EXHIBIT 1

PART 2 OF 5

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UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NUMBER	RECEIPT DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE

DATE MAILED:

NOTICE TO FILE MISSING PARTS OF APPLICATION
NO FILING DATE

(Enclosure to Form PTO-1123)

Required items 1-8 below SHOULD be filed, with any items required on the "Notice of Incomplete Application" enclosed with this form. The filing date of this application will be the date of receipt of the items required on the "Notice of Incomplete Application." If items 1 and 3-6 below are submitted after the filing date, THE PAYMENT OF A SURCHARGE OF $_____ for large entities or $_____ for small entities who have filed a verified statement 37 CFR 1.27 claiming such status will also be required. (37 CFR 1.16(e)).

The total amount owed by applicant as a ☐ large entity ☐ small entity (verified statement filed) is $_____.

1. ☐ The statutory basic filing fee is: ☐ missing ☐ insufficient. Applicant as a ☐ large entity ☐ small entity must submit $_____ to complete the basic filing fee.

2. ☐ Additional claim fees of $_____ as a ☐ large entity, ☐ small entity, including any required multiple dependent claim fee, are required. Applicant must submit the additional claim fees or cancel the additional claims for which fees are due.

3. ☐ The oath or declaration:
   ☐ is missing.
   ☐ does not cover items required on "Notice of Incomplete Application."
   An oath or declaration in compliance with 37 CFR 1.63, referring to the above Application Number and Receipt Date, is required.

4. ☐ The oath or declaration does not identify the application to which it applies. An oath or declaration in compliance with 37 CFR 1.63, identifying the application by the above Application Number and Receipt Date, is required.

5. ☐ The signature to the oath or declaration is: ☐ missing; ☐ a reproduction; ☐ by a person other than the inventor or a person qualified under 37 CFR 1.42, 1.43, or 1.47. A properly signed oath or declaration in compliance with 37 CFR 1.63, referring to the above Application Number and Receipt Date, is required.

6. ☐ The signature of the following joint inventor(s) is missing from the oath or declaration: _____. An oath or declaration signed by the omitted inventor(s), identifying this application by the above Application Number and Receipt Date, is required.

7. ☐ A $_____ processing fee is required for returned checks. (37 CFR 1.21(m)).

8. ☐ The application does not comply with the Sequence Rules. See attached Notice To Comply with Sequence Rules 37 CFR 1.821-1.825.

9. ☐ Other:

Direct the response and any questions about this notice to, Attention: Application Processing Division, Special Processing and Correspondence Branch.

A copy of this notice MUST be returned with the response.

_____
Application Processing Division
(703) 308-1202

FORM PTO-1832 (REV. 12-90)

UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE

DATE MAILED:

NOTICE OF INFORMAL APPLICATION
(Attachment to Office Action)

This application does not conform with the rules governing applications for the reason(s) checked below. The period within which to correct these requirements and avoid abandonment is set in the accompanying Office action.

A. A new oath or declaration, identifying this application by the application number and filing date is required. The oath or declaration does not comply with 37 CFR 1.63 in that it:

1. ☐ does not identify the city and state or foreign country of residence of each inventor.
2. ☐ does not identify the citizenship of each inventor.
3. ☐ does not state whether the inventor is a sole or joint inventor.
4. ☐ does not state that the person making the oath or declaration:
   a. ☐ has reviewed and understands the contents of the specification, including the claims, as amended by any amendment specifically referred to in the oath or declaration.
   b. ☐ believes the named inventor or inventors to be the original and the first inventor or inventors of the subject matter which is claimed and for which a patent is sought.
   c. ☐ acknowledges the duty to disclose information which is material to patentability as defined in 37 CFR 1.56.
5. ☐ does not identify the foreign application for patent or inventor's certificate on which priority is claimed pursuant to 37 CFR 1.55, and any foreign application having a filing date before that of the application on which priority is claimed, by specifying the application serial number, country, day, month, and year of its filing.
6. ☐ does not state that the person making the oath or declaration acknowledges the duty to disclose information which is material to patentability as defined in 37 CFR 1.56 which became available between the filing date of the prior application and filing date of the continuation-in-part application which discloses and claims subject matter in addition to that disclosed in the prior application (37 CFR 1.63(d)).
7. ☐ does not include the date of execution.
8. ☐ does not use permanent ink, or its equivalent in quality, as required under 37 CFR 1.52(a).
9. ☐ contains non-initialed alterations (See 37 CFR 1.52(c)).
10. ☐ Other:

B. Applicant is required to provide:

1. ☐ A statement signed by applicant giving his or her complete name. A full name must include at least one given name without abbreviation as required by (37 CFR 1.41(a)).
2. ☐ Proof of authority of the legal representative under 37 CFR 1.44.
3. ☐ An abstract in compliance with 37 CFR 1.72(b).
4. ☐ A statement signed by applicant giving his or her complete post office address (37 CFR 1.33(a)).
5. ☐ A copy of the specification written, typed, or printed in permanent ink, or its equivalent in quality as required by 37 CFR 1.52(a).
6. ☐ Other:

FORM PTO-152 (REV. 1-96) PART 1-OFFICE COPY

UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NUMBER	RECEIPT DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO.

DATE MAILED:

NOTICE OF INCOMPLETE APPLICATION

A filing date has NOT been assigned to the above identified application papers for the reason(s) shown below.

1. ☐ The specification (description and claims):
   a. ☐ is missing
   b. ☐ has pages _____ missing
   c. ☐ does not include a written description of the invention.
   d. ☐ does not include at least one claim in compliance with 35 U.S.C. 112.

A complete specification in compliance with 35 U.S.C. 112 is required.

2. ☐ A drawing of Figure(s) _____ described in the specification is required in compliance with 35 U.S.C. 111.

3. ☐ A drawing of applicant's invention is required since it is necessary for the understanding of the subject matter of the invention in compliance with 35 U.S.C. 113.

4. ☐ The inventor's name(s) is missing. The full names of all inventors are required in compliance with 37 CFR 1.41.

5. ☐ Other:

All of the above-noted items, unless otherwise indicated, must be submitted within TWO MONTHS of the date of this notice or the application will be returned or otherwise disposed of. Any fee which has been submitted will be refunded less a $_____ handling fee. See 37 CFR 1.53(c).

The filing date will be the date of receipt of all items required above, unless otherwise indicated. Any assertions that the items required above were submitted, or are not necessary for a filing date, must be by a petition directed to the attention of the Office of the Assistant Commissioner for Patents accompanied by the $_____ petition fee (37 CFR 1.17(h)). If the petition states that the application is complete, a request for refund of the petition fee may be included in the petition.

Direct the response and any questions about this notice to, Attention:
Application Processing Division, Special Processing and Correspondence Branch.

A copy of this notice MUST be returned with the response.

Enclosed:

- ☐ "General Information Concerning Patents." See page _____
- ☐ Copy of a patent to assist applicant in making corrections.
- ☐ "Notice to File Missing Parts of Application," Form PTO-1532.
- ☐ Other: _____

_____
Application Processing Division
(703) 308-1202

FORM PTO-1123 (REV. 12-93)

UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NUMBER	RECEIPT DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE

[ ]

NOTICE OF INCOMPLETE APPLICATION FILED UNDER 37 CFR 1.60

A filing date has NOT been assigned since 37 CFR 1.60 has not been complied with for the reason(s) indicated below:

1. ☐ A copy of the specification (description and claims) filed in the parent application:
   a. ☐ is missing.
   b. ☐ has page(s)_____ missing.
   c. ☐ has the description of the invention missing.
   d. ☐ has claim(s)_____ missing.

2. ☐ A copy of the drawings as filed in the parent application is missing.

3. ☐ A copy of any amendments referred to in the oath or declaration filed to complete the parent application is missing.

4. ☐ A statement is missing that the application papers filed are a true copy of the prior application, and that no amendments referred to in the oath or declaration filed in the prior application introduced new matter. Such statement must be made by the applicant or applicant's attorney or agent and must be a verified statement if made by a person not registered to practice before the United States Patent and Trademark Office.

5. ☐ Other:

The filing date will be the date of receipt of the items required above unless otherwise indicated. Any assertions that the items required above were submitted, or explaining the delay in supplying the omitted items, must be by a petition directed to the attention of the Office of the Assistant Commissioner for Patents. Any such petition must be accompanied by the $_____ petition fee (37 CFR 1.17(i)(1)). If the petition states that the application is complete, a request for refund of the petition fee may be included in the petition.

All of the items noted above must be submitted within **TWO MONTHS** of the date of this notice, or the application will be returned upon request or otherwise disposed of.

Direct the response and any questions about this notice to, Attention: Application Processing Division, Special Processing and Correspondence Branch.

A copy of this notice MUST be returned with the response.

_____
Application Processing Division
(703) 308-1202

FORM PTO-1534 (REV. 12-96)

UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO./TITLE

[ ]

NOTICE TO FILE MISSING PARTS OF APPLICATION
FILED UNDER 37 CFR 1.60 FILING DATE GRANTED

A filing date has been granted to this application filed under 37 CFR 1.60. However, the items indicated below are missing. The required items and fees identified below must be timely submitted ALONG WITH THE PAYMENT OF A SURCHARGE for items 1 and 3 of $_____ for large entities or $_____ for small entities who have complied with 37 CFR 1.28(a). The surcharge is set forth in 37 CFR 1.16(e).

If all required items on this form are filed within the period set below, the total amount owed by applicant as a ☐ large entity, ☐ small entity (verified statement filed), is $_____.

Applicant is given ONE MONTH FROM THE DATE OF THIS LETTER, OR TWO MONTHS FROM THE FILING DATE of this application, WHICHEVER IS LATER, within which to file all required items and pay any fees required above to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

1. ☐ The statutory basic filing fee is: ☐ missing ☐ insufficient. Applicant as a ☐ large entity, ☐ small entity, must submit $_____ to complete the basic filing fee.

2. ☐ Additional claim fees of $_____ as a ☐ large entity ☐ small entity, including any required multiple dependent claim fee, are required. Applicant must submit the additional claim fees or cancel the additional claims for which fees are due.

3. ☐ The application was filed under 37 CFR 1.60. The copy of the oath or declaration ☐ is missing ☐ does not show applicant(s) signature or an indication it was signed. A copy of the signed oath or declaration originally filed in the prior complete application is required.

4. ☐ OTHER:

Direct the response and any questions about this notice to, Attention: Application Processing Division, Special Processing and Correspondence Branch.

A copy of this notice MUST be returned with the response.

_____
APPLICATION PROCESSING DIVISION
(703) 308-1202

FORM PTO-1687 (1-96)

UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NUMBER	RECEIPT DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO./TITLE

NOTICE TO FILE MISSING PARTS OF APPLICATION FILED UNDER 37 CFR 1.60
NO FILING DATE
(Attachment to Form PTO-1534)

In order to avoid payment by the applicant of the surcharge required if items 1 and 3 are filed after the filing date, the following items are also brought to the applicant's attention.

Required items 1-4 below SHOULD be filed, if possible, with any items required on the enclosed Notice of Incomplete Application form. If concurrent filing of all required items is not possible, items 1-4 below must be filed no later than two months from the filing date of this application. The filing date will be the date of receipt of the items required on the Notice of Incomplete Application. If items 1 and 3 below are submitted after the filing date THE PAYMENT OF A SURCHARGE OF $_____ for large entities, or $_____ for small entities who have complied with 37 CFR 1.28 (a), is required. (37 CFR 1.16 (e)).

If all required items noted on this form and on the Notice of Incomplete Application are filed together, the total amount owed by applicant as a ☐ large entity ☐ small entity (verified statement filed) is $_____.

Applicant must file all the required items indicated below within TWO MONTHS from any filing date granted to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

1. ☐ The statutory basic filing fee is: ☐ missing ☐ insufficient. Applicant as a ☐ large entity ☐ small entity must submit $_____ to complete the basic filing fee.

2. ☐ Additional claim fees of $_____ as a ☐ large entity, ☐ small entity, including any required multiple dependent claim fee, are required. Applicant must submit the additional claim fees or cancel the additional claims for which fees are due.

3. ☐ The application was filed under 37 CFR 1.60. The copy of the oath or declaration ☐ is missing ☐ does not show applicant(s) signature or an indication it was signed. A copy of the signed oath or declaration originally filed in the prior complete application is required.

4. ☐ Other:

Direct the response and any questions about this notice to, Attention: Application Processing Division, Special Processing and Correspondence Branch.

A copy of this notice MUST be returned with the response.

APPLICATION PROCESSING DIVISION
(703) 308-1202

FORM PTO-1608 (12-92)

UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NUMBER	RECEIPT DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE

NOTICE OF IMPROPER FWC FILING UNDER 37 CFR 1.62
NO FILING DATE GRANTED

The above identified application was deposited under 37 CFR 1.62 as a file wrapper continuing application but is improper and has not been granted a filing date for reasons shown below:

_____ 1. The application does not include the correct application number including filing date or series code of the prior application.

_____ 2. The application, which is not a continuation-in-part, was not filed by the same or less than all the inventors named in the prior application and no petition for correction of inventorship was filed.

_____ 3. The application, which is a continuation-in-part, does not identify the names of all the inventors (37 CFR 1.41(a)). The application uses "et al" but only one inventor was named in the prior application.

_____ 4. The filing date included a new specification or a copy of a specification from the prior application. See 37 CFR 1.62(e). A petition with the $_____ fee set forth in 37 CFR 1.17(i)(1) with instructions to cancel the copy of specification may be filed if a filing date as of the receipt date noted above is desired.

_____ 5. The request does not include an original signature of the inventor(s), assignee of the entire interest, or registered attorney or agent.

_____ 6. The application was not filed before the payment of the issue fee, abandonment of, or termination of proceedings on the prior application:

_____ a) The issue fee was paid on the prior application on _____.
_____ b) The prior application was abandoned, or proceedings terminated on _____
_____ c) The prior application was abandoned by the filing of application number _____ on _____, under 37 CFR 1.62.

_____ 7. Other:

The filing date will be the date of receipt of the items required above unless otherwise indicated, provided the items are filed before the payment of the issue fee, abandonment of, or termination of proceedings on the prior application. Any assertions that the items required above were submitted or are not necessary for a filing date must be by a petition directed to the attention of the Office of the Assistant Commissioner for Patents. Any such petition must be accompanied by the $_____ fee (37CFR 1.17(h)). If the petition states that the application is complete, a request for refund of the petition fee may be included in the petition.

All of the above noted items and/or any petition must be submitted within TWO MONTHS of the date of this notice (37 CFR 1.181(f)) or the application will be returned upon request or abandoned and the fee, if submitted, will be refunded less the $ _____ handling fee (37 CFR 1.21(n)). THIS TIME LIMIT MAY NOT BE EXTENDED PURSUANT TO 37 CFR 1.136.

Direct the response and any questions about this notice to, Attention: Application Processing Division, Special Processing and Correspondence Branch.

A copy of this notice MUST be returned with the response.

_____
Application Processing Division
(703) 308-1202
FORM PTOL-467 (REV. 12-95)

UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NUMBER	FILING/RECEIPT DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE

DATE MAILED:

NOTICE OF OMITTED ITEM(S)

A filing date has been assigned to the above-identified application papers; however, the following item(s) appear to have been omitted from the application:

☐ 1. Pages _____ of the specification (description and claims).
☐ 2. Figures _____ described in the specification.
☐ 3. Other:

I. Should applicant contend that the above-noted item(s) was in fact deposited in the Patent and Trademark Office (PTO) with the application papers, a copy of this Notice and a petition (and $_____ petition fee *(37 CFR 1.17(i))*, which will be refunded if it is determined that the item was in fact received by the PTO) with evidence of such deposit must be filed within two months of the date of this Notice.

II. Should applicant desire to supply the omitted item(s) and accept the date that such omitted item(s) were filed in the PTO as the filing date of the above-identified application, a copy of this Notice, the omitted items (with a supplemental oath or declaration in compliance with 37 CFR 1.63 and 1.64 referring to such items), and a petition under 37 CFR 1.182 (with the $_____ petition fee *(37 CFR 1.17(h))* requesting the later filing date must be filed within two months of the date of this Notice.

The failure to file a petition (and petition fee) under the above options (I) or (II) within two months of the date of this Notice (37 CFR 1.181(f)) will be treated as a constructive acceptance by the applicant of the application as deposited in the PTO. THIS TWO MONTH PERIOD IS NOT EXTENDABLE UNDER 37 CFR 1.136 (a) or (b). In the absence of a timely petition in response to this Notice, the application will maintain a filing date as of the date of deposit of the application papers in the PTO, and original application papers (*i.e.*, the original disclosure of the invention) will include only those application papers present in the PTO on the date of deposit.

In the event that applicant elects not take action pursuant to options (I) or (II) above, amendment of the specification to renumber the pages consecutively and cancel incomplete sentences caused by any omitted page(s), and/or amendment of the specification to cancel all references to any omitted drawing(s), relabel the drawing figures to be numbered consecutively (if necessary), and correct the references in the specification to the drawing figures to correspond with any relabelled drawing figures, is required. Any drawing changes should be accompanied by a copy of the drawing figures showing the proposed changes in red ink. Such amendment and/or correction to the drawing figures, if necessary, should be by way of preliminary amendment submitted prior to the first Office action to avoid delays in the prosecution of the application.

Direct the response and any questions about this notice to "Attention: Box Missing Parts".

Enclosed:
☐ "Notice to File Missing Parts of Application," Form PTO-1533.
☐ Other:

A copy of this notice MUST be returned with any response.

Customer Service Center
Initial Patent Examination Division (703) 308-1202
FORM PTO-1669 (Rev. 1/96) PART 1 - ATTORNEY/APPLICANT COPY <

UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NUMBER	FILING/RECEIPT DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE

DATE MAILED:

NOTICE OF OMITTED ITEM(S) IN A PROVISIONAL APPLICATION
FILED UNDER 37 CFR 1.53(b)(2)

A filing date has been assigned to the above-identified PROVISIONAL APPLICATION; however, the following item(s) appear to have been omitted from the application:

- ☐ 1. Pages __ _____ of the specification (description and claims).
- ☐ 2. Figures _____ described in the specification.
- ☐ 3. Other:

Should applicant contend that the above-noted item(s) was in fact deposited in the Patent and Trademark Office (PTO) with the provisional application papers, a copy of this Notice and a petition (and $_____ petition fee *(37 CFR 1.17(i))*, which will be refunded if it is determined that the item was in fact received by the PTO), with evidence of such deposit must be filed within two months of the date of this Notice.

The failure to file a petition (and petition fee) within two months of the date of this Notice *(37 CFR 1.181(f))* will be treated as a constructive acceptance by the applicant of the provisional application as deposited in the PTO. THIS TWO MONTH PERIOD IS NOT EXTENDABLE UNDER 37 CFR 1.136 (a) or (b). In the absence of a timely petition in response to this Notice, the application will maintain a filing date as of the date of deposit of the application papers in the PTO, and original application papers (*i.e.*, the original disclosure of the invention) will include only those application papers present in the PTO on the date of deposit.

Direct the response and any questions about this notice to "Attention: Box Missing Parts".

Enclosed:
- ☐ "Notice to File Missing Parts of Provisional Application," Form PTO-1670.
- ☐ Other:

A copy of this notice MUST be returned with any response.

Customer Service Center
Initial Patent Examination Division (703) 308-1202
FORM PTO-1672 (Rev. 1/96) PART 1 - ATTORNEY/APPLICANT COPY <