

## AMS CHRONICLE

## IPMS DENVER ROB WOLF CHAPTER **JUNE 2019**

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U.S	A

**NEXT MEETING:** 

10 JULY 2019 1900

2019 OF	<u>FICERS</u>	2019 OFFICERS EMAILS
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The Eagle H	las Landed	
In honor of	the 50 year	
anniversary (	of the moon	TBD
landings, anv	y real space	

### EDITOR RAMBLINGS FROM THE BUNKER

Nice week holiday based in Ruidoso NM. We hit Carlsbad, Roswell, the petro glyphs and lava fields, the Space museum in Alamogordo and Lincoln. Lincoln was planned as a 35 minute stop at the museum. Ended up being 4+ hours including lunch. This is where the Lincoln County War(s) (John Wayne in Chisum, Billy the Kid, etc) were fought Some of the building are still open and I picked up 2 books on the subject. It could be a 2 hour OLLI class.

I took a Stop The Bleed class. Uncontrolled bleeding is the leading cause of death in trauma situations. Look for a class near you https://cms.bleedingcontrol.org/Class/Search

subject



SAVE A LIFE

BLEEDINGCONTROL.ORG

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Nikto ne Zabyt Nichto ne Zabyto

	2019 MONTHI	LY CONTEST THEMES
โก้อนกู้	Theme	Description
January	Uncharted Waters	Subjects representing the first use of a design concept or technology
February	At Least a Dozen	Any subject with engine(s) of 12 or more cylinders.  2 engines with 6 cylinders does not count.
March	Twins	Any subject with 2 major design elements. Examples: F-82 Twin Mustang, ZU-23 twin gun anti-aircraft.
April	Club Kit Auction	Get rid of your trash and buy my treasure!
May	Club contest: Special Theme: NAFTA	Theme: Any Canadian or Mexican subject. May be manufactured in either country or in national markings.
June	Recon	Any subject specifically designed or used for reconnaissance
July	The Eagle Has Landed	In honor of the 50 year anniversary of the moon landings, any real space subject
August	In Memoriam	Remembering the departed through kits or subjects from departed members / friends / family
September	Worst Kit Ever!	The worst kit you have tried to build, finished or not.  Must be at least 50% built
		+ must explain reason why it's the worst kit
October	Tank Killers	Any subject with the primary role of destroying tanks, <b>but not a tank itself</b> . A/C designed with a primary anti-tank mission.
November	Monochrome	Any subject where the majority of the color scheme is black and/or white.
December	Cut Throat Gift Exchange	It's better to give than receive, but even better to steal what someone was given!

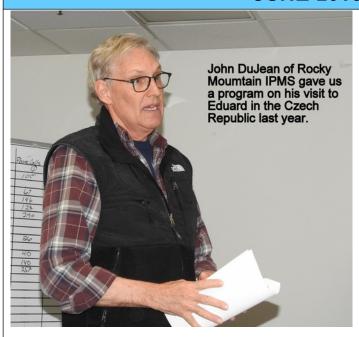
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### **CLUB OFFICER NOMINATIONS**

Club officer nominations were in June. All the current officers were nominated. If you have someone to nominate contact Bob Pridemore or John Taylor.

On a personal note EVERYBODY nominated me to continue the newsletter. Thank you. I did respond nonverbally indicating they were number 1.

#### **JUNE 2019 CONTEST**



The presentation was from John DuGene of the IPMS Rocky Mountain Chapter and the Mile Model Ship Club about his recent visit to the Eduard headquarters and production facility in Czech Republic. The presentation will show how Eduard researches, designs, produces and packages its kits and aftermarket products. This is a fascinating look into how the Eduard kits and items are created an about the passion the Eduard staff have for producing the most accurate and highest quality products.



RECON
Any subject specifically designed or used for reconnaissance

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## **PROTESTERS TEAR DOWN ZHUKOV BUST IN UKRAINE**



Activists tear down a monument of Soviet Chief Marshal Georgiy Zhukov in Kharkiv, Ukraine, Sunday, June 2, 2019. The activists broke the monument to pieces as one of the last symbols of the Soviet era. (AP Photo/str)

MOSCOW – Protesters have torn down a towering bust of Soviet military hero Marshal Georgy Zhukov in Ukraine's second-largest city.

Destruction of the monument in Kharkiv on Sunday came amid protests by an array of far-right and nationalist groups against an organizing session for a new political party. The party is led by the mayors of Kharkiv and Odesa, both of whom were members of the party of Viktor Yanukovych, the pro-Russia president ousted amid bloody protests in 2014.

The protesters said the bust violated Ukraine's law banning Communist symbols. A crowd of

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hundreds cheered as protesters tugged on a cord around the bust and it toppled off a high plinth. Zhukov commanded the Red Army forces in the final assault on Berlin in World War II. <a href="https://www.foxnews.com/world/protesters-tear-down-zhukov-bust-in-ukraine">https://www.foxnews.com/world/protesters-tear-down-zhukov-bust-in-ukraine</a>

# MEET 'URAL,' RUSSIA'S NEW NUCLEAR-POWERED ICEBREAKING BEHEMOTH

### The *Ural* will be able to smash through ice ten feet thick.

By Kyle Mizokami May 28, 2019



Peter KovalevGetty Images

Russia's state nuclear agency has launched a new icebreaker, *Ural*, as part of the country's plans to dominate the newly warming Arctic region. The nuclear-powered ship is one of three new icebreakers commissioned by Moscow to navigate waters choked with sea ice and smash its way through if necessary.

The ship, *Ural*, is the third in the class of three Project 22220 icebreakers. The ship was constructed by the Baltic Shipyards of St. Petersburg and will be handed over to Rosatom, Russia's nuclear agency, in 2021. The Project 22220 ships are 173 meters (567 feet) long and 34 meters (111 feet) wide, making them the largest icebreakers ever constructed. The ships displace a massive 33,000 tons, <u>likely due to large ballast tanks</u> built inside the ship that allow it to ride higher or lower in the water as necessary.

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Ural at launch. Note the icebreaker is much wider than conventional ships.

Peter KovalevGetty Images

The Ural, and its two sister ships, are each powered by two RITM-200 icebreakers generating a total of 350 megawatts. That's almost five times as much power generated by the turbines on the destroyer USS *Zumwalt*. This, combined with a thick hull, allows the ships to break through ice up to 3 meters (9.8 feet) thick. The RITM-200, according to Russian state media, will also power Russia's next generation aircraft carrier, the Project 23000 "Shtorm".

Russia has built three Project 22220s: *Arktika*, *Sibir*, and now *Ural*, and will sign contracts for two more by the end of the year. According to <u>The Guardian</u>, Putin has promised Russia will operate at least 13 heavy-duty icebreakers by 2035, nine of which will be nuclear powered.

Moscow is <u>building such a large icebreaker fleet</u> in order to support what it calls the <u>Northern Sea Route</u>. As global temperatures increase and Arctic ice continues to shrink a shipping route roughly following Russia's northern coastline becomes increasingly tenable. This route would bypass Europe, Africa and Asia altogether, cutting a long, expensive shipping route down considerably. Such a route would also be easy for Russia to control, politically and militarily.

Meanwhile, the U.S. icebreaker fleet is down to just aging ships, the larger <u>Polar Star</u> and smaller, newer <u>Healy</u>. The Coast Guard plans to <u>expand the fleet to six ships</u>, three larger icebreakers and three medium size ships, with the first heavy icebreaker due to enter service in 2024.

https://www.popularmechanics.com/military/navy-ships/a27615565/ural-russia-icebreaker/

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## RUSSIA PLANS TO TOW A NUCLEAR POWER STATION TO THE ARCTIC. CRITICS DUB IT A 'FLOATING CHERNOBYL'

**Murmansk**, **Russia** (CNN)Next month, a floating nuclear power plant called the Akademik Lomonosov will be towed via the Northern Sea Route to its final destination in the Far East, after almost two decades in construction.



It's part of <u>Russia's ambition</u> to bring electric power to a <u>mineral-rich region</u>. The 144-meter (472 feet) long platform painted in the colors of the Russian flag is going to float next to a small Arctic port town of Pevek, some 4,000 miles away from Moscow. It will supply electricity to settlements and companies extracting hydrocarbons and precious stones in the Chukotka region.

A larger agenda is at work too: aiding President Vladimir Putin's ambitious Arctic expansion plans, which have raised geopolitical concerns in the United States.

The Admiral Lomonosov will be the northernmost operating nuclear plant in the world, and it's key to plans to develop the region economically. About 2 million Russians reside near the Arctic coast in villages and towns similar to Pevek, settlements that are often reachable only by plane or ship, if the weather permits. But they generate as much as 20% of country's GDP and are key for Russian plans to tap into the hidden <u>Arctic riches of oil and gas</u> as Siberian reserves diminish.

In theory, floating nuclear power plants could help supply energy to remote areas without long-term commitments -- or requiring large investments into conventional power stations on mostly uninhabitable land.

But the concept of a nuclear reactor stationed in the Arctic Sea has drawn criticism from environmentalists. The Lomonosov platform was dubbed "Chernobyl on Ice" or "floating Chernobyl" by Greenpeace even before the public's revived interest in the 1986 catastrophe thanks in large part to the HBO TV series of the same name.

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Rosatom, the state company in charge of Russia's nuclear projects, has been fighting against this nickname, saying such criticism is ill founded.



View outside of Akademik Lomonosov's main deck.

"It's totally not justified to compare these two projects. These are baseless claims, just the way the reactors themselves operate work is different," said Vladimir Iriminku, Lomonosov's chief engineer for environmental protection. "Of course, what happened in Chernobyl cannot happen again.... And as it's going to be stationed in the Arctic waters, it will be cooling down constantly, and there is no lack of cold water."

The idea itself is not new -- the US Army used a small nuclear reactor installed on a ship in the Panama Canal for almost a decade in the 1960s. For civil purposes, an American energy company PSE&G commissioned a floating plant to be stationed off <a href="the coast of New Jersey">the coast of New Jersey</a>, but the project was halted in the 1970s due to <a href="public opposition">public opposition and environmental concerns</a>.

Russia's civilian nuclear industry also faced public questions following the Chernobyl catastrophe, which shaped concerns about "the peaceful atom" for decades to follow. Construction of dozens of nuclear plants stopped, affecting not only massive Chernobyl-scale projects but also slowing down the use of low-power reactors like the one in what would become the floating station (The Chernobyl plant produced up to 4,000 megawatts. Lomonosov has two reactors producing 35 megawatts each).

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The control center of the Akademik Lomonosov floating nuclear platform.

"These reactors were initially to be used within city limits, but unfortunately the Chernobyl incident hindered that," said Iriminku. "Our citizens, especially if they are not technically savvy, don't really understand the nuclear energy and that these stations are built differently, so it's almost impossible to explain that to them."

The explosion at Chernobyl directly caused around 31 deaths, but millions of people were exposed to dangerous radiation levels.

The final death toll as a result of long-term radiation exposure is much disputed. Although the UN predicted up to 9,000 related cancer deaths back in 2005, Greenpeace later estimated up to 200,000 fatalities, taking further health problems connected to the disaster into account.

Modern Russia hasn't seen anything close to Chernobyl though. Russia, a major oil and gas producer, also operates several nuclear power stations. The state atomic energy corporation Rosatom has long maintained that its industrial record is one of reliability and safety, and that its reactors have been modernized and upgraded.

But rather than summoning the specter of Chernobyl, some nuclear watchdogs are drawing parallels to the <u>2011 accident at Fukushima in Japan</u>, with the images of its waterlogged reactors still fresh in the public memory. The Russian plant's main benefits -- mobility and ability to work in remote regions -- complicate some crucial security procedures, from routine disposal of the nuclear fuel to rescue operations in the event the platform is hit by a massive wave.

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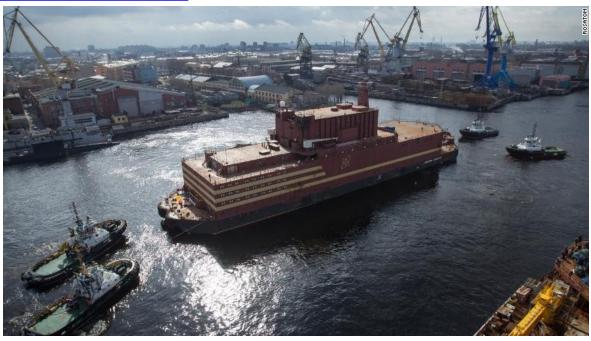


A worker finishes construction inside the platform's facilities.

But project engineers say they've learned the lessons of Fukushima.

"This rig can't be torn out of moorings, even with a 9-point tsunami, and we've even considered that if it does go inland, there is a backup system that can keep the reactor cooling for 24 hours without an electricity supply," said Dmitry Alekseenko, deputy director of the Lomonosov plant.

However, experts of Bellona, an NGO monitoring nuclear projects and environmental impacts, say 24 hours might not be enough to prevent a disaster should a tsunami land the rig among towns with two active nuclear reactors aboard.



Akademik Lomonosov rests in St. Petersburg before it was brought to Murmansk to be filled with nuclear fuel.

And then there is the question of cost. Some Russian officials have questioned the <u>floating reactor</u> <u>complex's price tag</u> of an estimated \$450 million, saying it would need to enter serial production to

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be economically viable. Rosatom has been working to attract clients from Asia, Africa and South America to purchase next iterations of Akademik Lomonosov, but has yet to announce any deals.

The last Russian nuclear project of a comparable scale was completed in 2007, when the "50 Years of Victory" nuclear-powered icebreaker finally sailed after sitting in the docks since 1989. Now, after more than 20 years of arguments, changes of contractors and economic crises, Russian engineers can finally take pride in launching the world's only nuclear floating rig.

https://edition.cnn.com/2019/06/28/europe/russia-arctic-floating-nuclear-power-station-intl/index.html

**ED NOTE: What could possibly go wrong?** 

# TAKING A CLOSER LOOK AT JAPAN'S FUTURISTIC ATTACK SUBMARINE

The sleek underwater warship will ensure the country is defended by the best non-nuclear submarines around.

By Kyle Mizokami Jun 25, 2019



#### KAZUHIRO NOGIGETTY IMAGES

Japan has unveiled what is very likely the design for its next-generation attack submarine. The 29SS submarines would replace the existing *Sōryū* class submarines starting in the early 2030s. The futuristic undersea warship will ensure that Tokyo retains its reputation for the quietest, most modern non-nuclear submarines in the world.

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A Sōryū class submarine anchored at the naval base at Kure, Japan. Note x-shaped stern planes emerging from the water at a 45 degree angle.

One of the largest submarine powers in the world is a country that technically doesn't even have a navy: Japan. Japan's Maritime Self Defense Force has over twenty diesel electric submarines that are considered the finest in the world. The current *Sōryū* class is a large, quiet submarine equipped with extensive soundproofing, automated combat systems, and an air-independent propulsion system that allows the submarine to operate for weeks without surfacing. Last year Japan <u>upgraded</u> the class by installing large banks of lithium-ion batteries as a quiet source of power.

The *Sōryū* class is relatively young: the first sub was launched in 2009, and in many navies it's difficult to imagine work already proceeding on a replacement. Japan however typically keeps its submarines in service for just twenty years, a relatively short time for modern warships. So it's not exactly surprising that Mitsubishi Heavy Industries, one of Japan's top submarine builders, has already unveiled the country's next-generation submarine design, designated 29SS. The sub due in the late-2020s. (The designation "29SS" is derived from the 29th year of the reign of Emperor Akihito, otherwise known to everyone else as 2017, and SS is the international shorthand for non-nuclear attack submarine.)

Noted submarine authority H.I. Sutton says 29SS is a "new design...based on the Sōryū class with its distinctive bow form and hull outline, but [it] differs significantly in the sail and hydroplane arrangement."

29SS retains the general hull form of earlier submarines but with some important changes. The sail is substantially reduced and blended into the hull, which should reduce hydrodynamic drag. This will make the submarine quieter, perhaps a little faster, but also more energy efficient. Non-nuclear

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powered submarines, operating underwater under combat conditions, must carefully manage their power or risk being forced to surface. The dive planes have also been moved from what's left of the sail to the hull.



Depiction of 29SS submarine.

29SS also features a pumpjet instead of the traditional propeller for propulsion. Unlike traditional propellers, which use unshrouded blades to churn through the water, a pumpjet sucks in water and ejects it under pressure from the rear of the pumpjet. Pumpjets are quieter and more maneuverable than bare propellers and are generally used on faster, nuclear-powered submarines.

Although Japan will likely not field a nuclear-powered ship anytime soon alternate propulsion systems, such as all-electric drives, could provide a speed boost.

"After the Second World War there was a hiatus in Japanese submarine building," H.I. Sutton told *Popular Mechanics*. "When it resumed it was heavily influenced by American submarines, but over time Japan has gone its own way in submarine design."

"Modern Japanese submarines have a reputation for sophistication, pioneering the application of new technologies, like lithium-ion batteries."

"The new submarine design, says Sutton, "focuses on improving the actual fabric of the submarine and shows that the Japanese navy will continue pushing the by building highly capable submarines which are arguably the best non-nuclear submarines in the world."

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MHI concept art for 29SS submarine.

29SS will likely retain the same armament as the Sōryū boats, which consists of six bow-mounted 533-millimeter torpedo tubes. The submarine can carry up to thirty torpedo-launched weapons, a mixture of the Type 89 heavyweight torpedo and the Sub Harpoon anti-ship missile. Although there is a general trend towards installing vertical launch silos behind a submarine's sail, Japan does not have the missiles to fill them.

The research and development phase will take place from 2025 to 2028, and the first ship of this class will probably hit the water around 2031.

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### OPERATION BAGRATION 23 JUNE 1944

Operation Bagration (Operatsiya Bagration) was the codename for the Soviet 1944

Belorussian Strategic Offensive Operation, (Belorusskaya nastupatelnaya Operatsiya Bagration) a military campaign fought between 23 June and 19 August 1944 in Soviet Byelorussia in the Eastern Front of World War II. The Soviet Union inflicted the biggest defeat in German military history by destroying 28 out of 34 divisions of Army Group Centre and completely shattered the German front line.

On 23 June 1944, the Red Army attacked Army Group Centre in Byelorussia, with the objective of encircling and destroying its main component armies. By 28 June, the German Fourth Army had been destroyed, along with most of the Third Panzer and Ninth Armies. The Red Army exploited the collapse of the German front line to encircle German formations in the vicinity of Minsk in the Minsk Offensive and destroy them, with Minsk liberated on 4 July. With the end of effective German resistance in Byelorussia, the Soviet offensive continued further to Lithuania, Poland and Romania over the course of July and August.



The Soviet operation was named after the Georgian prince <a href="Pyotr Bagration">Pyotr Bagration</a> (1765–1812), a general of the Imperial Russian Army during the Napoleonic Wars.

The Red Army successfully used the Soviet deep battle and <u>maskirovka</u> (deception) strategies for the first time to a full extent, albeit with continuing heavy losses. Operation Bagration diverted German mobile reserves to the central sectors, removing them from the Lublin-Brest and Lvov-Sandomierz areas, enabling the Soviets to undertake the Lvov-Sandomierz Offensive<sup>1</sup> and Lublin-Brest Offensive. This allowed the Red Army to reach the Vistula river and Warsaw, which in turn put Soviet forces within striking distance of Berlin, conforming to the concept of Soviet deep operations—striking deep into the enemy's strategic depths.

This was by far the greatest Soviet victory in numerical terms. The Red Army liberated a vast amount of Soviet and Polish territory whose population had suffered greatly under the German occupation. The advancing Soviets found cities destroyed, villages depopulated, and much of the population killed or deported by the occupiers. In order to show the outside world the magnitude of the victory, some 57,000 German prisoners, taken from the encirclement east of Minsk, were paraded through Moscow: even marching quickly and twenty abreast, they took 90 minutes to pass.

The German army never recovered from the materiel and manpower losses sustained during this time, having lost about a quarter of its Eastern Front manpower, exceeding even the percentage of loss at Stalingrad (about 17 full divisions). These losses included many experienced soldiers, NCOs and commissioned officers, which at this stage of the war the Wehrmacht could not replace. An indication of the completeness of the Soviet victory is that 31 of the 47 German divisional or corps

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commanders involved were killed or captured. Of the German generals lost, nine were killed, including two corps commanders; 22 captured, including four corps commanders; Major-General Hahne, commander of 197th Infantry Division disappeared on 24 June, while Lieutenant-Generals Zutavern and Philipp of the 18th Panzergrenadier and 134th Infantry Divisions committed suicide.

Overall, the near-total destruction of Army Group Centre was very costly for the Germans. Exact German losses are unknown, but newer research indicates around 400,000 overall casualties. Soviet losses were also substantial, with 180,040 killed and missing, 590,848 wounded and sick, together with 2,957 tanks, 2,447 artillery pieces, and 822 aircraft also lost.

The offensive cut off Army Group North and Army Group North Ukraine from each other, and weakened them as resources were diverted to the central sector. This forced both Army Groups to withdraw from Soviet territory much more quickly when faced with the following Soviet offensives in their sectors.

The end of Operation Bagration coincided with the destruction of many of the strongest units of the German Army engaged against the Allies on the Western Front in the Falaise Pocket in Normandy, during Operation Overlord. After these stunning victories, on both eastern and western fronts, supply problems rather than German resistance slowed the subsequent rapid Allied advance, and it eventually ground to a temporary halt. However, the Germans were able to transfer armored units from the Italian front, where they could afford to give ground, to resist the Soviet advance near Warsaw.

This was one of the largest Soviet operations of WWII with 2.3 million troops engaged, three Axis armies eliminated, and vast amounts of Soviet territory recaptured.

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