



richmond refinery newsletter october 2018

richmond today

human energy®



fueling human energy



By Karen Forthuber

From powering the tractors and other equipment that enable California farmers to feed the hungry, to innovations that enable drivers to get more out of a gallon of gas and keep engines running longer, and so much more, the Richmond Refinery helps fuel the human energy we all use in our daily lives.

One of the important product streams that we produce is jet fuel and aviation gasoline. Our jet fuel is used in commercial airliners that give us freedom and mobility, in air cargo fleets that bring us our packages, in military jets that keep us safe and even in the air tankers that fight wildfires. We also make the aviation gas for small planes used by hobbyist pilots.

While we all depend on cars, buses and public transit to get around the Bay Area, our region depends on air travel to enable us to efficiently get products and people where they need to go. By supplying reliable products to the region's airports, we are making a direct contribution to the economy, powering growth and supporting jobs.

Read inside for more details on the history of our work in supporting aviation.

Karen Forthuber is the Oils Planning Manager at the Richmond Refinery

alimentando la energía humana

Por Karen Forthuber

Desde poner en marcha tractores y otros equipos para permitir a los agricultores de California saciar el hambre, hasta innovaciones que permiten a los conductores aprovechar al máximo un galón de gasolina y mantener los motores funcionando mejor y durante más tiempo, la Refinería de Richmond ayuda a estimular la energía humana que utilizamos todos los días.

Una de las líneas de productos importantes que producimos es combustible para jets y gasolina de aviación. Nuestro combustible para jets se utiliza en todo, en aviones comerciales que nos ofrecen libertad y movilidad, en flotillas de aviones de carga que nos entregan paquetes el día siguiente, en jets militares que nos mantienen seguros, e incluso tanques aéreos que combaten los incendios forestales. También producimos gasolina de aviación para aviones pequeños de pilotos entusiastas.

Si bien todos dependemos de los automóviles, autobuses y del transporte público para trasladarnos de un lugar a otro en el Área de la Bahía, nuestra región depende de viajes aéreos que nos permiten recibir productos de manera eficiente y transportarnos a diversos destinos. Al suministrar productos confiables a los aeropuertos de la región, contribuimos directamente con la economía, estimulando el desarrollo y apoyando empleos.

Lea más detalles sobre la historia de nuestro trabajo para apoyar la aviación.

Karen Forthuber es la gerente de planificación de aceites de la Refinería de Richmond

what we do: producing aviation fuel

Innovation, quality, reliability, service and trust have made Chevron a key player in aviation fuels for the last 100 years. The Richmond Refinery produces two primary types of aviation fuel: aviation gas and jet fuel. We supply our products to five western states (California, Oregon, Washington, Nevada and Arizona). This month's infographic explores the different ways that our aviation fuels are used.

 Chevron is the largest provider of jet fuel to San Francisco International Airport



jet fuel

Jet fuel is primarily used for aircraft powered by gas-turbine engines typically found in commercial airlines. It is produced through the distillation process that separates raw materials based on their boiling points.

 The Richmond Refinery is the only producer of Avgas on the West Coast



aviation gas

Aviation gas, or Avgas, is used for smaller aircraft with piston powered engines. These planes are usually used for private travel, tourism, emergency response and more. Avgas is produced in batches through a process similar to that of motor vehicle gasoline.

aviation fuel uses



air travel

If you're traveling out of San Francisco, Oakland or San Jose airports, there's a good chance that the plane you're on is flying on jet fuel produced at the Richmond Refinery.



air cargo

How does that just-in-time delivery get to your front door or office? The same jet fuel that is used in commercial airliners also powers air cargo fleets.



military

Military bases such as Travis Air Force Base in Fairfield are supplied with jet fuel produced at the Richmond Refinery.



wildfire response

Air tankers powered by jet fuel play a critical role in helping fight wildfires in California and the Western U.S. by dropping water and retardant.



emergency response

From medivac to organ transplants, helicopters, which can fly on either jet fuel or Avgas, are an important part of emergency medical response.

product supply chain

richmond marketing terminal

The Richmond Terminal, located adjacent to the Refinery, provides products to third party suppliers who distribute them to customers including small, private airports around the Bay Area.

pipeline

A network of existing pipelines ensures the Bay Area airports have access to jet fuel.



a history of aviation innovation

Chevron's Richmond Technology Center has fueled energy innovation, including a number of aviation firsts, for more than a century.



1918

Chevron introduces Red Crown aviation fuel and creates a product line that supported the Allied effort in WWI.



1927

Charles Lindbergh selects Red Crown for use in the Spirit of St. Louis, which he used to make the first solo trans-Atlantic flight.



2018

Chevron is working with an outside group to provide SFO with the quality and quantity of biojet required to meet their emission-reduction targets reliably and affordably. Chevron is working with United Airlines, American Airlines, Alaska Airlines, other fuel providers and the airport on efforts to increase the supply and use of Sustainability

Aviation Fuels at SFO. In September of this year, Chevron provided the petroleum jet fuel blend for the World Energy and United Airlines' biofuel flight from SFO to Zurich Airport.



1935

Amelia Earhart uses Red Crown and other Chevron affiliated aviation fuels on some of her historic flights.

1945

Chevron is recognized with U.S. Army-Navy "E" Award for its support of the military effort during World War II.



Q & A

a conversation with



Christine Tomacci, High Value Products Analyst

Q What's your job at the Richmond Refinery?

I am part of the team that is involved in the production of gasoline and jet fuel at the Richmond Refinery. We work to analyze the integrity of our products and help ensure that they are both high-quality and meet the specifications set by regulatory agencies and industry. We take a 360 degree approach that includes everyone from Plant Process Operators to Product Engineers and Supply Schedulers.

Q Tell us about gasoline production.

We produce two primary gasoline products: motor vehicle gas (for cars and light duty trucks) and aviation gasoline or Avgas (for small planes and some helicopters). The Richmond Refinery is the only facility on the West Coast that produces Avgas, so we play an essential role in helping meet the needs of small airports across the Western United States.

Q Tell us about jet fuel.

We play an important role in the production of jet fuel. We supply about 60 percent of the jet fuel that is used at the three major Bay Area airports: San Francisco, Oakland and San Jose. This includes both commercial airliners and cargo planes. We are the largest supplier of jet fuel to the San Francisco International Airport. With the demand for jet fuel growing, it's important that local airports have a steady supply of jet fuel.

Q How does your team ensure product quality?

We have an excellent quality control lab which operates 24 hours a day, 7 days a week. The lab tests all of our products before they leave the Refinery. In fact, we provide a "Certificate of Analysis" for all of our products. If a product doesn't meet the exact specifications, we work with our operations and engineering teams to address any issues.

Q What's different about how the Richmond Refinery produces these products?

We are a complex facility and can shift production of the products we make based on consumer demand. For example, during busy travel periods such as Thanksgiving and Christmas we are able to adjust our production process to supply additional jet fuel to meet the needs of local airports.

Q What is unique about your work?

I sometimes get to create gasoline "recipes" and I always feel a sense of pride sending my recipe to the market. The refining process is similar to cooking in some ways; we follow recipes to make gasoline and other transportation fuels. Just like a chef who finds unique ways to use their ingredients, we often take a similar approach during the refining process. We mix together, or blend, different hydrocarbon molecules to make products in the most efficient and economical way possible. While these individual recipes may vary slightly, they still meet the same standards set by regulatory agencies and industry. This gives us the flexibility to get the most out of our raw materials.

Q What do you like about your job?

I like being part of a team that makes the products that people use on a daily basis. The industry is changing a lot and we are having to adapt and rethink the things we are doing at the Refinery. There are a lot of opportunities at a company like Chevron to be creative and also work on innovations that will help us address the future.



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community corner

richmond standard introduces a mobile app

By Mike Aldax

Since 2014, the Richmond Standard has been Richmond's trusted source for local, community news. As the community's only dedicated daily newspaper, we have been bringing you the news that matters most for five years. From job postings, to restaurant openings, to community events, to the game's final scores, we have made it our mission to showcase the good that is happening in Richmond. This is a very exciting time for the Richmond Standard: We have launched our mobile app. Now, the same stories you've come to enjoy and rely on will be offered in a mobile friendly display. From who's who, to what's what, the Richmond Standard mobile app will keep you informed. I am proud and humbled to say that we at the Standard truly feel like a valued member of this rich and vibrant community.

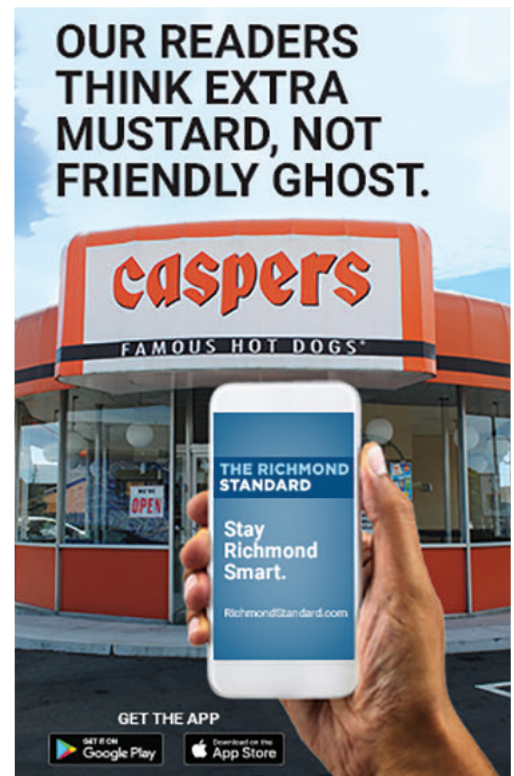
Mike Aldax is the editor of the Richmond Standard

richmond standard introduce una aplicación móvil

Por Mike Aldax

Desde 2014, el Richmond Standard ha sido la fuente confiable de Richmond para noticias locales de la comunidad. Como el único diario dedicado a la comunidad, le hemos llevado las noticias más importantes durante cinco años. Desde ofertas de empleo, hasta inauguraciones de restaurantes, eventos de la comunidad y resultados finales de los juegos, nuestra misión es presentar lo bueno que ocurre en Richmond. Es un momento muy emocionante para Richmond Standard: hemos introducido nuestra aplicación móvil. Ahora las mismas historias que disfruta y que está acostumbrado a leer se ofrecerán en una pantalla móvil. Desde quién es quién, qué es qué, la aplicación móvil de Richmond Standard lo mantendrá informado. Me siento orgulloso y honrado de decir que en el Standard realmente nos sentimos como miembros valiosos de esta comunidad rica y vibrante.

Mike Aldax es el editor del Richmond Standard



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