

Dear Colleague,
Welcome to the new year and to a fresh offering of reliability news and information, courtesy of DfR Solutions.

Last chance to sign up for Failure Avoidance in Military and Space Electronics (February 6)

This comprehensive all-day seminar will be presented on Monday, February 6th at the Components for Military and Space Electronics (CMSE) Conference in Los Angeles, CA. Click here to register.

Come to DfR and learn about Best Practices in Reliability

(April 3-7; It's Cherry Blossom time too!)

DfR Solutions and Hobbs Engineering have teamed up to offer a week-long workshop on HALT/HASS and best practices in reliability

- **Apr 3-4** Design for Reliability (Craig Hillman / Fred Schenkelberg)
- **Apr 3-4** Comprehensive HALT & HASS (Gregg Hobbs)
- **Apr 5** Integrating Advanced QRD Tactics w/Accel Prod Dev (James McLeish)*
- **Apr 5** Hands-on HALT/HASS Workshop (Gregg Hobbs)
- **Apr 6-7** Preventing Vibration and Shock Failures (Dave Steinberg)

*This special course will be presented by General Motors' Global Strategist for Quality/Reliability/Durability of Electrical, Software, and Control Engineering.

Contact [DfR Solutions](#) or [Hobbs Engineering](#) for more details and [registration](#).

Pb-Free gets more confusing...

The quantity of requested [Pb-free exemptions](#) from the RoHS directive continues to grow. The original list of [12 exemptions](#) has since expanded to approximately 75 potential exemptions within the [eight categories](#). [Wider interpretations](#) of RoHS, specifically the application of RoHS requirements to pieces of larger equipment not covered by RoHS, and concerns over obsolete components seem to be behind this increasing number. For more information, click [here](#).

...the European Parliament fights back...

Tensions over RoHS exemptions continue to escalate. Denmark and the European Parliament are now [suing the Technical Adaptation Committee](#) over an exemption for Deca-BDE. If this action is successful, other European organizations are pushing to [remove all exemptions](#) and to incorporate medical devices and monitoring and control instruments under the RoHS directive.

This issue:

[Failure Avoidance Class](#)

[DfR and Hobbs Engr](#)

[Pb-Free Exemptions](#)

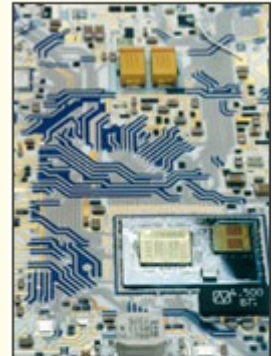
[RoHS Enforcement](#)

[SnAgCu Reliability](#)

[Hard Drive Failures](#)

[Upgrading/Derating](#)

[Upcoming Events](#)



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...and RoHS gets more threatening

And just in case you thought it would never happen, prosecutors won their [first case](#) under the WEEE directive last week in Scotland. Do you think RoHS is far behind?

Predicting End-of-Life for SnAgCu Solder

DfR Solutions presents its model for predicting SnAgCu solder joint reliability at the IPC/JEDEC Conference on Pb-Free on March 7-9. An initial validation study is provided [here](#). For more information, contact [Nathan Blattau](#).

Hard Drive Failures

A customer of DfR Solutions recently experienced systematic failures of multiple hard drives at the same time. This failure behavior was catastrophic enough to corrupt the RAID file system, resulting in the loss of critical data. DfR Solutions is currently acquiring information to determine the significance of this occurrence. If you have experienced a similar failure mode recently, please contact [DfR Solutions](#).

Component Uprating/Derating

DfR Solutions recently won a contract from a major telecommunications supplier to develop a comprehensive strategy for the uprating and derating of components. Are you struggling with this confusing and sometimes complex issue? We can help. Contact [Craig Hillman](#) or [Norm Anderson](#) for more information.

Upcoming Events

DfR in California (Anaheim, CA: February 7–10 and Santa Clara, CA: March 7–9)

DfR Solutions is presenting papers at [IPC APEX \(Design Guidelines for Ceramic Capacitors Attached with SnAgCu Solder\)](#) and [Robustness of Pb-Free Solder Subjected to Mechanical Cycling over an Extended Life Range](#)) and [IPC/JEDEC Conference on Pb-Free \(New Engelmaier Model for Pb-Free Solder\)](#). If you would like to meet with us during our visits to discuss your quality/reliability needs, please contact [Nathan Blattau](#) as soon as possible.

NAVSEA (Washington, DC -- March 16)

Pb-free and related concerns will be the focus of this presentation at the Washington Area Chapter of the Society of Reliability Engineers (SRE). Please contact [Cherelle Jeudy](#) or [David Mandel](#) for more details.

SMTA Boston/NEPCON EAST (Boston, MA – May 9)

Craig Hillman will be presenting a full-day seminar, "The Reality of Pb-Free Reliability." This overview of potential reliability issues, including tin whiskering, solder joint reliability, and degradation of printed circuit boards is a comprehensive presentation rarely found among industry experts. For more information or to register, please contact [Craig Hillman](#) or [Melissa Serres](#).

SMTA Medical Electronics (Minneapolis, MN -- May 15)

DfR Solutions will be co-hosting a short course with Dr. Daniel Baldwin of Engent/Georgia Tech on Reliability Assurance in Medical Electronics. The course will provide an environment where engineers and managers can have a frank discussion on ensuring reliability, either through design, supplier assurance, product testing, or corrective actions based on lessons learned. If you are interested in attending, please contact [Cherelle Jeudy](#) or [JoAnn Stromberg](#).