the fall of 1979, only to have the bids excessively high.
- Notice of violation by DEQ to the Town attempting to limit the SVCC discharge and dictating the terms of an agreement between the SVCC and the Town. The resulting confusion delayed the construction from June 1979 to September 1979.

[GAO COMMENT: These comments are essentially concerned with how Thayne and Tudor have attempted to keep EPA and DEQ informed of the project's progress. The comments attempt to explain why Thayne decided not to build the facility envisioned in the grant agreement.

Tudor does not believe that EPA was unaware, as our report points out, of the construction direction in March and April 1980. We based our statement on two discussions with the EPA regional section chief responsible for the Thayne project. Tudor's comments refer to a March 1980 request for additional funds as the document which officially reduced the scope of the project. This request does not state that such a reduction was being planned. It requests more funds "to cover design and construction of lower storage ponds, rapid infiltration basins; return water pumping stations and chlorination facilities."

Such a request could be interpreted as a partial request for more construction work and does not constitute or clearly communicate a reduction in scope nor a formal modification for a town-only system.]

Page 16 (paragraph 4)

What appears to be unusually high engineering fees can be attributed to the constantly changing direction of the project. The Tudor involvement was formulated on a "crash" basis, under heavy political and regulatory pressures. Tudor's preliminary report, while based on the best data available, underestimated the scope and nature of the problem. The period from October 1977 to April 1978 was spent in cataloging the industrial flow from SVCC and developing abatement

proposals. During this period Tudor verified that the existing organic load was four (4) to twelve(12) times what was previously believed. A summary of these abatement studies was prepared and presented to a meeting of interested parties in April, 1978. Present at this meeting were representatives of the Town, Tudor Engineering Co., SVCC, DEQ, and EPA. The economic benefits of flow and organic abatement were discussed at length. Two feasibility level studies were presented, one to treat 12,860 BOD and one to treat 2023-BOD. Also presented were cost estimates and projected ICR payments by SVCC. These studies were meant to show the economic necessity of flow abatement. Tudor did not propose that the larger system be considered for construction. The introductory paragraphs to these studies states:

> ..."The two flow schemes and cost estimates presented are not meant to be preliminary, or proposed, treatment flow schemes. They are intended to be used for the City and Industry's decision making process. The relative costs of the two situations should remain about constant, whatever treatment process is selected."

At this meeting the absolute necessity of reducing the SVCC wasteload was well recognized by parties attending. Tudor, in fact, refused to proceed until this recognition was clearly stated in writing by the Town, DEQ, and EPA. After the April '78 meeting, the CONCEPT that SVCC would abate their wasteload was well accepted. The IMPLICATIONS of this acceptance were not well defined at this point. Negotiations between SVCC and the Town to fix a wasteload ceiling covered nearly two (2) years. The changing regulatory perspectives, coupled with input from various State agencies, resulted in substantial changes in project direction. As late as December, 1979 the final project and scope had not been established.

[GAO COMMENT: We have recognized Tudor's justification for the higher than average fees on p. 27.

We have also revised the report to show that Tudor did not propose the larger system for construction.]

Page 18

The August, 1979 meeting is a pivitol one, for at this meeting the groundwork was laid that would eventually result in the disconnection of SVCC from the Towns system. This meeting dealt with the proposed system loadings and the inability of the Town and SVCC to reach a mutually satisfactory agreement. Dual stratigies were mapped out to allow either construction of the 2000 BOD system or what has become known as the "Town only" system. The GAO synopsis of this meeting is a fairly accurate one except for the following point: The construction authorized at the meeting was never meant to be a final solution to the Town's treatment problems, even without the SVCC wasteload. The object of this project (Titled Phase V) was to construct, or rehabilitate, those items COMMON to both the "Town Only" and the SVCC (2000 BOD) systems. Very little new construction was done except as to avoid future reconstruction. At this stage, the Town still believed it was following the dual strategy approved and demanded by the various parties involved, and that a final decision, as to which project would ultimately be built, would take place at or after the Council meeting of December 10, 1980. The Town still envisioned one final construction project would be bid. Evidence of this is clearly demonstrated by the Town's instruction, to Tudor Engineering Company, to reconstruct the failed system in as flexible configuration as possible and the submission of a grant amendment application which was received in March 1980 by the Wyoming DEQ. Tudor designed, and during the Phase V, constructed. connection piping to accomodate either the SVCC (2000 BOD) system or the future additions to complete the "Town Only" system were

installed. These connections have no utility whatsoever in the current configuration. The Town has twice submitted grant amendment applications to formally identify the direction and cost for project completion.

[GAO COMMENT: None.]

Page 18 (paragraph 5)

Comment is made that Tudor Engineering officials stated that by August 1979 meeting,not enough funds were left to make the necessary changes. This fact was brought out by Tudor at the August meeting because of several important facts.

a. The grant request made in August of 1977 assumed and was dictated by a rapid completion schedule By August 1979, inflation had already taken its toll on the proposed budget.

b. At the August meeting construction bids were in hand, there was no longer any question of engineer estimate, the facts were known and the dollars were on the table.

c. A critical shortage of construction trades and contractors created an inopportune climate for bidding the various Thayne projects. Specifically, due to energy and mineral impact, only one bid was received on both the phase 3 and the phase 5 construction effort.

These three reasons then, were the basis of Tudor's comments at the August meeting concerning the very real facts that because of numerous design/redesign, the numerous bid/rebid, the effect of inflation, the lack of a competitive market and the length of time from the original grant request predicated on a rapid completion, were the various factors which diluted the funds to the point where necessary construction could not be completed.

[GAO COMMENT: While these factors may have existed, our review was not directed at determining their validity.]

Page 21 EPA Officials

The title states EPA officials were unaware of the lack of construction work. The comment refers to an EPA section chief under misconceptions in the March/April 1980 time frame. The chronology of the meetings, memos, letters, phone calls, telegrams and other correspondence, document the fact that Tudor Engineering Company, the Town of Thayne, and all parties were aware of the direction, the timing and where funding was being spent. If the EPA section chief was misinformed it was only because the project officer assigned to the project did not communicate within his own organization the facts as they were developing. Letters received by the Town and Engineer were signed by the appropriate EPA agency officials. The Town made every effort as did their engineer to insure that copies of memos, letters, etc. were filed with all parties so that no misunderstanding would occur. The attached chronology identifies the various decision dates.

[GAO COMMENT: We did not determine the reason the EPA section chief was unaware of the change in the items that would be constructed. The many memos, meetings, and other correspondence that were generated during the August 1977 to December 1980 time frame did not clearly communicate that the project scope had been changed. A Tudor official agreed that Tudor did not always formally notify EPA of changes in the project.]

Page 20

The EPA comment that the system could not spray in winter seems like a strange realization in October 22, 1980. The facts are: Winter operational problems previously discussed in the GAO report describe the serious operational problems and the questions about winter spraying of the wastewater. It was a well known fact and well documented fact that the Town of Thayne spent many hours and dollars repairing frozen water lines that occured prior to 1978. The EPA comment states that as initially designed and constructed the lateral control valves would allow the water to automatically drain. It is

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correct the original design called for and the installed valves would have allowed,automatic draining of the lines. The fact is the construction of the laterals was uneven and the valves could not drain. It is also a pertinent fact that the August 1977 concept as discussed earlier in the GAO report states that there was to have been a biological reactor system with high rate percolation basins. The reason for that concept was that the sprayfield, would be utilized during the summer growing months only, and the use of the high rate percolation basins would only be for winter time operation. It seems questionable then, that EPA had any questions left in the 1980 time frame that there would be wintertime operations. It is also a pertinent fact that both EPA and DEQ reviewed the design and DEQ issued a permit to construct, all based on the concept of summertime sprayfield operations and wintertime percolation basins. It is therefore not an unreasonable concern of the Town and their engineer in 1980, when the sprayfield operations began, that the lines would continue to freeze and did infact freeze prior to being shut down in December of 1980, an unusually mild winter.

[GAO COMMENT: None.]

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The EPA stated position in the GAO report is that Thayne should therefore install new sprayfield laterals at no expense to EPA. This is a serious re-evaluation of the concept selected in 1977 and proceeding forth until the apparent change in 1980.

[GAO COMMENT: EPA has made a policy judgment on the Thayne project by taking this position.]

Page 27 & 28 - Engineers fees

There is no masking or diluting the fact that a great deal of engineering and other technical effort has gone into the project since 1977, when Tudor was retained by the Town. If, and we underline the word if, the project had been of a scope and magnitude as envisioned in August of 1977 when the first Tudor report was prepared and presented, the engineers fees and project scope would probably have moved along very smoothly with the engineer receiving a more average compensation. The fact is, the magnitude of the problem which first had to be documented required engineers and technicians time, and to communicate to all parties (EPA, DEQ, the Town, SVCC) that the actual problem was much more severe than previous reports had indicated required even more time. With the existing and continuing changing climate of regulatory decision makers and stalling tactics of the SVCC the project attempted to maintain a straight line approach to solving the problem. The numerous re-design, change of effort, and regulatory notice of violation, all served to create increasing responsibilities and demands upon the engineer to create new products and to re-evaluate those products previously accomplished by Tudor and others. The final comment by GAO is that the project envisioned was never built. The envisioned project would not have solved the problem as documented as early as April 1978, and if construction would have been another costly failure.

[GAO COMMENT: EPA has advised us that it will conduct a detailed interim audit and a final audit of the Thayne project as resources permit. The audits will assure that the costs claimed by Thayne and paid by EPA are allowable for grant funding. The engineering fees paid to Tudor will be reviewed as part of the audits.]

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Page 28 The engineering agreement

An engineering agreement was signed in August 1977 between the Town of Thayne and Tudor Engineering Company. This agreement was necessary to confirm the EDA funding for the project. The unsigned agreement was submitted for EPA's review to insure contract provisions were complied with. The Town of Thayne was naturally reluctant to enter into another engineering agreement unless it had the concurrance, advise and review of that agreement by EPA. This is natural, understanding the problems and concerns they had with the previous engineer, and the problems created by that particular agreement. The unsigned agreement was forwarded by the Town attorney to EPA for comment. Several sections of that agreement were highlighted for EPA's review and concern. The Town and Tudor both pressed EPA officials for a review of that contract so that it could be signed and placed in full force. DEQ officials as well as Tudor and Town officials pressed the EPA project officer for a review of these specific sections under concern. Tudor recognizing the growing concern of not having an approved EPA agreement, submitted proposed contracts on two other occasions. The comment is made that Tudor Engineering officials were aware of the requirements but offered no explanation to why they did not follow the requirement. Tudor did in fact follow all of the requirements submitting the necessary agreements, forms and associated documents to the Town and pressing EPA for a review. The Town of Thayne would not and could not enter into that agreement until EPA had reviewed and concurred in these specific sections that were highlighted for review. The August 1977 agreement signed between the Town and the engineer was not intended to be the EPA approved agreement, but as stated previously was only intended to confirm the existence of a contract between the engineer and the Town for the EDA purposes. While Thayne

officials may have been unaware of the requirements for a formal written agreement, Tudor Engineering acting as Thayne's advisor was well aware, and did submit written agreements for EPA approval.

[GAO COMMENT: We have included Tudor's position in the report on p. 29.]

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ATTACHMENT NO. 2

ABBREVIATED PROJECT

CHRONOLOGY

Thayne Sewer

Project Chronology

Prepared from Documents

By Tudor Engineering Company

(See also DEQ Chronology 12/57 to 3/77)

6/77	Tudor retained by Town of Thayne
7/77	Supplemental funding located
8/77	Tudor Preliminary Report
12/77-1/78	Stannard conducts field studies. Locates lactose stream, estimates load to have 75-90,000 population equivalent
12/78	Report to DEQ of SVCC overload
1/78	Tudor report "flow and waste reduction analysis" detailing located sources of organic and flow and recommendations for abatement. Above report forwarded to SVCC.
3/78	Above information communicated to DEQ. Above report and feasibility cost estimates presented to Town with Tudor recommendation that SVCC be required to divert the lactose stream from sewerage system.
4/14/78	Meeting w/DEQ, SVCC, Tudor, Town, and EPA where above findings were presented and discussed in open meeting 2000 lb BOD/day estimated to be allowable limit from SVCC.
4/26	Town request that EPA funding level be increased from 75% to 100% pursuant to 17 (a)(3).
5/31/78	DEQ concurs in decision to divert lactose stream
6/78	Town concurs in decision to divert lactose (copy to SVCC)
7/78	EPA concurs with decision to divert lactose
8/78	Phase II Contracts awarded
8/78	Letter from EPA to Sen. Hansen stating (among others) that "success (of the project) depends on the factory's effort to reduce the lactose load in their waste stream"
8/78	Tudor-DEQ meeting concerning the winter use of percolation ponds and summer spray, cost of necessary construction

9/78	Letter from DEQ as a result of the 8/78 meeting to Town stating: a) State does not have money to treat the whey b) Elimination of whey is essential c) Recommend settling specific waste allocation for SVCC
11/78	Letter from Town to SVCC notifying them of flow and organic limitations and offering to negotiate upward if necessary
11/78	Phase II, Schedule B, completed
12/78	EPA issues draft notice of violation to Town, copies to SVCC
12/27/78	Meeting of Town w/SVCC to discuss manner which SVCC proposed to meet above (11/78) requirements
1/8/79	Cheese plant discussed at Council meeting, SVCC didn't attend
2/8/79	DEQ sets 3/15/79 as deadline for submission of draft agreement between SVCC & Town
2/23/79	EPA serves notice to Town to develop a Pretreatment program for specified industrial discharges
2/28/79	EPA (Grants & Enforcement), DEQ, Town, SVCC, (Owners manager & attorney), DEPAD, FmHA, University of Wyoming, et.al. meeting - cheese plant will determine if they want to be in Town system by May 1. Town will make decision by May 15, 1979. Dates committed to EPA Enforcement.
3/26/79	EPA issues Notice of Violation to Town and SVCC
3/29/79	Armstrong (Tudor) meets w/SVCC owners and is told condensers will be in operation by 6/1/79 and load will be 1800-2000 lb BOD/day.
4/13/79	Phibbs (Town Attorney), letter to Town detailing conditions of proposed $85,000 DEPAD grant to Town to buy SVCC condensors
4/24/79	DEQ sets 6/15/79 as deadline for signed agreement between Town and SVCC.
5/11/79	Cheyenne meeting with Town, EPA, DEQ, Tudor, DEPAD, et al to discuss the review of the construction plans and status of available funding to complete the project.

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5/11/79	SVCC given until 7/2/79 to decide to use system or not due to construction constraints (bid process, notice to proceed, and estimated construction length).
5/14/79	Phibbs,(Town Attorney) receives phone call from SVCC advising they are seriously considering withdrawing from system.
5/14/79	SVCC does not attend regular council meeting. Council adopts motion that SVCC will be disconnected unless they notify Town within 7 days that they will negotiate a binding agreement to use sewer system.
5/14/79	Phibbs (Town Attorney) letter to Goulding detailing above
5/16/79	Phibbs (Town Attorney) letter to DEQ about above
6/5/79	Town letter to EPA requesting a grant extension to September 1, 1980
6/22/79	Gov. Herschler's letter to EPA detailing Project History, events of 5/11/79 meeting and asking for EPA to extend any deadlines 30 days to allow evaluation of SVCC evaporator, supposedly on - line 6/27/79
7/3/79	Tudor trip to Afton, meeting w/SVCC engineers, manager, lawyer about alternative bid packages, capability of system as designed, and probable project course
7/9/79	Town Council
7/16/79	Public Meeting at Thayne DEQ, FmHA, Town, 22 citizens attended. SVCC didn't attend. Purpose was to discuss alternative bid packages, project history and course.
7/25/79	Plan submittal of "Town Only" system for regulatory review
8/17/79	Status review between DEQ and Tudor, plan presentation and discussion
8/21/79	Bid opening - Phase V for "Town Only" System.
8/29/79	Cheyenne meeting w/EPA (grants and envorcement), Town, DEQ, DEPAD, Governor's office (SPC), Attorney General's office, Tudor
8/31/79	Garland (DEQ) memo detailing above meeting and setting 45 day sampling period, and December 10 council meeting as decision point for SVCC participation
9/7/79	Tudor (DLA) to DEQ RIBs no longer part of project

9/17/79	Monitoring program begins at SVCC
9/19/79	Thayne, Phase V, contractor negotiations
9/20/79	Conference phone call: EPA (grants and enforcement) DEQ, Town, Tudor, regarding evidence of negotiation to construct Phase V. Parties informed AVCC will not co-monitor during study period.
9/24/79	EPA (Brooks) telegram from TEC (DLA) results of negotiation
9/26/79	DEQ signed Permit to Construct "Town Only" system 79-467R.
10/4/79	Thayne pre-construction and contract signing for common portions of "Town Only" and biological reactor system.
10/22/79	Letter from EPA confirming approval of pland and award of contract.
10/22-10/24/79	SVCC engineer inspection of monitoring program
10/22-26/79	DEQ inspection of monitoring program
11/5/79	Monitoring report formulated and presented by Tudor to Town
11/13/79	Monitoring report sent to SVCC and DEQ
12/10/79	Town Council meeting to discuss monitoring report, efficiency of SVCC condensors, and resultant action to terminate SVCC use of sewerage system on or about May 1 depending on construction progress.
12/12/79	Phibbs (Town Attorney) letter to SVCC notifying of disconnection
12/29/79	Sen. Wallop staff representative briefed
1/8/80	Sen. Wallop staff briefing by phone
1/8/80	Phase II Schedule A completed
3/80	Grant Amendment received for processing by DEQ
10/79-7/80	Construction of Phase VI project
8/6/80	SVCC disconnection from Town System.

APPENDIX V

THE STATE OF WYOMING

ED HERSCHLER
GOVERNOR

Department of Environmental Quality

Water Quality Division

401 W. 19TH STREET

EQUALITY STATE BANK BUILDING
CHEYENNE, WYOMING 82002

TELEPHONE 307 777-7781

May 5, 1981

Mr. Henry Eschwege
Director, Community & Economic Development Division
United States General Accounting Office
Washington, D.C. 20548

Dear Mr. Eschwege:

I appreciate the opportunity to review the draft document concerning the municipal wastewater facility project for the Town of Thayne. Since, as you indicated in your cover letter, the document consists of only excerpts from the total report, it is impossible to determine whether the statements presented are an accurate reflection of the true situation without knowing the context in which they are used. I feel there is a lack of emphasis placed on how the project has affected the community, i.e. financial condition, but rather addresses, to the most part, deficiencies resulting from the complexity of the situation. Without having been directly involved in the meetings, discussions and less formal negotiations, it is impossible to accurately re-construct the occurrences.

I sincerely hope that the conclusions and recommendations, of which we are not privy to, take this into account. Since the document, in it's present form, is of absolutely no use to this agency, I am returning it.

If I can be of any further assistance, feel free to contact me.

Sincerely,

William L. Garland
Administrator
Water Quality Division
Department of Environmental Quality

WLG/jn

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