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| OMB APPROVAL |
| OMB Number: 3235-0076 |
| Expires: May 31, 2005 |
| Estimated average burden hours per response... 1 |

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM D

| | | |
|---------------|--|--------|
| SEC USE ONLY | | |
| Prefix | | Serial |
| DATE RECEIVED | | |
| | | |

NOTICE OF SALE OF SECURITIES
PURSUANT TO REGULATION D,
SECTION 4(6), AND/OR
UNIFORM LIMITED OFFERING EXEMPTION



Name of Offering (check if this is an amendment and name has changed, and indicate change.)
Lightwaves Systems, Inc.

PROCESSED

Filing Under (Check box(es) that apply): Rule 504 Rule 505 Rule 506 Section 4(6) ULOE
Type of Filing: New Filing Amendment

MAY 28 2004

A. BASIC IDENTIFICATION DATA

THOMSON FINANCIAL

1. Enter the information requested about the issuer

Name of Issuer (check if this is an amendment and name has changed, and indicate change.)
Lightwaves Systems, Inc.

Address of Executive Offices (Number and Street, City, State, Zip Code)
1131 Wenig Rd. NE, Cedar Rapids, IA 52402

Telephone Number (Including Area Code)
(319) 362-4999

Address of Principal Business Operations (Number and Street, City, State, Zip Code)
(if different from Executive Offices)

Telephone Number (Including Area Code)

Brief Description of Business
research and development of new telecommunications technologies

Type of Business Organization

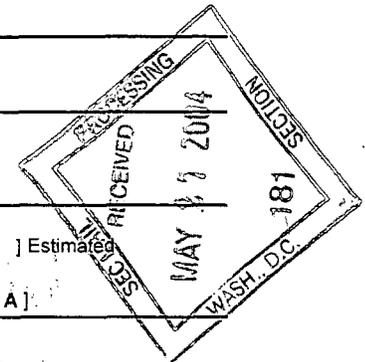
corporation limited partnership, already formed other (please specify):
 business trust limited partnership, to be formed

Actual or Estimated Date of Incorporation or Organization: Month Year
[0][4] [0][2]

Actual Estimated

Jurisdiction of Incorporation or Organization: (Enter two-letter U.S. Postal Service abbreviation for State:
CN for Canada; FN for other foreign jurisdiction)

[I][A]



GENERAL INSTRUCTIONS

Federal:

Who Must File: All issuers making an offering of securities in reliance on an exemption under Regulation D or Section 4(6), 17 CFR 230.501 et seq. or 15 U.S.C. 77d(6).

When to File: A notice must be filed no later than 15 days after the first sale of securities in the offering. A notice is deemed filed with the U.S. Securities and Exchange Commission (SEC) on the earlier of the date it is received by the SEC at the address given below or, if received at that address after the date on which it is due, on the date it was mailed by United States registered or certified mail to that address.

Where to File: U.S. Securities and Exchange Commission, 450 Fifth Street, N.W., Washington, D.C. 20549.

Copies Required: Five (5) copies of this notice must be filed with the SEC, one of which must be manually signed. Any copies not manually signed must be photocopies of manually signed copy or bear typed or printed signatures.

Information Required: A new filing must contain all information requested. Amendments need only report the name of the issuer and offering, any changes thereto, the information requested in Part C, and any material changes from the information previously supplied in Parts A and B. Part E and the Appendix need not be filed with the SEC.

Filing Fee: There is no federal filing fee.

State:

This notice shall be used to indicate reliance on the Uniform Limited Offering Exemption (ULOE) for sales of securities in those states that have adopted ULOE and that have adopted this form. Issuers relying on ULOE must file a separate notice with the Securities Administrator in each state where sales are to be, or have been made. If a state requires the payment of a fee as a precondition to the claim for the exemption, a fee in the proper amount shall accompany this form. This notice shall be filed in the appropriate states in accordance with state law. The Appendix in the notice constitutes a part of this notice and must be completed.

ATTENTION

Failure to file notice in the appropriate states will not result in a loss of the federal exemption. Conversely, failure to file the appropriate federal notice will not result in a loss of an available state exemption unless such exemption is predicated on the filing of a federal notice.

A. BASIC IDENTIFICATION DATA

2. Enter the information requested for the following:

- Each promoter of the issuer, if the issuer has been organized within the past five years;
- Each beneficial owner having the power to vote or dispose, or direct the vote or disposition of, 10% or more of a class of equity securities of the issuer;
- Each executive officer and director of corporate issuers and of corporate general and managing partners of partnership issuers; and
- Each general and managing partner of partnership issuers.

Check Box(es) that Apply: Promoter Beneficial Owner Executive Officer Director General and/or Managing Partner

Full Name (Last name first, if individual)
Kennedy, Philip T.

Business or Residence Address (Number and Street, City, State, Zip Code)
1131 Wenig Rd. NE, Cedar Rapids, IA 52402

Check Box(es) that Apply: Promoter Beneficial Owner Executive Officer Director General and/or Managing Partner

Full Name (Last name first, if individual)
Melick, Bruce

Business or Residence Address (Number and Street, City, State, Zip Code)
1131 Wenig Rd. NE, Cedar Rapids, IA 52402

Check Box(es) that Apply: Promoter Beneficial Owner Executive Officer Director General and/or Managing Partner

Full Name (Last name first, if individual)
Peters, Chuck

Business or Residence Address (Number and Street, City, State, Zip Code)
1131 Wenig Rd. NE, Cedar Rapids, IA 52402

Check Box(es) that Apply: Promoter Beneficial Owner Executive Officer Director General and/or Managing Partner

Full Name (Last name first, if individual)
Gerke, Joseph A.

Business or Residence Address (Number and Street, City, State, Zip Code)
1131 Wenig Rd. NE, Cedar Rapids, IA 52402

Check Box(es) that Apply: Promoter Beneficial Owner Executive Officer Director General and/or Managing Partner

Full Name (Last name first, if individual)
Sengpiel, David

Business or Residence Address (Number and Street, City, State, Zip Code)
1131 Wenig Rd. NE, Cedar Rapids, IA 52402

Check Box(es) that Apply: Promoter Beneficial Owner Executive Officer Director General and/or Managing Partner

Full Name (Last name first, if individual)
Martin, Lonnie

Business or Residence Address (Number and Street, City, State, Zip Code)
1131 Wenig Rd. NE, Cedar Rapids, IA 52402

Check Box(es) that Apply: Promoter Beneficial Owner Executive Officer Director General and/or Managing Partner

Full Name (Last name first, if individual)
Nelson, Curtis

Business or Residence Address (Number and Street, City, State, Zip Code)
1131 Wenig Rd. NE, Cedar Rapids, IA 52402

Check Box(es) that Apply: Promoter Beneficial Owner Executive Officer Director General and/or Managing Partner

Full Name (Last name first, if individual)
Iowa Farm Bureau Federation

Business or Residence Address (Number and Street, City, State, Zip Code)
5400 University Avenue, West Des Moines, IA 50266

Check Box(es) that Apply: Promoter Beneficial Owner Executive Officer Director General and/or Managing Partner

Full Name (Last name first, if individual)
Principal Life Insurance Company

Business or Residence Address (Number and Street, City, State, Zip Code)
711 High Street, Des Moines, IA 50392

(Use blank sheet, or copy and use additional copies of this sheet, as necessary.)

A. BASIC IDENTIFICATION DATA

2. Enter the information requested for the following:

- Each promoter of the issuer, if the issuer has been organized within the past five years;
- Each beneficial owner having the power to vote or dispose, or direct the vote or disposition of, 10% or more of a class of equity securities of the issuer;
- Each executive officer and director of corporate issuers and of corporate general and managing partners of partnership issuers; and
- Each general and managing partner of partnership issuers.

Check Box(es) that Apply: Promoter Beneficial Owner Executive Officer Director General and/or Managing Partner

Full Name (Last name first, if individual)

Business or Residence Address (Number and Street, City, State, Zip Code)

Check Box(es) that Apply: Promoter Beneficial Owner Executive Officer Director General and/or Managing Partner

Full Name (Last name first, if individual)

Business or Residence Address (Number and Street, City, State, Zip Code)

Check Box(es) that Apply: Promoter Beneficial Owner Executive Officer Director General and/or Managing Partner

Full Name (Last name first, if individual)

Business or Residence Address (Number and Street, City, State, Zip Code)

Check Box(es) that Apply: Promoter Beneficial Owner Executive Officer Director General and/or Managing Partner

Full Name (Last name first, if individual)

Business or Residence Address (Number and Street, City, State, Zip Code)

Check Box(es) that Apply: Promoter Beneficial Owner Executive Officer Director General and/or Managing Partner

Full Name (Last name first, if individual)

Business or Residence Address (Number and Street, City, State, Zip Code)

Check Box(es) that Apply: Promoter Beneficial Owner Executive Officer Director General and/or Managing Partner

Full Name (Last name first, if individual)

Business or Residence Address (Number and Street, City, State, Zip Code)

Check Box(es) that Apply: Promoter Beneficial Owner Executive Officer Director General and/or Managing Partner

Full Name (Last name first, if individual)

Business or Residence Address (Number and Street, City, State, Zip Code)

Check Box(es) that Apply: Promoter Beneficial Owner Executive Officer Director General and/or Managing Partner

Full Name (Last name first, if individual)

Business or Residence Address (Number and Street, City, State, Zip Code)

Check Box(es) that Apply: Promoter Beneficial Owner Executive Officer Director General and/or Managing Partner

Full Name (Last name first, if individual)

Business or Residence Address (Number and Street, City, State, Zip Code)

(Use blank sheet, or copy and use additional copies of this sheet, as necessary.)

B. INFORMATION ABOUT OFFERING

1. Has the issuer sold, or does the issuer intend to sell, to non-accredited investors in this offering? Yes [] No [X]

Answer also in Appendix, Column 2, if filing under ULOE.

2. What is the minimum investment that will be accepted from any individual? \$ N/A

3. Does the offering permit joint ownership of a single unit? Yes [X] No []

4. Enter the information requested for each person who has been or will be paid or given, directly or indirectly, any commission or similar remuneration for solicitation of purchasers in connection with sales of securities in the offering. If a person to be listed is an associated person or agent of a broker or dealer registered with the SEC and/or with a state or states, list the name of the broker or dealer. If more than five (5) persons to be listed are associated persons of such a broker or dealer, you may set forth the information for that broker or dealer only.

Full Name (Last name first, if individual)

N/A

Business or Residence Address (Number and Street, City, State, Zip Code)

States in Which Person Listed Has Solicited or Intends to Solicit Purchasers

(Check "All States" or check individual States) [] All States

| | | | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| [AL] | [AK] | [AZ] | [AR] | [CA] | [CO] | [CT] | [DE] | [DC] | [FL] | [GA] | [HI] | [ID] |
| [IL] | [IN] | [IA] | [KS] | [KY] | [LA] | [ME] | [MD] | [MA] | [MI] | [MN] | [MS] | [MO] |
| [MT] | [NE] | [NV] | [NH] | [NJ] | [NM] | [NY] | [NC] | [ND] | [OH] | [OK] | [OR] | [PA] |
| [RI] | [SC] | [SD] | [TN] | [TX] | [UT] | [VT] | [VA] | [WA] | [WV] | [WI] | [WY] | [PR] |

Full Name (Last name first, if individual)

Business or Residence Address (Number and Street, City, State, Zip Code)

Name of Associated Broker or Dealer

States in Which Person Listed Has Solicited or Intends to Solicit Purchasers

(Check "All States" or check individual States) [] All States

| | | | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| [AL] | [AK] | [AZ] | [AR] | [CA] | [CO] | [CT] | [DE] | [DC] | [FL] | [GA] | [HI] | [ID] |
| [IL] | [IN] | [IA] | [KS] | [KY] | [LA] | [ME] | [MD] | [MA] | [MI] | [MN] | [MS] | [MO] |
| [MT] | [NE] | [NV] | [NH] | [NJ] | [NM] | [NY] | [NC] | [ND] | [OH] | [OK] | [OR] | [PA] |
| [RI] | [SC] | [SD] | [TN] | [TX] | [UT] | [VT] | [VA] | [WA] | [WV] | [WI] | [WY] | [PR] |

Full Name (Last name first, if individual)

Business or Residence Address (Number and Street, City, State, Zip Code)

Name of Associated Broker or Dealer

States in Which Person Listed Has Solicited or Intends to Solicit Purchasers

(Check "All States" or check individual States) [] All States

| | | | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| [AL] | [AK] | [AZ] | [AR] | [CA] | [CO] | [CT] | [DE] | [DC] | [FL] | [GA] | [HI] | [ID] |
| [IL] | [IN] | [IA] | [KS] | [KY] | [LA] | [ME] | [MD] | [MA] | [MI] | [MN] | [MS] | [MO] |
| [MT] | [NE] | [NV] | [NH] | [NJ] | [NM] | [NY] | [NC] | [ND] | [OH] | [OK] | [OR] | [PA] |
| [RI] | [SC] | [SD] | [TN] | [TX] | [UT] | [VT] | [VA] | [WA] | [WV] | [WI] | [WY] | [PR] |

(Use blank sheet, or copy and use additional copies of this sheet, as necessary.)

C. OFFERING PRICE, NUMBER OF INVESTORS, EXPENSES AND USE OF PROCEEDS

1. Enter the aggregate offering price of securities included in this offering and the total amount already sold. Enter "0" if answer is "none" or "zero." If the transaction is an exchange offering, check this box and indicate in the columns below the amounts of the securities offered for exchange and already exchanged.

| Type of Security | Aggregate Offering Price | Amount Already Sold |
|---|-----------------------------|------------------------|
| Debt. | \$ | \$ |
| Equity. | \$ 5,000,000 | \$ \$2,046,843 |
| <input type="checkbox"/> Common <input checked="" type="checkbox"/> Preferred | | |
| Convertible Securities (including warrants) | \$ | \$ |
| Partnership Interests. | \$ | \$ |
| Other (Specify _____) ... | \$ | \$ |
| Total. | \$ 5,000,000 | \$ 2,046,843 |

Answer also in Appendix, Column 3, if filing under ULOE.

2. Enter the number of accredited and non-accredited investors who have purchased securities in this offering and the aggregate dollar amounts of their purchases. For offerings under Rule 504, indicate the number of persons who have purchased securities and the aggregate dollar amount of their purchases on the total lines. Enter "0" if answer is "none" or "zero."

| | Number Investors | Aggregate Dollar Amount of Purchases |
|--|---------------------|--|
| Accredited Investors. | 11 | \$ 2,046,843 |
| Non-accredited Investors. | | \$ |
| Total (for filings under Rule 504 only). | | \$ |

Answer also in Appendix, Column 4, if filing under ULOE.

3. If this filing is for an offering under Rule 504 or 505, enter the information requested for all securities sold by the issuer, to date, in offerings of the types indicated, the twelve (12) months prior to the first sale of securities in this offering. Classify securities by type listed in Part C-Question 1.

| Type of offering | Type of Security | Dollar Amount Sold |
|--------------------|---------------------|-----------------------|
| Rule 505. | N/A | \$ N/A |
| Regulation A. | N/A | \$ N/A |
| Rule 504. | N/A | \$ N/A |
| Total. | | \$ N/A |

4. a. Furnish a statement of all expenses in connection with the issuance and distribution of the securities in this offering. Exclude amounts relating solely to organization expenses of the issuer. The information may be given as subject to future contingencies. If the amount of an expenditure is not known, furnish an estimate and check the box to the left of the estimate.

| | | |
|--|-------------------------------------|------------------|
| Transfer Agent's Fees. | <input type="checkbox"/> | \$ 0 |
| Printing and Engraving Costs. | <input type="checkbox"/> | \$ 0 |
| Legal Fees. | <input checked="" type="checkbox"/> | \$ 20,000 |
| Accounting Fees. | <input type="checkbox"/> | \$ 0 |
| Engineering Fees. | <input type="checkbox"/> | \$ 0 |
| Sales Commissions (specify finders' fees separately) | <input type="checkbox"/> | \$ 0 |
| Other Expenses (identify) | <input type="checkbox"/> | \$ 0 |
| Total. | <input checked="" type="checkbox"/> | \$ 20,000 |

C. OFFERING PRICE, NUMBER OF INVESTORS, EXPENSES AND USE OF PROCEEDS

b. Enter the difference between the aggregate offering price given in response to Part C - Question 1 and total expenses furnished in response to Part C - Question 4. a. This difference is the "adjusted gross proceeds to the issuer." \$ 4,980,000

5. Indicate below the amount of the adjusted gross proceeds to the issuer used or proposed to be used for each of the purposes shown. If the amount for any purpose is not known, furnish an estimate and check the box to the left of the estimate. The total of the payments listed must equal the adjusted gross proceeds to the issuer set forth in response to Part C - Question 4.b above.

| | Payments to Officers, Directors, & Affiliates | Payments to Others |
|--|--|-------------------------|
| Salaries and fees | [] \$ <u>0</u> | [] \$ <u>0</u> |
| Purchase of real estate | [] \$ <u>0</u> | [] \$ <u>0</u> |
| Purchase, rental or leasing and installation of machinery and equipment | [] \$ <u>0</u> | [] \$ <u>0</u> |
| Construction or leasing of plant buildings and facilities | [] \$ <u>0</u> | [] \$ <u>0</u> |
| Acquisition of other businesses (including the value of securities involved in this offering that may be used in exchange for the assets or securities of another issuer pursuant to a merger) | [] \$ <u>0</u> | [] \$ <u>0</u> |
| Repayment of indebtedness | [] \$ <u>0</u> | [] \$ <u>0</u> |
| Working capital | [] \$ <u>0</u> | [X] \$ <u>4,980,000</u> |
| Other (specify): | [] \$ _____ | [] \$ _____ |
| | [] \$ _____ | [] \$ _____ |
| Column Totals | [] \$ _____ | [] \$ _____ |
| Total Payments Listed (column totals added) | [X] \$ <u>4,980,000</u> | |

D. FEDERAL SIGNATURE

The issuer has duly caused this notice to be signed by the undersigned duly authorized person. If this notice is filed under Rule 505, the following signature constitutes an undertaking by the issuer to furnish to the U.S. Securities and Exchange Commission, upon written request of its staff, the information furnished by the issuer to any non-accredited investor pursuant to paragraph (b)(2) of Rule 502.

| | | |
|---|--|------------------------|
| Issuer (Print or Type) Lightwaves Systems, Inc. | Signature | Date 5/20/04 |
| Name of Signer (Print or Type) Joseph A. Gerke | Title of Signer (Print or Type) Vice President/Secretary | |

ATTENTION
Intentional misstatements or omissions of fact constitute federal criminal violations. (See 18 U.S.C. 1001.)

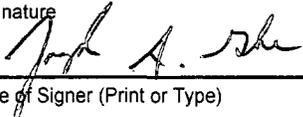
E. STATE SIGNATURE

1. Is any party described in 17 CFR 230.262 presently subject to any of the disqualification provisions of such rule? Yes [] No [**x**]

See Appendix, Column 5, for state response.

2. The undersigned issuer hereby undertakes to furnish to any state administrator of any state in which this notice is filed, a notice on Form D (17 CFR 239,500) at such times as required by state law.
3. The undersigned issuer hereby undertakes to furnish to the state administrators, upon written request, information furnished by the issuer to offerees.
4. The undersigned issuer represents that the issuer is familiar with the conditions that must be satisfied to be entitled to the Uniform limited Offering Exemption (ULOE) of the state in which this notice is filed and understands that the issuer claiming the availability of this exemption has the burden of establishing that these conditions have been satisfied.

The issuer has read this notification and knows the contents to be true and has duly caused this notice to be signed on its behalf by the undersigned duly authorized person.

| | | |
|---|--|------------------------|
| Issuer (Print or Type) Lightwaves Systems, Inc. | Signature  | Date 5/20/04 |
| Name of Signer (Print or Type) Joseph A. Gerke | Title of Signer (Print or Type) Vice President/Secretary | |

Instruction:

Print the name and title of the signing representative under his signature for the state portion of this form. One copy of every notice on Form D must be manually signed. Any copies not manually signed must be photocopies of the manually signed copy or bear typed or printed signatures.

APPENDIX

| 1 State | 2 Intend to sell to non-accredited investors in State (Part B-Item 1) | | 3 Type of security and aggregate offering price offered in state (Part C-Item 1) | 4 Type of investor and amount purchased in State (Part C-Item 2) | | | | 5 Disqualification under State ULOE (if yes, attached explanation of waiver granted) (Part E-Item 1) | |
|------------|--|----|---|---|-----------------|------------------------------------|--------|---|----|
| | Yes | No | | Number of Accredited Investors | Amount | Number of Non-Accredited Investors | Amount | Yes | No |
| AL | | | | | | | | | |
| AK | | | | | | | | | |
| AZ | | | | | | | | | |
| AR | | | | | | | | | |
| CA | | | | | | | | | |
| CO | | | | | | | | | |
| CT | | | | | | | | | |
| DE | | | | | | | | | |
| DC | | | | | | | | | |
| FL | | | | | | | | | |
| GA | | | | | | | | | |
| HI | | | | | | | | | |
| ID | | | | | | | | | |
| IL | | X | | 1 | \$ 3,500.80 | | | | X |
| IN | | | | | | | | | |
| IA | | X | | 9 | \$ 1,943,432.40 | | | | X |
| KS | | | | | | | | | |
| KY | | | | | | | | | |
| LA | | | | | | | | | |
| ME | | | | | | | | | |
| MD | | | | | | | | | |
| MA | | | | | | | | | |
| MI | | | | | | | | | |
| MN | | | | | | | | | |
| MS | | | | | | | | | |
| MO | | | | | | | | | |

| 1 | 2 | | 3 | 4 | | | | 5 | |
|-------|---|----|---|--|--|------------------------------------|--------|-----|--|
| | Intend to sell to non-accredited investors in State (Part B-Item 1) | | | Type of security and aggregate offering price offered in state (Part C-Item 1) | Type of investor and amount purchased in State (Part C-Item 2) | | | | Disqualification under State ULOE (if yes, attached explanation of waiver granted) (Part E-Item 1) |
| State | Yes | No | | Number of Accredited Investors | Amount | Number of Non-Accredited Investors | Amount | Yes | No |
| MT | | | | | | | | | |
| NE | | | | | | | | | |
| NV | | | | | | | | | |
| NH | | | | | | | | | |
| NJ | | | | | | | | | |
| NM | | | | | | | | | |
| NY | | | | | | | | | |
| NC | | | | | | | | | |
| ND | | | | | | | | | |
| OH | | | | | | | | | |
| OK | | | | | | | | | |
| OR | | | | | | | | | |
| PA | | | | | | | | | |
| RI | | | | | | | | | |
| SC | | | | | | | | | |
| SD | | | | | | | | | |
| TN | | | | | | | | | |
| TX | | X | | 1 | \$ 100,000.00 | | | | X |
| UT | | | | | | | | | |
| VT | | | | | | | | | |
| VA | | | | | | | | | |
| WA | | | | | | | | | |
| WV | | | | | | | | | |
| WI | | | | | | | | | |
| WY | | | | | | | | | |
| PR | | | | | | | | | |