

ALASKA LEGISLATURE COMMITTEE FILES, 2003-2004 8672

10720 HOUSE COMMUNITY & REGIONAL AFFAIRS

AIDEA's History

1967: Created by the Legislature as a public corporation of the state and a body corporate and politic constituting a political subdivision within the Department of Community and Economic Development, but with a separate and independent legal existence.

1980: The Legislature authorized the Authority to issue general obligation indebtedness and capitalized the Authority through an appropriation of \$23,000,000 in cash and a loan portfolio of approximately \$166,000,000.

1985: Legislation authorized AIDEA to finance, own and operate projects that enhance the economy of the state and support private sector investment.

1987: The Legislature expanded the powers of the Authority to provide financing guarantees for exports of Alaska goods, services and raw materials.

1996: The dividend program was approved. Through prudent management of assets, \$129 million in dividends have been authorized to the state.

AIDEA/AEA 

AIDEA Goals

To stimulate economic development and diversification.

- To create or retain jobs and to stimulate economic development and diversification by:
 - ✓ increasing access to capital
 - ✓ providing a long term financing source for business development and expansion in Alaska.
- AIDEA has the ability to provide various means of financing and assistance to businesses in Alaska.

AIDEA/AEA 

AIDEA's Programs: CREDIT

Loan Participation Program

AIDEA can purchase up to an 80% participation in a bank originated loan, with total participation not to exceed \$10 million, to develop, acquire, or enhance Alaska business enterprises.

This program has helped diversify the Alaska economy by providing financing for a large variety of commercial facilities ranging from office buildings, warehouses and retail establishments to hotels, fishing vessels and manufacturing facilities.

AIDEA/AEA 

AIDEA's Programs: CREDIT

Business and Export Assistance Program

A loan guarantee program which provides financial institutions with a guarantee of up to 80%, not to exceed \$1 million, on the principal of the loan. Transactions are primarily intended to assist manufacturing enterprises to export goods and services.

Conduit Revenue Bond Program

Issue revenue bonds which may be taxable or tax-exempt. AIDEA acts as a conduit and neither the assets nor credit of AIEA or the State of Alaska is at risk in this program.



AIDEA's Programs: CREDIT

Rural Development Initiative Fund (RDIF)

The RDIF is a loan program designed to create job opportunities in rural Alaska by providing small businesses with capital that may not be available through conventional markets.

This program provides loans for working capital, equipment, or construction.

To be eligible for this loan, the business must be Alaskan-owned and located in a community of 5,000 or less that is not connected by road or rail to Anchorage or Fairbanks, or a population of 2,000 or less that is connected by road or rail to Anchorage or Fairbanks.

DCED, Division of Investments, administers this program for AIDEA.



Recent Accomplishments

During FY2003, purchased approximately \$39.7 million in loan participations originated through financial institutions for business and projects in Alaska. At June 30, 2002, had approved loan participation purchase commitments for an additional \$29.3 million.

Continued to work with Teck Cominco Alaska and the U.S. Corp of Engineers to study the potential feasibility of a deep water port to service the DeLong Mountain Transportation System.

Issued refunding bonds for the Federal Express Aircraft Maintenance Facility, resulting in an annual debt service savings of \$215,000.

AIDEA loaned the Four Dam Pool Joint Action Agency \$77.1 million to finance the purchase of the Four Dam Pool Project previously owned by the Alaska Energy Authority. The loan is payable over 25 years with interest at 6.5% per annum.

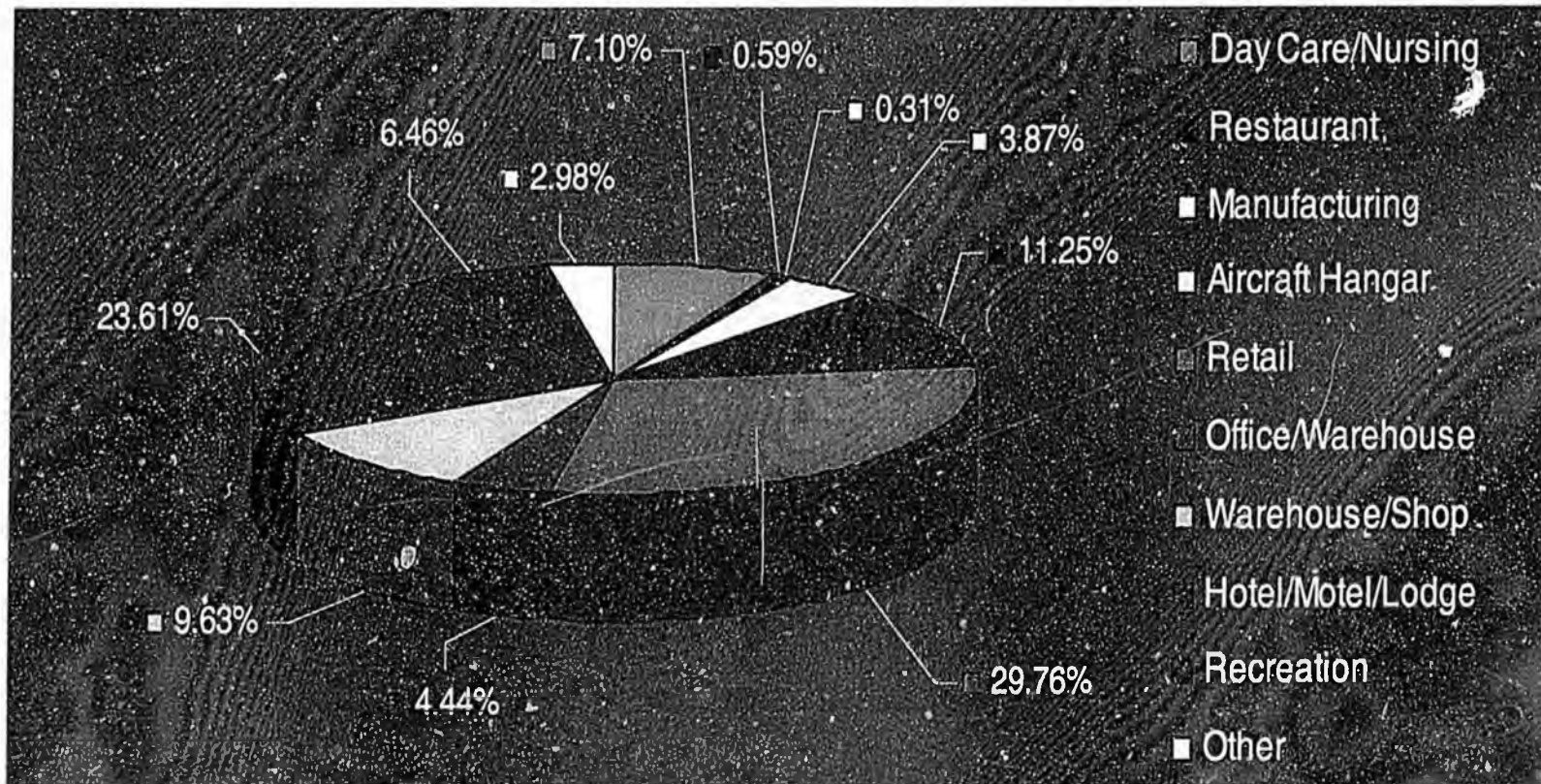
AIDEA/AEA 

AIDEA Loan Portfolio: Diversity and Performance

Loan programs play an important role in fulfilling AIDEA's mission, while also providing a long-term investment for AIDEA. Through loan participations and loan guarantees with the banking industry, AIDEA provides opportunities to finance Alaska businesses.

(As of September 30, 2002)

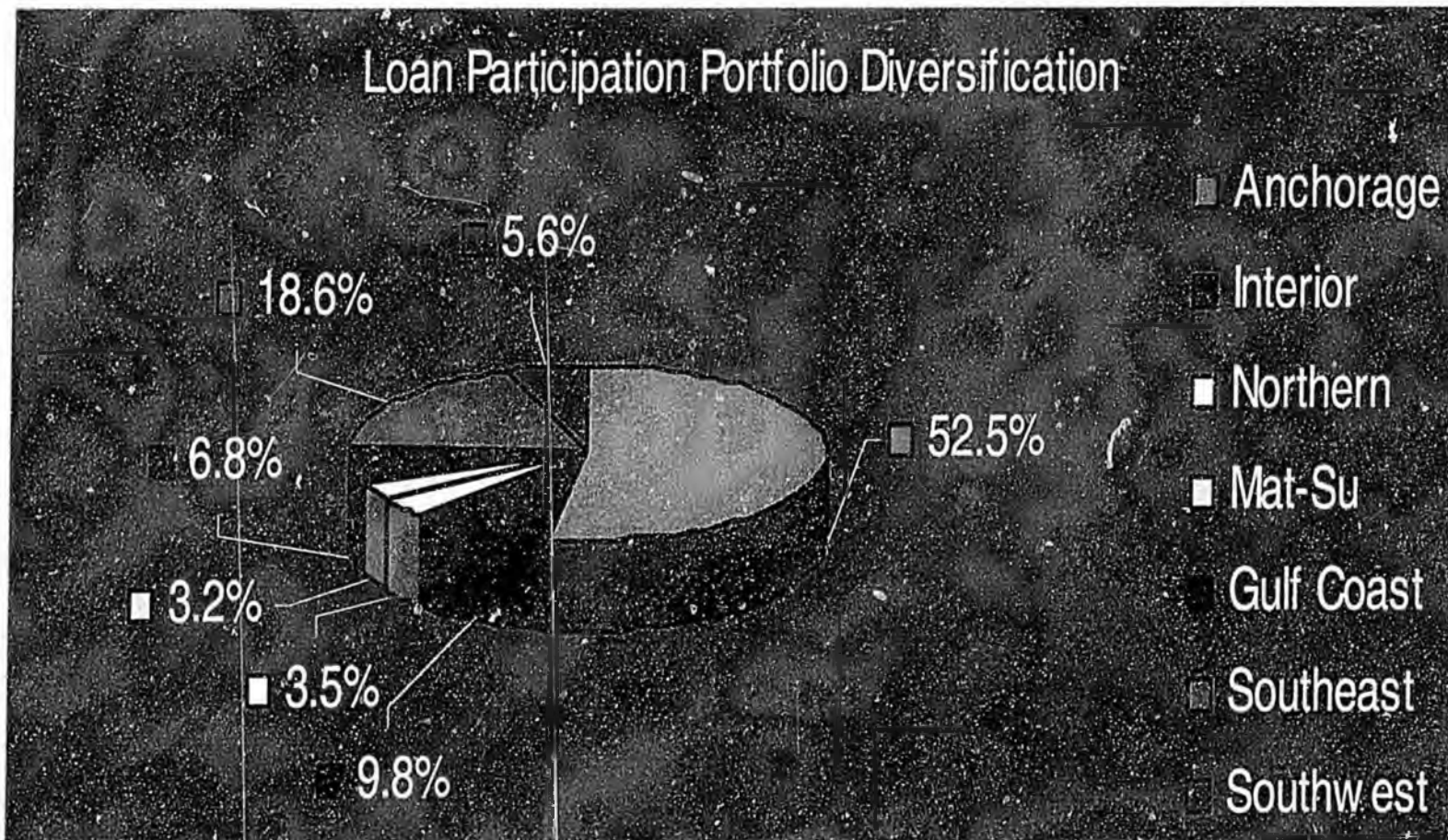
Industry Diversification



AIDEA Loan Portfolio: Diversity and Performance

(As of September 30, 2002)

Geographic Diversification



Development Finance Projects

Project	6/30/02 Net Book Value	Status
DeLong Mountain Transportation System (DMTS)	\$257 million	Project has been in operation since 1990; a port expansion was completed in 1999. Cominco pays AIDEA \$17.7 million per year in user fees.
Federal Express Aircraft Maintenance Facility	\$25 million	Facility is complete and in operation.
Healy Clean Coal Facility	\$56 million	Facility is in mothball status.
Suneel Coal Load-Out Facility	\$6 million	AIDEA purchased a 49% equity interest in the facility in 1995 to help retain jobs related to coal export.
Ketchikan Shipyard	\$3 million	This facility was transferred from DOT/PF and is operational.
Skagway Ore Terminal	\$2 million	Terminal is vacant.
Snettisham Hydroelectric Project	\$89 million	Revenue bonds were issued in 1998 to finance the project. Project operations continue.
Alaska Seafood Center	\$22 million	Start-up operations continue.

Investment Overview

- **Investment Objectives**
 - ✓ Safety
 - ✓ Liquidity
 - ✓ Yield
- **Conservative Investments**
 - ✓ U.S. Treasuries
 - ✓ U.S. Agencies
 - ✓ Corporate bonds
- **Large portion managed by investment managers to increase return**
- **Remainder is invested to meet liquidity needs or are held by bond trustee's under bond resolutions.**

AIDEA/AEA



Dividend Policy

The dividend program was created in 1996 and carefully structured to provide certainty and stability to the Authority and its investors. The dividend policy allows AIDEA to make a contribution to the General Fund; provides financial flexibility to the Board to determine the dividend; and provides substantial protection to the Authority's bond owners to insure their investment remains secure.

The dividend is to be not less than 25% nor more than 50% of the Authority's net income for the fiscal year two years before the year the dividend is to be paid (the "base year"). In no event may the dividend exceed base year unrestricted net income as defined in statute. The AIDEA Board determines the dividend taking into consideration: a) base year net income, b) income trends, c) project and loan flow projections, d) bond covenant impacts, e) rating agency concerns, and f) unanticipated needs.

June 30	Net Income	Payable In FY	Dividend	Net Income %
1995	37,461,096	1997	15,000,000	40.042%
1996	42,902,054	1998	16,000,000	37.294%
1997	42,880,361	1999	16,000,000	37.313%
1998	52,373,699	2000	26,000,000	49.643%
1999	37,092,829	2001	18,500,000	49.875%
2000	35,597,000	2002	17,500,000	49.161%
2001	40,299,000	2003	20,149,500	50.000%
Cumulative	288,606,039		129,149,500	44.749%



Bond Ratings/Bond Capacity

Following the implementation of AIDEA's Dividend Policy in 1996, AIDEA's market acceptance significantly improved. In early 1997, for the first time, AIDEA was able to issue AAA insured general obligation bonds when it completed the largest bond sale in its 30-year history. AIDEA again received a AAA insured rating when it issued general obligation refunding bonds in 1998 and 2002. AIDEA has a strong underlying A(2) and A- rating by Moody's Investors Service and Standard & Poor's respectively. Strong bond ratings allow AIDEA to have greater access to capital markets and a broader investment pool, lowering borrowing costs for important economic development projects.

Since 1989, pursuant to AS 44.88.105(d), bonds issued by AIDEA may not carry the moral obligation of the State, unless the moral obligation a) is specifically authorized by the Legislature, b) secures bonds to refund moral obligation bonds originally issued prior to 1989, or c) secures bonds issued for a power transmission intertie.

None of the new project bonds issued by AIDEA since 1989 carry the State's moral obligation. Outstanding state moral obligation bonds as of June 30, 2002, total \$10,735,000. This represents only 4% of the total bonds outstanding of \$271,065,000. Moral obligation bonds are not debts or liabilities of the State.

AIDEA/AEA 

Alaska Energy Authority Oversight

AIDEA provides all staffing for the Alaska Energy Authority (AEA). This encompasses the oversight of the operations and maintenance of all AEA owned power projects, the management and staffing of AEA's Rural and Alternative Energy Programs, the administration of the Power Cost Equalization (PCE) Program, and the administration of the Circuit Rider Program.

AIDEA/AEA 



**Alaska Energy Authority
(AEA)**

Overview

House Community and Regional Affairs
Committee
February 27, 2003

Ron Miller, Executive Director

Phone: 269-3000

Fax: 269-3044

AIDEA/AEA

AS 44.83

AS 42.45

AEA'S Mission

To assist in the development of safe, reliable and efficient energy systems throughout Alaska, that are financially viable and environmentally sound. AEA is also tasked with operating and maintaining existing state-owned power projects to achieve the lowest reasonable consumer power costs.

AIDEA/AEA

Alaska Energy Authority (AEA)

- A public Corporation of the State of Alaska, under the Department of Community and Economic Development
- Comprised of two distinct functions:
 - Rural Energy Programs, partially funded by grants
 - Owner of the Bradley Lake Hydro Project, Larsen Bay Hydroelectric Project and the Alaska Intertie

AIDEA/AEA

AEA's Goals

- Continue to operate and maintain existing state-owned power projects.
- Continue to partner with the Denali Commission as well as private sector businesses to bring safe, economical power to Alaskans.
- Help train Alaskans to build and maintain state of the art energy systems.

AEA, through its programs, works with Alaskan communities in order to achieve the lowest reasonable consumer power costs and assist in the development of safe, reliable, and effective energy systems throughout Alaska that are financially viable and environmentally sound.

AIDEA/AEA 

AEA Owned Projects

AEA operates and maintains the following state-owned power projects:

- Bradley Lake Hydroelectric Project: The project has installed capability of 126 megawatts and transmits its power to the state's main power grid via two parallel 20-mile transmission lines. The project went into commercial operation in 1991 and is now operated by Homer Electric Association under contract with AEA. Bradley Lake serves Alaska's Railbelt from Homer to Fairbanks, as well as the Delta Junction area.

- Alaska Intertie: The transmission line interconnects the power distribution systems of Anchorage and Fairbanks. The Alaska Intertie allows Golden Valley Electric Association in Fairbanks to purchase lower cost electricity produced with natural gas and hydroelectric power, from the Anchorage and Kenai Peninsula utilities. The Alaska Intertie reduces the number of black/brownouts throughout the system. Operations and maintenance duties are overseen by the Intertie Operating Committee.

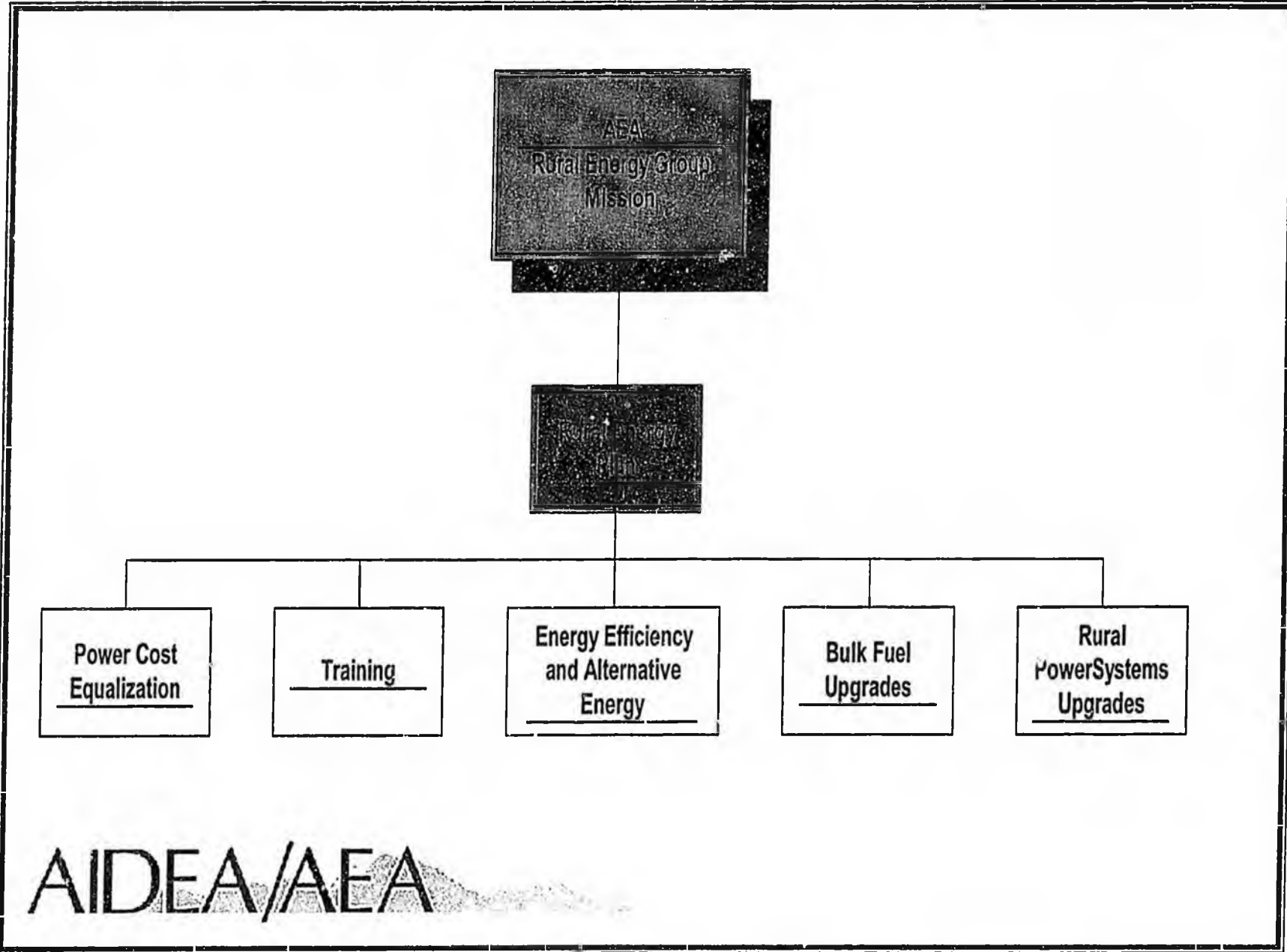
AIDEA/AEA

AEA Owned Projects (Continued)

- The Alaska Legislature appropriated \$20.3 million to AEA to extend and upgrade the Alaska Intertie to the Teeland substation. AEA is hiring a consultant to perform the feasibility study to analyze and recommend extension and upgrade work within budgetary constraints. The goal is to provide the greatest public benefit to further the intended purpose of the Alaska Intertie — improving reliability and economical energy deliveries to Railbelt utilities, with full consideration of service disruptions and economic impacts to Railbelt utilities and the public.

- Larsen Bay Hydroelectric Project: The 475-kilowatt project went into commercial operation in mid-1991. In addition to producing electricity for this isolated Kodiak Island community, the project replaced the City of Larsen Bay's old water supply system and provides a better source of water with reduced maintenance and improved water quality. The City of Larsen Bay operates the project.

AIDEA/AEA



Rural Energy Plan

- Bulk Fuel Assessment and Priorities
- Power System Assessment and Priorities
- Screening Report
- Detailed Initiatives for Efficiency and Reliability
 - ✓ Diesel generation efficiency
 - ✓ End use efficiency
 - ✓ Combined heat and power (cogen)
 - ✓ Wind Energy
 - ✓ Government Programs / Power Cost Equalization

AIDEA/AEA

Rural Power System Upgrades

- Rebuild or replace worn-out diesel generator units.
- Rebuild or replace old and hazardous distribution systems.
- Construct new power generation systems that meet State and Federal codes.
- Include waste heat recovery systems, where possible, in new powerhouses.
- Provide technical assistance to rural communities through AEA personnel and or contractors.
- Provide response in emergency situation.
- The following projects were completed in 2002 and 12 are scheduled for 2003:

Kotlik

Nunam Iqua

AIDEA/AEA

Bulk Fuel Upgrades (BFU)

- Rehabilitate or construct new bulk fuel tank farms to meet State and Federal Codes.
- Need for storage capacity.
 - ✓ Transportation of bulk fuel by barge or plane.
 - ✓ Communities need enough fuel to last through the winter.
- Participants of the upgrades are utilities, schools, government entities and the private sector.
- The following projects were completed in 2002 and 13 are scheduled for 2003:

Arctic Village
St. George
Tanana
Nunam Iqua

Chignik Bay
Kongiganak
Port Heiden
Nikolski

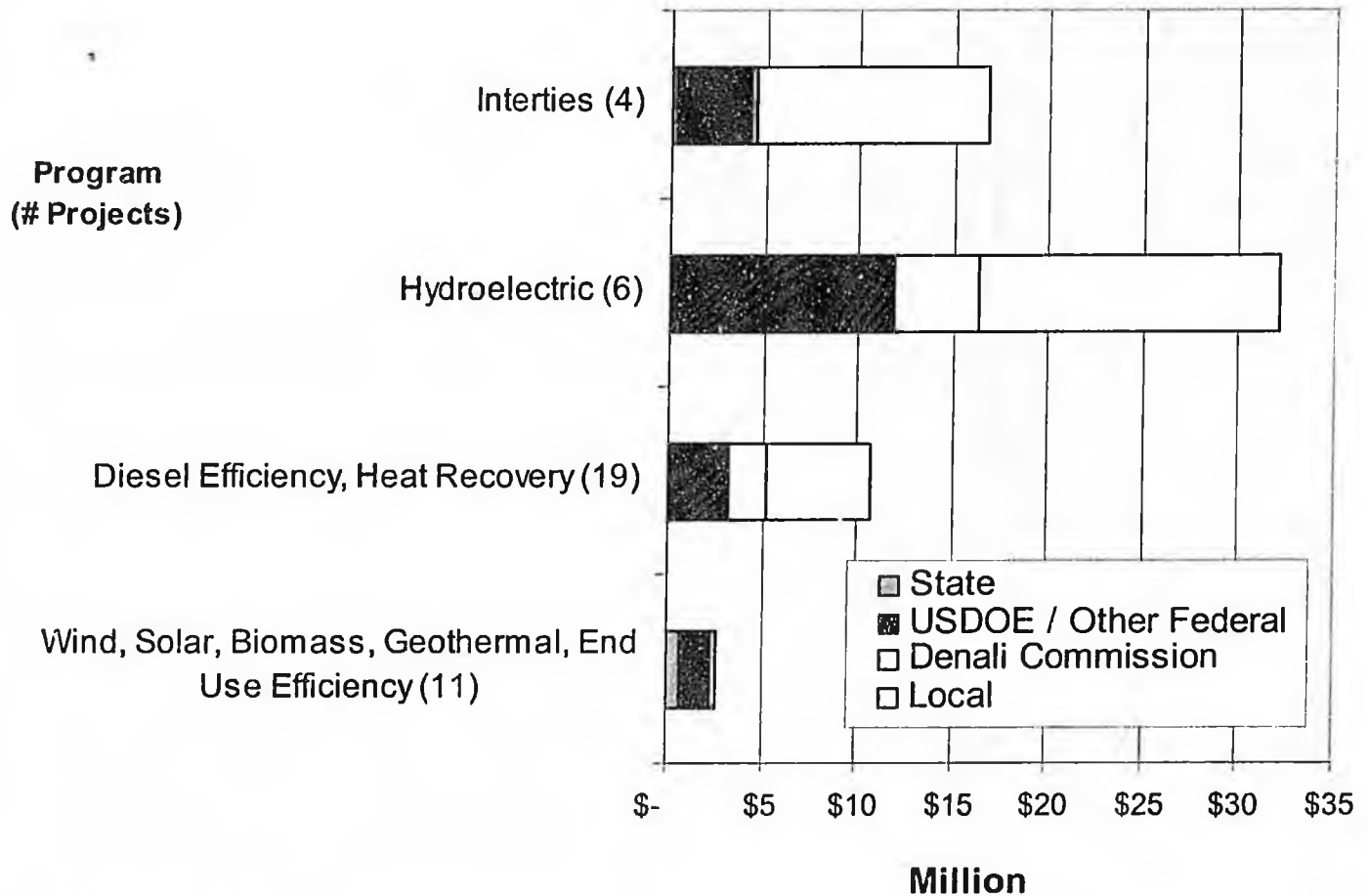
AIDEA/AEA

Alternative Energy Programs

- Small Hydroelectric
- Wind Program
- Alaska Bioenergy Program
- Rebuild America Conservation Program
- Other Alternative Energy Programs
 - ✓ Small coal fired facilities
 - ✓ Coal deposits development
 - ✓ Shallow natural gas development and natural gas development from coal deposits.
 - ✓ Assess feasibility of local electrical interties in rural Alaska.

AIDEA/AEA

Alternative Energy & Energy Efficiency Program Funding



AIDEA/AEA

Training Programs

- Through Alaska Vocational & Technical Center (AVTEC)
 - ✓Bulk Fuel Operator
 - ✓Itinerant Bulk Fuel Operator
 - ✓Spill Response Training
 - ✓Powerplant Operator
 - ✓Advanced Powerplant Operator
- Through AEA Staff
 - ✓Utility Clerk
- Through Construction Managers
 - ✓Work Force Training
 - ✓Small hydroelectric operator

AIDEA/AEA

Power Cost Equalization (PCE)

- Provides economic assistance to customers in rural Alaska where often the kilowatt-hour charge for electricity can be three to five times higher than in more urban areas of the state
- An endowment fund intended to provide long-term funding for the PCE program was established and initially capitalized with a \$100 million state appropriation and proceeds from the sale of the Four Dam Pool.
- Residential customers are eligible for PCE credit up to 500 kwh/month/customer. Community facilities, as a group, can receive PCE credit for up to 70 kwh/month multiplied by the number of residents in a community.

AIDEA/AEA 

Selected FY2002 PCE Statistics

- 90 utilities served 187 communities.
- Population of participating communities 79,555
- Total number of eligible customers 27,241
- Total kWh's sold 404,998,916
- Total eligible kWh's 123,656,603
- % of kWh's sold that were eligible 30.53%
- The annual PCE benefit received by the average customer was approximately \$569.00

AIDEA/AEA 

PCE for FY 2003

- \$15.7 million appropriation for FY2003
- Program prorated to 84% from July 2002 – February 2003
- Program prorated to 90% as of March 2003.
- \$153.7 million PCE Endowment market value as of 12/31/02

AIDEA/AEA

Circuit Rider Program and Emergency Response Program

- Assists village electric utilities in preventative maintenance, on-site operator training, consultation, technical assistance, and emergency response.
- Regular on-site inspections of approximately 85 power systems are conducted in various rural communities.

AIDEA/AEA 

AEA Loan Programs

Bulk Fuel Revolving Loan Fund

A short-term, low interest loan program that allows rural communities with a population of less than 2,000 to make their bulk fuel purchase in a cost effective manner.

Power Project Fund

Provides loans to local utilities, local governments or independent power producers for the development or upgrade of electric power facilities, including conservation, bulk fuel storage, waste energy conservation, or potable water supply projects.

AIDEA/AEA 

Conclusion

Without access to efficient, reasonably priced power, economic development cannot proceed.

Alaska's long-term economic outlook is enhanced by AIDEA and AEA combining their talents to develop and advance the general prosperity and economic welfare of the people of Alaska.

AIDEA/AEA 

3/4/03

OVERVIEW:

LOW

SULPHUR

DIESEL

FUEL

TALKING POINTS

- The Environmental Protection Agency (EPA) recently established a rule, effective in 2006, to reduce air pollution and related health and air quality impacts from large trucks and buses.
- Last session the House Community and Regional Affairs Committee introduced a Resolution to address Alaska's concerns with the effective date of this new federal rule. It asks EPA and the Department of Environmental Conservation to give Alaska maximum flexibility in implementing the new rule. Unfortunately, the Resolution died in Senate Finance during the final hours of the session.
- In 2006, diesel trucks and buses must use diesel fuel containing 15 parts per million (or less) sulfur.
- Model year 2007 diesel trucks will require new emissions control equipment specifically designed to use only this type of fuel.
- This means most road diesel fuel used in Alaska in the future will, by rule, be ultra low sulfur diesel.
- The financial and logistical consequence to rural Alaskans is significant with this change of diesel fuel types.
- An increase of 50 cents per gallon is expected.
- A greater fuel requirement is necessary with a decrease in fuel efficiency or fewer BTU's generated.
- The effects extend to the Alaska trucking industry, whereby freight transport costs will rise.
- Electrical companies testified last year that varying grades of diesel fuel would become increasingly difficult to obtain for existing systems.
- Fuel transportation, delivery and storage systems in rural Alaska are generally capable of handling no more than one discrete diesel fuel type.
- Barges will need retrofitting and tanks in fuel farms cleaned.
- The cost associated with this retrofit is not financially feasible when only 5% of the diesel refined in Alaska is used on the road.
- Production of ultra low sulfur diesel fuel is not likely in Alaska. Any ultra low sulfur diesel fuel used in Alaska will, by necessity, be imported from lower 48 refineries.
- While the federal rule is designed to address environmental health and air quality issues in urban and populated areas, it has severe economic implications in rural Alaska.

Low Sulfur Diesel Fuel Rule

Name	Title	Organization	Telephone
1. Tom Chapple Ron King	Dir. Air & Water Qtly.	DEC DEC	465-5128 465-5128
2. Steve Cleary		AKPIRG	278-3661
3. Frank Dillon	Executive Vice President	Alaska Truckers Assoc.	276-1149
4. Marie Becker	<i>51 Village Loop</i>	Alaska Village Electrical Coop	561-7972
5. TC Wilson	Environmental Liason	ARECA	561-6193
6. Vern Rausseher <i>obverse</i>		Tlingit-Haida Regional Electric	789-3196
7. Shawn Tarter <i>Shane</i>	Vice President	Yukon Fuel	777-5515 529-0715 cell
8. Bill Boycott		Williams Alaska	488-0056
9. Al Ewing Kathy Prentki Yuri Morgan	Chief of Staff Energy Specialist Legislative Liaison	Denali Commission Denali Commission Denali Commission	271-2372 271-2372 271-2372
10. Chris Mello	Program Manager	Alaska Energy Authority	269-4649

3/4/03

Ultra Low sulfur Diesel Fuel

Tom Chappe - Dec
Ron King - Dec
Recommends that transition
be postponed.

Dental Commission - Low can provide assistance to
transition.

- 75¢ per gallon

Edmonton is only one producing
Arctic grade fuel.

→ Fed rule only requires motor vehicle.
Problem w/ generators:

- 1) fuel available will only be ULSD fuel
- 2) non converted engines not being able to
handle new fuel.
- 3) Cost of fuel - efficiency less.
- 4) Cleaning of storage tanks.

* Grants to do pilot project - AVEC - Marie Becker

Manufactures
concerns 31,000

Marine
Railroad
Heating oil
5% Highway



Alaska State Legislature

House Committee on Community and Regional Affairs

Representative Carl Morgan, Chair
State Capitol Building, Room 408
Juneau, AK 99801
907-465-3882

AGENDA

State Capitol 124
8:00 am – 10:00 am

- **Call to Order**
Today's date is March 4, 2003
The time is _____ (8 am)

- **Overview**
 - **Alaska Ultra-Low Sulfur Diesel Fuel Transition**

- **Other Business**

Next Meeting – Thursday, March 6th
HCR 5 Legis. Task Force On Design Of State Seal

- **Adjourn**

Low Sulfur Diesel Fuel Rule

<u>Name</u>	<u>Title</u>	<u>Organization</u>	<u>Telephone</u>
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5. TC Wilson	Environmental Liason	ARECA	561-6193
6. Vern Rausseher		Tlingit-Haida Regional Electric	789-3196
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10. Chris Mello	Program Manager	Alaska Energy Authority	269-4649

SITE: ANCHORAGE LIO

COMMITTEE: HCRA

DATE: 3-4-2003

SUBJECT OF MEETING:

Overview: Low Sulfur Diesel Fuel

UPDATE #:



P R I N T YOUR NAME

ADDRESS (MAILING & ZIP)

REPRESENTING

**DO YOU WANT
TO TESTIFY?
Y or N**

<input checked="" type="checkbox"/> Frank Dillon		AK Trucking Assoc	Y
Email address:			
Shaen Tarter		Yukon Fuel	Y
Email address:			
Yuri Morgan		Denali Commission	Y
Email address:			
Al Ewing		Denali Commission	Y
Email address:			
Kathi Prentki		Denali Commission	Y
Email address:			
<input checked="" type="checkbox"/> Steve Cleary		AKPIRG	Y
T. C. Wilson		ARECA	Y

✓ Marie Becker		ARECA	Y

House Community & Regional Affairs Committee

New Diesel Fuel Regulations

February 6, 2003

Tom Chapple & Ron King



Alaska Department of Environmental Conservation

410 Willoughby Avenue, Suite 303

Juneau, AK 99801

907-465-5100

ron_king@dec.state.ak.us

Alaska Ultra-Low Sulfur Diesel Fuel Transition Plan

Presentation Overview

- Current Status: Urban Alaska
- History of Rule
- Pros and Cons
- Options
- Current Status
- Questions and Answers
- Closing Remarks

Alaska Ultra-Low Sulfur Diesel Fuel Transition Plan

History: Types of Diesel Fuel

- Home Heating
- Power Generation
- Marine Vessels
- On-Road (i.e. cars, trucks, buses)
- Stationary Sources
- Non-Road (i.e., farm tractors, road graders, front end loaders, etc.)

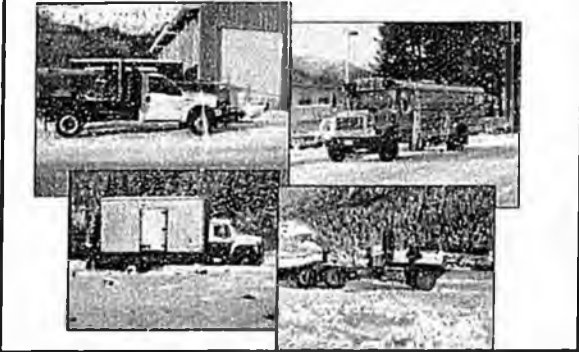
Alaska Ultra-Low Sulfur Diesel Fuel Transition Plan

History: The EPA Rule

- Preponderance of urban health studies find particulates, particularly particulates from diesel exhaust are health threats.
- In 2000, EPA established a rule to reduce air pollution from large trucks and buses starting in 2007.
- New emission control equipment is required for model year 2007 diesel trucks will reduce emissions by over 90%.
- In 2006, diesel trucks and buses must start using diesel that has 15 parts per million (ppm) or less sulfur.

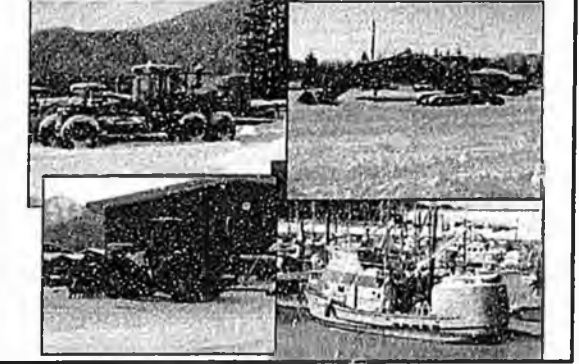
Alaska Ultra-Low Sulfur Diesel Fuel Transition Plan

Types of Vehicles Covered by the Rule



Alaska Ultra-Low Sulfur Diesel Fuel Transition Plan

Types of Vehicles/Equipment NOT Covered by the Rule:



at this time - when?

Alaska Ultra-Low Sulfur Diesel Fuel Transition Plan

Pros and Cons

- Air Quality
- Economic
- Distribution
- Truck Owner



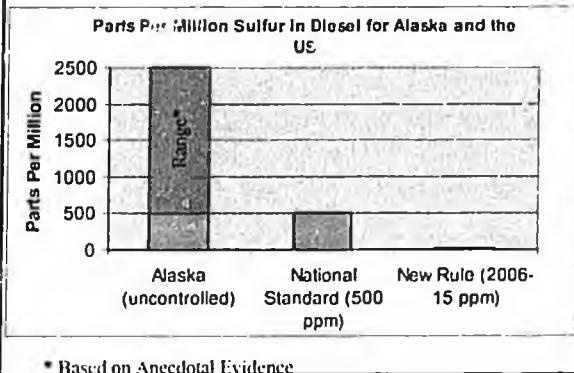
Alaska Ultra-Low Sulfur Diesel Fuel Transition Plan

Air Quality Impacts

- Using the new fuel will reduce air pollution from large trucks and buses.
- Air pollution may trigger asthma attacks, cause lung cancer, respiratory illness, or increased mortality.
- Estimated health benefits nationally is \$70 Billion.



Alaska Ultra-Low Sulfur Diesel Fuel Transition Plan



Alaska Ultra-Low Sulfur Diesel Fuel Transition Plan

Economic Impacts

- Ultra-low sulfur fuel may be \$0.10 per gallon or more than the current cost of diesel.
- Costs to rural Alaska will likely be higher due to distribution challenges.
- Use of ultra-low sulfur diesel for uses such as home heating or power generation may increase costs to a community.

Alaska Ultra-Low Sulfur Diesel Fuel Transition Plan

Distribution Impacts

- Transportation of fuel to rural Alaska different than other parts of US and challenging.
- May be difficult to find ultra-low sulfur diesel meeting arctic grade fuel requirements.
- Dual tank systems for separating ultra-low sulfur diesel from other fuels may be expensive.

- EPA asked how to implement.
- Arctic spec fuel
- -60 fuel will gel.

Alaska Ultra-Low Sulfur Diesel Fuel Transition Plan

Truck Owner Impacts

- May be difficult to find ultra-low sulfur diesel meeting arctic grade fuel requirements.
- Operators of 2007 heavy-duty diesel trucks must use ultra-low sulfur diesel or risk engine damage, loss of warranty, and federal penalties.
- Use of ultra-low sulfur diesel in 2006 and older vehicles is not expected to cause problems.



Alaska Ultra-Low Sulfur Diesel Fuel Transition Plan

Roadway Alaska: National plan begins September 2006

Options for Rural Alaska

- National Plan
- Buy the 2007 or later diesel truck :
 - Buy the fuel for that truck
 - Buy the fuel for all the diesel vehicles
 - Buy the fuel for all diesel uses in the community
 - Other options?

Alaska Ultra-Low Sulfur Diesel Fuel Transition Plan

Current Status for Rural Alaska?

- The department has recommended the implementation of the national plan for the contiguous highway system and major communities on the marine highway system.
- The department requested additional time to address communities off the contiguous highway system.
- The department must recommend to EPA by June 13, 2003 an approach for the remaining communities.

Alaska Ultra-Low Sulfur Diesel Fuel Transition Plan

Balance?

- The department desires to balance energy costs with health costs.
- The department is seeking funds to identify potential health benefits and economic impacts.

Alaska Ultra-Low Sulfur Diesel Fuel Transition Plan

Information Contact:

Ron King

Alaska Department of Environmental Conservation
Air Non-Point & Mobile Sources Program
410 Willoughby Avenue, Suite 303
Juneau, AK 99801

phone: 907-465-5100
fax: 907-465-5129
email: ron_king@dec.state.ak.us



Environment and Human Health, Inc.

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Children's Exposures to Diesel Exhaust on School Buses

EHHH Publications

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 PDF: [Summary](#)

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ASTHMA AND CHILDREN

PRESSURE TREATED WOOD

PESTICIDES

SCHOOL ENVIRONMENTS

TOBACCO SMOKE

INTRODUCTION



In the United States nearly 600,000 school buses transport 24 million students to school daily. Collectively, U.S. children spend 3 billion hours on school buses each year. Connecticut children annually spend more than 50 million hours on school buses.

More than 99% of U.S. school buses are powered by diesel fuel. Diesel exhaust is comprised of very fine particles of carbon and a mixture of toxic gases. Federal agencies have classified diesel exhaust as a probable human

carcinogen. Benzene, an important component of the fuel and exhaust, is designated to be a known human carcinogen. Components of diesel exhaust are genotoxic, mutagenic, and can produce symptoms of allergy, including inflammation and irritation of airways. There is no known safe level of exposure to diesel exhaust for children, especially those with respiratory illness.

This study concludes that the laws intended to control air pollution in the U.S. and Connecticut must be strengthened to protect the health of children in several important respects. First, fixed monitoring facilities do not capture the variability in air pollution experienced by children. Second, air quality indoors and within vehicles is not regulated by EPA or the State of Connecticut, while Americans spend on average between 80-90% of their time indoors. Third, tougher diesel regulations adopted by EPA last year are insufficient to protect health. Under the new provisions, they will be phased in between 2006-2010. This delay means that children may be exposed to increasing levels of diesel exhaust for nearly a decade, as truck and bus traffic are likely to continue their steady rate of increase. Fourth, Connecticut is already beyond compliance with federal air quality standards for ozone, which may exacerbate respiratory illnesses. Given the limited monitoring facilities and extended averaging periods allowed by current law, state "compliance" with federal standards offers little assurance of sufficient health protection. Fifth, routine emissions testing for school buses is not required by federal law, and school buses are specifically exempted from testing in Connecticut. Sixth, Connecticut adopted idling regulations, limiting idling time to 3 minutes, however, few know of the restriction, and it is neither monitored nor enforced.

Download Report: PDF: [Part 1](#), [Part 2](#), [Part 3](#), [Summary](#) and [Recommendations](#)

KEY FINDINGS

1. Diesel Buses: Each day, nearly 600,000 school buses transport 24 million students to schools in the U.S. Within Connecticut, nearly 387,000 children ride 6,100 school buses, and 99% are powered by diesel fuel.

2. **Children's Time on Buses:** The time spent on buses by individual students varies between 20 minutes and several hours per day. For one child, a half-hour ride to school, and a half-hour ride home each day amounts to 180 hours per school year—90 full 24-hour-days over 12 years of school. Annually, U.S. children spend 3 billion hours on school buses. Connecticut children spend 50 million hours on buses each year.
3. **Background Particulates:** Connecticut background fine particulate matter levels (PM_{2.5}) are near or above national standards, when averaged over 24 hours. Children's exposure to diesel exhaust from school buses constitutes an additional exposure beyond background levels of particulates reported from current monitoring efforts.
4. **Background Ozone:** Connecticut is not in compliance with current federal ozone standards. In 2001, portions of the state exceeded the 8-hour limit on 26 days, and the 1-hour limit was exceeded on 9 days. Ozone is known to exacerbate asthma, and is normally highest in the afternoon, when children's exposure to diesel particulates from school bus rides is also likely to be high. NO_x precursors to ozone have increased over the past 10 years. In 2001, nearly 109 million people lived in 272 counties where federal ozone limits were exceeded.
5. **Carcinogenicity of Diesel Exhaust:** Diesel exhaust is classified as a probable human carcinogen by many governmental authorities, including the International Agency for Research on Cancer (WHO), the U.S. National Toxicology Program, the U.S. Environmental Protection Agency, and as a known carcinogen by the State of California. The California South Coast Air Quality Management District recently estimated that nearly 71% of the cancer risk from air pollutants in the area is associated with diesel emissions. Diesel exhaust includes benzene, 1,3-butadiene, and soot, all classified as known human carcinogens. Nearly 33 studies have explored the association between diesel exhaust exposure and bladder cancer. A recent meta analysis of this literature found increased risk between 18-76%. These findings are based primarily upon studies of truck drivers, railroad workers, bus drivers and shipyard workers.
6. **Diesel Exhaust Contains 40 Hazardous Air Pollutants:** In addition, diesel exhaust contains both carbon particulates and 40 chemicals that are classified as "hazardous air pollutants" under the Clean Air Act.
7. **Particulates and Respiratory Diseases:** Exposure to particulates has been associated with: increased mortality among those with cardiopulmonary diseases; exacerbation of symptoms for asthma, bronchitis, and pneumonia; decreased lung function; and retarded lung development. It has also been correlated with increased hospital admissions and emergency room visits for respiratory illnesses.
8. **Children's Susceptibility:** Children may be especially susceptible to adverse respiratory effects following exposure to fine-diameter particulate matter (PM_{2.5}) emitted from diesel engines. Nearly 94% of diesel particulates have diameters less than 2.5 micrometers (µm).⁴ The average diameter of diesel particulates is 0.2 micrometers. Smaller particles are able to penetrate children's narrower airways reaching deeply within the lung, where they are more likely to be

retained. Higher rates of respiration among children may lead to their higher exposure, when measured per unit of their body weight.

9. **No Known Safe Exposure to Diesel Exhaust:** There is no known safe exposure to diesel exhaust for children, especially those with asthma or other chronic respiratory disease. There is no single standard for acceptable cancer risk from diesel exhaust in the U.S.
10. **Asthma Prevalence:** Nationally, 4.8 million children have asthma. More than 44,500 Connecticut school children have the disease.
11. **Asthma Costs:** Asthma costs an average of \$500 per child per year for medications, physician care, and hospital treatment. Annual direct medical costs are estimated to be nearly \$22 million for Connecticut school students alone. This estimate does not account for other costs that often include school absenteeism, lost parental work while caring for ill children, psychological effects, and abnormal social development.
12. **Children's Exposure to Particulates on Buses:** Children were exposed to airborne particulate concentrations in tested buses that were sometimes 5-15 times higher than background levels of PM2.
13. **Variability Within Buses:** Particulate and black carbon levels vary within individual buses over time. The most important influences on variability include: bus idling behavior, queuing practices, bus ventilation via windows, and outdoor concentrations on bus routes. Particulate and carbon concentrations did not vary by sampling location within diesel buses, e.g., front vs. rear. Engine model, age of engine, number of miles since last overhaul, maintenance cycles, location of bus engine (front, next to driver, or rear), elevation change, passenger load, and climate may all influence levels of interior pollutants and children's exposure.
14. **Exhaust From Other Traffic:** The intensity and type of traffic along bus routes significantly affects air quality on buses. Buses following diesel-powered vehicles, including other buses, have increased levels of carbon and particulate concentrations within passenger compartments. Particulate levels rose rapidly within the passenger cabin when buses pulled behind other diesel vehicles in traffic. No buses tested had air filtration equipment capable of removing the fine particles detected in the buses.
15. **Idling Buses:** Idling buses tested had higher concentrations of particulates and carbon than moving buses. Higher concentrations occurred when idling buses had open windows when compared with buses with closed windows. There is a current Connecticut Department of Environmental Protection (DEP) regulation, DEP 22a-174-18 (a)(5), that limits idling time to 3 minutes, yet it is neither monitored nor enforced.
16. **Queued Idling Buses:** Queued idling buses had the highest levels of particulates and black carbon measured. Idling buses tend to accumulate diesel exhaust which may be retained during the ride, depending upon bus ventilation rates. Particulate and carbon concentrations rise rapidly once idling begins.

17. **Length of Bus Route:** The length of bus routes affects the magnitude of children's exposure to air pollutants in the interior compartment. Time in transit between home and school spent by Connecticut students varied between 20-180 minutes per day in the towns sampled. The longest routes may occur in the rural parts of the state, especially in large regional school districts.
18. **Lower Emissions From Natural Gas Buses:** Natural gas buses studied emitted 60-98% less carbon than diesel-powered buses.
19. **Findings Are Likely to Underestimate Exposure:** Exposures to carbon and particulates found in this study were measured in environments with exceptionally low traffic and few other sources of pollution. Most children are exposed to additional pollution from traffic and other residential, commercial and industrial activities. These findings therefore are likely to underestimate levels of fine particulates and carbon found in more urban areas and routes with higher traffic intensity.
20. **Additional Sources of Particulate Exposure Threaten Children:** Residential use of tobacco products, wood stoves, candles, kerosene heaters, and poorly ventilated cooking stoves are for many children additional sources of exposure to carbon-based particulates and organic gases that result from combustion. Federal and state monitoring efforts fail to account for these exposures despite the fact that most people spend more than 80% of their time indoors. Most epidemiological studies that associate PM10 levels with adverse respiratory health effects consider particles measured by outdoor stationary monitoring facilities, neglecting indoor air exposures.
21. **School Buses Are Exempt From Emissions Testing:** School buses are currently exempt from routine emissions testing in Connecticut. There is no federal requirement that all state governments monitor school bus emissions, although some states require testing.
22. **Federal Particulate Standards Exceeded:** EPA estimates that in 2000, 11 million U.S. children lived in areas that exceeded one or more federal air quality standard. Nearly 3.5 million children lived in areas where the particulate standards were exceeded in 1998. Within Connecticut, bus exposures when combined with background outdoor particulate levels may elevate children's average daily exposure beyond the current federal 24-hour PM2.5 standard.
23. **Absence of Passenger Cabin Air Quality Standards:** Current law does not regulate air quality within buses.
24. **Federal Monitoring vs. Personal Monitoring:** Federal law and regulation permit the testing of air quality by means of fixed monitors. In Connecticut, 13 fixed monitors measure PM2.5. This sampling design fails to capture the local variability and severity of air pollution in the state. National standards permit averaging particulates over 24-hour periods. These practices ensure that shorter episodes of intense pollution—such as those experienced in bus rides—are neither recognized nor regulated by the state or federal government.

25. **Tougher Federal Diesel Standards Delayed Until 2006:** Tougher new diesel emissions standards will not be phased in until 2006. This delay poses respiratory health threats to Connecticut citizens, who now experience air pollution at levels above acceptable federal standards for ozone. Compliance with current standards does not ensure health protection. EPA estimated that the new standards would result in 8,300 fewer premature deaths, 17,600 fewer cases of childhood acute bronchitis, and 360,000 fewer asthma attacks. These estimates demonstrate the scale of respiratory health threat EPA believes exist under current conditions.
26. **Federal Particulate Standards:** The exposures identified in this study will not be affected by the tougher federal PM standards adopted in 1997 (which are different from the diesel standards described in 26 above), since monitoring to determine compliance with the PM standards is done outdoors.
27. **Bus Parking Yards:** Bus parking and maintenance facilities have the potential to create localized particulate air pollution that far exceeds ambient outdoor levels reported from State monitoring efforts. Pollution may routinely migrate to adjacent properties, as buses are left idling, or during periods of peak use—early mornings and afternoons. If vehicles are parked near schools, both outdoor and indoor school air quality may be diminished.
28. **Bus Drivers:** Bus drivers' exposure to motor vehicle and diesel exhaust is significantly higher than children's, due to longer periods of time spent on buses.



The New York Times
nytimes.com

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September 4, 2002

EPA: Diesel Exhaust Can Cause Cancer

By THE ASSOCIATED PRESS

Filed at 3:29 a.m. ET

WASHINGTON (AP) -- Inhaling diesel exhausts from large trucks and other sources over time can cause cancer in humans, an Environmental Protection Agency report concludes after a decade of study.

The EPA finding, released Tuesday, is expected to buttress the government's push to reduce truck tailpipe emissions by requiring cleaner-burning engines and diesel fuel with ultra-low sulfur content.

While acknowledging uncertainties about the long-term health effects of exposure to diesel exhausts, the EPA report said studies involving both animal tests and occupational exposure suggest strong evidence of a cancer risk to humans.

"It is reasonable to presume that the hazard extends to environmental exposure levels" as well, the report said. "The potential human health effects of diesel exhausts is persuasive, even though assumptions and uncertainties are involved."

The report mirrors conclusions made previously in documents from various world health agencies and studies in California and is particularly significant because the EPA is the federal agency that regulates diesel emissions under the Clean Air Act.

Some environmentalists have raised concerns recently that the Bush administration might try to back away from a Clinton-era regulation that would establish tougher requirements on emissions from large trucks and a separate rule that virtually would eliminate sulfur from diesel fuel.

EPA Administrator Christie Whitman repeatedly has promised to go ahead with the tougher truck and diesel rules. Last month, with White House approval, the EPA rebuffed attempts by some diesel engine manufacturers to postpone the requirements, approving now penalties against manufacturers who fail to meet an October deadline for making cleaner-burning truck engines.

The engine rule does not affect emissions from trucks already on the road, although the separate regulation cutting the amount of sulfur in diesel fuel is expected to produce pollution reductions.

The EPA's 651-page diesel health assessment did not attempt to estimate the probability of an individual getting cancer, given certain exposure to diesel exhaust. Such a risk assessment is commonly made by the EPA when gauging pollution health concerns.

But in this case, the report said, "the exposure-response data are considered too uncertain" to produce a confident quantitative estimate of cancer risk to an individual.

Nevertheless, said the report, the "totality of evidence from human, animal and other supporting studies" suggests that diesel exhaust "is likely to be carcinogenic to humans by inhalation, and that this hazard applies to environmental exposure."

The report reiterated that environmental exposure to diesel exhausts poses short-term health problems and in the long term has been shown to be a "chronic respiratory hazard to humans" contributing to increased asthma and other respiratory problems. In some urban areas diesel exhausts account for as much as a quarter of the airborne microscopic soot, the report said.

Environmentalists welcomed the study as clear evidence that pollution needs to be curtailed not only from large trucks but also from off-road diesel-powered vehicles. EPA spokeswoman Steffanie Bell said the agency expects to publish a rule early next year dealing with those diesel exhaust sources, which include farm tractors and construction equipment.

Emily Figdor of the U.S. Public Interest Research Group, a private environmental organization, said: "To reduce the public's exposure to harmful diesel emissions, the Bush administration should ... fully implement clean air standards for diesel trucks and buses and should pass equivalent standards for diesel construction and farm equipment."

Allen Schaeffer, executive director of the industry group Diesel Technology Forum, said the EPA's report "focused on the past," whereas "the future is clean diesel. Diesel trucks and buses built today are more than eight times cleaner than just a dozen years ago."

The report acknowledged that its findings were based on emissions levels in the mid-1990s, but said the results continued to be valid because the slow turnover of truck engines has kept many of these vehicles on the road.

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On the Net: Environmental Protection Agency site: <http://www.epa.gov>

② Suggest (for discussion)
introducing resolutions
to give more time.



Alaska State Legislature

House Committee on Community and Regional Affairs

Representative Carl Morgan, Chair
State Capitol Building, Room 408
Juneau, AK 99801
907-465-3882

AGENDA

State Capitol 124
8:00 am – 10:00 am

- **Call to Order**

Today's date is March 4, 2003
The time is _____ (8 am)

- **Overview**

- **Alaska Ultra-Low Sulfur Diesel Fuel Transition**

- **Other Business**

Next Meeting – Thursday, March 6th
HCR 5 Legis. Task Force On Design Of State Seal

- **Adjourn**

[\[DEC Home\]](#) [\[Air\]](#) [\[Land\]](#) [\[Water\]](#) [\[Food\]](#) [\[Oil, Chemicals\]](#) [\[Public Facilities, Businesses\]](#) [\[Pollution Prev\]](#)



Ultra Low Sulfur Diesel

[AWQ Home](#)

[ANPMS Home](#)

[ATAS Home](#)

[Regional Haze](#)

Ultra Low Sulfur Diesel

[Particulate Matter](#)

[Air Toxics](#)

[Carbon Monoxide](#)

[General / Transportation Conformity](#)

[Emission Inventories](#)

[Indoor Air Quality](#)

[Contacts](#)

Background

- Diesel exhaust has pollutants that may increase asthma and other respiratory problems.
- Bits of soot called particulate matter and nitrogen oxide gases threaten our health when we exhaust.

The U.S. Environmental Protection Agency passed a new rule requiring a cleaner diesel fuel to be used by 2006 for use in large diesel trucks and buses.

The EPA Rule

- "Clean diesel," or ultra low sulfur diesel, allows new equipment on model year 2007 trucks to clean the exhaust.
- The new equipment needs very low-sulfur diesel fuel to work.
- Using the new fuel in 2007 trucks will reduce emissions of nitrogen oxides and particulate matter.
- Older diesel vehicles using this fuel will also experience a small but significant reduction in emissions.

What does this mean for the consumer?

- Older vehicles will run on the "clean diesel."
- Model Year 2007 vehicles can fail if run on the current higher sulfur diesel fuel.

What about Alaska?

- The EPA asked Alaskans to find a way to bring in the new fuel in a way that makes sense. The transition plan could differ from the National Plan the EPA had for the contiguous states.
- The EPA required a transition plan to this cleaner diesel by April 1, 2002.
- The State of Alaska submitted a plan ([Press release](#)) to EPA that recommends conversion of Alaska in the same time frame as the rest of the United States.
- For "rural" Alaska, the state has until June 2003 to review the federal rule's positive and negative impacts on rural Alaska and Tribes. See the [Alaska Transition Plan](#).

How did the transition plan come about?

- [Three meetings](#) to discuss the new EPA sulfur diesel rule occurred from April to July of 2002.
- Participants identified a number of data needs, offered options, and comments.
- Participants tended to represent interests along the road system of Alaska.

- The ADEC was unable to obtain sufficient comments from rural and Tribal interests in the:

→ **How does ADEC plan to get the word out to the villages?**

- Tribes and rural Alaskan communities will face many challenges transitioning to clean die
- Challenges include fuel availability, misfueling tanks, equipment problems, and price incre affect home heating.
- In the Fall of 2001, the ADEC began a concerted effort to reach rural and tribal Alaskans.
- The effort included a tour of several hub-communities in northern and western Aiaska, incl Bethel, Kotzebue, Dillingham, Nome, Unalaska, and Kodiak.
- ADEC will continue with visits and revisiting to some communities.

ADEC will continue meeting through the Spring of 2002, and winter of 2002 and 2003.

Contacts

If you have any questions, please contact Clint Farr at 907-465-5127, email Clint_Farr@dec.state.ak.us or Rachel Cunningham at 907-269-7698, Rachel_Cunningham@dec.state.ak.us, for more

Meeting and Information Archives

The following link is to background information, options and comments:

[Past meetings and background information](#)

Page last updated: March 1, 2003



AKPIRG

Alaska Public Interest Research Group

PO Box 101093 ♦ Anchorage, Alaska 99510-1093 ♦ Ph: (907) 278-3661 ♦ Fax: (907) 278-9300 ♦ email: akpirg@akpirg.org

MEMO TO: House Committee on Community and Regional Affairs

SUBJECT: ALASKA'S COMPLIANCE WITH THE CLEAN AIR ACT

The Alaska Public Interest Research Group (AkPIRG) has been working to protect the health of Alaskans by bringing Alaska into compliance with the Clean Air Act. Alaska and Hawaii were granted the ability to seek exemptions from the Clean Air Act. While Hawaii chose to protect its citizens by following the health mandates of the Clean Air Act, Alaska sought exemptions to avoid compliance. Alaska burns the dirtiest diesel on the continent. This should end and Alaskans should enjoy the protections of the Clean Air Act.

1. The Lower 48 states and Canada have experienced no significant price increases.

The state claims Alaska's petroleum industry cannot afford to switch to low sulfur fuel to protect people's health along with the rest of the nation. But have they even tried to make it work, or are they spending too much effort proving it can't? Prices in the lower 48 have not risen in the dramatic manner that industry predicted. In fact, the price difference between low sulfur diesel and unregulated diesel is negligible, with the cleaner fuel often costing less. (CARB) This will only increase with the increasing demand for cleaner fuel, which also decreases health costs and engine maintenance costs. The EPA predicts a cost/benefit of \$70 billion annually when the plan is fully implemented. (ADEC/EPA) We want Alaska to have a part in that savings. Canada as well has switched to low sulfur diesel and plans to follow the USA in 2006 to ultra-low sulfur diesel (15 ppm), with no exemptions for their northern climates. The Canadians have seen "little or no change in pricing." (Shell Canada)

2. Rural villages can avoid added infrastructure costs by using only one grade of diesel fuel.

The state also argues that small towns will have difficulty separating grades of diesel and will have to spend millions to install tanks in order to avoid contamination. Diesel engines produced after 2006 will require ultra-low sulfur diesel or they will not function. An adequate supply will have to be delivered wherever new diesel trucks and equipment will be used. In Canadian towns with both vehicular and heat / power generation, they have opted to burn one fuel instead of adding the extra expense of separate storage facilities. (Shell, Canada; Environment Canada) Imperial Oil of Canada has determined that it is more cost effective to handle only the highest grade in remote markets. They will sell the "higher quality" (low sulfur) product at the lower price rather than invest in the infrastructure to carry two different grades.

3. Arctic grade supply issues can be addressed by expanding the market or encouraging local production through tax incentives.

Adequate supply of diesel fuel that meets the pour point conditions of the arctic environment has been seen as an obstacle to lowering the sulfur content of Alaska's diesel. Alaskan refiners cite enormous capital costs for a relatively small Alaska market. Yet, if the market were expanded to include off-road diesel, increasing it by nearly 20 times, industry may see that the capital costs, and the health benefits to Alaskans, would be worth it. Supply could also come from Edmonton, where three refineries produce low sulfur diesel with arctic specifications currently and will switch to ultra-low in 2006. This fuel can be transported by pipeline to Vancouver and the bar to Alaska.

Abstract

Sorting Code: 2002-STAR-A1

Diesel Exposure in Rural Alaska

Investigators: Mary Ellen Gordian MD, MPH, amnegl@uaa.alaska.edu; John Kennish, PhD, afjmk@uaa.alaska.edu; Carol Ballew, PhD.; Clint Farr MS, clint_farr@cnvircon.state.ak.us;

Institutions: University of Alaska Anchorage, Institute for Circumpolar Health Studies and Department of Chemistry, Anchorage, Alaska; Epidemiology Center of the Alaska Native Health Board, Anchorage, Alaska; State of Alaska Department of Environmental Conservation, Air Quality Section, Juneau, Alaska.

Project Period: October 1, 2002 to September 30, 2005

Project Cost: \$1,179,209.00

Project Summary: This project will determine whether the use of diesel generators in rural Alaska is creating an increase in air pollution sufficient to affect human health. Alaska diesel fuel contains variable but high levels of sulfur. It produces particulates and volatile organic compounds when used for power generation or home heating. Arctic areas are subject to severe climatic inversions, which prevent air mixing and create severe air pollution conditions. Ambient air quality in villages has never been assessed and there is concern that using high sulfur diesel for community power generation may be causing respiratory health effects. Children in rural Alaska have been found to have a disproportionate burden of respiratory illness.

Expected Approach: Air quality will be monitored using standard EPA methods for particulates and BTEX in four locations in an Alaskan village using diesel generators for a total of 120 continuous days during the late fall to early spring. In addition, children 5-8 years of age who live in the village will be invited to participate. They will be asked to give urine specimens periodically during this period. Their homes will be monitored for indoor particulates and BTEX on the same day. Urine specimens will be used to assess biomarkers of exposure.

Expected Results: This project should give an in-depth account of the extent of high sulfur diesel particulate matter and volatile organic compounds in ambient and indoor air in one village in rural Alaska. If air pollution in a remote area is found to exceed national standards as we expect it may, this study would elucidate the monitoring needs for remote communities. It should also give us a good indication whether biomarkers in children might be suitable for surveying air quality in remote areas. Monitoring children with urinary biomarkers of exposure might allow exposures to be related to health outcomes.

Keywords: diesel particulate matter, remote locations, children, biomarkers of exposure, volatile organic compounds.

3/27/03

OVERVIEW:

DENALI

COMMISSION



Alaska State Legislature

House Committee on Community and Regional Affairs

Representative Carl Morgan, Chair
State Capitol Building, Room 408
Juneau, AK 99801
907-465-3882

AGENDA

State Capitol 124
8:00 am – 10:00 am

- **Call to Order**
 - Today's date is March 27, 2003
 - The time is 8 am
 - Roll Call

- **On today's agenda**
 - **Overview of the Denali Commission**
 - Jeff Staser, Federal Co-chairman
 - Yuri Morgan, Legislative staff & Liason

- **Questions and Comments from committee members**

- **Other Business**
 - If there is no other business, announce next meeting announce next meeting.
 - Next Meeting – Tuesday, April 1st

- **Adjourn**

1	Department of Community & Economic Development (Cont.)				
2		Appropriation	General	Federal	Other
3		Allocations	Funds	Funds	Funds
4	Planning and Organization (ED 80)	160,000	160,000		
5	Inter-Island Ferry Authority (ED 5)	250,000	250,000		
6		Department of Corrections			
7	Deferred Maintenance, Renewal and				
8	Replacement, Renovation and Repairs, and				
9	Miscellaneous Projects (ED 99)	2,000,000	2,000,000		
10	Correctional Institutions Roof Repairs and				
11	Siding Replacement (ED 99)	1,455,000	1,455,000		
12	Correctional Institutions Water System				
13	Repairs and Replacement (ED 99)	450,000	450,000		
14		Department of Education and Early Development			
15	Mt. Edgecumbe High School Exterior				
16	Renovations (ED 2)	1,000,000			1,000,000
17	Yuut Elitnaurviat People's Learning Center -				
18	Phase 1 Construction (ED 38)	1,000,000			1,000,000
19		Department of Environmental Conservation			
20	Seafood and Food Safety Lab Replacement (ED				
21	99)	14,285,000			14,285,000
22	Defending State Primacy of the Alaska Air				
23	Permit Program (ED 99)	150,000	150,000		
24	Environmental Monitoring and Assessment of				
25	Surface Waters (ED 99)	1,763,495		1,763,495	
26	Pre-harvest Geoduck PSP Testing (ED 91)	250,000	250,000		
→ 27	Assessment of Health Risks From Use of Diesel				
28	Fuel in Rural Alaska (ED 99)	* 768,300		768,300	
29	Statewide Contaminated Sites Cleanup (ED 99)	5,000,000			5,000,000
30	Alaska Spill Response Depots and Corps System				
31	(ED 99)	300,000			300,000

Background: Diesel power generation is very expensive in rural Alaska, but provides the primary source of electrical power and heating needs. A new federal rule for trucks and buses may force a fuel conversion in rural hubs and villages to the cleaner, but more expensive fuel for all equipment that uses diesel fuel.

Forcing ultra low sulfur diesel into rural Alaska would change the current fuel distribution system. These possible changes, such as dedicated holds on marine barges and new community storage tanks, will cost money. Further, ultra low sulfur diesel will be more expensive. A total conversion to ultra low sulfur diesel could significantly impact cash-short residents to keep the lights on and the home heated. Many small villages do not have a diesel truck and may be greatly impacted for little benefit. Most community leaders have already expressed concern about the potential fuel costs increases, while some leaders have also expressed concern about health consequences from using the existing grade fuel. Currently there is no information on diesel-related pollution in Alaskan villages.

The Proposed Health Assessment: Diesel engines emit large amounts of oxides of nitrogen (NOx) and particulate matter (PM), both of which contribute to serious public health problems in the nation. Exposure is widespread, particularly in urban areas near major roadways. Diesel exhaust or diesel particulate matter (soot) is likely to cause cancer in humans. Other health effects include aggravation of respiratory and cardiovascular disease, aggravation of existing asthma, acute respiratory symptoms, and chronic bronchitis and decreased lung function. Children who regularly use school buses carry some of the greatest health risks from diesel pollution.

National studies have shown significant health consequences for people routinely exposed to motor vehicle exhaust from diesel fueled vehicles. Rural communities depend upon diesel fuel for power and heat and to a minor extent for vehicle use. This project will acquire rural Alaska specific health information to determine if the unique reliance upon diesel fuel for power and heat is creating health risks unique to rural Alaskans that should be mitigated by use of the cleaner diesel fuel.

Nationally, the costs of health impacts outweighed the cost increases of the new fuel. However, those analogies are not useable in rural Alaska since trucks and buses are such a small percentage of the pollution from diesel fuel combustion in rural locations. To be useful for community leaders, this projects needs to be completed in the next 2-3 years.

The health assessment will have three distinct field projects:

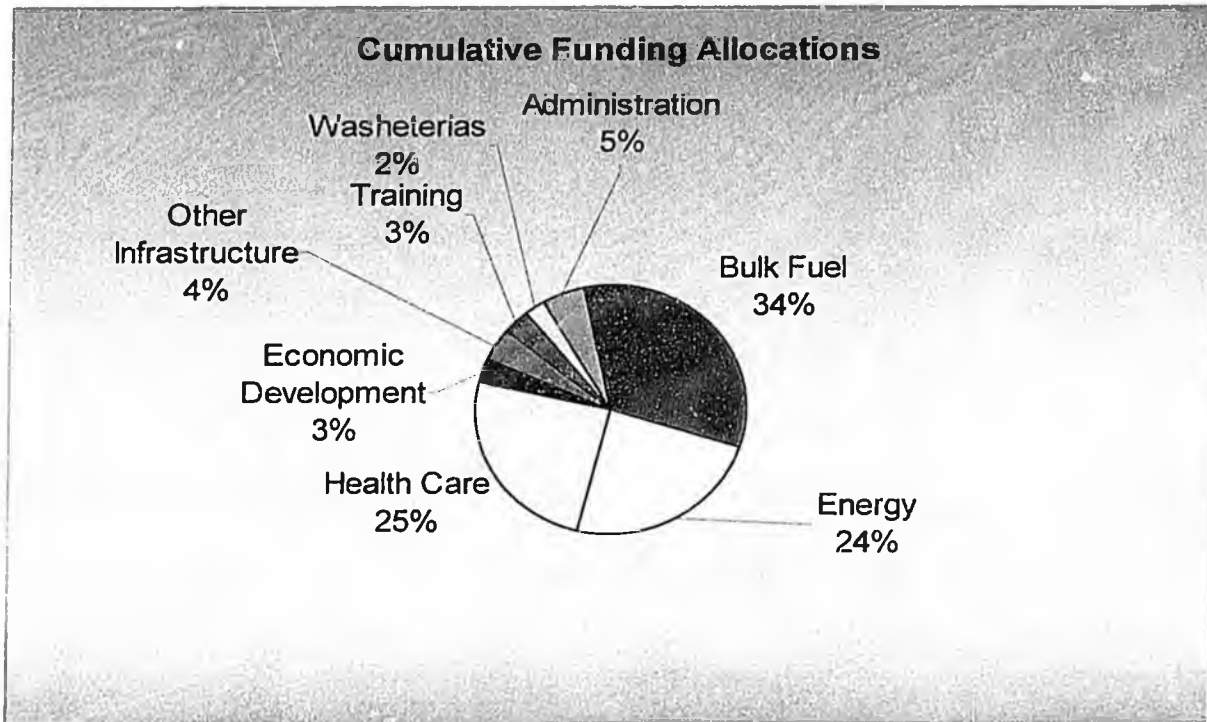
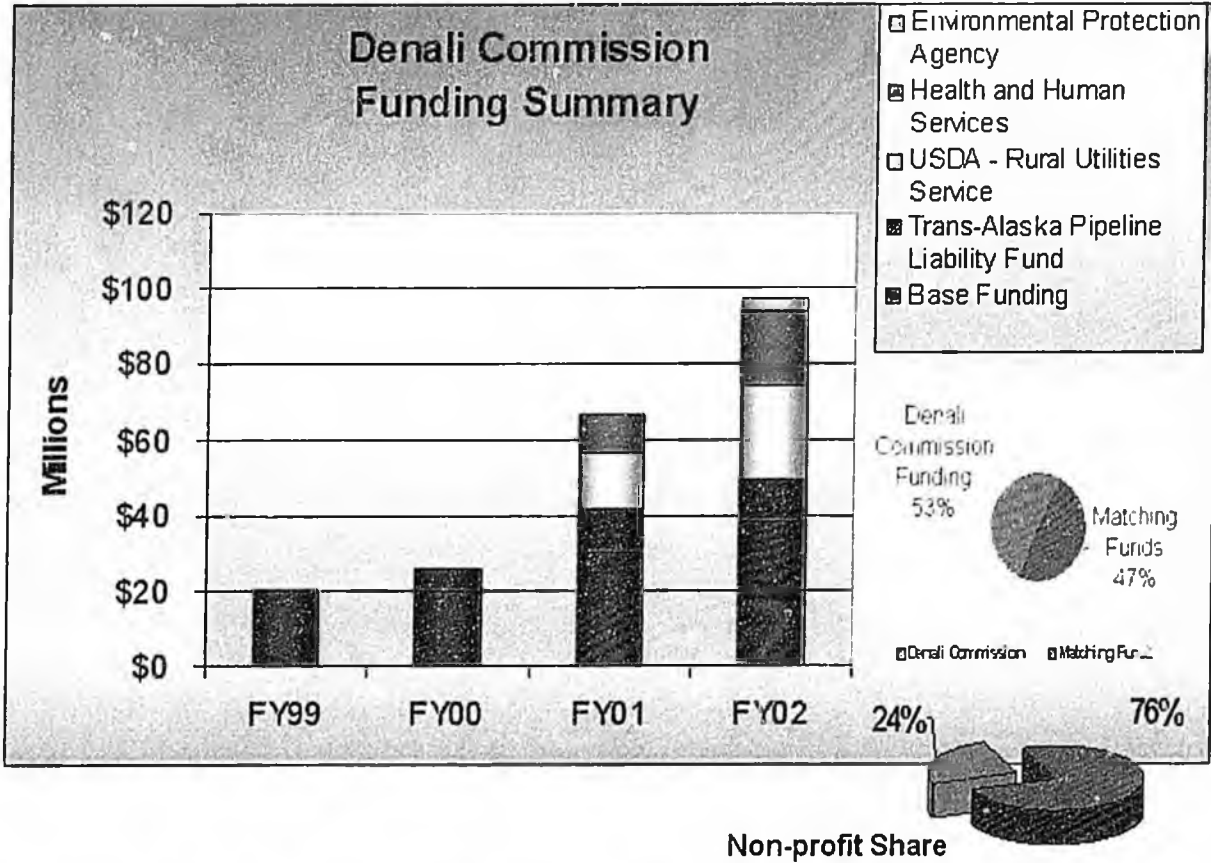
- 1) Emissions testing of typical sized electrical power generators using existing grade fuel and the new clean fuel. Testing will examine traditional pollutants such as nitrogen oxides, sulfur oxides and particulate matter (soot). Additional chemical analyses will also examine cancer-causing agents in the exhaust.
- 2) Ambient air quality monitoring in at least two typical rural communities. The monitoring may be seasonal in nature. It will measure similar pollutants as those in the engine emissions testing. Meteorological and weather conditions will also be recorded. This field work will be coupled with a community inventory of combustion sources that use diesel fuel.
- 3) Health specialist will perform epidemiological monitoring of selected individuals in the chosen rural communities to measure and track any characteristic biomarkers indicative of diesel combustion pollutants that may be traceable through blood, hair or other tissues.

The results of these three project elements will be used to assess the health risks through normal scientific risk assessment methods to determine what if any additional health risks are borne by rural Alaskans from the use of diesel fuel.

Community & Regional Affairs Committee

Denali Commission Overview

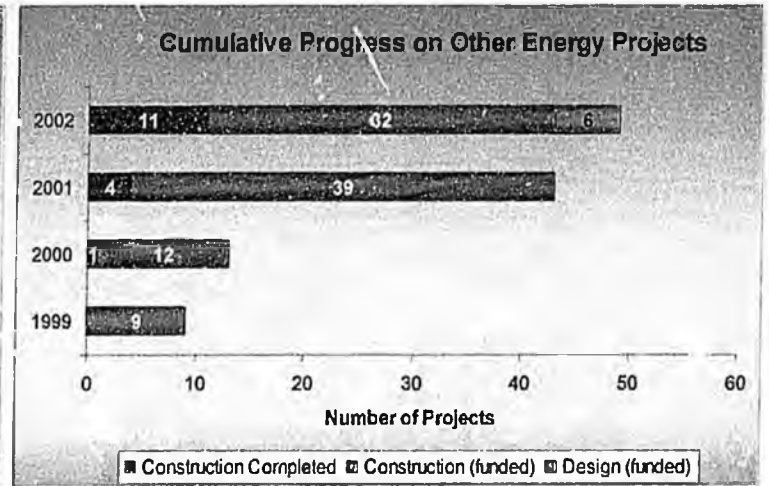
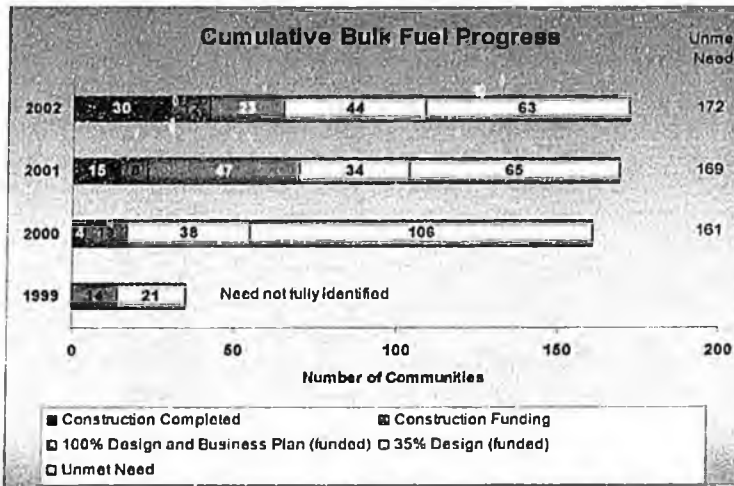
27 March 2003



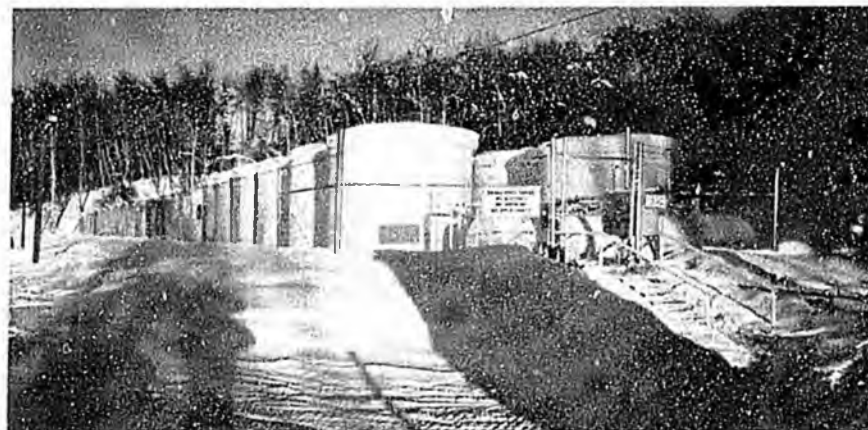
Energy

The Denali Commission is building sustainable, rural energy infrastructure

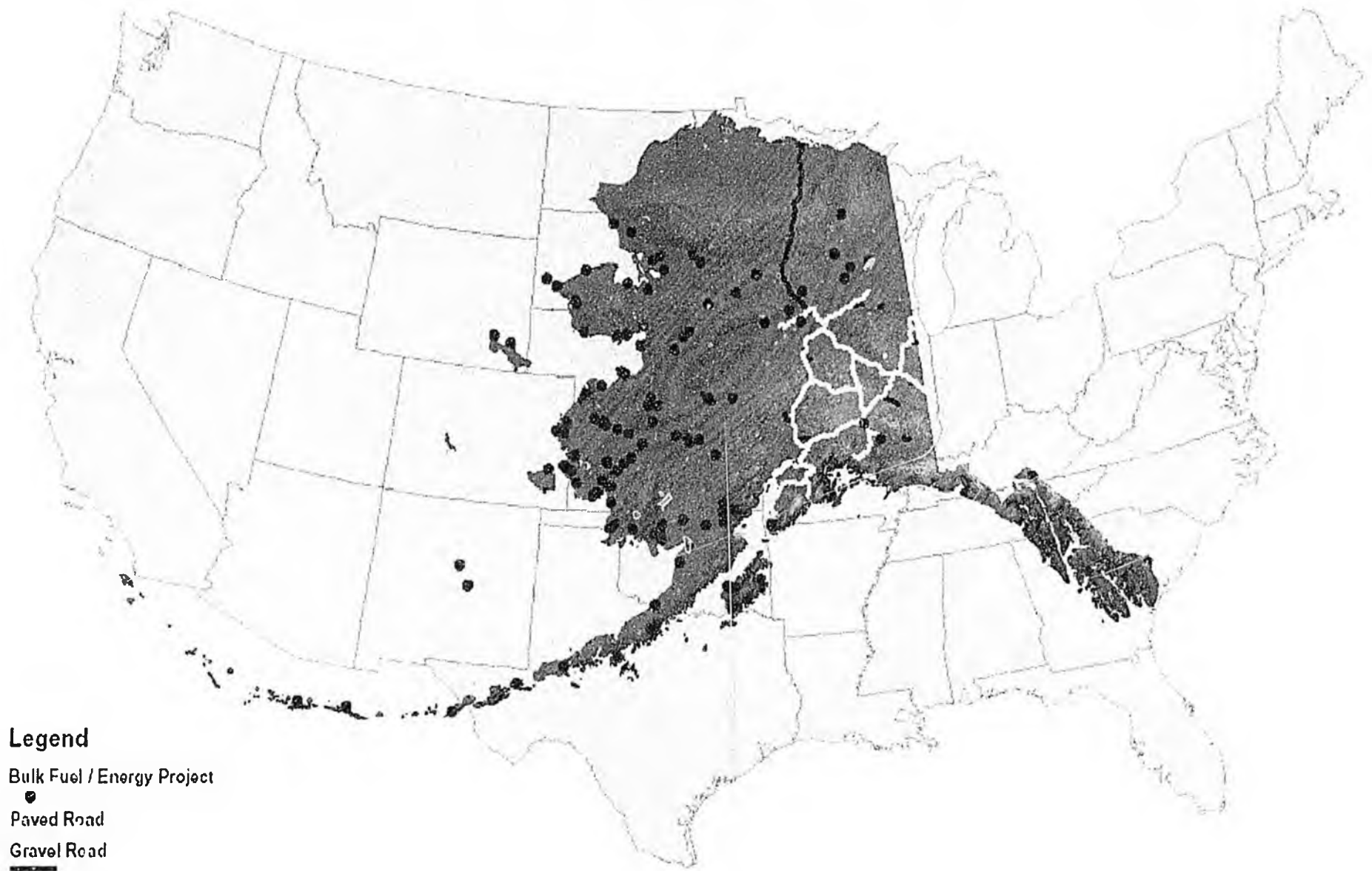
- Needs:
 - 45 million gallons of bulk fuel storage (approximately \$450 million)
 - \$100 million in power distribution construction & rehabilitation
 - \$68 million in power plant construction and rehabilitation
- Requirements:
 - Sustainability—agree to a business plan
 - Collect O&M and renewal & replacement costs



Bulk Fuel Facility, Grayling, Alaska – Before & After

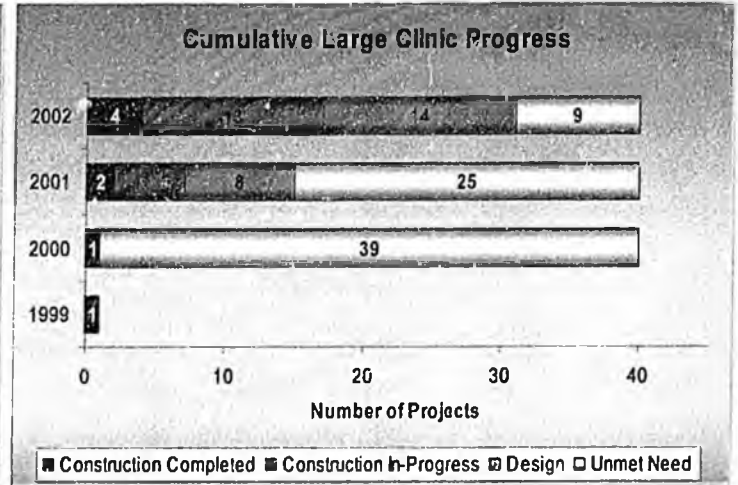
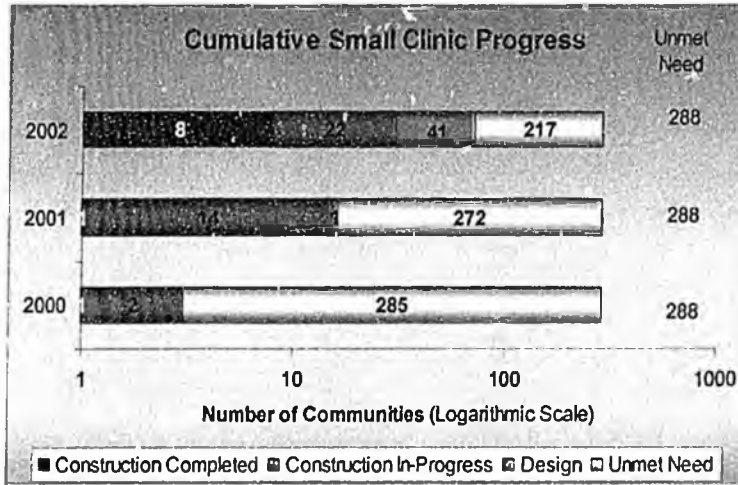


Denali Commission Cumulative (FY99-FY02) Bulk Fuel & Energy Projects
2/07/2003



Health Care Facilities

- o \$253 million in statewide need for primary care facilities
- o Emphasis on primary care facilities; serving high need communities; projects must be sustainable
- o Competitive process (RFP); required cost share match for construction & equipment

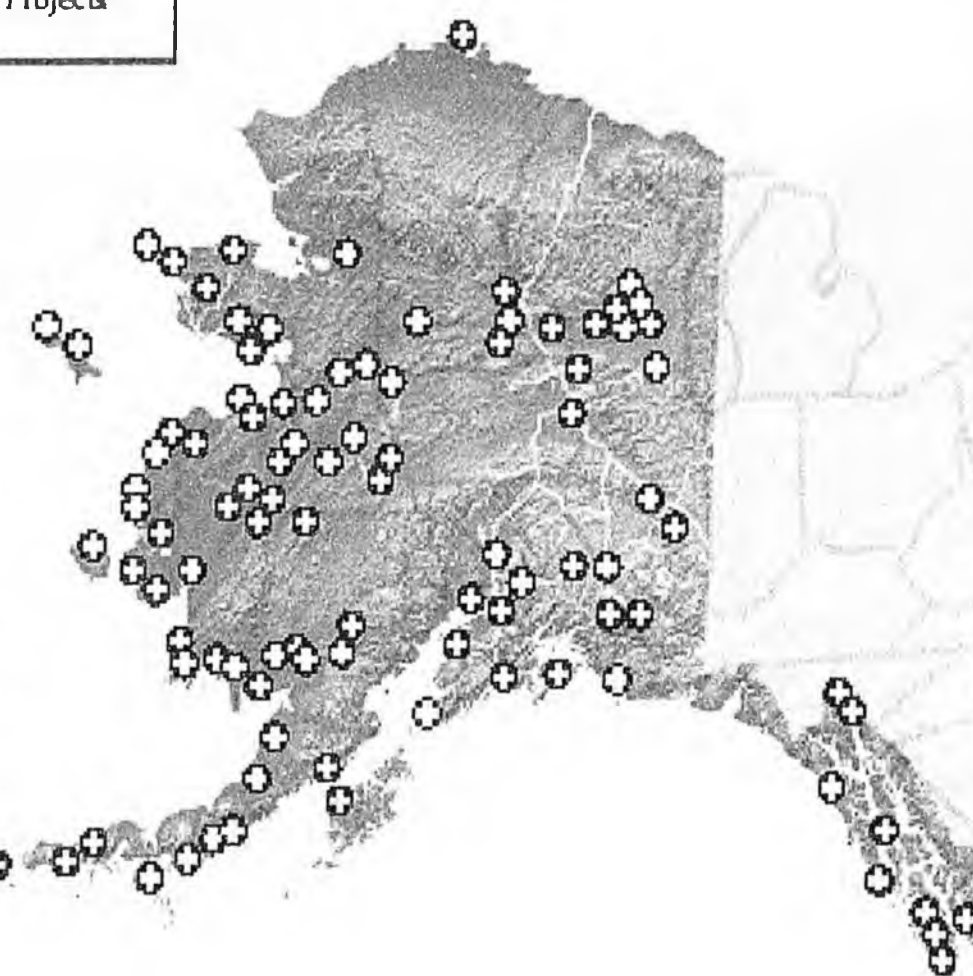


Subregional Clinic, Unalakleet, Alaska



Denali Commission and U.S. Department of Health
and Human Services Funded Health Care Projects
as of August 1, 2002

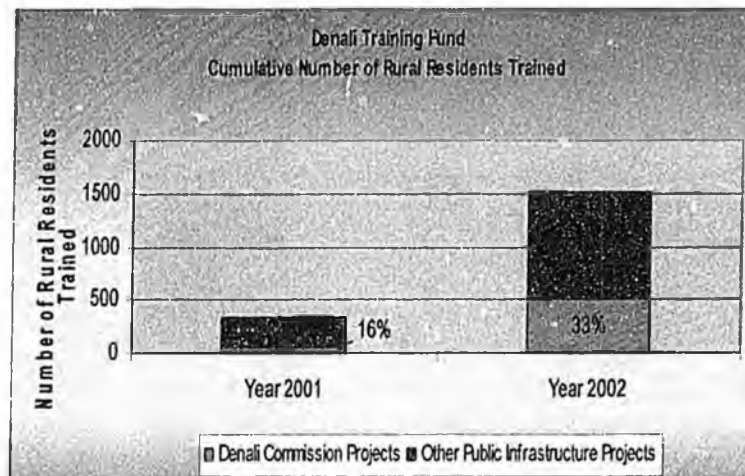
Community Name



- | | |
|----------------------------|----------------|
| Malheur | Valdez River |
| Blue Sealers | Sand Point |
| Elmer | Arctic |
| Barrow Mission | Haines |
| Holy Cross | Barrow Lake |
| Tioga | Alaska |
| Sturgeon Bay | Ada |
| Coaling | Chugach Bay |
| Talman | Chitina |
| Fort Adolphus | Clack |
| Halbur | Copper Center |
| Pease Bay | Edna |
| Seward Village | Edna Pass |
| Elkton | Galena |
| Chickadee | Umanak Bay |
| Chigik Lake | Kachik |
| Sedalia | Kaktovik |
| Charles Point | Katignak |
| Fort Adolphus | Kayakuk |
| Imperial | Lambert |
| Arctic Village | Lake Hersonde |
| Chase Creek | Marmokuk |
| Red Creek | Melrook |
| Hobbs | Palmer |
| Moran | Shelburne |
| Hughes | Truena |
| Lehigh | Tron |
| Sumner | Tron-Ha |
| Tron | Tron |
| Copper River Basin | Tron |
| S. Lawrence | White Mountain |
| Chigik Bay | Tron |
| McCrack | Central Road |
| Seldovia Central Peninsula | Crab |
| Tron of Tron | Fort Yukon |
| Stepney | McCrack |
| Tron | Tron |
| Ardenburg | Tron |
| Honok | Tron |

Training

- Training for construction, operations and maintenance Denali Commission projects
- Training ensures sustainable operations of federally funded projects
- Training is tied to jobs and encourages careers rather than short term employment



Intergovernmental Coordination

- Provide guidance regarding development barriers in rural Alaska and improve government efficiency and local management capacity in rural Alaska
- Promote locally developed, regionally supported planning

Other Infrastructure

○ Economic Development

- *Community Priorities Program*: target construction-ready fixed infrastructure
- *Mini-Grant Program*: target community development
- *Initiative for Accelerated Infrastructure Development*: target community mapping
- *Airport Assistance Program*: target runway extensions & reconstruction

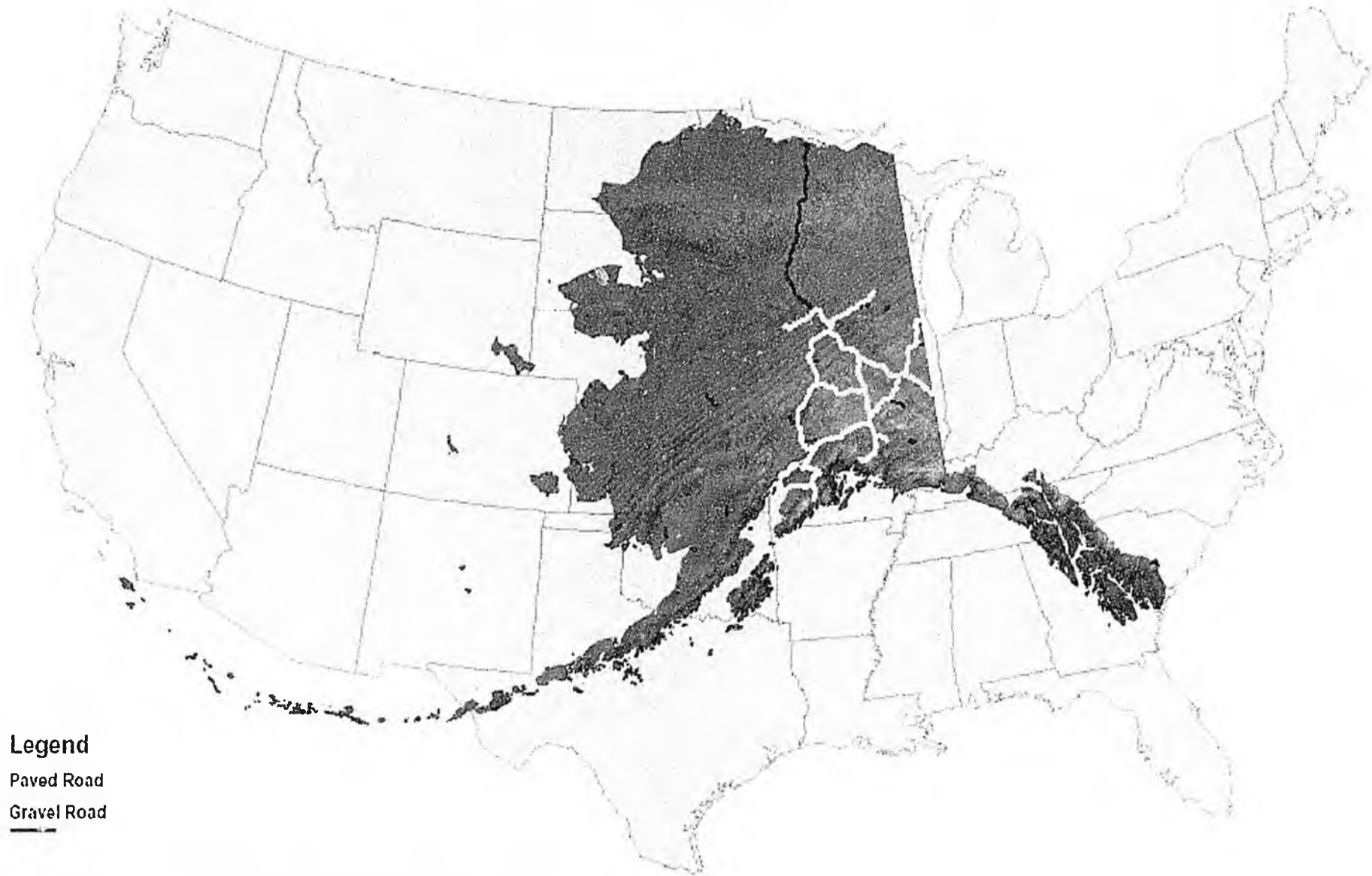
○ Washeterias

- Construction, repair and renovation
- Essential community facilities providing potable water, washers and dryers, and shower facilities



State of Alaska Access System

2/07/2003



Legend

Paved Road

Gravel Road

Unmet Access Needs > \$10 billion (ADOT&PF, Nov 02)

Overview with Denali Commission

I would like to recognize Lt. Governor Loren Leman, the State's Co-chairman of the Denali Commission.

Lt. Governor Leman recently stated in his speech at the Tanana Chiefs Conference that the Denali Commission is investing in community infrastructure and is committed to helping communities become self-sufficient.

Jeff, you made a previous statement (April 5, 2001) that Congress established the Denali Commission to address some of Alaska's most stubborn infrastructure challenges.

? Do you see the issue of Low Sulfur Diesel as a challenge to infrastructure in rural and bush Alaska?

You state that a properly maintained infrastructure costs significantly less over time. And that reliable and affordable power is essential to the well being of every community.

Low Sulfur Diesel is an issue – it is a very serious issue!

The Department of Environmental Conservation has received funds appropriated from the EPA for an assessment of health risks from the use of diesel fuel in rural Alaska.

Let me ask you two questions.....

? 1) Should the Denali Commission appropriate funds to the AEA to conduct an assessment of the cost associated with the use of Ultra Low Sulfur Diesel?

? 2) Do you see the issue of Low Sulfur Diesel as a challenge to infrastructure in rural and bush Alaska?

? Are there deadlines for communities to apply or make application?

? What have you done to inform communities of these deadlines?

? What is your method of outreach for communities such as Takotna?

? Do you know how many homes in these communities have computers to be able to access the Denali Commission's web site?