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Check out our website at:
<http://www.asqrrd.org/>



CHAIR'S NOTE

Dan Burrows

Chair, ASQ Reliability & Risk Division
d1c1b1@hotmail.com

Hello ASQ Reliability & Risk Division Members,

I hope that 2019 continues to go well for you in your professional and personal lives. It is hard to believe that Summer is almost over (for the northern hemisphere) and kids are back in school.

Speaking of back in school, the ASQ Reliability & Risk Division has some outstanding opportunities for you to learn and continue your professional development. The really big event for our division coming up is the Reliability, Maintenance, and Managing Risk Conference (RMMR) that we will be hosting as a division on October 15-16, 2019 in San Antonio, TX. We also offer a pre-conference course on the day before the conference on Oct 14th. Trevor Craney, Jim McLinn, Tim Gaens, JD Solomon, Jim Breneman, John Bowles, Rong Pan, and Dan Conrad have put together an outstanding program. Register at www.asqrd.org/RMMR

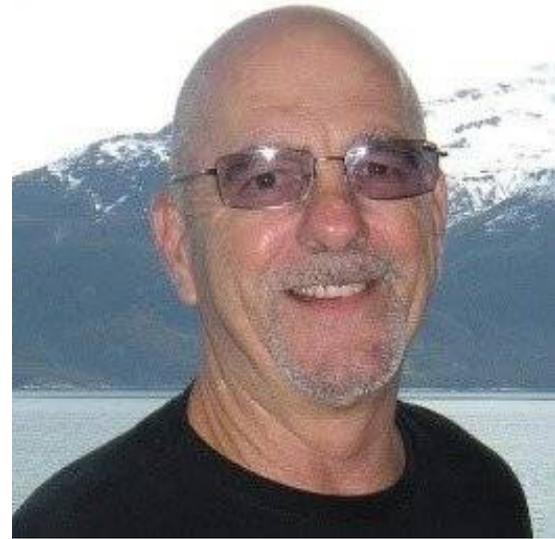
Next is the Reliability and Maintainability Symposium that is coming up January 27-30, 2020 in Palm Springs, CA. We also usually do a pre and/or post conference course too. And the ASQ Reliability & Risk Division represents the largest number of presenters and attendees at RAMS, so you will be among great company. Register at www.rams.org

School is in session for us Reliability and Risk Management types too!

The volunteers and member leaders of our Division keep the gears turning, so I do encourage you to volunteer in whatever ways you can. Please send me an email at d1c1b1@hotmail.com to let me know if you would like to volunteer and what aspects you are interested in supporting. For those of you who want to share some of your knowledge and expertise, a good start is to contact David Auda (David.auda@volvo.com) who coordinates our webinars. For those of you who are interested in communications, website, and social media, a good start is to contact Tim Gaens (tim@asqrrd.org).

Alfred Stevens – In memoriam

The reliability and quality communities lost a dear friend on June 17th. Alfred Stevens passed away while on travel doing one of the things that was his passion – supporting a conference. Alfred never “retired”. Instead, he worked diligently in whatever role would benefit the professional societies and activities that he supported. Alfred loved the IEEE RS, ASQ RRD, SRE, and RAMS and gave much of his life and talent serving in various leadership roles in each of these organizations. One of the things Alfred enjoyed most was conferences. At the time of his passing, Alfred was attending the IEEE Prognostics & Health Management Conference in San Francisco, which he helped organize.



Many of us found great joy working with Alfred organizing these events and seeing the passion he put into this work. Everyone knew that a conference was always in good hands whenever Alfred was involved. He had the talent, experience, and drive to ensure that any conference would be successful.

He supported each of the organizations in at least one leadership position and in some cases, more than one, including his current roles of SRE Treasurer, IEEE RS Treasurer, and several key positions on the RAMS BoD. In addition, he was the local Chapter Chair for two other organizations. Alfred never said “no” when asked to help. Alfred truly embodied the spirit of the quote “If you want something done, ask a busy person”.

Alfred held an MBA and Master of Engineering, EE from the University of South Carolina, and BS in Electrical Engineering from Clemson University. He was a huge Clemson fan, and wherever Alfred was you would be sure to find little Tiger paws nearby. He started his career with Lockheed Missiles & Space Co. on the Trident Submarines in Goose Creek, SC; served as an Officer in the Army Signal Corps in Vietnam; and followed Lockheed to the West Coast before spending the final decades of his career at the Kennedy Space Center in Florida, where he retired as Director, Florida Safety Advocate, United Space Alliance.

He always had an adventurous spirit—from SCUBA diving and windsurfing to dragging his family on weekend outings on logging roads through the Cascade Mountains of Washington State. He and his wife Livy traveled the world together and enjoyed visiting with friends from all over whenever they could.

Webinar Roundup!!

Upcoming ASQ RRD Webinars

1. Implementing DFMEAs and PFMEAs Using the new AIAG-VDA FMEA Handbook

Thu, Sept 12 2019 12:00 PM – 1:00 PM EDT

presenter: Richard Harpster

The new AIAG-VDA FMEA Handbook has now been officially released. The webinar will provide the following information:

History of software based VDA FMEA methodology which is the core FMEA methodology found in the handbook ...

2. Testing – Techniques and Examples – Structural Integrity

Thu, Oct 10, 2019 12:00 om EST, 1 hour

presenters: Timothy M. Hicks, PE and Roch J. Shipley, PhD, PE, FASM

The focus of this presentation will be to discuss the different aspects of structural integrity testing and to provide an overview of processes utilized to ensure a successful and safe design, to provide guidance to get it right the first time, avoiding any need for failure analysis.

3. Disponibilidad (Availability)

Sáb., 5 de Oct. de 2019 9:00 – 10:00 EDT

presenter: Jorge Romeu, Ph.D

En esta sesión Dr Jorge Romeu nos compartirá su conocimiento sobre este tópico esencial en mantener servicio y confianza. Independientemente si la organización presta un servicio, produce, o le otorga un producto la expectativa es satisfacer lo que se espera del producto o Servicio.

4. Deriving Safety from the Quality and Reliability disciplines

Thu, Dec 12, 2019 12:00pm EST 1 hour,

Safety is a topic that usually gets lots of attention when it fails. This webinar will discuss Unsafety. The objective of the webinar is to clarify the distinctions and dependencies between and among Safety, Reliability and Quality. Material content will include coverage of emerging tools/methodologies intent on improving the prevention of Unsafety in complex systems.

Webinar recordings and slides:

<https://www.asqrd.org/slides-and-video-of-software-fmea/>

<https://www.asqrd.org/slides-and-video-of-systems-theoretic-process-analysis/>

<http://www.asqrd.org/slides-and-video-of-how-aging-laws-influence-parametric-and-catastrophic-reliability-distributions/>

Calling all Webinar Authors!!

Dave Auda (davidauda@yahoo.com)

QE Best paper Award CALL FOR PAPERS!

\$1000 Annual Award for Best RELIABILITY Paper!

Quality Engineering is a technical journal of ASQ published by Taylor & Francis. It is directed to professionals in all engineering and management fields interested in quality and reliability improvement.

Continuing with the Reliability & Risk Division's mission to publish more technical papers with reliability topics, we have an ongoing call for reliability and risk related papers to be submitted to Quality Engineering. A special issue on Reliability Engineering has been scheduled for the 3rd issue of 2020 of Quality Engineering. All papers having at least one author as a member of the ASQ Reliability & Risk Division will be considered for our annual best paper award, which carries a \$1000 cash award and a plaque presentation at our annual banquet. Submissions should be made through <http://mc.manuscriptcentral.com/lqen>.



Congratulations to Nathaniel Stevens and Christine Anderson-Cook! Their paper entitled "Quantifying Similarity in Reliability Surfaces using the Probability of Agreement", published on the 3rd issue of 2017, has won the 2017-2018 ASQ RRD Best Reliability Paper Award.

For additional information, please contact the ASQ RRD Best Paper Award Chair, Dr. Rong Pan, at rong.pan@asu.edu.

Dr. "Bob" Abernethy- a Reliability Pioneer

Dr. Robert B. Abernethy is known worldwide for his expertise in jet engine performance, measurement uncertainty analysis and Weibull analysis.

More than 20,000 copies of his text [The New Weibull Handbook](#) have been distributed. (Upon written request, Dr. Bob provides free copies to university libraries around the world to encourage the teaching of Weibull analysis.) A similar number of the original US Air Force Weibull Analysis Handbooks, AD A143100, 1983, were distributed worldwide by the US Government.

Dr. Bob graduated from Rensselaer Polytechnic Institute as a Navy scholar with a B.Sc.ME and in 1958 received his M Sc in Industrial Management. He served on destroyers during the Korean War^[1] and joined Pratt & Whitney Aircraft in 1955. He was the Fulbright Scholar for science and math to Great Britain where he obtained his DIC and PhD degrees in statistics from the Imperial College of Science in 1965. He retired from Pratt & Whitney Aircraft after 32 years as Manager of Reliability, Safety, Maintainability, and Statistical analysis to teach Weibull analysis.

He has awards from [AIAA](#), [ASME](#), [ASQ](#), [ISA](#), and [SAE](#) for his work in Weibull analysis and measurement uncertainty. He is a fellow of ASME, SAE, ASQ, [The Royal Statistical Society](#), and an Associate Fellow of AIAA for his development of Weibull technology, Weibayes methodology, and the Weibull substantiation test designs. He founded and chaired both the SAE G11 Reliability Division and the SAE E33 Committee on Aircraft In-Flight Thrust Measurement. He was Chief American delegate to ISO TC30 SC9, sponsored by ASME and ANSI. He chaired two ASME committees on measurement uncertainty.

Dr. Bob holds a patent on a feature of the [J58 Pratt & Whitney](#) engine that powers the world's fastest aircraft. (The December 2013 edition of [ASME's Mechanical Engineering](#) magazine gives details about the SR-71 engine and specifically mentions Dr. Bob's contributions and the spike patent that reduces supersonic air flow at the inlet of the compressor.

Bob is now retired in North Palm Beach, FL with his wife Sally.



Come join us in celebrating 50 years of the ASQ Reliability & Risk Division!

The conference will feature an extraordinary program, keynote speaker, recognition events, a banquet, and an optional pre-conference course. This conference will be an excellent learning experience and a fun event recognizing the efforts of the volunteers who have brought you 50 years of excellence in reliability.

Theme: RMMR – Reliability, Maintenance & Managing
Risk – the past 50 years, the next 50 years

Program:

See: <https://www.asqrd.org/jim-mclinn-talks-about-rmmr-accendo-reliability/>

Register at: www.asqrd.org/RMMR

KEY HIGHLIGHTS

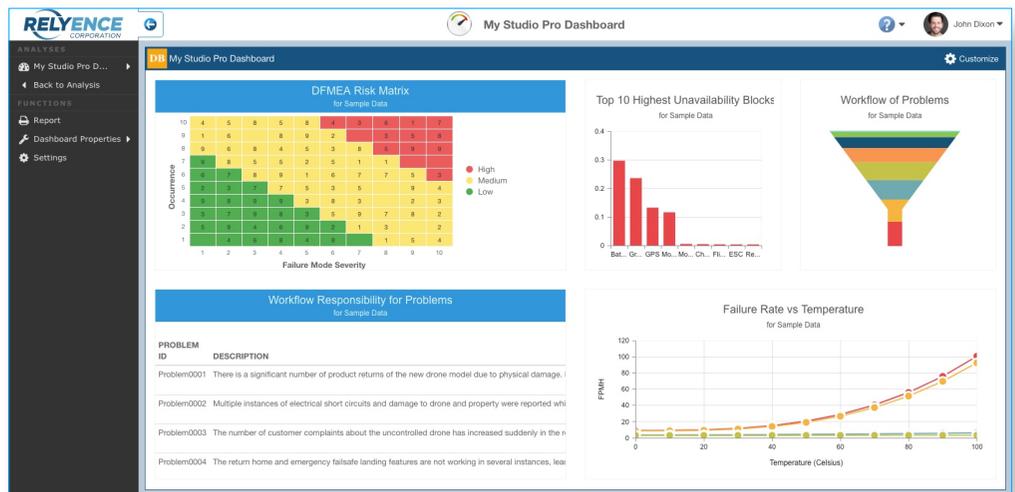
- Integrated suite
- Stand-alone tools
- FMEA, FMECA
- FRACAS, CAPA
- Fault Tree
- Reliability Prediction
- Maintainability
- Reliability Block Diagram
- Weibull
- Browser-based
- On-premise or cloud-based
- Online or in-person training
- Implementation services
- Knowledgeable tech support
- Free, no install trial

FMEA · FRACAS · Fault Tree · Reliability Prediction Maintainability · RBD · Weibull

Relyence offers a complete solution for all your reliability and quality software needs. Along with our software tools, we offer top-notch technical support, implementation services, and training.

The Relyence Solution. Providing seamless integration between FMEA (including Process Flow Diagrams and Control Plans), FRACAS, Fault Tree, Reliability Prediction, Maintainability, RBD, and Weibull analyses, the Relyence tool suite empowers you to effectively manage your products throughout their lifecycle. You can use each module stand-alone, or combine the tools you need in our Relyence Studio integrated platform.

Power & Innovation. Relyence tools offer an impressive list of features. Just a few of the highlights include: customizable cross-module dashboards; user-interface customization; flexible report generation; data importing and exporting; API functionality; device libraries; workflow, approvals, and notifications; user and group roles and permissions; and Relyence innovations such *always-in-sync*[™] technology, smart-layout, *Knowledge Bank*[™] for lessons learned reusability, and FMEA-Fault Tree *link-sync*[™].



Flexibility & Collaboration. All Relyence tools can be accessed from any computer, PC, Mac, laptop, tablet, or smartphone for ultimate flexibility and team collaboration. You can use Relyence either as an on-premise installation on individual computers or a network, or as a zero-client, browser-based platform with your data hosted in the Microsoft cloud or in your own private cloud. The choice is yours!

Rely on Excellence. In conjunction with our software tools, we provide world-class services to help ensure your success. Our Implementation and Training teams can get you up to speed quickly, and our Technical Support team consistently provides support that is unparalleled in the industry.

TRY FOR FREE

Attend the 66th Annual RAMS® 2020: January 27-30, 2020
At The Marriott Renaissance Palm Springs Hotel
“R&M in a Model-Based System Engineering Environment”

RAMS®2020 is the premier educational and networking event for the reliability, availability, and maintainability engineering disciplines.

Submit an Abstract to Present a Paper or Tutorial

Abstracts for the RAMS®2020 can be submitted until Friday, April 12, 2019. Presenting at RAMS is an opportunity to step up and join industry leaders in advancing the Reliability and Maintainability industry, network and advance your career.

5 Reasons to Attend:

1. Take actionable knowledge back to your organization
2. Apply learning to create more efficient & effective reliability programs
3. Make valuable contacts by networking with industry leaders & professionals
4. Gain new skills, CEUs, certifications and advance your career (ASQ exams, CRE, CQE)
5. Extend your stay and enjoy a fabulous family vacation at the spectacular Marriott Renaissance Hotel in Palm Springs, California

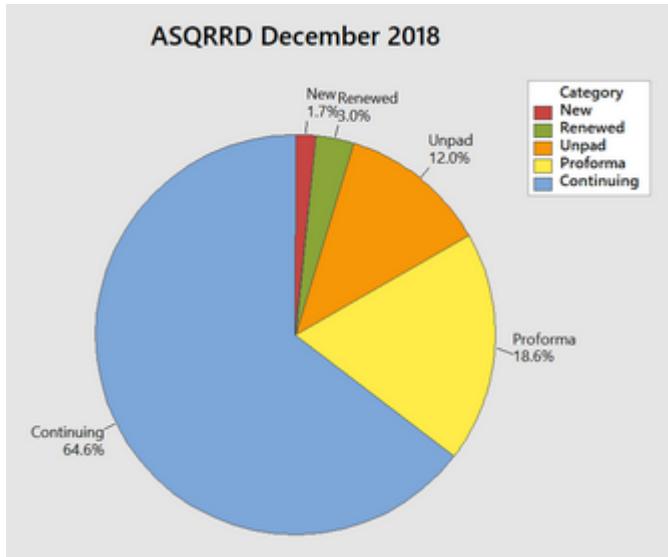
- Tutorials - basic to advanced
- Technical paper sessions
- Panel sessions
- Keynote presentations
- Exhibits by leading companies
- CEUs
- Certificate program
- Networking opportunities



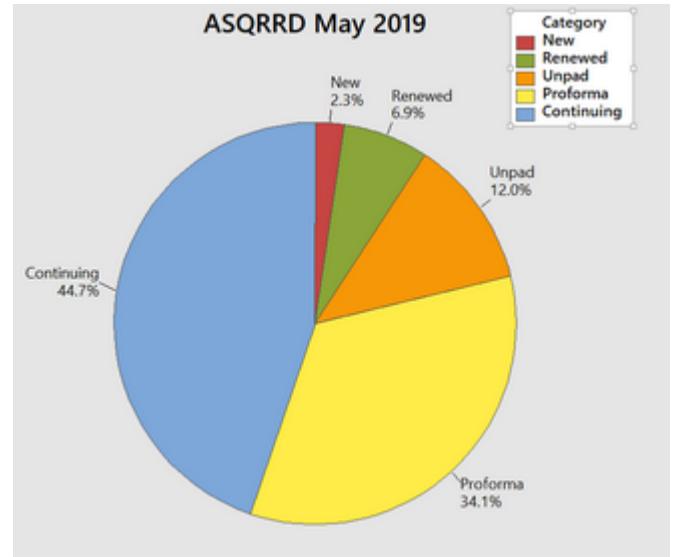
Special room rates for RAMS®2020 attendees are available at The Marriott Renaissance Palm Springs Hotel
760-322-6000

Register at rams.org





Total Members 2874



Total Members 2885

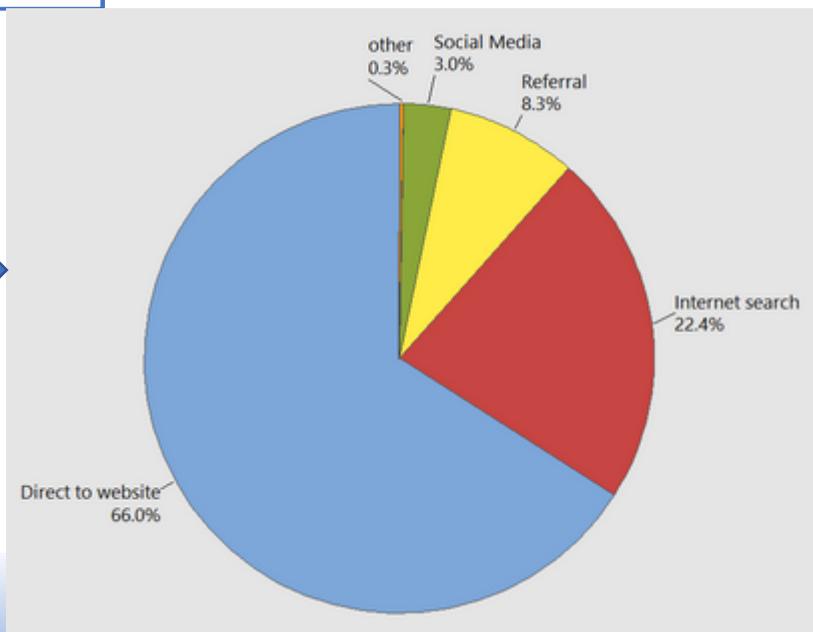
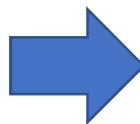
Webinar Statistics

- 10589 unique webinar registrations (Based on email addresses)
- 19017 RU's accountable (Total visits)
- Average 95 attendees (93 last report)
- 201 Webinars offered end of May 2019 (since 2010)

Social Media Status:

- **4141 Members on LinkedIn**
- **638 + 193 Followers on Twitter**
- **Google+ stopped**
- **Facebook**
 - 42 people like this
 - 47 people follow this

How are people learning about ASQ RRD?



2018-2019 ASQ-RRD LEADERSHIP POSITIONS

Elected Positions

Chair

Dan Burrows
d1c1b1@hotmail.com

Chair-Elect

Trevor Craney
tacraney@yahoo.com

Secretary

Tim Gaens
tim@asqrrd.org

Financial Consultant

Jim Breneman
weibullman@gmail.com

Past Chair

Dave Auda
davidauda@yahoo.com

Appointed Positions

Membership Chair

Tim Gaens
tim@asqrrd.org

Membership Vice-Chair

Suprasad Amari
suprasad.amari@gmail.com

Nominating Chair

Marc Banghart
marc@asqrrd.org

Education & Arrangements Chair

Trevor Craney
tacraney@yahoo.com

Regional Counsellors Coordinator

Dan Burrows
d1c1b1@hotmail.com

QE Best Paper Award Chair

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English Hosts: David Auda, Kiruthika Sundarrajan, Susan Czynry

Spanish Host: Norma Antunano (normaantu@aol.com)

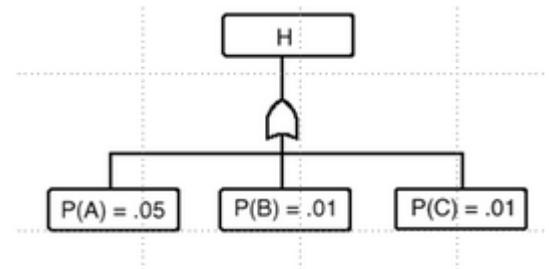
Data Analysts: Rachel Stanford (stanford.rachel@gmail.com), Tim Gaens

Video Editor: Ward Baun (wardbaun@gmail.com)

Contact Dan (d1c1b1@hotmail.com) to volunteer with us today!

TECH SPOT: SAMPLE CRE QUESTIONS (Part 7)

- Three components in parallel have mean times to failure of 50, 60, & 70 hrs respectively. The mean repair times are 30, 40 & 50 hrs respectively. What is the steady state availability, assuming all non-failed components remain operating during system downtime?
a. 0.8891 b. 0.2187 c. 0.9375 d. 0.0419
- The Reliability Qualification Test (RQT) is designed primarily to:
a. Disclose weak parts b. Simulate in-service evaluations of the delivered item.
c. Assure that minimum acceptable reliability requirements have been met.
d. Disclose design deficiencies under simulated conditions.
- How can linear acceleration be verified, where
I. the Weibull slope under accelerated and normal conditions should be the same,
II. The failure mode should be the same
a. Only I above b. Only II above c. I & II above d. none of these
- Components A,B, and C are exponentially distributed with mean times to failure of 40 hrs, 60 hrs, and 75 hours. If these components are in series, what is the system hazard function?
a. .051 b. .055 c. .571 d. none of these
- Designing non-confusing displays to ease interaction of humans under stress is a method for reducing:
a. Job satisfaction b. Performance problems
c. The root cause of many problems d. High-stress error
- The probability of an accident for the head event "H" to the right is:
a. .1125 b. .0689 c. .1100 d. none of these
- Acceptance tests are:
a. Performed to demonstrate that prime hardware meets design specification requirements including mission environments
b. Conducted to verify conformance to quality requirements and to determine acceptability of hardware
c. Performed on preliminary to prototype hardware to determine design and performance parameters
d. None of the above
- The primary reason that non-conforming material should be identified and segregated is:
a. so that the cause of non conformity can be determined
b. to provide statistical information for the "zero defects" program
c. so it cannot be sued in production without proper authorization
d. to obtain samples of poor workmanship for use in the company's training program
- Based on subgroups of $n=10$ the grand average is 10 and the average subgroup $\sigma=0.5$. Compute the lower control limit for the s chart.
a. 0.051 b. 0.142 c. 0.243 d. 0.247
- The process engineer believes that a modified process will produce the same results as the existing process, while costing less. The existing process was stable with a mean of 50 mm and $\sigma=0.06$. The process engineer ran 25 units with the new process. The control chart for the 25 units was stable, the sample mean =49 and $\sigma=0.05$. Compute the value of the appropriate statistic to test the null hypothesis that the variance of the modified process is the same as the variance of the original process.
a. 0.97 b. 4.31 c. 16.67 d. 21.22



The ASQ Reliability & Risk Division's Nomination Committee would like to announce its slate of nominations for the two elected positions of Chair-Elect and Secretary. The individuals listed below are nominated for these positions for the term Jan 1, 2020 – Dec 31, 2021.

Chair-Elect: Tim Gaens

Secretary: Rong Pan

All regular members of ASQ who belong to the Reliability & Risk Division are eligible for these two elected positions. If you want to challenge any of these nominated positions, you may do so by completing a nomination petition with a minimum of 10 signatures from members of the ASQ Reliability & Risk Division*, and submitted to Tim Gaens, Secretary (tim@asqrrd.org), by email by Sep 13, 2019.

(*Regular members are voting members of the Society: Full, Senior, Fellow, Honorary, and primary contact of Site/Enterprise/School/District memberships.)

If any successful petitions are received, an election will be held with all members of the ASQ Reliability & Risk Division receiving information on the candidates and voting instructions in our September newsletter. A basic description for each of the positions follows.

Chair-Elect

The Chair-Elect performs duties as directed by the Chair in support of the organization's mission and goals. This position succeeds to the position of Chair following the completion of the first term.

[Note that an individual agreeing to become Chair-Elect is agreeing to fulfill a 6-year term to progress through the three positions of the Office of the Chair – Chair-Elect, Chair, and Past Chair.]

Secretary

The Secretary documents member unit business and maintain the records. This position serves as the official correspondent of the member unit.

If you have any questions or concerns, please let us know at host@asqrrd.org

Kind Regards,

The ASQ Reliability & Risk Division Leadership Team:

Dan Burrows CHAIR

Trevor Craney CHAIR-ELECT

Tim Gaens SECRETARY

Nomination Petition Form

Nominees and signers must be voting members of the ASQ Reliability Division.

Nominations from the general membership shall require the submission of a nomination petition, signed by at least 10 voting Members of the ASQ Reliability Division, and submitted to Tim Gaens, Secretary, at <mailto:tim.gaens@gmail.com> by **October 1, 2019**.

Nominee Name: _____
 Nominee Member Number: _____

	Member Name	Member Number
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

**Voting members are: Full, Senior, Fellow, and Honorary members, as well as the primary contact from Site, Enterprise, and District and School memberships.*