

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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LOWE'S COMPANIES, INC.,  
LOWE'S HOME CENTERS, LLC AND L G SOURCING, INC,

Petitioners

v.

NICHIA CORPORATION,

Patent Owner

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U.S. Patent No. 7,915,631

“Light Emitting Device and Display”

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**DECLARATION OF CORAL SHELDON-HESS IN SUPPORT OF  
PETITION FOR *INTER PARTES* REVIEW OF  
U.S. PATENT NO. 7,915,631**

I, J. Coral Sheldon-Hess, do hereby declare:

1. I have personal knowledge of the facts set forth herein, and am competent to testify to the same.
2. In the preparation of this declaration, I have studied:
  - a. Blasse & Grabmaier, LUMINESCENT MATERIALS, 1994 (“Blasse”), Ex. 1016;
  - b. MARC record for Blasse, Ex. 1045;
  - c. O’Mara, LIQUID CRYSTAL FLAT PANEL DISPLAYS, 1993 (“O’Mara”), Ex. 1017;
  - d. MARC record for O’Mara, Ex. 1046;
  - e. Rossotti, COLOUR: WHY THE WORLD ISN’T GREY, 1983 (“Rossotti”), Ex. 1023;
  - f. MARC record for Rossotti, Ex. 1047;
  - g. Nakamura et al., “High-power InGaN single-quantum-well-structure blue and violet light-emitting diodes,” *Appl. Phys. Lett.*, 67, 1868-1870 (Sept. 1995) (“Nakamura I”), Ex. 1015;

- h. Nakamura et al., “Candela-class high-brightness InGaN/AlGaIn double-heterostructure blue-light-emitting diodes,” *Appl. Phys. Lett.*, 64, 1687-1689 (Mar. 1994) (“Nakamura II”), Ex. 1024; and
- i. Hoffman, “Improved color rendition in high pressure mercury vapor lamps,” *Journal of the Illuminating Engineering Society*, vol. 64, no. 2, January 1977 (“Hoffman”), Ex. 1021.

3. I was asked to investigate each of the above references to determine the earliest date that they were publicly available, and specifically, to determine whether they were published and accessible to the public before July 29, 1996. I have also been asked to render an opinion as to whether Exs. 1015, 1016, 1017, 1021 and 1023 are true and correct copies of the references as they were originally published. This declaration sets forth my findings, as well as the bases for those findings.

## **I. BACKGROUND AND QUALIFICATIONS**

4. My background in library & information science, and in electrical & computer engineering, qualifies me to opine on the public availability of the above references. The following is a summary of some of the relevant

experience I have acquired over recent years. My full CV is attached to this declaration as Appendix A.

5. I am being compensated at the rate of a one-time \$500 fee plus \$100-per-hour after the first 5 hours, with reimbursement for actual expenses, for my work related to this Petition for Inter Partes Review. My compensation is not dependent on and in no way affects the substance of my statements in this Declaration.

6. I earned a Master of Science in Electrical & Computer Engineering in 2005 and a Master of Library & Information Science (MLIS) from the University of Pittsburgh in 2009. I have over six years of experience in the library and information science field.

7. I have served as a Councilor-at-Large for the American Library Association (ALA) and Member Services Director for ALA's New Members Roundtable. In 2012, I was named an ALA Emerging Leader. I have taught a graduate course for the University of Maryland's College of Information Studies and given guest lectures to graduate students in library and information science at other schools; I also have given presentations to librarian and technologist audiences at the state, national, and international level.

**II. LIBRARY CATALOGING USING MARC**

8. In general, libraries make purchases of newly published books throughout the year as the books are published, and libraries then catalog and shelve the books as soon thereafter as possible in order to make the books available to their patrons. Thus, books are typically generally available at libraries across the country within just a few days of publication and arrival in the library.

9. I am fully familiar with a library cataloging standard known as the “Machine Readable Cataloging” standard, also known as “MARC,” which is an industry-wide standard method of organizing library catalog information. MARC was first developed in the 1960s by the Library of Congress. A MARC-compatible library is one that has a catalog consisting of individual MARC records for each of its items. Today, MARC is the primary communication protocol for the transfer and storage of bibliographic metadata in libraries.

10. When an Online Computer Library Center (OCLC) participating institution acquires a work, it creates a MARC record for this work in its computer catalog system, and the computer catalog system automatically

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