

The Rance tidal power station

This plant harnesses the power of the largest tides in Europe to produce the **number-1 source of renewable energy: hydroelectric power**.

With an installed capacity of **240 MW**, this site accounts for **10% of the electrical power generated in Brittany** and supplies electricity to **225,000 people every year**.



Power station: 390 m long | 33 m wide | 24 x 10 MW electric generators.

Tidal barrage: 115 m long | 6 valves: 10 m high - 15 m wide.

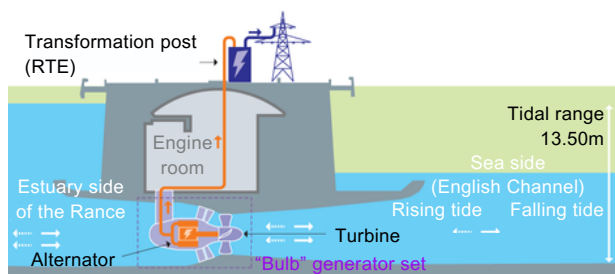
Lock: 65 m long | 13 m wide | 15,000 vessels every year.

How does it work?

It all depends on the **difference in water level on both sides of the barrage**.

The tide comes in and goes out twice every day. The resulting variation in water level is exploited to generate electricity.

This is the **only power station in the world** that generates electricity when the tide goes out and comes in.



Visit the tidal power station



Guided and self-guided tours of Espace EDF Odyssée with unobstructed views of the machine room.

Immerse yourself in the world of tidal power

If you have an insatiable thirst for knowledge, this industrial site is a well worth a visit, whether you are travelling with family or friends. You can arrange **guided or self-guided tours** of the site free of charge all year round.

Espace EDF Odyssée - Tidal power station
02 99 16 37 14 | visiteredf-la-rance@edf.fr

Virtual tour

Explore the station and access a turbine from its base.



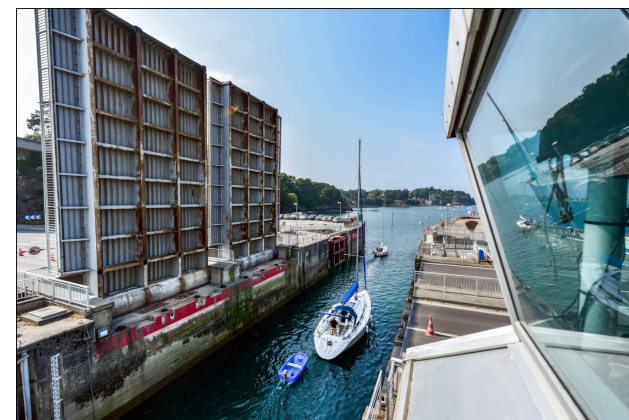
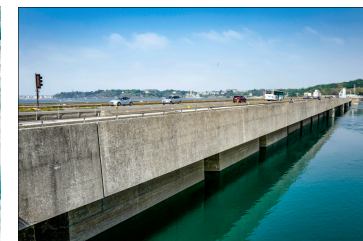
Podcast

This 15 minutes report offers an immersive sound experience.



NAVIGATION

SAFETY INSTRUCTIONS around the Rance tidal barrage



EDF SA – Capital de 1 370 938 843,50 euros – 552 081 317 R.C.S. Paris –
EDF Photographic credits (X.Popy, D.Granges) – Août 2024
Ne pas jeter ce document sur la voie publique.

www.edf.fr/la-rance

X @EDF_Bretagne

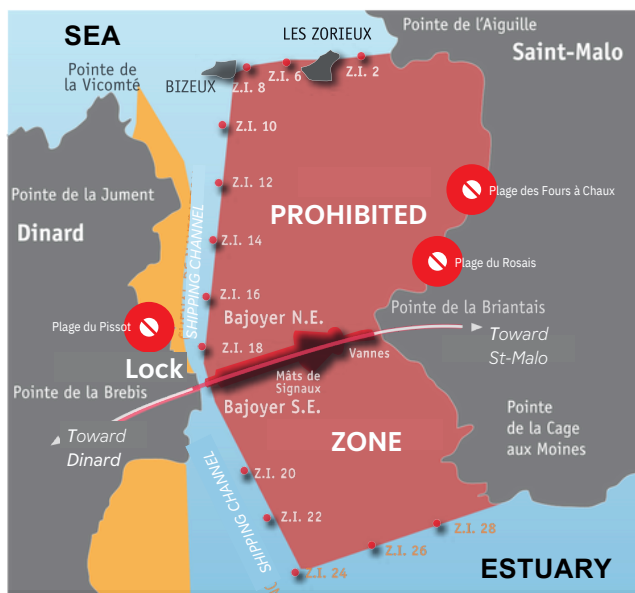
Beware of strong currents!

[9 600 m³/s] Volume of water flowing through when the tidal barrage is open

[6 600 m³/s] Volume of water flowing through when the station is operational

When the Rance tidal power station is operating under normal conditions, **very strong currents** are generated **on the sea and estuary sides**. They may put pleasure sailors, swimmers, water sports enthusiasts and recreational fishers in **danger**.

An **exclusion zone** has therefore been established on both sides of the site for your safety. As such, you must **not swim, navigate a vessel or engage in any water sports or underwater activities in that zone**. It is marked out by **red buoys**. **You must not enter the zone**. Anyone who does may be fined.



- Swimming prohibited by decree.
- Sailing, swimming, nautical and underwater activities prohibited by decree.



[VIDEO] Familiarise yourself with the risks in 2 minutes.

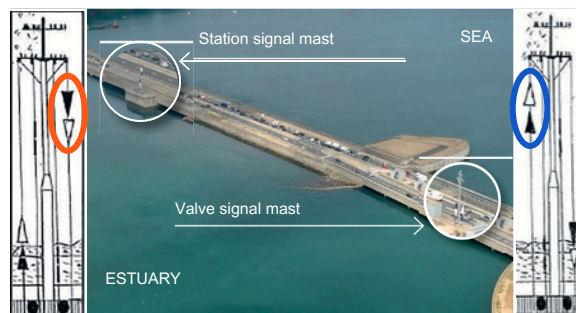


Navigating a vessel in the estuary

› **Rance tides**: check the projected levels for the current year at www.edf.fr/la-rance.

› **Rance navigability maps**: EDF monitors the fairway area and conducts an annual bathymetry, the results of which are displayed on the maps made available for download at www.edf.fr/la-rance.

› **Rance current patterns**: the two masts located on site and the valves make it possible to identify whether water is **flowing into or out of the estuary**, and how: via the electrical generators or tidal barrage valves.



What do the masts tell us?

Check the 2 cones at the top of the mast:

- › If the cones are **facing down** on one of the masts, water is flowing out of estuary.
- › If the cones are **facing up** on one of the masts, water is flowing into the estuary.
- › If there are no cones at the top of the 2 masts, the station is not operational and the valves are closed

ARE YOU IN ANY DANGER?

1. Drop anchor.
2. Contact the lock operator.
3. Activate your distress signals to raise the alarm.

EMERGENCY CONTACT NUMBERS

- › Maritime emergency number (mobile only)..... **196**
- › VHF..... **channel 16**
- › Fire and rescue service:..... **18**
- › Gendarme..... **17**
- › EMS: **15**
- › Corsen: **02 98 89 31 31**

Passing through the lock...

› Road bridges operate on the hour when **the sea level is at least 4 m**.

› From **8.30 p.m. to 4.30 a.m.**, the lock only operates **on demand**, provided that the lock operator is **called directly 30 minutes in advance**.

› To access the locking cycle times, go to www.edf.fr/la-rance

PROCEDURE FOR PASSING THROUGH THE LOCK

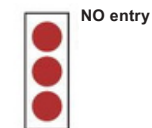
1. Advise the lock operator by telephone or VHF radio at least **30 minutes before** you intend to pass through the lock; report **your draught and air draught**.

2. White buoys on both sides of the tidal barrage mark out the **waiting area**.

3. Order of priority for entering the lock:

- From estuary to sea: priority will be given to vessels whose air draught is small enough for them to pass under bridges.
- From sea to estuary: priority will be given to vessels with a large air draught (sailing ships, etc.).
- Priority will be given to passenger ships over all other types of vessels.
- Lock operators may give priority to particular vessels (e.g. large ships)

4. When can a vessel enter the lock?



From estuary to sea: **be present at least 20 minutes before** the turn of the hour (access to lock + balancing with sea level)

From sea to estuary: be present at least **5 minutes before the turn of the hour**.

5. During lock procedures, you must moor at the front and back of your boat.

Do not moor at the ladders or position yourself under the movable bridge unless you are authorised to do so by the lock operator.



Remember that the lock operator is there to keep you safe. Please be civil

CONTACT THE LOCK OPERATOR

- › Téléphone..... **02 99 16 37 37**
- › VHF **channel 13**