

Welcome to the January 10th, 2018 Edition of THE REVENGE HUMP DAY!

Last night I was fortunate to see one of the best football games in memory. Alabama played Georgia for the NCAA National Championship. But much more important, they were also playing for the South Eastern Conference (SEC) Championship. ☺ Both teams gave their all and it was back and forth all night. The game was decide in overtime with Alabama coming out on top with a score of 26 to 23. God it was a great game.

This was Alabama's coach, Nick Saben's 6th national title and he is now tied with the legendary Paul "Bear" Bryant for the number of national titles for Alabama. I freely admit that I am an Alabama Fan and have been for decades. But the Georgia boys have nothing to be ashamed of because of the game they played.

And I will admit it did me proud to see the president in the middle of the field in Atlanta with his hand over his heart, standing straight and tall and singing the national anthem. That is what I love about college football and living in the south. And yes, I wear my heart on my sleeve and bleed RED, WHITE and BLUE when you cut me. I am a second generation immigrant on my father's side and know there is no greater place in the world than the USA. I love my country, my flag, my God, and my family and friends and hope that all of you out there understand this and feel the same way.

So on that "important note", why don't y'all sit back and relax because here's the best in gossip, jokes and science for your reading pleasure!

## *Uncle Timmy*

<G>~<O>~<S>~<S>~<I>~<P>~<S>~<T>~<A>~<R>~<T>~<S>~<H>~<E>~<R>~<E>~<I>

DANISH ORCHESTRA PLAYING STAR WARS MUSIC

From: "Chris Cowan" [cowanc1028@earthlink.net](mailto:cowanc1028@earthlink.net)

[https://www.youtube.com/watch?v=k6zCLs1\\_Lnl](https://www.youtube.com/watch?v=k6zCLs1_Lnl)

The director's introduction has subtitles - and it's worth watching just fort his introduction. I don't speak Danish but honestly, you don't have to!

<L>~<I>~<B>~<E>~<R>~<T>~<Y>~<C>~<O>~<N>

'FORGED IN BLOOD' UP FOR AN AWARD!

From: "Mike Williamson" [mzmadmike@gmail.com](mailto:mzmadmike@gmail.com)

I'm promoting this not because I edited Forged in Blood, but because my writers were freaking amazing and deserve it. Any votes appreciated. Widest dissemination appreciated.

<http://critters.org/predpoll/antho.shtml>

Thanks, Mike

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<L>~<I>~<B>~<E>~<R>~<T>~<Y>~<C>~<O>~<N>

**PHOTO OF THE YEAR**

From: "Steve Clark" [clarkcentral@comcast.net](mailto:clarkcentral@comcast.net)

God bless our troops!

You'll never see this picture on the front of Time Magazine, or any other magazine.



We see lots of pictures of wounded male veterans but women vets get wounded and maimed too. You may need to take a second closer look though.

The first thing I saw was a bunch of beautiful smiles. Study this picture again. Let the story it tells sink in.

These women and many others, as well as their male comrades, paid the price for our freedom. And, they did it for less than what welfare recipients are paid! DID YOU GET THAT?

There is more patriotism and class in those 11 ladies pictured than the majority of Congress and, a HECK of a lot more than those over-paid athletes who choose to "take a knee" when the National Anthem is played!

They risked these injuries (or death) FOR YOU and ME, AMERICA!

**GOD BLESS THEM ALL!**

<L>~<l>~<B>~<E>~<R>~<T>~<Y>~<C>~<O>~<N>

**CHROMOSPHERE PRESS ANNOUNCES DIVISION ONE BOOK FIVE, TROJAN HORSE!**

**From: “Stephanie Osborn”**

**9 JANUARY 2018  
FOR IMMEDIATE RELEASE  
HUNTSVILLE, AL**

**Now available: Book 5 in the Division One series, Trojan Horse!**

After returning the healer Doron to his homeworld of Edeptis, Echo takes Omega on a training run to make her a Pan-Galactic Coalition-certified starship pilot—celestial navigation, extra-vehicular activity, emergency repair, planetary surveys, you name it. And he secretly delights in seeing Omega’s joy at finally fulfilling a childhood dream.

But when the Cortians show on the scene, intending to take Alpha One into custody for crimes against the Cortian Amalgam, the resulting space dogfight severely damages the Trojan Horse, causing it to crash on a primitive protoplanet. Both Echo and Omega are badly injured, and it will take both of them working together to survive in the wreckage, while more Cortian vessels search for them overhead, and Fox and the rest of Alpha Line try to fight their way through to rescue their friends and colleagues.

Award-winning author Osborn is a 20+-year space program veteran, with multiple STEM degrees. She has authored, co-authored, or contributed to more than 30 books. In addition to the Division One series, she currently writes the critically-acclaimed Displaced Detective Series, described as “Sherlock Holmes meets The X-Files,” and the Gentleman Aegis Series, whose first book was a Silver Falchion winner. She “pays it forward” through numerous media including radio, podcasting and public speaking, and working with SIGMA, the science-fiction think tank. Osborn’s website is <http://www.stephanie-osborn.com>.

Division One series book five, Trojan Horse, will be released in ebook formats on 9 January 2018, and in trade paperback format on 23 January. Additional installments in the ongoing series are anticipated later this year.

**ISBN:  
978-0-9982888-9-5 (ebook)  
978-1-947530-00-3 (print)**

The ebooks are now available for preorder at:

Amazon: <https://www.amazon.com/dp/B0786QWCWF> .

The print books are now available for preorder at:

Amazon: <https://www.amazon.com/dp/B0786QWCWF>

Barnes-Noble: <https://www.barnesandnoble.com/w/trojan-horse-stephanie-osborn/1127447294?ean=9781947530003>

Other formats, and trade paper, will be available from your favorite bookseller!

Previous books in the series include:

- \* Book one, Alpha and Omega [[https://www.amazon.com/Alpha-Omega-Division-Stephanie-Osborn-ebook/dp/B01MXNQTFJ/ref=asap\\_bc?ie=UTF8](https://www.amazon.com/Alpha-Omega-Division-Stephanie-Osborn-ebook/dp/B01MXNQTFJ/ref=asap_bc?ie=UTF8) ],
- \* Book two, A Small Medium At Large [[https://www.amazon.com/Division-One-Small-Medium-Large-ebook/dp/B06XTQX7GZ/ref=asap\\_bc?ie=UTF8](https://www.amazon.com/Division-One-Small-Medium-Large-ebook/dp/B06XTQX7GZ/ref=asap_bc?ie=UTF8) ],
- \* Book three, A Very UnCONventional Christmas [[https://www.amazon.com/Division-One-Very-UnCONventional-Christmas-ebook/dp/B071K73MM9/ref=asap\\_bc?ie=UTF8](https://www.amazon.com/Division-One-Very-UnCONventional-Christmas-ebook/dp/B071K73MM9/ref=asap_bc?ie=UTF8) ].
- \* Book four, Tour de Force [[https://www.amazon.com/dp/B075BR4D8H/ref=sr\\_1\\_1?s=digital-text&ie=UTF8&qid=1504403571&sr=1-1](https://www.amazon.com/dp/B075BR4D8H/ref=sr_1_1?s=digital-text&ie=UTF8&qid=1504403571&sr=1-1)].

Future books in the series are planned for 2018.

~Stephanie Osborn, "The Interstellar Woman of Mystery"

<http://www.Stephanie-Osborn.com>

Award-winning author of the Division One, Gentleman Aegis, and Displaced Detective series

<L>~<I>~<B>~<E>~<R>~<T>~<Y>~<C>~<O>~<N>

From: "Michael A. Banks" [mynewbook@aol.com](mailto:mynewbook@aol.com)

Rummy Royal, Tripoley. I want to play again. I have a suede board from 1943.



<U><T><'><s><\*><C><O><M><M><E><N><T>

*Mike get's it. It's family fun that makes memories. UT*

<L>~<l>~<B>~<E>~<R>~<T>~<Y>~<C>~<O>~<N>

**EVEN BETTER NEWS FROM MIKE!**

Hi, Tim,

I have good news from up here in cold Yankeeland: my son, Michael, had surgery for neck cancer back in June, then went through the chemo and radiation concurrently. The latter was a couple months back and last week he had a PET scan and this week a checkup with the surgeon, who cleared him. No cancer!

<U><T><'><s><\*><C><O><M><M><E><N><T>

*Mike, that is wonderful news and I know that your entire family is overjoyed at the gift that God gave your family. Watching your children sick is the worst fear that a parent can go through. But seeing them recover is truly God's gift. UT*

<L>~<l>~<B>~<E>~<R>~<T>~<Y>~<C>~<O>~<N>

**Re: The January 3rd, 2018 Edition of THE REVENGE HUMP DAY!**

**From: "Brayman, Frank" [afranklin3@gmail.com](mailto:afranklin3@gmail.com)**

**Sexual harassment is in the eye of the receiver. Here's an example.**

Back when Liberty vendors were selling out of their hotel rooms, there was a young woman selling knitted clothing. She was spinning yarn on a spinning wheel the whole time I was there. We spoke, then I stayed to watch. I noticed that she was becoming uneasy. This conversation followed:

**ME: "Hey, wait! I'm not a creep. I'm an engineer, and I'm trying to figure out how your machine works."**

**HER: "Oh! OK." (stops spinning, then continues slowly.)**

**ME: "Of course! Pretty ingenious design. Thanks!"**

**HER: "Glad to."**

**ME: "Have a nice day."**

**HER: "You too. See you later."**

**Best way to avoid accusations is to follow church youth-group rules:**

**1. Always explain up-front if anything you plan to do could be misinterpreted.**

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2. Never touch anyone else's kid (except for a hand-shake) unless it's to give CPR or control arterial bleeding.
3. Never say anything you wouldn't say to your own kid (or your grandmother.) Sports and weather are good topics, others not so much.
4. Never be with them alone behind a closed door - interactions should always be in an open space. Which goes with the next one:
5. Always have a disinterested witness.

Most of this is just common sense. Unfortunately, our culture has become WAY too huggy and familiar, and that overrides sense, which was never all that common to begin with.

<U><T><'><s><\*><C><O><M><M><E><N><T>

*Now wait a minute Frank, I have been hugging you, Rebecca and your daughter for years and you don't seem to mind. But then again, I love all of you. UT; ^)*

<T>~<H>~<E>~~~<J>~<O>~<K>~<E>~<S>~~~<S>~<T>~<A>~<R>~<T>~~~<H>~<E>~<R>~<E>

From: "Mike Waldrip" [waldripk@gmail.com](mailto:waldripk@gmail.com)

A Little Father/Daughter Humor



<J>~<O>~<K>~<E>~<S>

### **AS I GET OLDER**

- #1 - I talk to myself, because there are times I need expert advice.
- #2 - I consider "On Trend" to be the clothes that still fit.
- #3 - I don't need anger management. I need people to stop pissing me off.
- #4 - My people skills are just fine. It's my tolerance for idiots that needs work.
- #5 - The biggest lie I tell myself is, "I don't need to write that down. I'll remember it."
- #6 - I have days when my life is just a tent away from a circus.
- #7 - These days, "on time" is when I get there.
- #8 - Even duct tape can't fix stupid - but it sure does muffle the sound.
- #9 - Wouldn't it be wonderful if we could put ourselves in the dryer  
For ten minutes, then come out wrinkle-free and three sizes smaller?
- #10 - Lately, I've noticed people my age are so much older than me.
- #11 - "Getting lucky" means walking into a room and remembering why  
I'm there.
- #12 - When I was a child, I thought nap time was punishment. Now it  
Feels like a mini vacation.
- #13 - Some days I have no idea what I'm doing out of bed.
- #14 - I thought growing old would take longer.
- #15 - Aging sure has slowed me down, but it hasn't shut me up.
- #16 - I still haven't learned to act my age.

<J>~<O>~<K>~<E>~<S>

### **JUST A LITTLE HEARING LOSS**

**Man goes to the doctor and explains that his wife don't hear nothin and asks what he might do to determine the severity of her problem.**

**The doctor suggests standing or sitting in an adjacent room and saying something in a normal tone of voice and see if she answers. If not, move closer and repeat yourself until she answers. That way, we might get an idea of the severity of her loss.**

That evening, as the man's wife was cooking dinner, and as he sat in the Lazy Boy waiting for her to feed him, he said, "Honey Lamb, what is for dinner?" No Response!

The man moved to the doorway of the kitchen and repeated himself. No Response!!

Finally, the bewildered husband stood right behind his wife and repeated himself for a third time.

The angry woman turned from the stove and said: "I have already told you twice old man, we are having CHICKEN!"

<J>~<O>~<K>~<E>~<S>

**A cold winter day in Minnesota. A woman called her husband.**

**Wife: "The car is not starting. Dashboard shows the sign of a person sitting on toilet."**

**Husband: "What...?? Send me a picture."**



<J>~<O>~<K>~<E>~<S>



<J>~<O>~<K>~<E>~<S>~<of>~<the>~<W>~<E>~<E>~<K>

From: "Jim Woosley" [jimwoosley@aol.com](mailto:jimwoosley@aol.com)

45 Presidents, only 2 with stars on the Hollywood walk of fame: Donald Trump and Ronald Reagan. This must drive liberals absolutely insane 😊



<J>~<O>~<K>~<E>~<S>



JMICK

@ilovemickanen

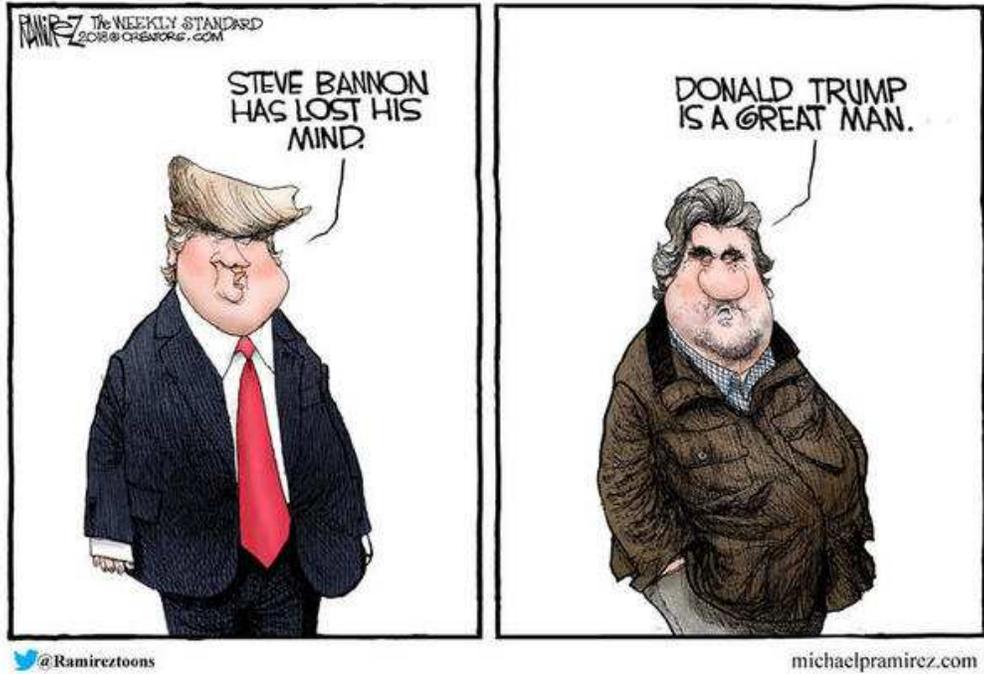
Time zones are so weird. Australia is already in 2018, America is still in 2017, and the Middle East is still in 695. I don't get how it works.

12/31/17, 11:47 AM

<J>~<O>~<K>~<E>~<S>



<J>~<O>~<K>~<E>~<S>

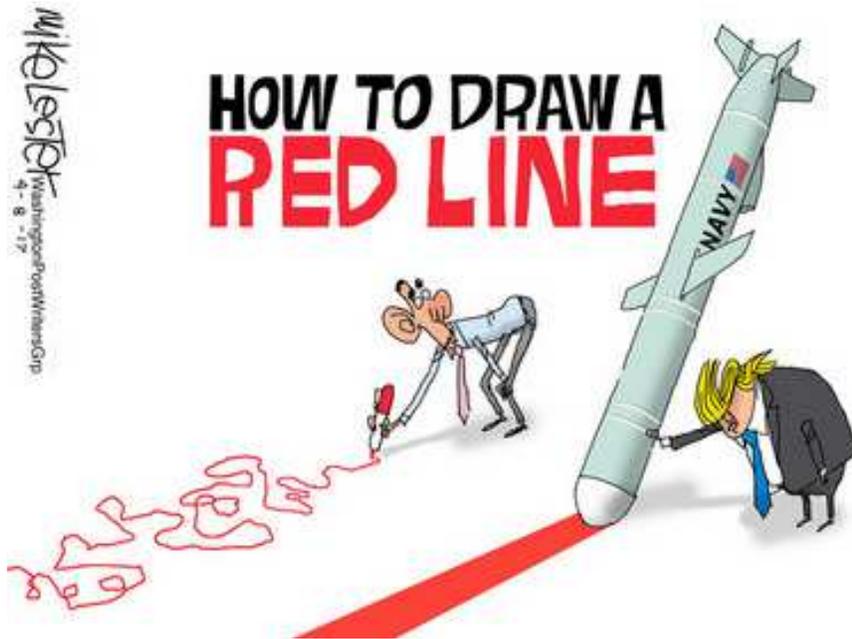


<J>~<O>~<K>~<E>~<S>



<J>~<O>~<K>~<E>~<S>~<of>~<the>~<W>~<E>~<E>~<K>

From: "Jerry Tollett" [haleja@epbf.com](mailto:haleja@epbf.com)



<J>~<O>~<K>~<E>~<S>



I DON'T UNDERSTAND. IT'S A CARD FROM TRUMP THAT SAYS  
"HAPPY MOTHER'S DAY!"

<J>~<O>~<K>~<E>~<S>



<J>~<O>~<K>~<E>~<S>~<of>~<the>~<W>~<E>~<E>~<K>

From: "Jim Woosley" [jimwoosley@aol.com](mailto:jimwoosley@aol.com)



<J>~<O>~<K>~<E>~<S>~<of>~<the>~<W>~<E>~<E>~<K>

From: "Christina Cowan" [cowan1028@earthlink.net](mailto:cowan1028@earthlink.net)



<http://unicornempire.tumblr.com/post/169053418449/i-remember-going-through-this-process-trying-to>

<YOU>~<>~<JUST>~<>~<CAN'T>~<>~<MAKE>~<>~<THIS>~<>~<STUFF>~<>~<UP!>

YOU JUST CAN'T MAKE THIS STUFF UP!

From: "Tim Bolgeo" [tbolgeo@epbfi.com](mailto:tbolgeo@epbfi.com)

OUTRAGE IN TURKEY OVER 'CHILD MARRIAGE GREEN LIGHT'

AFP | Published — Thursday 4 January 2018

<http://www.arabnews.com/node/1218971/middle-east>



In this file photo, Turkish students wait for the arrival of President Tayyip Erdogan in Ankara. (Reuters)

**ANKARA:** Turkey's religious affairs state agency came under heavy criticism on Thursday from the main opposition party after it reportedly said girls as young as nine could marry under Islamic law.

The Diyanet religious affairs directorate said on Tuesday the minimum age for girls to marry was nine, while for boys it was 12, according to Turkish media including Hurriyet daily quoting the agency's official website.

The post, which took the form of an explanatory statement on Islamic law, has since been taken down, after a backlash from the opposition and women's rights groups.

The head of the High Commission of Religious Affairs Ekrem Keles on Thursday told Hurriyet that the earliest age for a girl to marry is 17 and 18 for a boy.

**“Forget a nine or a 10 year old child marrying, a child at 15 should not marry and should not be married,” he said.**

**The legal age to get married in Turkey is 18.**

**But Turkish law says that in an extraordinary circumstance, a judge can give permission for a male and female aged 16 to marry.**

**The controversy touched a nerve in Turkey, where child marriages are not uncommon and the fight continues to raise girls’ level of education.**

**Main opposition Republican People’s Party (CHP) lawmaker Gaye Usluer accused the government of being “more interested in how to marry children at a young age when there needs to be talk on children’s education, health.”**

**Meanwhile CHP lawmaker Murat Bakan on Twitter said child marriages “violates children’s rights, women’s rights and human rights,” adding that the party had called for a parliamentary investigation into child marriages.**

**Women’s rights groups also criticized the agency, which is similar to a religious affairs ministry, accusing it of trying to legitimize child abuse and urging Diyanet to “get their hands off our children.”**

**The ministry said it had “never and will never approve early marriages” in a statement, saying it was only defining Islamic law.**

**“Forcing girls to marry before psychological and biological maturity, and before they obtain the responsibility to become a mother and form a family is not compatible with Islam which says will and consent are conditions for marriage,” it added.**

**Women’s groups as well as Usluer raised concern over Diyanet’s move coming after Turkish President Recep Tayyip Erdogan approved a controversial law in November allowing state-approved clerics to conduct marriage ceremonies.**

**“When we said ‘if you give muftis (clerics employed by Diyanet) the power to conduct marriages, the issue of child brides will increase’, this is what we meant,” she said, according to CHP’s website.**

**Opponents often claim that Erdogan and his Islamic-rooted Justice and Development Party are attacking the republic’s secular foundations, claims dismissed by the government.**

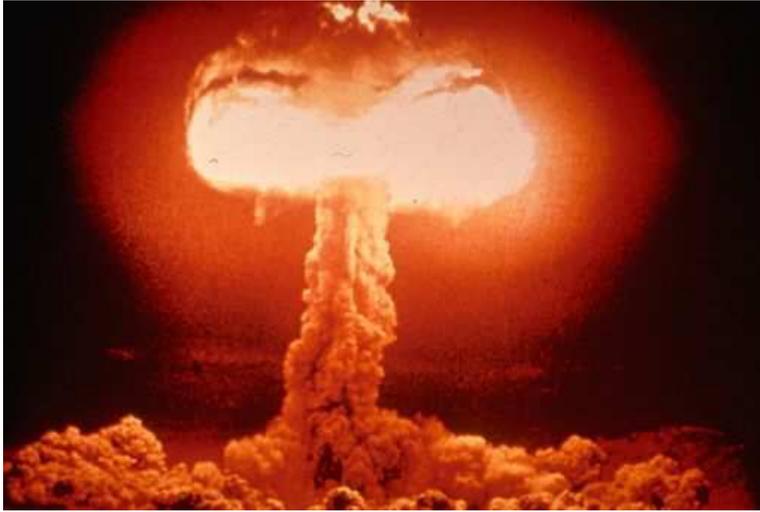
**In 2016, the government was forced to throw out a bill that could have pardoned men convicted of child-sex assault after a public outcry.**

**<?>~<YOU JUST CAN’T MAKE THIS STUFF UP!>~<?>**

**NORTH KOREA BOMBS ITSELF**

by: Remington Strelivo, Source: AAN , 01/04/2018

<http://americanactionnews.com/articles/north-korea-bombs-itself#2KRWDi2OiM03K4r4.99>



By FEMA News Photo (This image is from the FEMA Photo Library.) [Public domain], via Wikimedia Commons

An intermediate-range missile test in North Korea went catastrophically wrong – resulting in the hermit dictatorship accidentally bombing one of its own cities.

The missile was launched on April 28, 2017, at Pukchang Airfield near Pyongyang. After flying for one minute, the missile crashed into

the city of Tokchun, causing "considerable damage to a complex of industrial or agricultural buildings," according to a U.S. government source.

The sources reveals that the failed missile launch also may have caused casualties, but due to the unreliability of news in North Korea, it's impossible to know exactly how widespread the damage was.

North Korea has been launching a number of missile tests, with varying levels of success, for years. But, with President Trump in the White House, North Korea has ratcheted up its sabre rattling.

Earlier this week, North Korea's leader, Kim Jong-un, announced that he had a nuclear button "on his desk." President Trump fired back, claiming that his button – a metaphor for the United States' nuclear arsenal – was "bigger."

North Korea didn't respond, but quickly re-opened up a long-dormant channel of communication with South Korea, hinting that despite their fierce rhetoric, Trump's negotiating tactics may be pushing them towards diplomatic solutions.

<?>~<YOU JUST CAN'T MAKE THIS STUFF UP!>~<?>

RACE-BAITERS TAKE 1 LOOK AT GA DEP. OF CORRECTION'S CHRISTMAS CARD AND LOSE IT

BY V SAXENA, JANUARY 4, 2018 AT 11:00AM

[https://conservativetribune.com/race-baiters-take-1-look-christmas/?utm\\_source=Email&utm\\_medium=conservative-brief&utm\\_campaign=dailyam&utm\\_content=conservative-tribune](https://conservativetribune.com/race-baiters-take-1-look-christmas/?utm_source=Email&utm_medium=conservative-brief&utm_campaign=dailyam&utm_content=conservative-tribune)

While it's true all race-baiters and race hustlers are idiots, pretend black man Shaun King really takes the cake.

King, who as a reminder purports to be black despite evidence to the contrary, threw a fit Tuesday after the Georgia Department of Corrections published an otherwise benign and quite cheerful company photo to its Facebook page that showed staff members posing in a cotton field for the holidays.



**Race-Baiters Upset By Georgia Dept. of Correction's Holiday Photo**

“The Georgia Department of Corrections posed in a COTTON FIELD for their holiday photo,” King furiously informed his equally race-obsessed followers on Facebook.

Oh, the horror!

Because of the intense outrage provoked by King’s unnecessary post, the GDC wound up deleting its photo and issuing an apology.

“The GDC has elected to remove the post of the Southeast Regional Division holiday photo,” it wrote Wednesday on Facebook. “The intention was to wish our followers a happy holiday, and we apologize if the picture itself or any of those comments were offensive to our users.”

Oh, for the love of Pete...

What happened here is a tragedy of epic proportions: The GDC was bullied into removing a perfectly acceptable holiday photo because it offended the sensibilities of people as deliriously ignorant as Shaun King.

To make matters worse, some in the “fake news” media have bought King’s false narrative hook, line and sinker, including Newsweek, which blasted the GDC even after it apologized, writing “the damage was already done.”

It further quoted Marilyn Winn, the executive director of Atlanta’s Women on the Rise, an organization that essentially lobbies on behalf of convicted criminals, to argue that the pic was disrespectful to black people.

According to the organization’s website, it supports efforts “to eliminate the ban on food stamps for those convicted of drug offenses.” It also believes women who commit crimes should not be locked up because “it can result in her losing her job.”

Dovetailing back to Winn, this is what she had to say to Newsweek: “Our criminal justice system is the modern embodiment of systematic racism and oppression that has plagued this country since its founding.”

While her statement continues for a few more sentences, I’m going to stop right there, because this woman is clearly another race-hustling phony full of lies and innuendo about America’s criminal justice system.

Unfortunately, Yahoo News fell for the lies as well. But instead of slamming the GDC for perpetuating anti-black racism, it criticized it for ignoring the “(t)he association between cotton and racism.”

While it’s true slaves in the 17th and 18th centuries were forced to pick cotton, what does that have to do with either 2017 or the GDC?

Nothing, except for the fact that some people remain so obsessed with race that they see racism in the most innocuous things.

What’s next, huh? Will medicine bottles be forced to not include cotton packing because it also offends Shaun King?

Seriously, where does the grievance train end? At the rate we’re going, it seems it will never end, and I don’t think that’s good for America — or for race relations, at that.

Please share this story on Facebook and Twitter and let us know what you think about the outrage that spawned after the Georgia Department of Corrections posted a holiday photo to Facebook.

What effect do you think this sort of race-baiting nonsense is having on race relations? Scroll down to comment below!

<U><T><’><s><\*><C><O><M><M><E><N><T>

*Wait a pea picking minute. I grew up next to a farm and then the cotton fields are in bloom and just before the cotton is ready to pick, it is beautiful. It is a field of some of the most beautiful flowers in the world. Admittedly I only had to pick cotton once in my life and it is terribly back breaking work, but I still remember the beauty of the field. Yes, I admit poor white and black people in the south used to pick cotton by hand, but honestly guys, it was both races who did this. Not just black people. But in all honesty, people haven't picked cotton by hand in over 50 years in the United State. So, is it racist to take your picture with beans, or okra, or rice, or turnips, or any thing grown on a farm. God for bid if you take a picture of you and your family, friends and coworkers in a cattle pen. Wake up America and stop letting these liberal panty waists do your thinking for you. UT*

<?>~<YOU JUST CAN'T MAKE THIS STUFF UP!>~<?>

## **NEW ENGLAND LIBERALS SHUT DOWN COAL POWER PLANTS, NOW THEY'RE AT RISK OF FREEZING**

**BY V SAXENA, JANUARY 6, 2018 AT 10:21AM**

**[https://conservativetribune.com/new-england-coal-power-plants/?utm\\_source=Email&utm\\_medium=conservative-brief&utm\\_campaign=dailyam&utm\\_content=conservative-tribune](https://conservativetribune.com/new-england-coal-power-plants/?utm_source=Email&utm_medium=conservative-brief&utm_campaign=dailyam&utm_content=conservative-tribune)**

**Because of years of left-wing environmentalism being forced on power companies in New England, these energy suppliers are now struggling to fulfill the demands of local residents seeking to merely stay warm during this intense winter.**

**“Officials at ISO-New England, operators of the region’s power grid, said energy demands during the recent arctic weather have placed major pressures on energy generators, forcing power companies to rely more on coal and oil to produce electricity,” the Hartford Courant reported this week.**

**The Courant further noted that though energy industry officials have for years recommended that New England fix its energy problems by, at the very least, constructing new natural gas pipelines, such proposals have “been blocked or withdrawn” mainly because of opposition from environmental groups.**

**State and federal regulations haven’t helped either. Speaking of which, these very regulations could now pose a major concern for locals.**

**“Environmental limitation on how much, or whether, some oil-fired power plants will be able to generate electricity could become a concern this week and for the remainder of the winter,” explained ISO-New England spokeswoman Marcia Blomberg in an email to Boston station WCVB.**

**It sounds like that’s not going to be good for anyone.**

To really understand what's happening in New England, however, you need to first be aware of how the region got to this point.

Writing for Scientific American four years ago, Lindsey Konkel explained how "(s)tringent environmental regulations and a steep drop in the cost of natural gas" spurred officials in New England to push away from coal and embrace natural gas.

"In 2000, coal accounted for roughly 18 percent of the region's electricity generation while natural gas accounted for about 15 percent," she wrote. "In 2012, just 3 percent of New England's electricity was generated by coal, while 52 percent came from natural gas."

While the increased reliance on natural gas isn't a bad thing, the decreased reliance on coal is. What's ironic is that liberals have complained about the gas as well.

"Natural gas is killing coal plants, but more natural gas infrastructure may be adverse to health and climate in the long run," Konkel quoted N. Jonathan Peres, an attorney for the Boston-based Conservation Law Foundation.

This is why multiple pipeline projects have been killed over the past few years, including one that "would have expanded an existing New England pipeline and was expected to save customers \$1 billion a year," as noted by The Daily Caller.

See the problem? The liberals in New England want nothing to do with coal, but they also want very little to do with natural gas as well.

And now, thanks to these liberals' shortsightedness, power companies in New England are functioning at full capacity, struggling to provide locals with heat.

FYI, as of Saturday morning, the temperature in Boston is 10 degrees Fahrenheit, with an estimated low of -6 degrees expected, according to AccuWeather.

I sincerely hope the power companies in New England remain operational through this bad weather, but at this point there's no telling what might happen.

H/T Breitbart

<YOU>~<>~<JUST>~<>~<CAN'T>~<>~<MAKE>~<>~<THIS>~<>~<STUFF>~<>~<UP!>

**YOU JUST CAN'T MAKE THIS STUFF UP!**

From: "Martin L King" [kingjr\\_martin@yahoo.com](mailto:kingjr_martin@yahoo.com)

Try This:

When you go to McDonalds and get a large tea or soft drink hang onto the styrofoam cup. Then when you stop at QuickTrip or Speedway for a soda, just slip the 32oz plastic drink cup into the styrofoam McDonalds cup. The foam outer cup will insulate the inner cup slowing heat transfer and making the ice last much longer than it otherwise would.

I tried this weekend. I bought a 32oz drink on my way to Roswell, GA on Saturday morning about 10AM and slipped it into a McDonalds cup. When I went out to the car again Monday morning at 7AM, there was STILL ice in the cup.

This life hack works so well, I'm really looking forward to summer.

*SNICKER, UT*

<YOU>~<>~<JUST>~<>~<CAN'T>~<>~<MAKE>~<>~<THIS>~<>~<STUFF>~<>~<UP!>

**YOU JUST CAN'T MAKE THIS STUFF UP!**

From: "Jim Woosley" [jimwoosley@aol.com](mailto:jimwoosley@aol.com)

Jim found this online and it has the ring of truth to it. UT

**WHERE HAVE ALL THE PILOTS GONE?**

We used to go to the Officers Club or Stag Bar on Friday afternoons in our flight suits to drink, smoke, and swap lies with our comrades. Think about this when you read the letter below.

Drinking then became frowned on and flight suits were not allowed in the clubs. Smoking caused cancer and could "harm you." Stag bars became seen as 'sexist'. Gradually, our men quit patronizing their clubs because what happened in the club became fodder for a performance report. It was the same thing at the Airman's Club and the NCO and/or Top 3 clubs. Now we don't have separate clubs for the ranks. Instead, we have something called All Ranks Clubs or community clubs. They're open to men and women of all ranks...from airman basic to general officer. Still, no one goes there. Gee, I wonder why?

The latest brilliant thought out of Washington is that the operators ("pilots?") flying remote aircraft in combat areas from their plush desk at duty stations in Nevada or Arizona should draw the same combat pay as those real world pilots, actually on board a plane in a hostile environment. More politically correct screwed up logic, right?

They say that remote vehicle operators are subject to the same stress levels as the combat pilot actually flying in combat. ----- REALLY? ...you're bull-shitting me, right?

Now that I've primed you a little, read on.

There are many who will agree with these sentiments, but they apply to more than just fighter pilots. Unfortunately, the ones with the guts to speak up or push for what they believe in are beaten down by the "system" and are soon pushed out of active duty.

"Unfortunately there is a lot of truth in the following text - supposedly, SecDef had a force beating the bushes to learn who wrote this....

Where have all the fighter pilots gone?

Good Question.

Here is a rant from a retired fighter pilot that is worth reading:

It is rumored that our current Secretary of Defense recently asked the question, "Where are all the dynamic leaders of the past?â? I can only assume, if that is true, than he was referring to Robin Olds, Jimmy Doolittle, Patton, Ike, Boyington, Nimitz, etc.?

Well, I've got the answer:

They were fired before they made Major or left for a National Guard unit or the airlines!

Our nation doesn't want those kinds of leaders anymore. Squadron commanders don't run squadrons and wing commanders don't run wings. They are managed by higher ranking dildos with other esoteric PC goals in mind.

Can you imagine someone today looking for a LEADER to execute that Doolittle Raid and suggesting that it be given to a dare-devil boozer his only attributes: he had the respect of his men, an awesome ability to fly, and the organizational skills to put it all together? If someone told me there was a chance in hell of selecting that man today, I would tell them they were either a liar or dumber than shit.

I find it ironic that the Air Force put Brigadier General Robin Olds on the cover of the company rag quite a few years past.

While it made me extremely proud to see his face, he wouldn't make it across any base in America (or overseas) without ten enlisted folks telling him to zip up his flight suit, get rid of the cigarette, trim his mustache or better yet, shave it off.

I have a feeling that his response would be predictable and for that crime he would probably get a trip home and an Article 15. We have lost the war on rugged individualism and that, unfortunately, is what fighter pilots want to follow; not because they have to but because they respect leaders of that ilk. We've all run across that leader who made us proud to follow him because you wanted to be like him and make a difference. The individual who you would drag your testicles through broken glass for rather than disappoint him.

We better wake the hell up! We're asking our young men and women to go to really shitty places; some with unbearable climates, never have a drink, have little or no contact with the opposite sex, not look at magazines of a suggestive nature of any type and adhere to ridiculous regs that require you to tuck your shirt into your PT uniform on the way to the porta-shitter at night, in a blinding dust storm, because it's a uniform.

These people we're sending to combat today are some of the brightest we have ever produced, but they are looking for a little sanity, which they will only find on off active duty if we don't get a friggin' clue. You can't continue asking people to live for months or years at a time acting like nuns and priests without killing their incentive.

Who are we afraid of offending? The guys that already hate us enough to strap C-4 to their own bodies and walk into a crowd of us to detonate it? Think about it.

I'm extremely proud of our young men and women who continue to serve. I'm also very in tune with what they are considering for the future and I've got news for whoever sits in the White House, Congress, and our so-called military leaders. Much talent has and will continue to hemorrhage from our services, because these warriors are tired of fighting on two fronts - - one with our enemies, another against our leadership's lack of common sense.

BTW, whose great idea was it to put women and openly LGBTQ types in combat units? Not to mention same sex marriages, transgender operations, and babies being born on naval ships at sea. And I thought having an ORI (Operational Readiness Inspection) at an F-4 fighter wing in Vietnam during combat operations in 1970 was the epitome of nonsensical thinking...and not one inspector flew a mission with us. But I think we passed anyway.

Take it or leave it....that's just the way it is, no if's, and's, or but's.....

<?>~<YOU JUST CAN'T MAKE THIS STUFF UP!>~<?>

**BET YOU DIDN'T KNOW THIS!**

It's the law in Mexico, that you are required to have, and produce, a government-issued, tamper-proof, photo ID card with an embossed hologram and a thumbprint in order to vote in all federal elections.

**but asking for an I.D. is racist here?**

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From: "Tim Bolgeo" [tbolgeo@epbf.com](mailto:tbolgeo@epbf.com)

**MAJOR 'DESIGN FLAW' IN INTEL PROCESSORS MADE IN THE LAST DECADE COULD EXPOSE YOUR PRIVATE PASSWORDS TO HACKERS AND SLOW DOWN YOUR PC BY 50%**

- \* The flaw affects the x86-64 series of chips found in most Intel powered devices
- \* The bug could give hackers access to the kernel memory of an operating system
- \* This memory contains sensitive information that is usually off limits to software
- \* The Intel design issue could let hackers create malware to reveal its contents

By Tim Collins For Mailonline, 11:42 EST, 3 January 2018

<http://www.dailymail.co.uk/sciencetech/article-5232037/Security-flaw-Intel-chips-past-decade.html>

A massive security flaw thought to affect millions of computers has been discovered in the design of Intel's processors, which could give hackers your passwords.

Details of the exact extent and nature of the bug are being kept under wraps while programmers work to fix the issue.

But it is believed to be found in Intel chips manufactured over the past decade.

It is likely that most Windows and Mac OS users will have to download a patch that may slow down your system's performance by up to 50 per cent.

A massive security flaw thought to affect millions of computers has been discovered in the design of Intel's processors, which could give hackers your passwords. Details of the exact extent and nature of the bug are being kept under wraps while programmers work to fix it

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#### **WHAT CAN YOU DO?**

At the moment, there is nothing users can do to address the security flaw.

Programmers for the Linux open-source operating system are reportedly working to overhaul the affected memory areas.

Microsoft Corp is expected to issue a Windows patch next Tuesday after circulating test fixes towards the end of 2017.

Similar operating systems, such as Apple's 64-bit macOS, will also need to be updated.

'Crucially, these updates to both Linux and Windows will incur a performance hit on Intel products,' The Register wrote.

'More recent Intel chips have features to reduce the performance hit. Your mileage may vary.'

'The effects are being benchmarked, however we are looking at a ballpark figure of a five to 30 per cent slowdown, depending on the task and the processor model.'

-----  
**The vulnerability affects the Intel x86-64 series of chips, which includes most Windows and Linux desktop and servers equipped with the company's CPUs, as well as many Apple devices.**

**An unknown flaw in the way the processor accesses an area of the operating system called the kernel memory could let hackers read its contents The Register reported, citing unnamed sources.**

**This may include passwords and other login details, as well as the contents of files and other sensitive data.**

**Normally, the contents of the kernel memory is protected from being read by software being run on a computer.**

**The flaw would let an attacker write a piece of code to reveal its hidden treasure trove of data.**

**To fix the error, software engineers will need to redesign the way the kernel memory interacts with software processes running on a device.**

**However, this is likely to mean a major hit on a computer's performance, experts say.**

**Speaking to Sky News, computer scientist and president of virtual hardware firm Bromium, Ian Pratt, said: 'Some things will end up being twice as slow as they are today.**

**'You won't really notice it with web browsing and editing documents.**

**'It's an interesting one with gaming, because gaming is very graphics intensive. [It] will be most noticeable on graphics games.'**

**MailOnline has contacted Intel for a comment, but had not received a response at the time of publication**

**Kernel memory is part of the kernel layer, the central module of an operating system like Windows or Mac OS.**

**This is the part of the operating system that loads first and starts up core processes and tasks required to run your computer.**

**Kernel memory remains in a protected area of the system's main physical and virtual memory, which is made up of RAM chips and specially allocated areas of your hard drive.**

**While other parts of the main memory may be overwritten, kernel memory is allocated to perform important system processes like disk, memory, process and task management, as well as for communication between hardware components and devices.**

**As such, it contains sensitive information which is off limits to the the rest of the system, to protect any unwanted errors from occurring within the OS.**

Shares in Intel fell by more than three per cent in pre-market trading following the report.

#### **WHAT IS KERNEL MEMORY?**

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Competing chip maker AMD has told Linux developers by email that its chips are not vulnerable to the types of attacks that the fix for the Intel chip is intended to address by isolating the kernel memory.

Shares in AMD jumped more than seven per cent in pre-market trade after the bug emerged.

Further, the bug is likely to affect major cloud computing platforms such as Amazon EC2, Microsoft Azure and Google Compute Engine, according to one software blogger cited by The Register.

Microsoft Azure is due to undergo a maintenance reboot on January 10 while Amazon Web Services has also advised customers via email to expect a major security update this Friday.

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#### **THE DUTCH PLAN TO BUILD AN ARTIFICIAL ISLAND TO SUPPORT THE WORLD'S LARGEST WIND FARM**

WRITTEN BY Akshat Rathi, Energy Shocks, January 02, 2018

<https://qz.com/1169226/the-worlds-largest-wind-farm-is-being-planned-by-electric-grid-firm-tennet/>

Wind farms need a lot of space—not something the world has much to spare. That's why they're being pushed out into the sea.

TenneT, the operator of the Netherlands' electric grid, has come up with an ambitious plan to build an artificial island in the middle of the North Sea that on completion would support the world's largest wind farm.

The location for the artificial island is a region called the Dogger Bank, about 100 km (60 miles) off the coast of Yorkshire in the UK. During the last Ice Age some 20,000 years ago, when sea levels were 100 meters lower than today, Dogger Bank was actually a landmass called Doggerland, which connected mainland Europe to the British isles. The bank's shallowness means it won't require ungodly amounts of sand to build the island, and it will be able to support the thousands of wind turbines that need to be tethered to the sea floor. Its location also puts any electricity generated from the farm within reach of five countries.



21st century Doggerland. (TenneT)

Wind power generators are searching for better locations because wind farms are a much less dense form of electricity generation compared to fossil-fuel power or nuclear power. A nuclear power plant can generate 400 times as much energy per unit of area compared to a wind farm.

Sea-based wind farm locations need to be close to land or, as is the case with Dogger Bank, need to use additional equipment to reach the land that wants to use its power. Wind turbines create alternating current, which suffers greater losses when being transported over longer distances than direct current. TenneT plans to build equipment to convert the alternating current to direct current, which can then be transported to the UK, the Netherlands, and later to Belgium, Denmark, and Germany, before being converted back to alternating current for use in homes and industry. Wind power firms like Ørsted and Innogy have shown interest in installing the wind turbines.

The largest offshore wind farm currently is the London Array, which can produce 630 MW of power and covers an area of 122 sq. km (47 sq. miles). TenneT's proposed plan will create a wind farm capable of producing 30 GW of power over about 6,000 sq. km (2,300 sq. miles). That's about twice the amount of total offshore wind power installed across Europe today, over an area about eight times the size of New York City. If all goes as planned, the

wind farm could be up and running by 2027.

Because it needs additional equipment and more expensive maintenance, offshore wind power is costlier than its onshore cousin. But onshore wind farms aren't always desirable to locals. Still, the space offered by offshore isn't limitless—many of the best offshore sites are fast filling up, Rob van der Hage, TeneT's program manager, told The Guardian. "The big challenge we are facing towards 2030 and 2050 is onshore wind is hampered by local opposition and nearshore is nearly full," van der Hage says. "It's logical we are looking at areas further offshore."

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## LOCKHEED MARTIN TO HAND RECORD 60-KW LASER WEAPON OVER TO THE US ARMY

David Szondy, March 19th, 2017

<https://newatlas.com/lockheed-martin-laser-60-kw/48467/>



Rendering of a truck-mounted 60-kW laser weapon system for tactical U.S. Army vehicles (Credit: Lockheed Martin)

In 2015, Lockheed Martin took the wraps off a 30-kW mobile laser weapon that was powerful enough to take out a truck. Now the company will deliver a new 60-kW weapon to the US Army that earlier this month set a new record by generating a single 58-kW beam. With all phases from demonstration to development completed, Lockheed will ship the combined fiber laser to the US Army Space and Missile Defense Command/Army Forces Strategic Command in Huntsville, Alabama.

Similar to the previous laser, the new 60-kW design uses spectrum beam combining technology to produce a weapon-grade laser that is destructive as well as portable and

accurate. The fiber laser modules are made of an active gain medium consisting of an optical fiber doped with a rare-earth element, including erbium, ytterbium, neodymium, or others.

The optical fibers are flexible, so the laser can be thousands of meters long for greater gain, while taking up very little space because it can be coiled like a rope. The large surface-to-volume ratio means that it's easy to cool. In addition, fiber lasers are very durable and project a high-quality beam using 50 percent less electricity than an equivalent solid-state laser.

Lockheed says that the individual lasers produced by the fibers are combined into a single beam that is intense and scalable through the addition of more fiber bundles. The present laser is close to the diffraction limit. That is, it's close to the physical limit for focusing a laser on a single spot without interfering with itself, but it's still highly efficient – translating over 43 percent of the electricity fed into it into laser light.

"The inherent scalability of this beam combined laser system has allowed us to build the first 60 kW-class fiber laser for the U.S. Army," says Robert Afzal, senior fellow for Laser and Sensor Systems. "We have shown that a powerful directed energy laser is now sufficiently light-weight, low volume and reliable enough to be deployed on tactical vehicles for defensive applications on land, at sea and in the air."

Lockheed sees the new lasers as eventually leading to new systems to provide protection against swarms of drones, rockets, and mortars that would overwhelm conventional defenses.

Source: Lockheed Martin

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## WHY DOES BOEING'S MQ-25 PROTOTYPE LOOK SO STEALTHY?

Jan 3, 2018 by Graham Warwick in Ares

[http://aviationweek.com/blog/why-does-boeings-mq-25-prototype-look-so-stealthy?NL=AW-05&Issue=AW-05\\_20180104\\_AW-05\\_955&sfvc4enews=42&cl=article\\_1&utm\\_rid=CPEN1000003019593&utm\\_campaign=13132&utm\\_medium=email&elq2=ab186a0989a4494ca5711e11bf65ce1b](http://aviationweek.com/blog/why-does-boeings-mq-25-prototype-look-so-stealthy?NL=AW-05&Issue=AW-05_20180104_AW-05_955&sfvc4enews=42&cl=article_1&utm_rid=CPEN1000003019593&utm_campaign=13132&utm_medium=email&elq2=ab186a0989a4494ca5711e11bf65ce1b)

A short teaser video posted by Boeing on Twitter showing the company-funded prototype of its offering for the U.S. Navy's MQ-25 Stingray has raised questions about why its design for an unmanned carrier-based aerial refueling tanker should look so stealthy.

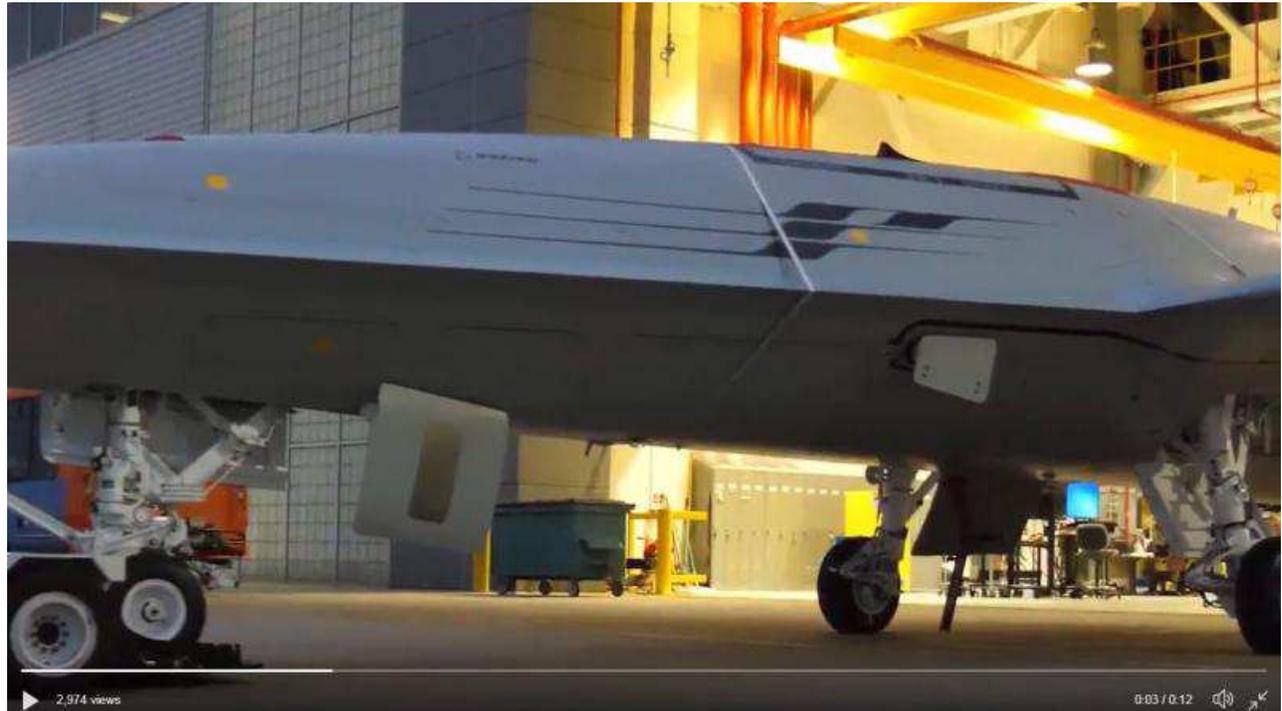
The answer may lie in the origins of the Navy's long-gestated requirement for the so-called Carrier-Based Aerial Refueling System (CBARS), but what is obvious is that Boeing's design bears a resemblance to one of the key aircraft in the history of stealth - Northrop's 1980s Tacit Blue demonstrator.

The first teaser image released in December immediately raised questions about where the inlet was located on Boeing's MQ-25 design. Earlier artists' impressions of its concept for a carrier-based unmanned aircraft had the inlet mounted above the fuselage, similar to General Atomics' Avenger. But such an inlet was not apparent in that first, tantalizing head-

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on image.



**The inlet is no more apparent in the latest video. In fact, there doesn't appear to be one! The only hint at its existence is a black line mid-way along the prototype's upper fuselage**

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stenciled with the words “Jet Inlet Danger.” This suggests Boeing’s MQ-25 has an inlet buried in its back and therefore completely flush - like that on the Tacit Blue.



The Tacit Blue was built for DARPA and the U.S. Air Force in part to show that a stealth aircraft could be designed that had curved surfaces, and was not entirely composed of faceted panels like Lockheed’s Have Blue and F-117. The design techniques developed for Tacit Blue were applied by Northrop to the smoothly curved B-2 stealth bomber.

Tacit Blue’s top-mounted flush inlet may have been stealthy, but it was hard to start, the flight-test crew at one point parking a C-130 in front of the aircraft so that its propwash would help start the airflow into the buried engines. There was also some flow separation in the inlet duct.



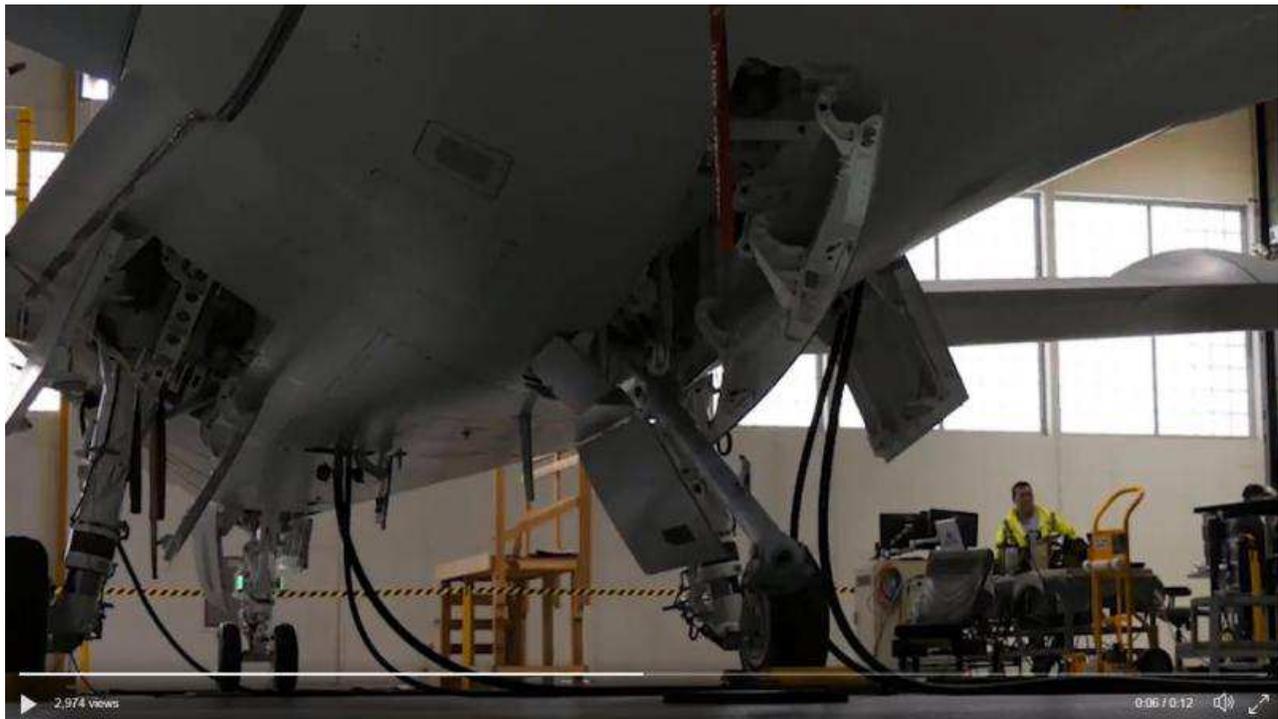
U.S. Army Force Museum

On Tacit Blue the engines exhausted from a slot nozzle located between V-tails - which also seems to be the case with Boeing's MQ-25. The Tacit Blue's wing and tails were unswept - as they appear to be on Boeing's unmanned aerial refueler. Boeing's design also has a chine running around the perimeter of the fuselage - a familiar characteristic of stealth designs.

By why? Stealth is not one the Navy's requirements for CBARS. It was, once, a requirement for the CBARS' predecessor, the Unmanned Carrier-Launched Surveillance Strike (UCLASS) system. But after a lengthy and contentious debate, UCLASS was downgraded to an unmanned tanker and the need for stealth removed.

Northrop Grumman - which built and flew the tailless, flying-wing X-47B under the predecessor to UCLASS, the Naval Unmanned Combat Air System Demonstrator program - dropped out of the running for CBARS after seeing the final request for proposals (RFP). The lack of a requirement for a stealthy platform that could be developed from the X-47B may have one of the reasons.

Boeing's MQ-25 design may have acquired its stealth features when it was UCLASS, and retained its shape through the many study phases that led up to the final CBARS RFP. It may be a bet placed by Boeing that the Navy, once it gets the Stingray on its carrier decks, will want to evolve the aircraft from an unmanned tanker to a surveillance/strike asset than needs stealth.



Another sign of stealth influence in the design's origins that is visible in the video is the arrestor hook, which is enclosed behind a door when retracted. But the prototype seen being rolled out by Boeing's Phantom Works in St. Louis does not have sawtooth edges on its gear doors or access panels, the existence of which is another typical signifier of stealth requirements.

Other design features of note. Boeing's MQ-25 prototype has three air-data sensors on the nose - indicating triplex digital fly-by-wing flight control - but they are probes and not the flush sensors used on Northrop's stealth-shaped X-47B. There is also what appears to be a camera under the flat nose, presumably to provide the ground operator a view ahead during takeoff and landing.



The main gear retracts forward into the fuselage inboard of the wing roots and the wing fold is just visible - a seam and bulge on the upper surface, over what is presumably the hinge and actuator, some way out from the wing root. There is also a pronounced vertical joint that runs around the fuselage forward of the wing leading edge - the reason for which is far from clear.

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## **MOVE OVER KEVLAR? NEW NANOFIBERS COMBINE EXTREME STRENGTH AND TOUGHNESS**

Ben Coxworth, January 5, 2018

<https://newatlas.com/gel-electrospun-nanofibers/52841/>

A scanning electron microscope image of the gel-electrospun nanofibers (Credit: MIT)

Ultra-strong fibers like Dyneema and Kevlar may be in for some competition. Scientists at MIT have developed new polyethylene nanofibers that are both strong and tough, and that could someday be used in applications such as less-bulky body armor.

Led by Prof. Gregory Rutledge, the researchers created the fibers by adapting an existing technique known as gel spinning, in which a polymer gel is extruded through a heated

syringe and mechanically spun into strands. In this case, however, the gel was spun not by mechanical means, but via an electrical field.



The resulting gel-electrospun nanofibers are just a few hundred nanometers (billionths of a meter) in width, and for reasons that still aren't entirely understood, they exhibit both high strength and toughness – something that doesn't occur often with materials.

"Usually when you get high strength, you lose something in the toughness," says Rutledge. "The material becomes more brittle and therefore doesn't have the mechanism for absorbing energy, and it tends to break. It's a big deal when you get a material that has very high strength and high toughness."

As compared to carbon and ceramic fibers, the new nanofibers are similar in strength but are considerably tougher. They're also less dense, which means that they outperform traditional materials on a pound-for-pound basis. Their modulus (resistance to stretching) isn't quite as good, but they should be relatively easy and inexpensive to manufacture.

Source: MIT

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**KRATOS TO SHOW LOW-COST VALKYRIE AND MAKO "WINGMAN" COMBAT DRONES**

Mike Hanlon, June 15th, 2017

<https://newatlas.com/kratos-valkyrie-mako-combat-drones-paris/50044/>

Defense company Kratos has announced that it will show two low-cost combat drones at the Paris Air Show next week, offering an insight as to what military conflicts might look like in the foreseeable future – a manned combat jet leading dozens of 1,000 km/h lethally-

armed unmanned companions.

The Kratos XQ-222 Valkyrie and UTAP-22 Mako drones offer fighter-like performance at between US\$2 and \$3 million apiece, compared with \$100 million for each manned fighter. The Valkrie and Mako will initially function as wingmen to manned aircraft in combat, but they are the most likely key component of the first military unmanned combat swarms.



The Kratos XQ-222 Valkyrie will act as an armed-to-the-teeth buddy for manned combat aircraft initially, but swarms of combat drones now seem likely in the not-too-distant future(Credit: Kratos Defense)



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The Kratos Mako is based on the Kratos-made BQM-167A aerial target and can also be ship-launched, offering instant aerial power to any naval vessel. Kratos cites "payload versatility" as one of the Mako's key features, so it might possibly be "the ultimate wingman" for the Navy too(Credit: Kratos Defense)

Kratos is a very large defense company headquartered in San Diego, California with expertise in satellite communications, cyber security and cyber warfare, microwave electronics, missile defense and combat systems, but the most visible product from the company has been it's target drones.

Until recently, Kratos has been best known as a supplier of these unmanned, low cost military target drones that are used to test the efficacy of the US military's far more costly offensive firepower. That's one taking off below.



**A Kratos Aerial Target drone takes off(Credit: Kratos Defense)**

The company has developed these target drones to be easily launched, mimic the performance and evasive tactics of enemy combatant aircraft, and to do so very cost-effectively ... because the ultimate destiny of a target is to be shot down. Target drones that are not shot down land by parachute and can be reused.



A battery of Kratos Aerial Target drone ready for take off. One of the advantages of the low-cost Kratos drones are their ability to get into the air quickly(Credit: Kratos Defense) Hence the target drones have developed similar performance to their front-line brethren without proportional cost, and this focus on cost-effective performance added to the Kratos capability portfolio.

"Thanks to our target drone expertise and our in-house research and development team, we have been able to combine high performance with low cost in fully functioning aircraft. And we did it in less than two years, not decades", says Eric Demarco, Kratos CEO.



This hand-out sketch from a March, 2016 Air Force Research Labs (AFRL) presentation on its Low Cost Attritable Aircraft Technology (LCAAT) program offered quite a bit of insight into the final Valkyrie(Credit: Air Force Research Labs (AFRL))

With the foreseeable horizon for air warfare more than likely involving swarms of drones, the United States Air Force is beginning to actively move towards this new paradigm with its Low Cost Attritable Aircraft Technology (LCAAT) program.

Attritable doesn't quite mean disposable, but expendable if necessary. Hence the drones might be used to shield the manned aircraft nominally controlling the swarm, and take risks that manned planes and very expensive Unmanned Systems cannot.

The aim of the LCAAT program was to create a subsonic aircraft for under \$3



million, not including the cost of the mission systems it would carry ... and Kratos won the initial contract, beating out a star-studded field.

As the Kratos 20-ft (6-m) and 29-ft (8.8-m) drones can be deployed at a cost in the \$2 million to \$3 million price range, and a manned F-35 costs \$120 million, the opportunity is now there to field swarms to support manned aircraft, or more likely be tasked with specific missions within a swarm.



The Kratos Mako Unmanned Tactical Aerial Platform (UTAP-22) is based on the Kratos-made U.S. Air Force BQM-167A aerial target. The Mako has already flown collaborative operations with a manned fighter aircraft, and is currently being readied for sensor integration. Kratos cites "superior maneuverability and payload versatility" as the Mako's key features and promotes it as "the ultimate wingman for high-performance manned/unmanned teaming operations in contested airspace"(Credit: Kratos Defense)

The smaller Mako with its 10-ft (3-m) wingspan is the faster of the two at 0.91 Mach (1,125 km/h), while the 22-ft (6.7-m)-wingspan Valkyrie is slightly slower at 0.85 Mach (1,050 km/h).



Both drones can operate independently in combat and both have considerable range, with the Mako capable of flying to 50,000 ft and covering 1,400 naut mi (2,600 km) and the XQ-222 Valkyrie (below) capable of 45,000 ft and 1,850 naut mi (3,425 km).

The Kratos XQ-222 Valkyrie can achieve speeds of 0.85 Mach

(1,050 km/h), fly at 45,000 ft, and boasts a range of 1,850 naut mi (3,425 km)(Credit: Kratos Defense)

"If you team up a bunch of these aircraft with an F-35 or an F-22, or some of our surveillance assets, you'd basically be able to cover more space at a lower cost point," Bill Baron of the United States Air Force Research Laboratories told the Dayton Daily News last month. "In a lot of cases, we don't have enough airplanes and as you look to the future, most likely our fleet sizes are going to continue to be more limited so this is a way to provide a force multiplier."

The Mako is already being partnered with manned aircraft in flight trials, and given the aircraft's acclaimed "payload versatility", the military will no doubt be exploring fully what the low-cost alternative might be able to deliver. The Valkyrie is scheduled for first flight in the first half of 2018.

Kratos claims the Mako and Valkyrie "represent an entirely new category of UAV" and it is an entirely reasonable claim – these low-cost combat aircraft will most likely be on the front line when the first combat drone swarms form up a few years from now, and the American arsenal of 10,000 unmanned aerial vehicles will likely grow with the advent of the Mako and Valkyrie. Competition can be expected to be fierce from the established aerospace companies and this category of aircraft can be expected to grow in capability too.



How a combat mission might look in the future – one manned fighter aircraft and a couple of armed-to-the-teeth unmanned buddies that can handle multiple targets and deflect threats(Credit: Kratos Defense)

It's a fascinating scenario given that Chinese military drones are already being sold on international markets that are very similar to America's current premier drones, the MQ-1 Predator and MQ-9 Reaper. The Chinese CASC CH-4 (China Aerospace Science and

Technology Corporation's Clever Hawk 4) UAV is very similar to the MQ-9, which has a "fly away" cost of \$17 million, whereas the CH-4 sells for \$1.8 to \$2 million. A Chinese company, DJI, also manufactures the lion's share of the 3,000,000 commercial and personal drones that will ship this year.

With the current rate of progress in this unmanned domain, it is unlikely that any force-multiplying capability will remain unmatched for long, and any American swarm might meet equal if not greater numbers of drones wherever a fight occurs, burning money at 10 times the rate of an adversary.

It is a complex web we weave. History has shown that all game-changing military technologies were quickly added to both sides of every battlefield. The technological escalation underway as the humble drone threatens to dominate the battlefield is both fascinating and frightening to watch.

Source: Kratos

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## METAL TIRES FOR MARS: 'SHAPE MEMORY' COULD HELP ROVERS ROLL

By Jesse Emspak, Space.com Contributor | January 8, 2018 07:15am ET

<https://www.space.com/39305-metal-tires-for-mars-rovers.html>



The shape memory alloy used to make the new tire design is engineered into an interwoven mesh. Credit: NASA

A good tire means a lot when the nearest roadside assistance is 34 million miles (55 million kilometers) away. For future rovers that will explore the surface of Mars, NASA scientists have created a tire that contains no air, can handle the rugged Martian terrain, and may even have applications on Earth for trucks and off-road vehicles.

The new tire is made of a "shape memory alloy" composed of nickel and

titanium. These alloys bend and twist like other metals (in materials science parlance, they are ductile rather than brittle). What makes them different is their atomic structure, which tends to resume its original shape after the alloy is bent, stressed or deformed.

The idea for the tire came from a meeting between Santo Padula, a NASA materials scientist at NASA's Glenn Research Center, and Colin Creager, a NASA engineer at Glenn who was working on how to make a Mars-ready tire for a rover. NASA's Curiosity rover had rigid wheels that sustained damage in 2013 from rolling on the rough terrain, even though the rover doesn't move very fast. [The Evolution of Mars Tires in Pictures]

Ordinarily, when metal like steel is bent, the bonds between atoms are stretched.

An Earth-bound Jeep is outfitted with a tire built from a "shape memory alloy," or a metal that springs back into its original shape after being deformed. The design could find its way onto a future Mars rover. Credit: NASA

"If you overstretch [the metal], the bonds break," Padula told Space.com. "You've exceeded the elastic limit of that bond. Think of when you had a slinky as a kid, and stretched it too much." An overstretched slinky, he said, won't return to its former shape.



The alloy works because its arrangement of nickel and titanium atoms requires the least amount of energy out of any alternative arrangement, so the atoms naturally fall back into that arrangement, he said. It takes energy to stretch or bend a shape memory alloy, but once that energy is no longer being applied, the atoms fall back to their original positions.

Padula said the nickel-titanium alloy bonds will break eventually, but the material can handle 30 times the deformation that conventional spring steels, like the ones in car suspensions or piano strings, can sustain.

#### **A TIRE WITH NO AIR**

An ordinary tire provides shock absorption because the tire is a soft material (rubber) filled with air. With shape memory alloys, engineers can make a tire out of arches that support a mesh with no air inside. The "bounce" comes from metal bending and springing back into its former shape.

When Padula and Creager met, the latter was trying to come up with a way to make a mesh tire similar to the ones on the Apollo-era vehicles used on the moon, Creager told Space.com.

The problem was that the springy mesh structure of the moon vehicles' tires could become permanently bent on the Martian terrain.



Damage to a wheel on NASA's Curiosity rover on Mars is visible in this image. Credit: NASA/JPL-Caltech/MSSS

"You put too much load in one spot, and you deform the springs," he said. "Nothing fully solved that problem." That was when he met Padula, who suggested the shape memory alloys.

The SLOPe (Simulated Lunar Operations) laboratory at NASA's Glenn Research Center has test rigs and equipment used for studying the traction and performance of tires developed for lunar and planetary surfaces. Credit: NASA



Tires in space can't be the gas-filled types we use on Earth, according to NASA. Filling a tire with gas is a problem in space missions, because if the tire gets punctured, changing it is an involved process, even if there are

humans around to do it. Clearly a flat on Mars or the moon isn't easy to fix. (One type Apollo-era tire was gas-filled, but that was for a kind of pulled cart on a crewed mission, not a powered vehicle.)

The shape memory alloy tires have been tested at the Mars Life Test Facility in NASA's Jet Propulsion Laboratory. The tires (which are roughly the size of an ordinary car tire) were also tested on a Jeep, as shown in a NASA video.

While the new tires won't be on the next NASA rover going to Mars — the Mars 2020 rover — they are part of a new rover design proposal.

Padula said he thinks the tires could be used on earthbound vehicles someday. Even though it might seem like a metal tire would be harder to produce or more expensive than a traditional tire, it could save money for trucking companies, because there's no problem with under-inflating the tire.

"You think that if under-inflation costs a trucking company a few thousand dollars a year in fuel, this could save money even if the up-front capital cost is higher," Padula said.

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From: "William Green" [whgconsulting@gmail.com](mailto:whgconsulting@gmail.com)

#### ASTRONOMY PICTURE OF THE DAY

Discover the cosmos! Each day a different image or photograph of our fascinating universe is featured, along with a brief explanation written by a professional astronomer.

SUN HALO OVER SWEDEN - 2018 January 1

<https://apod.nasa.gov/apod/ap180101.html>

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From: "Jim Woosley" [jimwoosley@aol.com](mailto:jimwoosley@aol.com)

#### MAJOR CHIP FLAWS AFFECT BILLIONS OF DEVICES

by Selena Larson @CNNTech January 4, 2018: 9:44 AM ET

<http://money.cnn.com/2018/01/03/technology/computer-chip-flaw-security/index.html>

Two major flaws in computer chips could leave a huge number of computers and smartphones vulnerable to security concerns, researchers revealed Wednesday.

And a U.S. government-backed body warned that the chips themselves need to be replaced to completely fix the problems.

The flaws could allow an attacker to read sensitive data stored in the memory, like passwords, or look at what tabs someone has open on their computer, researchers found. Daniel Gruss, a researcher from Graz University of Technology who helped identify

the flaw, said it may be difficult to execute an attack, but billions of devices were impacted.

Called Meltdown and Spectre, the flaws exist in processors, a building block of computers that acts as the brain. Modern processors are designed to perform something called "speculative execution." That means they predict what tasks they will be asked to execute and rapidly access multiple areas of memory at the same time.

That data is supposed to be protected and isolated, but researchers discovered that in some cases, the information can be exposed while the processor queues it up.

Researchers say almost every computing system -- desktops, laptops, smartphones, and cloud servers -- is affected by the Spectre bug. Meltdown appears to be specific to Intel (INTC) chips.

"More specifically, all modern processors capable of keeping many instructions in flight are potentially vulnerable. In particular, we have verified Spectre on Intel, AMD, and ARM processors," the researchers said.

Government agencies issued statements warning users about the vulnerabilities.

The U.S. Computer Emergency Readiness Team said that while the flaws "could allow an attacker to obtain access to sensitive information," it's not so far aware of anyone doing so.

The agency urged people to read a detailed statement on the vulnerabilities by the Software Engineering Institute, a U.S.-government funded body that researches cybersecurity problems.

The institute said that "fully removing the vulnerability requires replacing vulnerable [processor] hardware."

It later changed its guidance on Thursday to suggest updating software was enough. The institute didn't say why it had made the change and didn't immediately respond to a request for further information.

It said the problems affect technology giants including Apple, Google and Microsoft.

The U.S. Computer Emergency Readiness Team recommended that users read advice posted online by Microsoft and software company Mozilla.

The U.K.'s National Cyber Security Center advised organizations and individuals to "continue to protect their systems from threats by installing patches as soon as they become available."

Google (GOOGL) programmer Jann Horn of Project Zero was one of the researchers who discovered the flaws. In a blog post, he said his group alerted chipmakers to the issues in June. Since last fall, security researchers and companies have investigated and updated software systems to address the flaws.

Intel chips are found in everything from personal computers to medical equipment. The company's shares were down 3% on Wednesday.

The company said in a press release that "many types of computing devices — with many different vendors' processors and operating systems — are susceptible to these exploits."

Intel said it is working with other chipmakers, including AMD and ARM Holdings, to solve the issue. ARM said in a statement a small subset of its processors are susceptible to the flaws. AMD said in a statement there is a "near zero risk of exploitation" for one of the security issues, due to architecture differences.

A fix requires both the chip manufacturers and software makers to update their products before pushing it out.

Estimates posted on Linux message boards suggested computer performance could slow down between 5% and 30% once patched, however Intel said users will not see significant performance changes.

Tech website The Register was first to report the processor flaws on Tuesday.

A spokesperson for Microsoft (MSFT) told CNNMoney the company is aware of the issue and is in the process of deploying mitigations to cloud services and has released security updates to protect Windows users.

Google's Cloud Platform has been updated to prevent the vulnerabilities, the company said.

Amazon (AMZN) said in a statement most of its cloud computing machines affected by the flaw are already protected, but it was updating the rest on Wednesday.

Apple (AAPL) revealed Thursday that all its Mac and iOS devices were affected by the flaws, but said that "there are no known exploits impacting customers at this time." The company has already released some fixes for Meltdown, and will release others for Spectre in subsequent updates.

It's important for all users to update their devices when new updates are released.

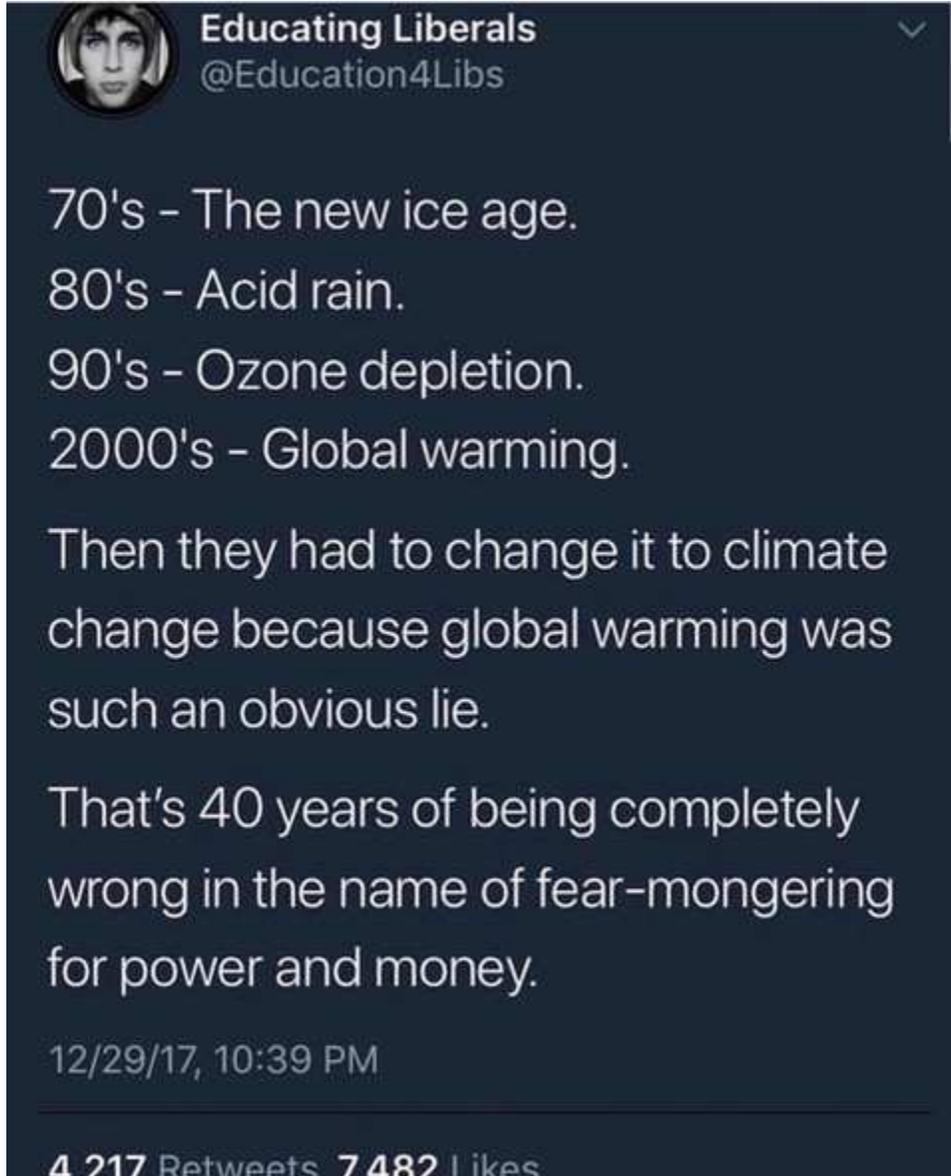
Flaws in chips are unusual. Back in 1994, a major error in Intel's Pentium processor caused computers to incorrectly calculate results.

-- Jethro Mullen contributed to this report.

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**ABSOLUTELY & TOTALLY POLITICALLY INCORRECT & AS FAR TO THE RIGHT AS YOU CAN GO!**

From: "Jim Woosley" [jimwoosley@aol.com](mailto:jimwoosley@aol.com)



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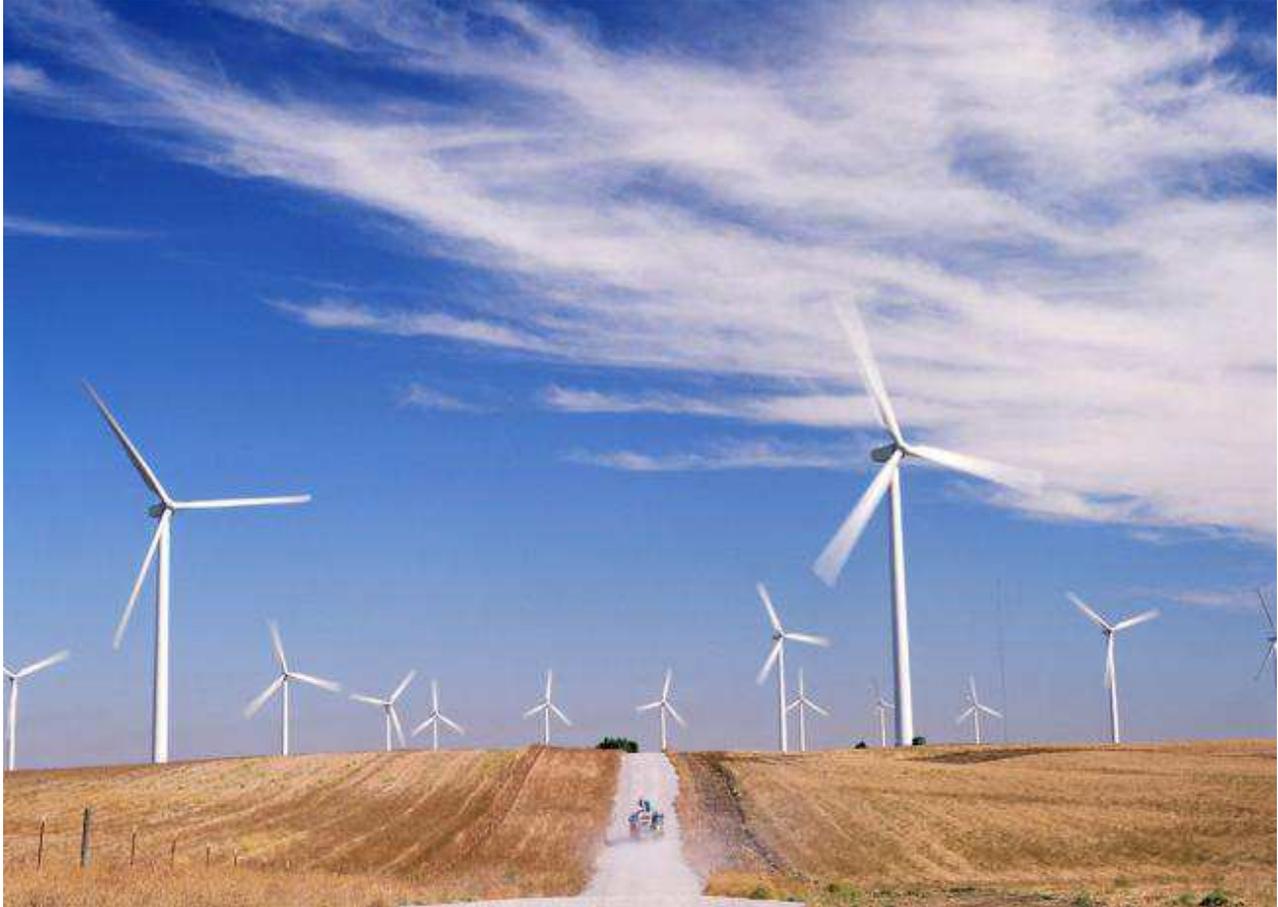
**ABSOLUTELY & TOTALLY POLITICALLY INCORRECT & AS FAR TO THE CENTER AS YOU CAN GO!**

From: "Tim Bolgeo" [tbolgeo@epbfi.com](mailto:tbolgeo@epbfi.com)

**ENVIRONMENTALISTS BLAST TVA FOR KILLING MAJOR WIND PROJECT**

Chattanooga Times Free Press, January 2, 2018

[http://www.energycentral.com/news/environmentalists-blast-tva-killing-major-wind-project?utm\\_medium=eNL&utm\\_campaign=DAILY\\_NEWS&utm\\_content=93924&utm\\_source=2018\\_01\\_03](http://www.energycentral.com/news/environmentalists-blast-tva-killing-major-wind-project?utm_medium=eNL&utm_campaign=DAILY_NEWS&utm_content=93924&utm_source=2018_01_03)



**Dec. 31--One of America's biggest wind energy projects is twisting in the wind, and environmentalists are blaming the Tennessee Valley Authority for the failure of the pioneering \$2.5 billion effort to bring more renewable energy into the Tennessee Valley.**

**Clean Line Energy Partners, a Houston-based developer of five major transmission lines for wind-generated electricity, has dropped its interconnection agreement with TVA for one of its most promising projects after the federal utility declined to buy what Clean Line officials said would be cheaper and cleaner power for TVA.**

**The nation's biggest wind generator, NextEra Energy Resources, has bought the Oklahoma portion of the proposed 700-mile-long Plains and Eastern Line to serve Oklahoma and Midwest customers. But for now, plans to bring wind energy from the windy areas of Oklahoma and Texas into the less-windy Tennessee Valley and Southeastern part of the United States are stalled and unlikely to be resurrected for years.**

**"TVA killed what could have been one of the biggest and most important renewable energy projects in America," said Stephen Smith, executive director of the Southern Alliance for Clean Energy in Knoxville. "This was one of the best renewable energy deals in the Southeast and could have brought 3,500 megawatts of clean, renewable power to our region at an extremely low cost -- cheaper than what TVA is now paying for its power."**

**TVA signed a memorandum of understanding with Clean Line Energy Partners LLC six years ago to consider the power supply arrangement along the 700-mile transmission line**

the company proposed to build through Oklahoma and Arkansas. The high-voltage, direct-current transmission line, if built, would carry wind-generated electricity from western Oklahoma, southwest Kansas, and the Texas Panhandle to TVA, Arkansas and other eastern markets.

The Plains and Eastern line, which Clean Line said it could have built and activated by 2020, would have ended in Memphis, where city officials have backed the project to help build on Memphis' reputation as the 21st century distribution hub in America. With the nation's biggest transmission system, TVA could distribute the wind energy delivered to Memphis for its own use across its 7-state region or carry the power to other Southeastern utilities wanting more renewable power.

#### **POLITICAL WINDS BLOW AGAINST CLEAN LINE**

**BUT AFTER YEARS OF STUDY, TVA SAID THE CLEAN LINE PROJECT DIDN'T MAKE ECONOMIC SENSE FOR THE NATION'S BIGGEST GOVERNMENT-OWNED UTILITY, SINCE TVA ALREADY HAS ENOUGH POWER-GENERATING CAPACITY AND IS ON PATH TO GET MORE THAN HALF OF ITS POWER FROM CARBON-FREE SOURCES. TVAPRESIDENT BILL JOHNSON SAID THE INTERMITTENT NATURE OF WIND POWER WOULD REQUIRE TVA TO BUILD OTHER BACKUP POWER GENERATORS, INCLUDING NATURAL GAS PLANTS, THAT WOULD OFFSET THE PROMISED SAVINGS FROM THE WIND-GENERATED POWER SOURCES ALONE.**

"We're looking at a power demand in the future that is flat, or declining slightly, so we don't anticipate needing major additions to power generation for a decade or more," Johnson said.

TVA Chief Financial Officer John Thomas said TVA doesn't want to make long-term contracts for more power since electricity demand could shift up or down from new technologies, including more electric-powered vehicles on the one hand and more distributed, self-generated power on the other hand.

"With the uncertainty of load, the flexibility of having relatively short-term agreements for power is of great value to us right now," Thomas said.

U.S. Sen. Lamar Alexander, R-Tenn., a senior member of the Senate energy subcommittee, took to the floor of the U.S. Senate last year to denounce Clean Line's Plains and Eastern project as unnecessary since TVA doesn't foresee the need for more power in the foreseeable future.

"[TVA's] board should resist obligating TVA's ratepayers for any new large power contracts, much less contracts for comparatively expensive and unreliable wind power," said Alexander, a critic of federal subsidies for renewable energy and a proponent of more nuclear power plants.

#### **WIND GETS MORE EFFICIENT, BUT FEWER TAX BREAKS**

But Michael Skelly, president of Clean Line Energy Partners, said wind generators are continuing to become more efficient, cutting the production and delivery cost for wind energy to help offset the planned phase-out of the federal production tax credits by 2020. The production tax credit and investment tax credit provided to wind generators helped

boost the total volume of new solar and wind generation to 10 percent of all new power additions in 2016.

Skelly said last week he was "disappointed" in the reluctance of TVA to pursue purchases of power from the proposed Plains and Eastern line. He said the project could have cost TVA less than 2 cents per kilowatt-hour after factoring in the money the utility also would have made by transmitting the wind energy across existing TVA high-voltage lines to other interested power utilities in the Southeast.

TVA charges more than 6 cents per kilowatt-hour for electricity sold to local power companies such as EPB in Chattanooga, and during peak demand periods TVA has paid more than 10 cents per kilowatt-hour to buy or generate its power.

"TVA obviously has to make its own decisions about its future power supply, and we understand that," Skelly said. "But for now, we've stopped the process [of pursuing an interconnection agreement with TVA] because TVA required a whole lot of money to continue in this process but they have not wanted to make any commitments to buy the energy off of this line."

#### **CLEAN LINE LOOKS FOR CUSTOMERS ELSEWHERE**

Skelly said Duke Power and other Southeastern utilities have expressed interest in buying more wind-generated power, but TVA was needed to buy and/or readily transmit the 3,500 megawatts the line was designed to deliver to Memphis.

When at full power, the 3,500 megawatts of power coming off the line would be more than three times the power generation of a typical TVA nuclear reactor and enough power to supply about six cities the size of Chattanooga.

"Unfortunately, this represents a significant delay in our ability to deliver this energy in the Southeast," Skelly said of the decision not to actively pursue the project at this time. "TVA's lack of interest has certainly not been helpful."

Skelly said other utilities want to buy wind-generated power, and Clean Line is now focusing on its four other transmission projects in the Midwest and the Western part of the United States. NextEra will use the Oklahoma part of the Plains and Eastern line to begin serving parts of Oklahoma, Kansas with wind-generated power that NextEra plans to develop.

"We are hanging onto our permits and rights of way in Arkansas in the event TVA in the future says it might like this power somewhere down the line," Skelly said. "But at this point it would take considerably more effort to get this project moving for TVA again."

#### **IS TVA BACKING AWAY FROM RENEWABLES?**

Smith said TVA's reluctance to embrace the Clean Line project runs contrary to its mission to foster innovation and new technology and to serve as a "living laboratory" for energy and economic development.

"TVA was a leader in developing some of the first 500 kilo-volt transmission lines in the country, and this could have made them a leader in helping develop high-voltage, direct-current lines in the U.S. and helping to connect TVA to a whole new supply area with cleaner and cheaper fuel," he said. "We're becoming increasingly convinced that [TVA President] Bill Johnson is anti renewable energy."

Unlike most other utilities that are subject to oversight by state regulatory bodies, TVA determines its own costs and sets its own rates without the need for regulatory approval.

Sandy Kurtz, a board member for the Tennessee Environmental Council, said power consumers, including major corporations such as Amazon, Google and Walmart, want their electricity to come from renewable sources to reduce their carbon footprint and lessen the chances of global climate change.

"This could have been a major step forward in moving toward a fossil-free future, and I just think TVA is terribly short-sighted in not taking advantage of this opportunity," she said.

Johnson insists he is "energy agnostic" and simply wants a diverse energy mix that is both reliable and low cost. Although winds are more abundant and consistently blow in Oklahoma and the Texas Panhandle, such wind generation is still variable and often strongest in the middle of the night, when it is needed the least for TVA.

But Skelly said other utilities have found that their projections about the costs of using a variable source of power like wind have often proven more than expected "and as battery and other storage methods become better, wind will prove even more attractive."

"We think we gave TVA a very good offer, but apparently they did not," he said. "We're still getting a lot of interest from other utilities that want to increase their renewable energy and see wind as a good way to achieve that at a reasonable cost."

Skelly said he and his partners have been working on the Clean Line transmission project for more than eight years and have had to battle local landowners who didn't want to sell their land and regulators in Arkansas who balked at permitting the transmission line rights of way to a developer from another state.

"We've been able to overcome those obstacles, but we always knew when we started it wouldn't necessarily be easy or quick," he said. "But we do think it is the right choice in the long run."

Contact staff writer Dave Flessner at [dflessner@timesfreepress.com](mailto:dflessner@timesfreepress.com) or at 423-757-6340.

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*TVA does not work for the Environmental Lobby. It works for the people of the Tennessee Valley to give them clean and efficient power. The windmills do not make economic sense and are not a benefit to our people. I only worked for them for over 30 years so what do I know. But I do know this, I will compare my electric bill to*

yours to see which is lower. Same for air quality. UT

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From: "Jim Woosley" [jimwoosley@aol.com](mailto:jimwoosley@aol.com)

**DEATHS CAUSED BY:**  
**FDA APPROVED DRUGS:**  
**106,000 PER YEAR**

**HOSPITAL ERRORS:**  
**195,000 PER YEAR**

**RIFLES:**  
**300 OR LESS PER YEAR**

**ARE WE SOLVING THE RIGHT PROBLEM??**

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