



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

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ENERGY AND MINERALS
DIVISION

B-197224

June 29, 1981

The Honorable James G. Watt
Secretary of the Interior



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Dear Mr. Secretary:

Subject: [Follow-up Report on Domestic Aluminum
Resources: Dilemmas of Development]
(EMD-81-96)

Concerns about supply disruptions and price gouging that could endanger aluminum production in this country have spurred Bureau of Mines research on processes to manufacture alumina from nonbauxitic ores. The United States has no large bauxite deposits but it has plentiful deposits of other aluminum ores if the technology can be developed to use them economically. Last July, however, GAO reported to the Congress that Bureau of Mines research in this area was "fundamentally misdirected" (see EMD-80-63, July 17, 1980). A copy of this report is enclosed.

In March you testified before the Senate Subcommittee on Science, Technology, and Space about your interpretation of the National Materials and Minerals Policy Research and Development Act of 1980 (30 U.S.C. 1601). Your views heralded a reemphasis of the Department of the Interior's primary mission, fostering domestic minerals development. While the Department's primary research and development emphasis was to be toward production of strategic and critical minerals, you expressed the belief that emergency measures under strategic stockpile and defense production legislation were necessitated by the absence of a domestic minerals policy. Domestic production is the Department's preferred answer to minerals availability problems. Since your testimony, bauxite and alumina are scheduled to be added to the critical minerals model of the Office of Minerals Policy Research and Analysis, and the Bureau of Mines program funds for mineral research have been revised.

However, we question the understanding within the Bureau of Mines and the Office of Minerals Policy Research and Analysis of what your testimony implies for the Department's earlier opposition to our alumina report's recommendations. Although that report was highly critical of both management

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objectives, overshadowing economics, and, (2) that the Department's patent policy usually required the Secretary to make the results of supported R&D available for licensing without royalty. These two factors, according to the Department, deterred the Bureau's more active consideration of proprietary processes in its nonbauxitic alumina program.

First, economics were a major concern of the Bureau's program. Economics were the primary criterion for selecting the Bureau's preferred, nonproprietary process. To the extent that strategic objectives can be achieved, more cheaply, the Bureau's rationale for refusing to compare the economics of proprietary processes with its preferred process before investing in a demonstration scale pilot plant is questionable. The priority you have given metallurgy research for domestic sources of strategic and critical minerals in congressional testimony leads us to call our report's comments on this Interior response to your attention now.

Second, the Secretary, in exceptional cases, is already permitted to certify under Federal Procurement Regulations that the public's interest is served by permitting a Federal contractor to retain exclusive rights (including royalties) in any federally assisted process and background patents (FPR-1.0-107 3(a)). The public's interest presumably would be served by a cheaper means of fulfilling a strategic research objective, thereby permitting the Secretary to certify an exception for supporting proprietary alumina processes. Between the Bureau's past expenditures and proposed FEMA pilot plant expenditures, the public's exposure could easily exceed \$50 million for this technology.

We found no records indicating the Bureau of Mines ever considered requesting such a secretarial certification, however, despite its being informed of at least 3 proprietary processes that aluminum companies considered more competitive than the Bureau's, and despite its alumina research program costs totaling \$25 million through FY 1983. Also, the Bureau made no effort under existing practice for pledges of confidentiality to review any proprietary process cost claims, a normal preliminary step to considering a Secretarial certification.

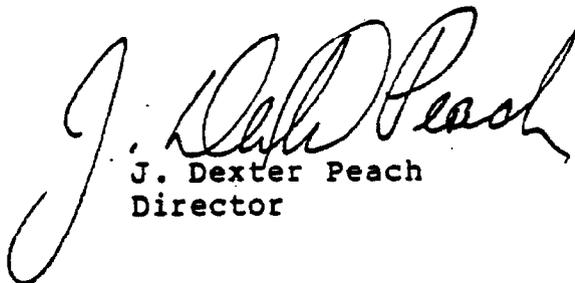
Without a careful cost comparison of proprietary and non-proprietary process technologies, we believe that the Bureau cannot demonstrate that its candidate process is the least costly technology for use in a demonstration scale pilot plant. And, in light of the potentially large public investment in such a project, at least another \$25 million over and above the Bureau's investment, the Department must consider conse-

quences of an improper process recommendation to FEMA. Our report recommended that such a process cost comparison--made under the strictest assumptions, contingency funding allowances, and specified costs for technical unknowns--be conducted by the Bureau and published in summary form by the Department. Until a summary of this proprietary and non-proprietary process cost comparison is published, we will continue to oppose consideration of pilot plant appropriations in any form.

Neither the Department's response to our report nor the Bureau's testimony at the March budget hearings indicate any change in attitude towards our report's recommendations. We believe that the Department needs to reevaluate funding strategically secure, as well as economic, research projects for alumina. We believe you should reconsider the previous departmental response to these issues, and would be happy to assist you in any way possible.

We are also sending a copy of this report to the Director, Bureau of Mines and the Director, Federal Emergency Management Agency. Copies are being made available to the respective Congressional Committees with interests in this area. We would appreciate your keeping us advised on any actions you plan to take.

Sincerely yours,



J. Dexter Peach
Director