## General Information

All County Board and Commission members must be residents of Los Alamos County. Lodgers' Tax Advisory Board members, except the at-large community member, do not need to be residents if they are employed/represent an attraction or hotel.

Once a resident fills out and submits this application, an interview is scheduled with the $B \& C$ 's County Council liaison, the relevant staff liaison, and the B\&C Chair. After the interviews, the applicants' names are presented to the full Council during a regularly scheduled Council meeting, where a vote is taken regarding the appointment of each applicant. Each applicant will be notified if they are appointed or not.

Only on-line applications will be considered.
If you are interested in applying for Labor Relations Board, please contact Mary Tapia at 505-662-8040.

## Profile

## Board and Commision Application

Note: Please be aware that as a public entity, the County of Los Alamos, is obligated to furnish this information to the public if requested. Note also that current LANL employees, if appointed to a Board or Commission, may be required by LANL to complete a 701 form.

## Which Boards would you like to apply for?

Board of Public Utilities: Submitted


## Registered to vote in Los Alamos?

- Yes O No

Party affiliation as registered: (Select one of the following) *
$\nabla$ Democrat
24.4 years

How did you learn of this Board/Commission vacancy?
a Board Member
Do you currently serve on any County Board or Commission?
© Yes © No
If yes, which one? (Los Alamos County law prohibits residents from serving concurrently on more than one County board except as expressly approved in writing by the County Council before the appointment is made.)

## Community Service

List boards, commissions, committees, and organizations on which you are currently serving or have served. Include any offices held.
A. American Chemical Society (ACS) Service: (1) ACS Councilor -- Colloid and Surface Chemistry (COLL) Division (nationally elected position: 2016-2018, 2019-2021, 2022-2024);
(2) COLL Executive Committee Member (2016-24); (3) ACS Committee on Divisional Activities Member (DAC; 2018-25); (4) Co-Chair, DAC Technical Programming \& Collaboration Subcommittee (2018-22); (5) Chair, DAC Strategies, Operations \& Program Enhancement Subcommittee (2022-24); (6) Chair, DAC Convergent Chemistry Community (CCC) Working Group (2022-23); (7) Liaison, DAC to Committee on Science (ComSci, 202325); (8) Co-Organizer, COLL Nanomaterials Symposium (2018-25); (9) ACS Future of Meetings Task Force Working Group Member (2019-24). B. Editorial and Advisory Boards: (1) Nano Letters (journal) Editorial Advisory Board (01/20-12/22); (2) Small Science (journal) International Advisory Board (2022-present); (3) National Science Foundation (NSF) Center for Integration of Modern Optoelectronic Materials on Demand External Advisory Committee (2022-present). C. Started a Los Alamos Jane Goodall Roots and Shoots Chapter for young children -- led various educational and volunteer activities, including visiting an Albuquerque solar panel installation company and one of their larger installations, then a private home in Santa Fe with solar, wind and battery installations. D. LANL examples of extended/recurring service activity: Center for Nonlinear Studies (CNLS) Executive Committee Member (2013present); Chair, LANL Director's Colloquium Selection Committee (2013-2020); Laboratory Directed Research \& Development (LDRD) Directed Research (DR) and Exploratory Research (ER) review panels/planning, including current member of the Emergent Materials Behavior ER committee, Chair of the LDRD ER Seedling Review Panel (2022), Chair of the Chemistry ER Review Panel (2007-09), DR Strategy Team Member (2018-2019), ER Refresh (strategic planning) Committee (2021), etc.; Various LANL award and hiring committees, e.g., LANL Medal Screening Committee (2017), Fellows Screening Committee (2011, 2017), hiring committees for Center for Integrated Nanotechnologies Director, Co-Director, Materials Physics \& Applications Division Leader, CNLS Director, etc.

## Employment and Education

--Laboratory Fellow: LANL, 2016-present --Thrust Leader, Nanophotonics \& Optical Nanomaterials (NPON): LANL Materials Physics \& Applications (MPA) Division, Center for Integrated Nanotechnologies (CINT), 2018-present --Technical Staff Member, Scientist 5: LANL MPA Division, 2015-present --Technical Staff Member, Scientist 4: LANL MPA Division, 2010-15 --Technical Staff Member, Scientist 4: LANL Chemistry Division, 2006-10 --Technical Staff Member: LANL Chemistry Division, 2001-06 --Director's Funded Postdoctoral Fellow: LANL Chemistry Division, 1999-2001

List your current and past education including any professional or vocational licenses or certificates.

--Postdoc, 1999-2001, Nanomaterials Chemistry, LANL, Los Alamos, NM --PhD, 1999, Inorganic Chemistry, Washington University, St. Louis, MO --BA, 1992, Chemistry (Phi Beta Kappa), Grinnell College, Grinnell, IA

## Interests \& Experiences

## Why would you like to serve on this particular Board or Commission?

I am interested in serving on the Los Alamos Board of Public Utilities (BPU) because it directly engages issues critical to the future of our town and region - energy (electricity and gas) and water/wastewater. As an early career chemist, between college and graduate school, I worked at a wastewater-treatment plant (sample testing), gaining direct experience with the least glamorous aspect of the BPU's duties. As a consumer, my family and I have made choices guided by the desire to reduce our carbon footprint, including purchasing two electric vehicles and installing rooftop solar. As a LANL scientist, I pursue "use-inspired" basic research in materials science, which has included leading programs on understanding the effect of a nanomaterial's dimensionality (e.g., zero-dimensional quantum dots versus one-dimensional nanowires) on solar cell efficiency (a topic I first worked on in graduate school as a NASA Fellow funded for self-initiated research in nanostructured solar cells), developing light-emitting nanomaterials for efficient white-light light emitting diodes (LEDs) for advancing solid-state lighting [5-year program funded by the DOE Office of Energy Efficiency and Renewable Energy (EERE)], and, most recently, targeting more-efficient light sources (classical and quantum) for low-energy optoelectronics toward addressing the growing need for low(er)-energy information processing and communications, e.g., reducing the energy-impact of large data centers. Thus, both personally and professionally I have engaged in topics relevant to this board. That said, I have a lot to learn and would relish the opportunity to dive deeply into the issues that BPU engages. I am intrigued by the nexus of science/technology and public policy/city planning-management, and I would be grateful for the opportunity to contribute my skills as a scientist, communicator and leader to researching problems and identifying solutions. As I describe below, I have extensive experience as a volunteer for the American Chemical Society, through which I have led initiatives centered around community building. I would bring this interest and skill to the BPU by emphasizing positive interactions across the DPU to the BPU to the County Council. I would also like to encourage more engagement with the Los Alamos Community via information sharing and education opportunities, as well as working with relevant partners, e.g., the County Conservation Coordinator and PEEC.

What would you like to accomplish during your tenure on this Board or Commission? (Please identify any special interests you have that led you to become interested in serving on this Board or Commission.)

Los Alamos County's goal to achieve net carbon neutral electricity by 2040 is the key issue that led me to this Board. As electricity is one of the four areas under the Board's purview, it will clearly play a leading role in defining the strategy for meeting this objective. I understand that a big step toward achieving this important and ambitious goal is the Foxtail Flats large-scale solar and battery storage project---paired with transmission infrastructure. With Foxtail Flats, solar-generated electricity will account for the majority of the County's electricity (R. Gibson, LA Daily Post, March 28, 2024). I would like to contribute to the Board's stewardship of this process (completion in two years). In addition, to enable the complete transition to clean-sourced electricity, I would like to revisit nuclear energy options, as well as geothermal and wind, especially to ensure that flexibility is built into the future system. I would also like to contribute to identifying solutions for transmission, storageinfrastructure and source-variability issues. In addition to large-scale energy projects, I would like to help define the role for rooftop solar, including issues unique to this class of "producer" that may defy purely economic considerations. Finally, of the County's emissions sources (not including LANL), electricity comprises only $22 \%$ versus $33 \%$ from natural gas and $38 \%$ from passenger/freight vehicles (LAC Climate Action Plan, Community Meeting, April 2, 2024). Thus, to further reduce greenhouse gas emissions, houses and vehicles need to electrify, requiring even more creativity in identifying new sources of clean electricity, but also addressing other issues - e.g., education of the Community about options for home electrification, such as heat pumps, and better charging infrastructure. These are specific tasks that I would like to accomplish as a member of the BPU.

Have you had any direct or indirect involvement with this Board or Commission or with the County staff supporting this Board or Commission or County Councilors? If so, please explain.

I have had two interactions (2020/21 and 2024). In 2020, I successfully petitioned LAC DPU for a variance to allow installation of a 13 kW DC array, i.e., 3 kW above the 10kW DC residential limit. The issue was that our proposed 13 kW system would only produce (per calculations) 10 kW due to orientation of the panels (which were to be installed mostly on our west-facing roof; i.e., the County rule did not allow a system design to take into account the actual-derated-output resulting from azimuth angle and tilt angle of the array). I discussed how the inverter for the proposed system would not put out more than 10 kW , but would (due to "oversizing") be able to put out 10 kW more often. In addition, I discussed that our "historical usage" was not an adequate predictor of our future use, given that we intended to purchase multiple EVs (which we since have). In the process, I emailed with Philo Shelton (LAC Utilities Manager) and then Stephen Marez (Electrical Engineering Manager, LAC DPU), and was ultimately successful in obtaining the variance. I certainly appreciated their willingness to engage and their flexibility in addressing the queries. After array installation, I emailed with Alan Horton (~January, 2021) regarding scheduling net meter installation for our new solar system. Most recently (2024), I participated in the BPU meeting discussion pertaining to the proposed changes to the DPU's interconnection rule.

What volunteer or professional activities have you participated in that could apply to this appointment?

I have extensive experience as a volunteer for the American Chemical Society (ACS). I have been elected three times to a national position as Councilor for one of ACS's technical divisions -- Colloid and Surface Chemistry (COLL). I have also served on the Divisional Activities Committee (DAC), which is part the Society's governance structure, and through which I have been Chair or Co-chair of several subcommittees and working groups. Thus, to date, my primary volunteer activities have been outside of the County and not directly related to the topic of community utilities. However, I am very interested in transitioning my focus closer to home and applying the 'committee skills' that I have developed through ACS service (as well as LANL and other board service -- see above) to service on the LAC BPU. Specifically, through the COLL Division Executive Committee, I have participated in developing and making decisions around Division activities: budget, programming, membership, communications, word-smithing COLL mission statement, etc. Through DAC I have engaged in strategic planning for the committee, as well as for the ACS more broadly around the topics of all-ACS Future of Meetings (from initial Task Force to Working Group), which has culminated in major changes in the ACS national meeting structure in terms of achieving goals around reduced footprint and more impactful programming. Perhaps most significantly, I initiated efforts to address the need for ACS Members and Divisions to have a new way to organize communities around cutting-edge and multidisciplinary science, breaking Divisional silos (after witnessing two failed attempts by different groups to start new Divisions). I worked within my DAC Subcommittee and led a Working Group to define the Convergent Research (later Chemistry) Community platform, leading the concept through three pilot programs and, at the end of last year, to permanent, funded status. Thus, I am able to identify a problem, research and develop solutions, then lead implementation, which is likely applicable to service on the BPU. Finally, I have served in liaison roles between COLL and ACS and DAC and other ACS committees. I enjoy this aspect of committee work, as well, and could envision serving BPU in part by participating in the communication between BPU, DPU, County Council, the Community and other Stakeholders.

The time involved may be 10-15 hours per month or more. Are you able to serve the volunteer hours and attend training needed to perform your duties as an appointee?

Yes. As an experienced volunteer, I am aware of the time commitment that would be involved, and I am willing/able to serve the required hours.

Are there any issue or matters, financial or otherwise, that you are now or might become involved in that may come before the Board or Commission for which you seek appointment?

As a solar owner, I have a general interest in the proposed changes to the DPU's interconnection rule.

## General

Have you ever worked for Los Alamos County?
© Yes © No

If yes, please list dates and department.

Are you related to any employee of Los Alamos County?
o Yes © No

If yes, please indicate name and relationship.

Are you aware of any potential conflicts of interest in connection to your occupation or financial holdings in relation to your responsibilities as a member of the advisory body to which you seek appointment?
© Yes © No

If yes, please indicate any potential conflicts.

Are you aware of the time commitment necessary to fulfill the obligations of the Board or Commission to which you seek appointment?

- Yes o No

Can you commit to approximately 10-15 hours per month to this Board or Commission to prepare for and attend monthly meetings and training as needed?

- Yes o No

Are you willing to participate in Board and Commission meetings that are recorded and may be live-streamed?

- Yes o No

Are you willing to have your name listed on the County Boards and Commissions public webpage?

- Yes o No

If you have any questions, please contact Adrienne Lovato at 505-662-8293

