

Instructions for nominees: The Senate Committee on Commerce, Science, and Transportation asks you to provide typed answers to each of the following questions. It is requested that the nominee type the question in full before each response. Do not leave any questions blank. Type "None" or "Not Applicable" if a question does not apply to the nominee. Return printed answers to Committee. Begin each section (i.e., "A", "B", etc.) on a new sheet of paper.

A. BIOGRAPHICAL INFORMATION AND QUALIFICATIONS

1. Name (Include any former names or nicknames used):

Walter G. Copan

2. Position to which nominated:

Under Secretary of Commerce for Standards and Technology /
Director, National Institute of Standards and Technology (NIST)

3. Date of Nomination:

4. Address (List current place of residence and office addresses):

[REDACTED]

5. Date and Place of Birth:

WGC: February 26, 1954 in Bronxville, NY

6. Provide the name, position, and place of employment for your spouse (if married) and the names and ages of your children (including stepchildren and children by a previous marriage).

WGC: Spouse, Mary Lynn Copan, is a homemaker.

Children: Elizabeth M. Copan (age 34)
Alexandra H. Copan (age 31)
Marissa E. Copan (age 28)

7. List all college and graduate degrees. Provide year and school attended.

WGC: BS/BA Chemistry & Music dual degree, 1975 - Case Western Reserve University.

Ph.D. Physical Chemistry, 1982 - Case Western Reserve University.

8. List all post-undergraduate employment, and highlight all management-level jobs held and any non-managerial jobs that relate to the position for which you are nominated.

WGC: All of these roles listed in my professional background relate to the position of Director of the National Institute of Standards and Technology. Since 1983, all the positions held were management roles. Whether the positions involved executive leadership of technology-focused companies and organizations, analysis and measurements related to standards across a range of industries and technology domains, innovation leadership, technology transfer, research & development, new product development and commercial introduction, advanced manufacturing and process control technologies, quality systems development and implementation, economic development and/or commercialization - these all connect directly to the work and mission of NIST.

PRESIDENT & CEO, BOARD DIRECTOR, IP Engineering Group Corporation,
Monument, Colorado, Jan 2015 - present

FOUNDING BOARD MEMBER & DIRECTOR, TECHNOLOGY TRANSFER and INNOVATION,
Rocky Mountain Innovation Partners, Colorado Springs, Colorado, 2014 - present

FOUNDING CEO & CHAIRMAN OF THE BOARD, Impact Engineered Wood Corporation, Silicon Valley, California, May 2015 - June 2017

ADVISOR & MANAGING DIRECTOR, TECHNOLOGY TRANSFER, Tekcapital plc,
Oxford, U.K., 2014 - present

PRESIDENT, Copan Associates, LLC, and MANAGING DIRECTOR, EnergyInsight, LLC, Monument, Colorado, 2009 - present

PRESIDENT, TAEUS Corporation, Colorado Springs, Colorado, 2013-2014

MANAGING DIRECTOR, TECHNOLOGY COMMERCIALIZATION & PARTNERSHIPS, Brookhaven National Laboratory (BNL), Upton, New York, 2010 - 2013

EXECUTIVE VICE PRESIDENT AND CHIEF TECHNOLOGY OFFICER, Clean Diesel Technologies, Inc. (CDTI), Bridgeport, Connecticut, 2005-2010

PRINCIPAL LICENSING EXECUTIVE, TECHNOLOGY TRANSFER, National Renewable Energy Laboratory, U.S. Department of Energy, Golden, Colorado, 2003-2005

The following positions were held at The Lubrizol Corporation, Wickliffe, Ohio between 1998 and 2003.

MANAGING DIRECTOR, TECHNOLOGY TRANSFER AND LICENSING, 1999-2003

DIRECTOR, TECHNOLOGY STRATEGY & COMMERCIAL MANAGER, EUROPE, 1998-1999

DEPARTMENT HEAD, APPLICATION TECHNOLOGY / PHYSICAL & ANALYTICAL SCIENCES, 1993-1998

MANAGER, LUBRIZOL PETROLEUM CHEMICALS TECHNOLOGY, DERBYSHIRE, U.K., 1989-1993

The following positions were held at The Lubrizol Corporation, Wickliffe, OH between 1982 and 1989:

BUSINESS UNIT MANAGER, POLYMERS & VISCOSITY MODIFIERS, and TECHNOLOGY MANAGER, ENGINE LUBRICANTS, WICKLIFFE, OHIO, 1987 - 1989

GROUP LEADER - MOLECULAR SPECTROSCOPY, 1985 - 1987

GROUP LEADER - ANALYTICAL RESEARCH & COMPETITIVE INTELLIGENCE, 1983 - 1985

RESEARCH CHEMIST - POLYMER CHARACTERIZATION & PHYSICAL CHEMISTRY. 1982-1983

On academic leave of absence from Lubrizol Corporation to complete Ph.D. in Physical Chemistry at Case Western Reserve University: 1978-1982

The following positions were held at The Lubrizol Corporation, Wickliffe, OH between 1975 and 1978:

RESEARCH CHEMIST – COMPETITIVE INTELLIGENCE GROUP, 1977 – 1978

RESEARCH CHEMIST – PHYSICS & ANALYTICAL CHEMISTRY LABORATORY, 1975 – 1977

9. Attach a copy of your resume.

WGC: Please see Attachment 1 – WGCopan Resume 062017.

10. List any advisory, consultative, honorary, or other part-time service or positions with Federal, State, or local governments, other than those listed above, within the last ten years.

WGC: None.

11. List all positions held as an officer, director, trustee, partner, proprietor, agent, representative, or consultant of any corporation, company, firm, partnership, or other business, enterprise, educational, or other institution within the last ten years.

WGC: Please see all positions listed from 2005 to the present in my response to question 8, above.

12. Please list each membership you have had during the past ten years or currently hold with any civic, social, charitable, educational, political, professional, fraternal, benevolent or religious organization, private club, or other membership organization. Include dates of membership and any positions you have held with any organization. Please note whether any such club or organization restricts membership on the basis of sex, race, color, religion, national origin, age, or handicap.

WGC: Licensing Executives Society (Member, 1997 to present)
American Chemical Society (Member, 1975 to present)
Association of University Technology Managers (Member, 2000 to present)

Federal Laboratory Consortium for Technology Transfer (National Advisory Council, 1998 – 2003; and Member, 1998 – 2005; 2010 – 2013)
Industrial Research Institute (Member representative from Lubrizol Corporation, 1994 – 2003; Member representative from Brookhaven National Laboratory, 2010 - 2013)
Innovators International (Representative on behalf of US Department of Energy, 2012 – 2013)
National Business Incubation Association (Member, 2001 – 2005; 2010 – present)
Society of Automotive Engineers (Member, 1983 – 2003; 2005 – 2010)
Manufacturers of Emission Controls Association (Member representative from Clean Diesel Technologies, Inc., 2005 – 2010)

Licensing Executive Society (LES) — Member, Executive Board (2003 – 2011) and Vice President for LES U.S.A. (2006 – 2011)
LES Board of Trustees, Chair – Strategic Planning (2006 – 2010)
LES Board of Trustees, Co-Chair - Mentorship Program and The Frank Barnes Mentorship Award Committee (2003 – 2011)
LES International (LESI) – International Delegate representing LES USA & Canada (2004 – 2011)
Vice-chair – LES International (LESI) External Relations committee (2009 – 2012)
Chair – LES Cleantech Committee (2011 – 2012)
Chair – LES (USA-Canada) Annual Meeting Committee (2006 – 2008)
Chair – LES (USA-Canada) Industry/University and Government Laboratories Transactions Sector (2001-2002)
Chair LESI Industry / University and Government Transactions Sectors (2002 – 2005)
Chair – LES (USA-Canada) Energy, Chemicals, Petrochemicals, Polymers and Allied Industries Sector (2002 – 2004)
Chair - LESI Chemicals, Energy, Environment and Materials Sector (2005 – 2008).

LES Chair, Joint Task Force with the Association of University Technology Managers (AUTM) on Academia-Industry Relations, and LES Board liaison with AUTM (2008-2010).

Founding partner and member of the Board of “Accelerate Long Island” Alliance for innovation, new business creation, investment and economic development (New York, 2010-2013)

Chair – Battelle Commercialization Council (Battelle Memorial Institute / U.S. Department of Energy National Laboratories, 2011-2012)

Member - U.S. Department of Energy Technology Transfer Working Group, Chair – Technology Transfer Mechanisms and Metrics (2012-2013)

None of these organizations restricts membership on the basis of sex, race, color, religion, national origin, age, or handicap.

13. Have you ever been a candidate for and/or held a public office (elected, non-elected, or appointed)? If so, indicate whether any campaign has any outstanding debt, the amount, and whether you are personally liable for that debt.

WGC: No.

14. Itemize all political contributions to any individual, campaign organization, political party, political action committee, or similar entity of \$500 or more for the past ten years. Also list all offices you have held with, and services rendered to, a state or national political party or election committee during the same period.

WGC: None.

15. List all scholarships, fellowships, honorary degrees, honorary society memberships, military medals, and any other special recognition for outstanding service or achievements.

WGC: Honored by Case Western Reserve University as the University's Distinguished Alumnus of the Year (May, 2008).

Battelle Memorial Institute Leadership Award, 2012 for service to the U.S. Department of Energy stakeholders in the development and implementation of the new technology transfer mechanism "Agreements for Commercializing Technology (ACT)".

Battelle Memorial Institute Outstanding Service Award as Chair of the Battelle Commercialization Council with the US Department of Energy National Labs (2011-2012).

Recognition Awards from the World Intellectual Property Organization (WIPO) for service in support of global innovation and training for successful technology licensing (2004 – 2014).

Listed in "Who's Who in U.S. Business," "Who's Who in Science and Technology," and Licensing Executives Society International "Who's Who in Global Licensing".

Recipient of Licensing Executives Society Distinguished Service Award in October 2010 for contributions and leadership roles in this professional society:

2003-2010 Board of Trustees; 2004-2010 LESI International Delegate; 2006-2010 Regional Vice President LES USA; 2005-6 Vice President - Member Interests; 2003-2005 Co-Chair Mentoring Committee; 2002-2004 Chair - Energy, Chemicals, Petrochemicals, Polymers and Allied Industries Sector; 2001-2002 Chair - Industry/University and Government Laboratories Transactions Sector

Recipient of Licensing Executives Society Service Awards in each year between 2001 and 2012 for committee and sector leadership, regional and annual meeting committee leadership, and Board of Directors committee leadership.

Lubrizol Corporation Commercial Development Award, 1997.

Lubrizol Corporation Innovation Award, 1995.

Lubrizol Corporation Recognition Award for Mergers & Acquisitions (Specialty Chemicals), 1994.

European Chemical Industry (CEFIC) Leadership Award for leading the Additive Technical Committee task force to document and analyze the environmental impacts of the transportation sector in Europe, 1991-1993.

Lubrizol Business Development Pioneer Award, for contributions leading to the launch of the Paints, Coatings and Inks business unit, 1987-1988.

Lubrizol Research & Development Recognition Award, for service as Founder and Chair of the Lubrizol Technical Symposium, 1985.

Lubrizol Corporate Service Recognition Awards, for service as Founder and Director of the "Lubrizol Choral" from 1976 to 1988.

Reviewer for American Chemical Society journal "Macromolecules," 1984-1988.

Case Western Reserve University:
Graduate Alumni Fund Award, 1981.

Graduate Teaching Award, 1979.
Undergraduate Presidential Scholar, 1971.

16. Please list each book, article, column, or publication you have authored, individually or with others. Also list any speeches that you have given on topics relevant to the position for which you have been nominated. Do not attach copies of these publications unless otherwise instructed.

WGC: Please see Attachment 2 - WGCopan Publications and Presentations Summary 062017.

17. Please identify each instance in which you have testified orally or in writing before Congress in a governmental or non-governmental capacity and specify the date and subject matter of each testimony.

WGC: None.

18. Given the current mission, major programs, and major operational objectives of the department/agency to which you have been nominated, what in your background or employment experience do you believe affirmatively qualifies you for appointment to the position for which you have been nominated, and why do you wish to serve in that position?

WGC: I believe that I am the right person to lead NIST at this time, and I'm pleased that the Department of Commerce and the Administration have recognized this strong fit. Leading NIST to the next level is my stated and deeply-felt goal. I will bring to NIST the benefit of my experience, insights and talents developed throughout my lifetime and across a broad, diverse career path to this point. This background has spanned success in large company, entrepreneurial small company, US federal laboratory, public and non-profit organization, educational and investment sector settings in the US and internationally.

I have been familiar with NIST, and have engaged with the NIST people, technologies, materials and programs throughout my career. I hold NIST in highest regard, as the national treasure upon which the country and our economy rely. NIST is at the heart of the US innovation system, supporting the whole of the US economy and our global leadership and competitiveness. As a scientist, first and foremost, I believe that NIST has an essential role that must continually adapt its capabilities, people and programs as economic dynamics and science & technology advance and change globally.

My own PhD studies were in a multidisciplinary setting, requiring partnerships, creative access to resources, and bold leadership of the project and its many interfaces to achieve success. I was the first graduate student in my class to complete the PhD program – through the dissertation, defense and graduation. I credit, in part, my background in business and industrial research & development for having equipped me with both the skills and determination to accomplish this outcome. This experience, having a clear focus on the goal and embracing collaborations to achieve it, have remained with me as important life lessons.

I care deeply about the mission of NIST and recognize clearly the scientific integrity, skills and capabilities needed to do its work. I believe that, with my strong background in science & technology, innovation, technology transfer, intellectual property and international business, that I will be an effective contributor to advance NIST, as well as the goals of the Department of Commerce.

NIST is an organization whose mission, capabilities and contributions enjoy broad support. I also bring a proven track record of achieving a positive difference while in the US federal laboratory system and as an advisor to the federal labs, to improve their effectiveness and impacts for the US economy. The technology transfer expertise and experience that I bring will also serve the Department of Commerce and our federal laboratory system well, as I take on the role of NIST Director. My goal is to serve NIST and our nation with distinction, and to support NIST in continuing to accomplish great things for America.

19. What do you believe are your responsibilities, if confirmed, to ensure that the department/agency has proper management and accounting controls, and what experience do you have in managing a large organization?

WGC: It will be my responsibility, upon confirmation to the position of Under Secretary and as Director of NIST, to ensure all appropriate management and accounting controls are in place, and effectively serving the requirements of NIST and stakeholders. I will review the NIST organization, systems and reporting functions, assessing their effectiveness, and will ensure that any necessary changes are made appropriately, with stakeholder inputs.

A significant portion of my career has involved executive organizational leadership with full budgetary authority, profit & loss responsibilities, and accountability for all essential functions of the

organization. These responsibilities applied as I led a range of business units and functional organizations with over 400 personnel in large company settings (Lubrizol Corporation), in small companies with up to 50 employees and over 500 contract expert staff (including Clean Diesel Technologies Inc. and TAEUS Corp.), in the Department of Energy system at Brookhaven National Laboratory, and in startup companies such as the IP Engineering Group Corporation and Impact Engineered Wood Corp. I have had fiscal oversight and accountability as a Board member of multiple corporations and many non-profit organizations. My involvement in mergers & acquisitions as well as in venture capital investments during my career has further allowed me to develop a solid understanding of organization financials and forecasting, valuation and negotiations. This broad background translates directly to the responsibilities and understanding required of the Director of NIST.

20. What do you believe to be the top three challenges facing the department/agency, and why?

WGC: (1.) Program Integrity: It is critically important to maintain and develop the essential capabilities of NIST to effectively carry out its mission, while addressing the realities of budgetary allocations and constraints. This is a key challenge area that needs to take into account strategic national priorities.

(2.) U.S. Cybersecurity Integration: NIST has a major role in the cybersecurity of our nation. Although the latest NIST Cybersecurity Framework (CSF) has been issued and new standards are being adopted, there is much work to be done. Not only does the CSF need to be adopted and integrated effectively across the Federal complex, but it needs to be adapted with a range of solutions for US businesses and the non-profit sector. Small US companies are at significant risk from cyberattacks. However, the CSF together with the related standards are most applicable to larger organizations with greater access to funding and resources. This gap needs to be addressed for smaller enterprises, which contribute significantly to US economic growth and employment.

(3.) Addressing Emerging Requirements for U.S. Industry and International Competitiveness: As technologies and markets develop at ever-accelerating rates, NIST must adjust to address the increased demand for measurement science solutions. This is challenging to achieve both in terms of access to budget and to the necessary

capabilities. NIST supports US industrial competitiveness through measurements for standards setting, enabled by fundamental science and technology understanding, as well as by measurement capabilities, expertise and facilities. In doing so, NIST has a strong history of collaboration with industry, standards organizations and government agencies. Collaborative approaches are an essential and expanding part of delivering measurement solutions to growth areas including advanced communications, bioscience, resilient infrastructure, next generation computing, etc. The organization needs access to the required talent pool and resources, both directly and through new partnerships. To even more effectively do its work in the future, the NIST organization can expand its available "tool kit" of mechanisms for transactions, partnerships and technology transfer in accomplishing its mission and programs.

B. POTENTIAL CONFLICTS OF INTEREST

1. Describe all financial arrangements, deferred compensation agreements, and other continuing dealings with business associates, clients, or customers. Please include information related to retirement accounts.

WGC: I have already resigned as Chairman and Founding CEO of Impact Engineered Wood Corporation, effective June 14, 2017. In accordance with the Ethics Agreement I have entered with the Department of Commerce on June 22, 2017 I will resign the following positions immediately upon confirmation:

- President and CEO, and Board Director of IP Engineering Group Corporation.
- Board Director of Rocky Mountain Innovation Partners [501(c)(3)] .
- Advisor & Vice President - Technology Transfer, Tekcapital plc.

The payment of deferred compensation from the time of my employment with IP Engineering Group Corp. and Impact Engineered Wood Corp., or indeed any other payment for my services from any of these organizations listed that are not received by the date I assume the duties of the position of Under Secretary will be forfeited. I will also forfeit the potential value of the shares of the following companies of which I was founder and significant investor: IP Engineering Group and Impact Engineered Wood. My consulting companies (Copan Associates LLC and EnergyInsight LLC) have been inactive since March 1, 2015 as I focused on establishing the other companies and the non-profit organization. These consulting companies will be inactive during the time of my government service. I will have no ongoing business interactions with customers, clients or business associates from any of these companies during the time of my government service. These commitments are described in more detail in the Ethics Agreement referred above.

I do not have defined benefit retirement plans from former or current employers. My financial disclosure form OGE 278e submitted and approved in June 2017 details the assets I have in personal retirement accounts, including those in my IRAs and in the 401(k) and other defined contribution retirement accounts I had with former employers – The National Renewable Energy Laboratory and Brookhaven National Laboratory.

The following table summarizes these arrangements.

#	EMPLOYER OR PARTY	City, State	Status and Terms	Starting Date
1	Impact Engineered Wood Corporation	Campbell, California	Will forfeit company stock within 90 days of confirmation and will forfeit deferred compensation unless received prior to entering government service. No continuing benefits or involvement after confirmation as Under Secretary	5/2015
2	IP Engineering Group Corporation	Monument, Colorado	Will forfeit company stock within 90 days of confirmation and will forfeit deferred compensation unless received prior to entering government service. No continuing benefits or involvement after confirmation as Under Secretary	1/2015
3	Brookhaven Science Associates	Upton, New York	I will continue to participate in this defined contribution plan, but the plan sponsor no longer makes contributions.	4/2010
4	National Renewable Energy Laboratory	Golden, Colorado	I will continue to participate in this defined contribution plan, but the plan sponsor no longer makes contributions.	6/2003
5	Copan Associates LLC / EnergyInsight LLC	Monument, Colorado	These entities will be maintained in good standing with the State of Colorado, and will be inactive while I am in government service.	8/2009

2. Do you have any commitments or agreements, formal or informal, to maintain employment, affiliation, or practice with any business, association or other organization during your appointment? If so, please explain.

WGC: None.

3. Indicate any investments, obligations, liabilities, or other relationships which could involve potential conflicts of interest in the position to which you have been nominated.

WGC: In connection with the nomination process, I have consulted with the Office of Government Ethics and the Department of Commerce ethics officials to identify any potential conflicts of interest. Any potential conflicts of interest will be resolved in accordance with the terms of the ethics agreement that I have entered into with the Department of Commerce and has been provided to this Committee. I am not aware of any other potential conflicts of interest.

4. Describe any business relationship, dealing, or financial transaction which you have had during the last ten years, whether for yourself, on behalf of a client, or acting as an agent, that could in any way constitute or result in a possible conflict of interest in the position to which you have been nominated.

WGC: As I had also indicated in my response to B.3, in connection with the nomination process, I have consulted with the Office of Government Ethics and the Department of Commerce ethics officials to identify any potential conflicts of interest. Any potential conflicts of interest will be resolved in accordance with the terms of the ethics agreement that I have entered into with the Department of Commerce and has been provided to this Committee. I am not aware of any other potential conflicts of interest.

5. Describe any activity during the past ten years in which you have been engaged for the purpose of directly or indirectly influencing the passage, defeat, or modification of any legislation or affecting the administration and execution of law or public policy.

WGC: None.

6. Explain how you will resolve any potential conflict of interest, including any that may be disclosed by your responses to the above items.

WGC: As also indicated in my responses to B.3 and B.4 above, in connection with the nomination process, I have consulted with the

Office of Government Ethics and the Department of Commerce ethics officials to identify any potential conflicts of interest. Any potential conflicts of interest will be resolved in accordance with the terms of the ethics agreement that I have entered into with the Department of Commerce and has been provided to this Committee. I am not aware of any other potential conflicts of interest.

C. LEGAL MATTERS

1. Have you ever been disciplined or cited for a breach of ethics, professional misconduct, or retaliation by, or been the subject of a complaint to, any court, administrative agency, the Office of Special Counsel, professional association, disciplinary committee, or other professional group?

WGC: No.

If yes:

- a. Provide the name of agency, association, committee, or group;
 - b. Provide the date the citation, disciplinary action, complaint, or personnel action was issued or initiated;
 - c. Describe the citation, disciplinary action, complaint, or personnel action;
 - d. Provide the results of the citation, disciplinary action, complaint, or personnel action.
2. Have you ever been investigated, arrested, charged, or held by any Federal, State, or other law enforcement authority of any Federal, State, county, or municipal entity, other than for a minor traffic offense? If so, please explain.

WGC: No.

3. Have you or any business or nonprofit of which you are or were an officer ever been involved as a party in an administrative agency proceeding, criminal proceeding, or civil litigation? If so, please explain.

WGC: Yes, involved in one matter to collect compensation due me from TAEUS International Corporation / TAEUS Corp. (Colorado Springs, CO). This arbitration process went through the discovery phase, and before arbitration proceedings were scheduled to begin, a fairly satisfactory settlement was offered to me and accepted in April 2016.

Lubrizol VS Exxon patent litigation: Early in my career at Lubrizol Corporation, the company's competitive intelligence team which I led in corporate Research & Development discovered that Exxon allegedly infringed one of Lubrizol's core patents (U.S. Patent 4,234,435 and foreign equivalents). I provided documents and deposition

statements in this matter. After extensive litigation in the US and abroad, this case ultimately settled.

<https://www.icis.com/resources/news/1999/04/01/77455/lubrizol-exxon-settle-patent-litigation/>

4. Have you ever been convicted (including pleas of guilty or *nolo contendere*) of any criminal violation other than a minor traffic offense? If so, please explain.

WGC: No.

5. Have you ever been accused, formally or informally, of sexual harassment or discrimination on the basis of sex, race, religion, or any other basis? If so, please explain.

WGC: No.

6. Please advise the Committee of any additional information, favorable or unfavorable, which you feel should be disclosed in connection with your nomination.

WGC: A former Director of NIST has told me that I was likely the best candidate ever to be nominated to serve as the Director of NIST. He said this because of my broad background in science and technology, innovation and technology transfer, a history of working effectively with the US Federal Labs, and my cross-sector industry and leadership experience.

D. RELATIONSHIP WITH COMMITTEE

1. Will you ensure that your department/agency complies with deadlines for information set by congressional committees?

WGC: Yes.

2. Will you ensure that your department/agency does whatever it can to protect congressional witnesses and whistle blowers from reprisal for their testimony and disclosures?

WGC: Yes.

3. Will you cooperate in providing the Committee with requested witnesses, including technical experts and career employees, with firsthand knowledge of matters of interest to the Committee?

WGC: Yes.

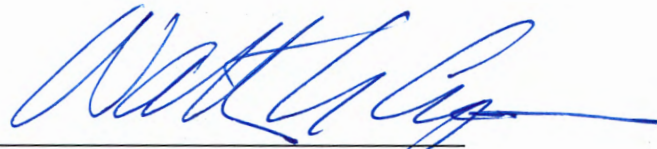
4. Are you willing to appear and testify before any duly constituted committee of the Congress on such occasions as you may be reasonably requested to do so?

WGC: Yes.

(Nominee is to include this signed affidavit along with answers to the above questions.)

F. Affidavit

WALTER G. COPAN being duly sworn, hereby states that he/she has read and signed the foregoing Statement on Biographical and Financial Information and that the information provided therein is, to the best of his/her knowledge, current, accurate, and complete.



Signature of Nominee

Subscribed and sworn before me this 18th day of Sept, 2017.

Barbara A. Murnane

Notary Public

BARBARA A. MURNANE
NOTARY PUBLIC DISTRICT OF COLUMBIA
My Commission Expires April 30, 2018