



Power plant at Gibraltar Eastside jetty.

Description.

Converter consists of three main functional parts: mechanical, hydraulic and electric systems.

1. **Mechanical system** serves for wave energy receipt on floaters and its transmission to hydraulic cylinders. At the moment we are working on design of optimal floaters form and quantity, lever system layout (to receive highest possible wave energy specific for Eastside jetty location's wave characteristics). Also lever system is used for fastening to jetty and floaters rise in case of storms.

After waves, currents and winds initial oceanographical analysis, we made a decision to place floaters on each side of jetty. Such layout will give us possibility to get energy from both perpendiculars to seaside waves and waves with other directions.

In order to get perfect compatibility and efficiency of our system to Gibraltar, amount of floaters, dimensions and structure of system in applied drawings (attached) are initial and possibly will be modified in accordance to our needs and findings. Also, structure of mechanical system and containers supports are shown schematically.

2. **Hydraulic system** transforms mechanical energy that we get from the sea to hydraulic fluid pressure in hydraulic system. All main units will be selected for best match to definite wave characteristics, mechanical system and generator compatibility.

Hydraulic system transforms oil pressure to force of hydraulic motor rotation, which transfers moment of rotation to generator. This system will be placed in standard sea container, which we will put at the end of the Jetty, close to floaters. The container will be on special supports to avoid the influence of waves that sometimes cover the jetty surface.



3. Generator is part of converter **electrical system**. It receives moment of rotation and transforms it to electrical power. It will be selected from range of such generators, developed for green energy industry, to provide stable energy generation. Generator will be placed in the same container with hydraulic system.

Next part of electric system is inverter. It will be purchased from range of existing invertors according to all previous systems' and units' characteristics and the electric company's requirements (GibElec). Subject to overall dimensions it will be placed in the same container with hydraulic system or in separate one.

***Please note that there might be a change in the number and size of items in accordance to the results of the feasibility study for Jetty condition + wave forecast.

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