

FROM S. J. SPELL

TO MESSRS. F. P. BERGERON

MECHANICAL ENGINEERING

H. A. BOWER
G. W. HUTTON
D. D. MCGREGOR
J. LEMEZIS

February 19, 1973

H. W. FRANSEEN
W. B. HOWELL
G. R. FARNETH
J. P. FECK
E. B. PARKER
B. M. STARNERDEPARTMENT HEAD E.C.R.
AREA INDUSTRIAL ENGINEER L.G.N.
AREA ELECTRICAL ENGINEER R.L.B.
AREA MECHANICAL ENGINEER S.J.S

RE: AUTHORIZATION APPROVAL

Attached for your review is an informational copy of Dust Collection for Marinite Machining. If you have any questions, comments, or suggested changes, please contact H. W. Franseen by Wednesday, February 21, 1973. If no unresolvable problems are encountered by Wednesday, February 21, this authorization will receive a final review at the next regular authorization meeting on Thursday, February 22, 1973, at 9:00 a.m. Following this review, all final drafts of the R.F.A. will be signed and mailed to Pittsburgh.

The probability of success of this project has been estimated by the following individuals to be:

	Technical Success:		Savings Success:	
Originator	<u>S. J. Spell</u>	<u>98%</u>	<u>N.A.</u>	
Production Supt.	<u>E. C. Remaley</u>	<u>100%</u>	<u>N.A.</u>	
Industrial Engr.	<u>-</u>	<u>-</u>	<u>-</u>	
Other	<u>-</u>	<u>-</u>	<u>-</u>	

These probabilities have been taken into account in the economic evaluation.

If you are unable to attend this meeting, please sign the R.F.A. beforehand or send an authorized representative to the meeting.

Stan Spell
S. J. SPELL

SJS:ND

Attachment

WEN 108233

ALCOA

SUMMARY STATEMENT

This Request for Authorization is for \$104,700 to purchase and install a dust collection system and other related equipment for fabrication of marinite parts, mixing trough lining materials and removing trough linings. These facilities are necessary to put our operation within the guide lines for asbestos and silica emission levels outlined by O.S.H.A.

DETAILED STATEMENT

In the processing of molten aluminum in the Ingot Plant and at the Properzi casting unit, materials such as marinite, which contains asbestos and silica, are used. Marinite is used in continuous casting molds and materials containing silica are used to line the troughs which convey the metal to a casting unit. Asbestos-free materials have been tried as replacements for marinite and this work is continuing but none have been successful to date.

The marinite is purchased in 4 feet by 8 feet sheets. These sheets are cut on a band saw into one of many shapes and machined on either one or more of the following: lathe, drill press, end mill, and/or hand held saber saw. The pieces are then assembled into the mold or trough. Assembling can require some hand work with a rasp or file.

Although trough linings no longer contain asbestos fibers, unless they are made of marinite, they do contain other materials such as silica. The lining material must be mixed in a mixer for installation in the troughs. After the troughs have failed, the linings must be removed so that a new lining can be installed.

The above mentioned operations all generate airborne dust containing asbestos or silica beyond the limits set by O.S.H.A. We are presently performing these operations at four separate locations which have varying degrees of inadequate dust collection. Our personnel have submitted a grievance demanding that we provide a working environment with safe dust levels.

In order to meet these demands and needs, we propose the purchase and installation of a dust collection system with pickup points at each dust generating operation, heated make-up air unit, band saw, mixer and trough tear-out facilities in one isolated area of the Machine Shop at a cost of \$104,700. The area is to be isolated with new wall systems.

These facilities will allow us to machine marinite and work troughing materials while keeping the exposure level to our personnel below the limits set by O.S.H.A. This will also eliminate an area where an inspector representing O.S.H.A. could issue us a citation and a fine.

PROJECT COST ESTIMATE SUMMARY

<u>Description</u>	<u>Material</u>	<u>Labor</u>	<u>Total</u>
Dust Collector	\$ 15,740	\$ 25,550	\$ 41,290
Make Up Air Unit and Heat	9,700	3,430	13,130
Building Modifications	5,696	5,000	10,696
Equipment	11,105	1,200	12,305
Modify and Rearrange Existing Equipment	3,770	3,220	6,990
Portable Vacuum Unit	5,050	-	5,050
Sub-Total:	\$ 51,061	\$ 38,400	\$ 89,061
Tax:			1,600
Contingency: (15%)			<u>13,639</u>
TOTAL:			\$104,700

PROJECT COST ESTIMATE SUMMARY

Detail the estimated major cost elements separately.

Total Requested \$104,700.00

Cost Estimate is Considered (x) Accurate () Preliminary

Prepared By S. J. SPELL Date 2/19/73

Recommended by Works Personnel

Chief Engineer

Works Accounting

WEN108237



ECONOMIC EVALUATION & PLANNED FINANCIAL PERFORMANCE

Answer all questions appropriate to this project:

Capital Expenditure Forecast No. <u>RSFC0003</u>		PROPOSED EXPENDITURE SCHEDULE (\$000 Omitted)				
		19 73	19	19	19	Total
Product Title <u>INGOT & D.C. PRODUCTS</u>	Capital	79.7	15.0			94.7
Product Code No. <u>21</u>	Expense	10.0	-			10.0
Est. Time Required to Complete Auth. <u>12 Months</u>	Total Auth.	89.7	15.0			104.7

- State number of employees to be increased or decreased after completion? 0
- Is any equipment or other facility being replaced? No If so, will it be sold, scrapped or transferred? -
What is its original cost? - Present Book Value? - Estimate Present Market Value? -
- Will any equipment be transferred from another plant? No If so, what is original cost? -
Present Book Value? -
- What disposition will be made of spare parts for equipment being retired? N.A.
- Has any work been done or material requisitioned for the job? No Was prior approval given? - By whom? -
- Will this project eliminate other projects from the Capital Expenditure Budget? No
If yes, give the Budget numbers of the projects being deleted: -
- Estimated Useful Life 17 Years
- Terminal Value of Capital Items N.A.
- Net Present Value N/A
- Cash Rate of Return N/A
- Cash Payback Years (Discounted) N/A
- Cash Payback Years (Undiscounted) N/A

Economic & Financial Evaluation Prepared by: _____ Date _____

WEN 108238