Denali Commission
510 L Street, Suite 410
Anchorage, AK 99501

907.271.1414 *tel*
907.271.1415 *fax*
888.480.4321 *toll free*
www.denali.gov

INSPECTOR GENERAL

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To: George Cannelos, Federal Co-Chair

FINAL REPORT

FOR PUBLIC RELEASE

From: Mike Marsh, CPA, CFE, Esq., Inspector General

Subject: Inspection of Agrium corporation's coal gasification research (grant no. 249-06)

In June 2008, our office conducted an inspection of the Agrium corporation's use of a Denali grant at Nikiski, Alaska (approximately 50 air-miles south of Anchorage). The purpose of this inspection was to evaluate (1) how the project advanced Denali's understanding of energy alternatives and (2) what "lessons learned" exist for Denali's funding of future research projects.

WHY THIS PROJECT MATTERS

The national struggle with escalating fuel prices is exacerbated in bush Alaska, where many remote settlements still depend upon diesel fuel for basic heating and electricity. In contrast, no state would seem more blessed with the natural resources to solve its own energy problems. Beyond the well-known oil fields, it's all here: natural gas, coal, rivers, waterfalls, volcanoes, timber, dramatic tides, hot springs, howling winds, and long hours of summer daylight.

Our previous inspection work has criticized the Denali Commission for perpetuating the paradigm of diesel dependency in its project selections (a past emphasis on replacing fuel tanks and diesel generators).[1] Under new leadership in the last several years, the commission has made significant progress in reversing this funding paradigm. With one possible exception,[2] the commission has explored all the alternatives for small communities somewhere in Alaska.[3] (Denali's online, public database[4] shows 182 projects categorized as "Other Energy.")

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[1] See our report for Sterling Landing at the Inspector General home page at *www.denali.gov*.

[2] One rural Alaskan community has received national attention for its efforts to obtain a small "nuclear battery." See "10 Audacious Ideas to Save the Planet," *Popular Science,* July 2008, pages 42-43, and Gwyneth Cravens, *Power to Save the World: The Truth About Nuclear Energy* (Knopf 2007), page 363. On the other hand, the federal government's first environmental impact statement arguably surfaced during a public controversy over a nuclear project in bush Alaska a half-century ago. See William Hedman and Charles Diters, *The Legacy of Project Chariot* (Bureau of Indian Affairs, ca. 2005), page 11, and Dan O'Neill, *The Firecracker Boys* (Basic Books, 2007), page 293. Though rural communities vary greatly in their positions on this option, the agency head has invited them to approach the commission with any proposals.

[3] Denali's repertoire of projects so far has included wind turbines, geothermal, run-of-the-river hydro, waste heat recovery, diesel efficiency, natural gas, tidal, interties, in-river turbines, underwater cable, and steam from a wood boiler.

[4] See *www.denali.gov*.

The Agrium project is an important chapter in the commission's effort to reverse the diesel paradigm and explore the options. Alaska has abundant coal around the state, and the commission gave Agrium a $2 million grant to research technology that could convert this coal into "syngas" (coal gasification).

This project also represents the classic struggle to keep a small town from losing a dominant, resource-based industry. Agrium operated one of the nation's largest fertilizer plants in little, unincorporated Nikiski (pop. ≈ 4000) — at the end of the road about 50 air-miles south of Anchorage. Despite Alaskans' efforts to farm everything from giant vegetables to moose, Agrium's shipments of its fertilizer to Asia and Mexico were arguably the state's most successful agricultural product.

The basic raw material for Agrium's plant was locally-extracted natural gas that it could no longer afford to buy. Commission-funded research showed Agrium that syngas wouldn't save the plant, and it had finally to close in the past year after four decades of use. Around 100 workers had to find other work.

However, the largest employer in Alaska is the military rather than anything related to agriculture. Conversion of coal into a liquid or gas is one option being studied in hopes of reducing both military fuel costs and the need to close ("realign") northern bases. In that sense, the fates of Agrium's research and the rest of the state are linked.

HISTORICAL TIMELINE

The plant was originally constructed by Unocal in 1967. Agrium purchased the plant from Unocal in 2000, with the necessary natural gas continuing to be supplied from Unocal's local wells as a term of the sale. A dispute erupted between the two corporations over this supply arrangement. Litigation was settled with an arbitration award of around $35 million to Agrium, but Agrium still lost this key source of natural gas in 2005. Short-term arrangements were made with other suppliers.

On August 8, 2005, Congress enacted its Energy Policy Act that directed the Denali Commission to *"carry out energy programs, including . . . projects using coal as a fuel, including coal gasification projects."*

On September 25, 2006, Agrium signed its agreement with Denali for a $2 million grant to explore the possibility of retooling the plant for gas produced from Alaskan coal.

On September 25, 2007, Agrium publicly announced that it was closing the plant.

On March 13, 2008, Agrium publicly announced its decision that the Denali-funded research had not resulted in a feasible alternative to "mothballing" the plant.

On April 29, 2008, the inspector general notified Denali of this inspection.

On May 23, 2008, Agrium's CPA firm issued an audit report verifying the total federal and state grant expenditures (for the past calendar year).

On June 19, 2008, staff from the inspector general visited the facility for this inspection.

WHY WE REVIEWED THIS PROJECT

The grant was awarded to the Agrium corporation in September 2006. However, in March 2008, the company publicly announced its decision to "mothball" the plant that would have applied the funded research.

Our past reports on other projects have recommended that the Denali Commission apply its funding to find alternatives to the paradigm of diesel dependency that is troubling rural Alaska. The Agrium funding appears to be just such an effort, and it deserves a public epilogue as the project is closed out and the physical facility decommissioned.

HOW WE REVIEWED THIS PROJECT

Our review was conducted in accordance with section 2 of the commission's standard grant assurances, sections 4(a) and 6(a) of the Inspector General Act, and the *Quality Standards for Inspections* issued by the federal Executive Council on Integrity and Efficiency.

A project "inspection," such as this one, is narrower in scope and procedures than the classic financial "audit." One prominent originator of this type of inspector general review described it as follows:

> *The idea is to prevent problems before they occur and to avoid vulnerabilities from becoming permanent features of programs. We usually initiate these reviews ourselves, but sometimes senior program managers request that we find out what is happening as grantees or government agencies struggle with the complex tasks of starting a new program — what seems to be working, what is not, what barriers grantees are facing, what, if anything, any of them have been able to do about problems which arise, what innovative practices grantees are experimenting with, and whether and how they are measuring progress, etc. . .*[5]

We conducted our review using a three-person inspection team (a "committee of visitors"),[6] whose main procedures included (1) an on-site field visit to Agrium's facility in Nikiski, (2) interviews of Agrium personnel (both individual and focus group), (3) interviews of Denali Commission personnel, and (4) qualitative analysis of records and reports.

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[5] George F. Grob, "Inspections and Evaluations: Looking Back, and Forward Too," *Journal of Public Inquiry* (spring/summer 2004), page 11.

[6] Michael Ketover (JD) of my staff was the primary field reviewer and contributed substantially to this report. I much appreciate the assistance of the inspector general for the U.S. Department of Commerce in providing my office with a temporary interagency detail of this senior program analyst under Denali Commission Act §§ 306(d), 305(a).

Anthony Nakazawa (PhD) of my staff provided valuable insights during the field review at the Agrium facility. I much appreciate the assistance of the University of Alaska in providing my office with a temporary interagency detail of this professor of rural development under the Intergovernmental Personnel Act, 5 U.S.C. §§ 3372, 3374.

Our detailed interview of Denali's program manager and chief operating officer was memorialized in a 105-page transcript. At the exit conference, Denali's program manager and director of programs offered us their input on a preliminary inspection report. The agency head provided helpful comments for a draft of this final report.

LESSON LEARNED NO. 1

DENALI SHOULD CONTINUE TO RISK PROJECTS WITH VERY DIVERSE GRANTEES.

The Denali Commission serves as a national "experimental field station" that explores different possibilities for providing basic local facilities in remote settlements (clinics, power plants, fuel tanks, places to wash clothes and take a shower). In this search, the commission has tried grants to every form of recipient entity: municipal, nonprofit,[7] tribal, cooperative, educational, state, and corporate.

The size of the commission's grantees has ranged from a schoolhouse with 11 pupils,[8] to a state energy authority, to the huge, multinational, publicly-traded corporation involved in this project. As is frequently the case, Denali's money was leveraged with a grant from another agency. Of the $4.8 million in "total outlays" that Agrium (per its final report) spent on the project, Denali provided $1.3 million and the state government provided at least $2.8 million. However, had the project continued, the grant agreement was premised upon an ultimate, nongovernmental contribution of $15 million by "Agrium, partners & others."

Nevertheless, there is always an inherent tension in the commission's screening for a grantee's capacity to successfully execute its projects — and for the capacity of intended beneficiaries to keep them going after getting the keys. Tiny settlements most in need of basic public facilities may have the least capacity. And, while major corporations like Agrium may involve far less risk, their desires for capital must be matched with the niche, strengths, and statutory purpose of the Denali Commission.

There is also ambiguity as to what projects appropriately reflect Denali's mission to assist "rural" Alaska. The Agrium facility is on the road system, a half-day drive south of the state's most urban area at Anchorage. While Agrium's location is not as remote as the road-less "bush," the latter would certainly benefit from any solution discovered for escalating fuel prices.

As would be expected from a corporation accountable to shareholders, Agrium did not hesitate to close the plant and stop the research when it no longer looked profitable. And the technology considered in the research certainly involved some potential public controversies.[9] The assumption was that the major waste byproduct, carbon dioxide, could be pumped down oil wells

[7] Both secular and faith-based.

[8] See our report for Red Devil, Alaska at the inspector general home page at *www.denali.gov.*

[9] For instance, material distributed last month at the Alaska State Fair carries such titles *as The Dirty Truth About Coal: Why Yesterday's Technology Should Not Be Part of Tomorrow's Energy Future; Fighting the Alaska Coal Rush* (subtitle "The Myth of Clean Coal"); and *Liquid Coal: A Bad Deal for Global Warming.* Presumably, the authors of such publications would not be fans of the Agrium project in any public conversation.

instead of added to the atmosphere. The coal to be gasified was to be dug from the foothills of the Alaska Range, possibly requiring a new mine. Agrium also intended to install a new power plant that would directly burn the coal. And, though there's lots of coal in Alaska, it's still one of the "nonrenewable" fuels.

This does not mean for a moment that Agrium, a Canadian corporation, lacked concern for Alaskans. To the contrary, Agrium accepted only $1.3 million of the $2 million that the Denali Commission offered. And we were impressed by the transition center that Agrium implemented, with little fanfare, to place the unemployed in other jobs. Agrium officials at Nikiski seemed genuinely concerned about closing the landmark facility — to the point of considerable emotion over the loss expressed during our interviews.

In short, there is nothing in the experience with Agrium that should foreclose the Denali Commission from making grants to corporations from other northern nations if that's what it takes to get the job done. In fact, experience with this multinational corporation may be a valuable prelude to international collaboration in development along the Alaskan arc of the emerging Northwest Passage.

LESSON LEARNED NO. 2

ANY DENALI GRANTS FOR RESEARCH
SHOULD PERPETUATE RESULTS FOR THE PUBLIC.

The Denali Commission serves as a national, experimental field station that explores different possibilities for solving the problems of rural Alaska. Often the experiments work; sometimes they don't. The key in the latter case is to advance the public understanding of what doesn't work. But that didn't happen here.

Denali awarded Agrium a $2 million grant to research the feasibility of retooling its Nikiski plant to produce a gasified fuel from coal. Agrium concluded that the technology was sound, but economics warranted closing the plant that would apply it. The grantee's close-out report summarized the progress as follows:

> *The project completed a substantial amount of engineering and design to prove that gasification can be used to supply feedstock to the [Agrium plant]. . . [I]t is clear that gasification is technically a feasible solution to sustained operations . . . Through nearly two years of effort, Agrium was unable to attract a partner to [the project] under the current project economics. . . Gasification represents a great opportunity for the State of Alaska to develop and utilize its vast coal resources in an economic and environmentally friendly way. . .*

To label this as just a feasibility study would understate what was accomplished here. Agrium hired at least 11 specialized contractors, and their collective reporting constitutes a tour de force on the potential to gasify coal in Alaska. Subject matter experts addressed the constellation of issues we list in Exhibit 1.

For instance, Agrium reported to Denali that the geophysical contractor had studied the "*horizontal and lateral extent of known and suspected aquifers*" by applying *"extensive modeling and observation."* And in another progress report, Agrium indicated its plans to compare information from *"seven gasification companies."*

But Denali never requested any of this work-product. In fact, Agrium seemed disappointed that Denali's staff never met with the company for periodic debriefings as to all that had been learned about the Alaska possibilities. As the plant closes and Agrium disappears from Alaska, Denali's lack of interest reminds us of the popular film where the priceless relic from a heroic quest ends up as simply crated warehouse inventory.

Agrium appears quite willing to pass on its technological learning, but the grant did not require its research results to be presented to Denali in any sort of written, work-product deliverable. Rather, the commission just structured the grant as a subsidy for Agrium's internal decision-making on the potential use of its corporate assets.

EXHIBIT 1

DENALI-FUNDED BODY OF RESEARCH CONDUCTED BY AGRIUM

Plant retooling and power house design
Coal supply transportation and storage
Gasification processes
Licensing of applicable patents
Environmental permitting
Survey of available labor
Power transmission grid
Air quality control
Area geophysics, including ground water supply (aquifers)
Financial modeling (cost estimates)
Bond financing
Potential investors
Comparative information from seven gasification companies

During our inspection, we did not attempt to second-guess Agrium's business judgment in deciding not to proceed. However, in the agency head's review of our draft inspection report, he indicated his interest in further details of what factors were determinative in the corporate thinking. Those details would most likely be found in the business plan memos that Agrium circulated when it unsuccessfully courted potential investors. The agency head should be able to request these internal documents under section 2 of the grant assurances that promises Denali "*access to and the right to examine all records, books, papers, or documents related to the award . . .*"

Ironically, it was Agrium's project manager — not Denali — who first recommended that future grants include a provision assuring the dissemination of such a body of knowledge garnered at public expense. That corporate executive seemed proud of his Denali-funded *"world-class evaluative results"* and asserted that Denali *"needs to take and extrapolate the learning of Agrium to future projects."*

To put it another way, this was a "low-maintenance" grant for both Agrium and the Denali Commission. It didn't require Agrium to provide the commission with anything beyond a quarterly number for dollars spent and a general narrative of where the project stood. Agrium was understandably happy with the commission's staff — they didn't require much.

However, given Alaska's abundant coal and other players' continuing efforts, it would be unfortunate to deprive the public of the knowledge left behind. By failing to perpetuate Agrium's learning gained at public expense, the commission may be melting down some silver bullets. For instance, the conversion of coal is being studied elsewhere as a solution to the fuel costs of Alaska's largest employer (the military).

Recommendation: Agrium's facility at Nikiski is currently in the process of being permanently closed ("mothballed"). The commission's evaluation and reporting manager should visit the plant without delay and obtain the collection of studies that memorialize the research work-product produced at the commission's expense. Those documents should be placed in the public domain in the library at the University of Alaska in Fairbanks.

***Agency response*:** Denali is attempting to obtain copies of Agrium's work-product. Denali now requires semiannual, lessons-learned meetings with all grantees. Denali has added an evaluation and reporting manager to its staff. Denali plans to add a lessons-learned feature to its public home page.

LESSON LEARNED NO. 3

DENALI SHOULD LEVERAGE THE AUDITS OF GRANTEES DONE BY THEIR CPA FIRMS.

Federal law requires that certain grantees (annual spending ≥ $500,000) arrange for an audit from a CPA firm. These basic audits check for accuracy of the financial statements, reliability of the accounting systems, and compliance with selected regulatory requirements.

Agrium was required to obtain such an audit of its Denali Commission grant — and it did so. The email record shows a conscientious effort by Agrium's staff to ascertain the grant's reporting requirements.

However, Denali required the grantee to obtain only a limited, "program-specific" audit that verified the overall totals for federal and state expenditures in the past calendar year. Though the grant agreement's "cost share distribution table" showed a potential $15 million match by "Agrium, partners & others," Denali received no verification as to how much of Agrium's own money was ultimately contributed. And the grant's close-out report to Denali shows a total of only around $3.5 million for the non-Federal "recipient share of outlays" — with at least $2.8 million of that from the state grant per the grantee's audit report.

Since Denali did not specify further, the CPA firm's limited audit was consistent with the regulatory minimums.[10] Nevertheless, Denali has hopefully learned its lesson for the future and will require audits that verify the match that actually occurs in assistance like this that is premised on substantial cost sharing.

[10] OMB Circular A-133 § 235(b).

There was no linkage between the commission's staff and the auditor at the critical phases of (1) planning the audit testwork samples (the auditor's "risk assessment"),[11] (2) analysis of what (if any) problems the auditor ultimately found, and (3) a potential "quality control review" of the auditor's workpapers.

The inspector general asked for a copy of the audit report during this inspection and appears to be the first person at the commission to have read it. Fortunately, in this case, the auditor issued an unqualified opinion — with no findings — on each of the three traditional topics.

The commission's staff was also entitled to obtain a copy of the auditor's "management letter" to the grantee.[12] Though the audit was presumably paid for out of the commission's grant, we found no evidence that the commission's staff ever asked to see this letter of advice to the grantee.

Denali's management has long asserted that its monitoring effort depends upon the grantees' own audits such as this one. However, OMB regulations encourage management to be more than a passive bystander to the work done by grantees' CPA firms:

> *The auditor's determination should be based on an overall evaluation of the risk of noncompliance occurring which could be material to the Federal program. . . [A]s part of the risk analysis, the auditor may wish to discuss a particular Federal program with auditee management and the Federal agency . . .*[13]

OMB regulations also require the "federal awarding agency" to do the following:

> *Ensure that audits are completed and reports are received in a timely manner and in accordance with the requirements of this part. . .*
>
> *Issue a management decision on audit findings within six months after receipt of the audit report and ensure that the recipient takes appropriate and timely corrective action. . .*[14]
>
> *The management decision shall clearly state whether or not the audit finding is sustained, the reasons for the decision, and the expected auditee action to repay disallowed costs, make financial adjustments, or take other action. If the auditee has not completed corrective action, a timetable for follow-up should be given. Prior to issuing the management decision, the Federal agency or pass-through entity may request additional information or documentation from the auditee, including a request for auditor assurance related to the documentation, as a way of mitigating disallowed costs. The management decision should describe any appeal process available to the auditee.*[15]

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[11] A brief phone call should usually be sufficient. Or, since there are limited CPA firms that audit the commission's grantees, discussions concerning a firm's clients could potentially be combined.

[12] OMB Circular A-133 § 320(f).

[13] OMB Circular A-133 § 525 (emphasis added).

[14] OMB Circular A-133 § 400(c) (emphasis added).

[15] OMB Circular A-133 § 405(a) (emphasis added).

Where the commission is the main federal funder (as in this grant), OMB regulations also authorize the commission's management to conduct a "quality control review" of the workpapers produced by the grantee's auditor.[16] This quality review need not be an arduous effort: a brief look at the auditor's sampling will either instill confidence, or suffice as a reality check on the limits to which the commission should be relying on the auditor's work. (Such an abbreviated look, of course, does not constitute a professional "peer review" of a CPA firm's competence.)

This "leveraging" disconnect is hardly unique to the Denali Commission. OMB and the Association of Government Accountants (AGA) have jointly convened a national panel that is trying to fix it across the federal system.[17] A recurring theme of the panel's discussions is that the results from these costly, private audits should have utility in government monitoring, rather than suffice as an end in themselves (mere compliance rituals).[18]

Though the commission's management cites its reliance on grantees' own audits, it doesn't seem to be in anyone's job description to offer planning input to the CPAs, follow up on what the CPAs find, check the quality of their work — or even just read the audit reports and grantee "management letters." These activities should be a routine part of the operating staff's role in monitoring its grants. And that staff can certainly refer significant findings to the inspector general for use in planning our own work.

Recommendations: (1) Grant agreements should specify audits that verify the match that actually occurs in assistance premised on substantial cost sharing. (2) Grant agreements should specify that a grantee's audit report and management letter will be sent to the Denali Commission's grants administrator for initial review. (3) Program managers should initiate at least a brief planning discussion of risk factors and testwork samples with a grantee's auditor. (4) The grants administrator, program manager, evaluation and reporting manager, and state's single audit coordinator[19] should jointly meet to review any audit report with findings for needed follow-up and "lessons learned." (5) For grants in which the commission is the main federal funder, either its grants administrator or its evaluation and reporting manager should conduct a limited "quality control review" of key auditor workpapers. (In the case of Agrium, its auditor was just blocks away from Denali's office.)

INSPECTOR GENERAL COMMENT

The hope, of course, was for Agrium's aging plant to be retooled for coal gasification — not just studied. However, like other Denali-funded energy projects, there was an implicit "mammoth" in the room that Denali has limited ability to resolve.

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[16] OMB Circular A-133 §§ 400(b)(2), 400(a)(3).

[17] This inspector general is the ECIE representative to this national panel, the OMB/AGA Partnership for Intergovernmental Management and Accountability.

[18] It's obviously not a new theme in the accounting world. See, for instance, Michael Power, *The Audit Society: Rituals of Verification* (Oxford, 1997), and Marianne M. Jennings, *The Seven Signs of Ethical Collapse: How to Spot Moral Meltdowns in Companies . . . Before It's Too Late* (St. Martin's, 2006).

[19] The state government is a major grantee that passes the commission's funding on to numerous sub-grantees around the state. Its "single audit coordinator" tracks the audit reports that CPAs do on all state grants.

While Denali funds the construction of new generators and tank farms around the state, Denali doesn't try to remove their rusting predecessors — or remediate the soil they've contaminated over the decades. Communities periodically voice this disappointed expectation to Denali's management. The state's environmental regulator also voiced it to us as a general concern unconnected with this inspection.

A similar "brownfield" issue lurks at the Agrium facility that Denali's grant was designed to retool. The state's online, public, "contaminated sites database" reports the facility's history as follows:

> *This plant has operated since 1967. A large amount of ammonia and other substances, including arsenic, have been spilled over the years and contamination of the soil and groundwater has occurred. Extent of contamination and health impacts unknown.*
>
> *This plant produces fertilizers and has had numerous spills and accidental discharges. It is suspected that the land and water may be polluted with arsenic, nitrates, and other unidentified pollutants. . .*[20]

The state's environmental regulator seems quite willing to discuss "brownfields" with Denali's program staff, but this is not a step in the commission's current process for screening grant applications. In the case of Agrium, the regulator seems satisfied that the company is implementing the necessary long-term remediation. This progress will hopefully continue as Agrium "mothballs" the facility.

We have previously written about an opportunity in waiting that sometimes accompanies the state's brownfields.[21] The military is the state's largest employer, which includes the remediation of hundreds of formerly used defense sites around Alaska (the FUDS). Cleanups can involve restorative compensation to damaged communities, as well as the basic cleanup itself. While the Agrium site does not appear to implicate a FUD, Denali's staff should remember this possibility of partnering with the military when screening grant applications.

Though the Denali Commission out of necessity sidesteps this resident "mammoth" of brownfield cleanup, it still casts a shadow over the agency's ultimate historical success in solving Alaska's frontier problems.

Mike Marsh

MIKE MARSH, CPA, MPA, CFE, ESQ.
INSPECTOR GENERAL

[20] See *www.dec.state.ak.us.*

[21] See our report for Sterling Landing at the Inspector General home page at *www.denali.gov.*