

GEORGIA INSTITUTE OF TECHNOLOGY  
OFFICE OF CONTRACT ADMINISTRATION  
SPONSORED PROJECT INITIATION

54  
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Date: October 4, 1977

Project Title: Sound Measurements

Project No: A-232-835

Project Director: Mr. W. C. Darley

Sponsor: Lester Industries, Inc.

Agreement Period: From 9/21/77 Until Open

Type Agreement: Ltr. dtd. 9/21/77

Amount: \$255.00

Reports Required: As Requested

Sponsor Contact Person (s):

Technical Matters

Contractual Matters

Robert G. Gomillion  
V.P. & Gen. Mgr.  
Lester Industries, Inc.  
Westside Industrial Parkway  
P.O. Box 2997  
Rome, Georgia 30161  
235-6081

(thru OCA)

Defense Priority Rating:

Assigned to: Technology & Development Laboratory (School/Laboratory)

COPIES TO:

Project Director  
Division Chief (EES)  
School/Laboratory Director  
Dean/Director-EES  
Accounting Office  
Procurement Office  
Security Coordinator (OCA) ✓  
Reports Coordinator (OCA)

Library, Technical Reports Section  
Office of Computing Services  
Director, Physical Plant  
EES Information Office  
Project File (OCA)  
Project Code (GTRI)  
Other EES R&P

GEORGIA INSTITUTE OF TECHNOLOGY  
OFFICE OF CONTRACT ADMINISTRATION  
SPONSORED PROJECT TERMINATION

B  
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OH

Date: January 6, 1978

Project Title: Sound Measurements

Project No: A-232-835

Project Director: Mr. W. C. Darley

Sponsor: Lester Industries, Inc.

Effective Termination Date: 9/30/77

Clearance of Accounting Charges: All Clear.

Grant/Contract Closeout Actions Remaining:

- Final Invoice ~~and Closing Documents~~
- Final Fiscal Report
- Final Report of Inventions
- Govt. Property Inventory & Related Certificate
- Classified Material Certificate
- Other \_\_\_\_\_

Assigned to: Technology & Development Laboratory (School/Laboratory)

COPIES TO:

- Project Director
- Division Chief (EES)
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- Dean/Director-EES
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- Reports Coordinator (OCA)

- Library, Technical Reports Section
- Office of Computing Services
- Director, Physical Plant
- EES Information Office
- Project File (OCA)
- Project Code (GTRI)
- Other \_\_\_\_\_

To Bill Darley

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# ENGINEERING EXPERIMENT STATION

GEORGIA INSTITUTE OF TECHNOLOGY

Atomic Development Laboratory

September 30, 1977

Central Georgia Branch  
1818 Forsyth Street  
Suite 112  
P.O. Box 5105  
Macon, Georgia 31208  
912-744-6190

Final Rpt.

A-232-535

Mr. Robert Gomillion  
Lester Industries, Inc.  
Westside Industrial Boulevard  
P. O. Box 2997  
Rome, Georgia 30161

Dear Bob:

On Tuesday, September 27, 1977, Bill Darley of our Rome office and I visited Lester Industries at your request to measure noise levels at your plant site and in the adjacent neighborhood. The equipment used was a Bruel and Kjaer Type I Precision Sound Level Meter Model 2209. The sound level meter was calibrated prior to the measurements with a B & K Type 4220 pistonphone and the calibration was checked twice during the day and rechecked at the end of the day. We made measurements at six locations in your parking lot and at various locations along Lakeridge Circle and in the yards of two homes on the south side of Lakeridge Circle. A comparison of the measurements taken by Bill Darley and Walt Hicklin in 1974 and the measurements we took this week is shown below.

| <u>Location</u>                             | <u>Aug. '74</u> | <u>Sept. '77</u> |
|---|-----------------|------------------|
| In parking lot                              | 62 dBA          | 53-56 dBA        |
| In street in front of 2621 Lakeridge Circle | 51 dBA          | 45 dBA           |
| In back yard of 2621 Lakeridge Circle       | 58½ dBA         | 54 dBA           |
| A .25 mile from the Butler house            | 40 dBA          | 45-46 dBA *      |

\* The increase in noise over the previous reading is thought to be increased traffic on Garden Lakes Boulevard because this measurement was made at 4:52 P.M.

In 1974 Mr. Hicklin and Mr. Darley made measurements inside the Butler house at 2615 Lakeridge Circle. We went to this house and found no one home and did not make measurements in the house or back yard as had been done previously. We did obtain permission to make measurements in the back yard at 2617 Lakeridge Circle and got as close to the Butler property line as possible and measured 52 dBA. We noticed that much of the noise was attributable to sources other than the Lester Industries

Mr. Robert Gomillion  
Lester Industries, Inc.  
September 30, 1977  
Page Two

plant. (e.g. Parking lot construction at another plant on Industrial Drive and transportation noise from a truck going to the motor rewinding plant on Industrial Drive) At the edge of the street in front of the Butler house at 2615 Lakeridge Circle we measured 45-46 dBA. We also measured the noise at your property line adjacent to a 15 ft. pine tree directly between your plant and 2621 Lakeridge Circle. We measured 53 dBA at this location.

As I mentioned, these noise levels are reasonable in comparison to enforced noise ordinances in other areas around the country. Leo Beranek shows in his book, Noise and Vibration Control, that the city of Chicago enforces 55 dBA for a restricted manufacturing zoning district, 58 for a general manufacturing zoning district, and 61 for a heavy manufacturing zoning district. Several states have adopted property line noise limits based on a statistical representation of the property line noise. For example the state of Maryland regulation states that 80 dBA must not be exceeded more than 1% of the time, 75 dBA must not be exceeded more than 5% of the time, 70 dBA must not be exceeded more than 20% of the time, and 65 dBA is the maximum steady noise allowable. (These levels were scheduled to be reduced by 5 dBA July 1, 1977). The Colorado ordinance requires that 65 dBA may not be exceeded more than 25% of the time and that 55 dBA is the maximum allowable steady noise.

The figures I have stated above represent the steady noise. A statistical representation of your noise environment would require additional equipment and several days additional time. Although we have no statistical representation of your noise environment, the time history charts of the A-weighted noise give an indication of how the noise levels varied with time at our different measurement locations.

I trust this information is useful to you and has provided answers you were seeking. If we can be of any further assistance, please do not hesitate to call.

Sincerely,

William N. Craig, (Jr.), Director  
Central Georgia Area Office

WNCJr:msz