ZERO WASTE ONE WATER

environment LA SANITATION
CITY OF LOS ANGELES

OUR MISSION IS TO PROTECT PUBLIC HEALTH AND THE ENVIRONMENT

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HYPERION DIGESTER GAS UTILIZATION PROJECT DGUP

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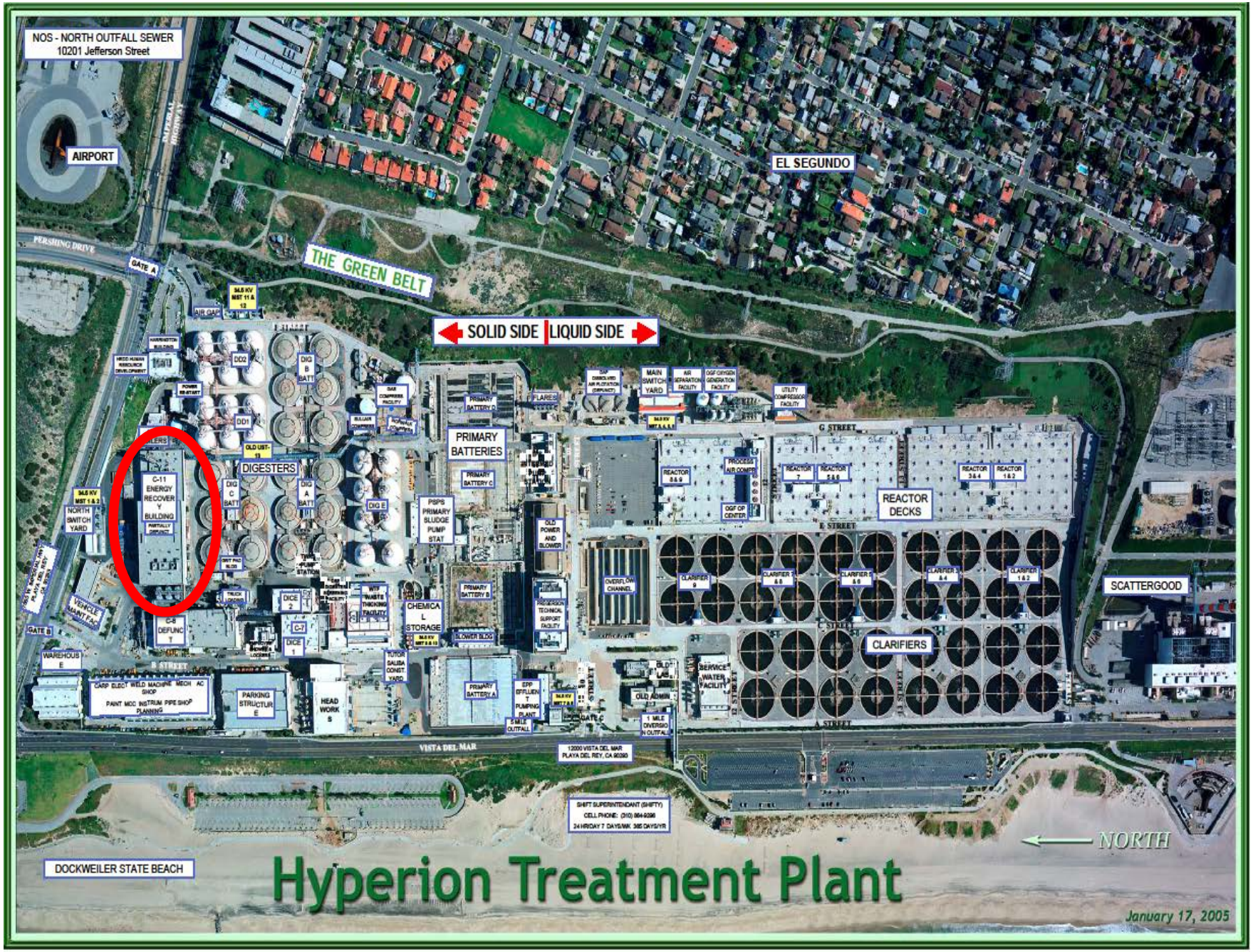

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In the late 1990's it was determined that Hyperion's (HWRP) Biosolids digestion process would be converted from Mesophilic to Thermophilic operation.

HWRP goes on to successfully produce Class A Biosolids, meeting the Biosolids Class A requirements detailed in EPA Rule 40 CFR, Part 503. Class A Biosolids provide flexible and economical re-use options for the City's beneficial use program.

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In 2001HWRP entered into a contract with the Los Angeles Department of Water and Power (DWP). The agreement allowed for HWRP to provide biogas to the Scattergood Steam Generation Station (SGS) to fuel their gas turbines. In return, SGS would provide steam to heat HWRP's digesters as well as provide electricity at a reduced rate.

In January 2010, DWP issued a memorandum to LASAN that SGS would undergo a major remodel and would no longer use HWRP's biogas as a source of fuel. At that time the decision was made to build a generation station at HWRP and LASAN negotiated with DWP to extend the agreement until December 2016. Subsequently, a ground breaking ceremony was held on November 17,2015.

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The DGUP is a design-build contract currently in the commissioning phase. This project includes the reuse of the existing Energy Recovery Building to house a combined-cycle cogeneration system to provide the steam and electricity requirements of HWRP, with the use of HWRP's biogenic digester gas as the primary fuel source

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The DGUP converts 7.1 million cubic feet/day of digester gas produced at HWRP to electricity and steam which is used to meet the plant's power and heating demands, moving the plant toward full sustainability with this renewable energy source and reducing the carbon footprint.

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TWO COMBUSTION TURBINE GENERATORS 11MW EACH

ONE STEAM TURBINE GENERATOR 7MW

PLANT POWER CONSUMPTION 18-20 MW

INFLUENT: 270 MGD AVE. ~374 MGD DUE TO RAIN

INTEND TO GENERATE POWER TO BE SELF SUFFICIENT PLUS ~1MW

COMBUSTION TURBINE GENERATOR 11MW

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Each CTG is provided with a dedicated heat recovery steam generator (HRSG), producing high pressure superheated steam at 350°F. This superheated steam is fed to the steam turbine generator which produces up to 7 MW of electricity and provides steam to the digesters.

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Electric Room

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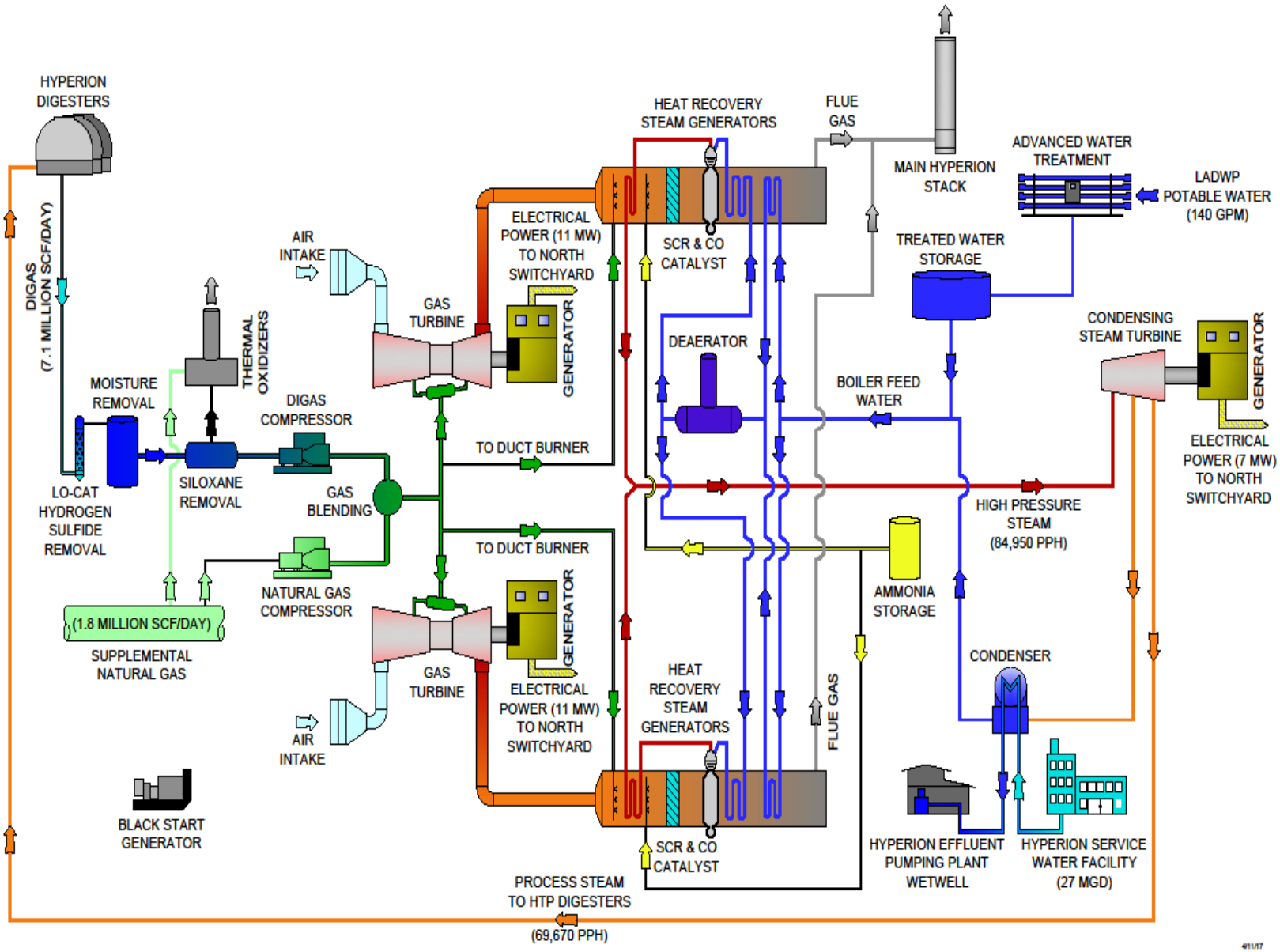
HYPERION WATER RECLAMATION PLANT - DIGESTER GAS UTILIZATION PROJECT (DGUP)



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DGUP DURING COMMISSIONING AND RELIABILITY TEST APR 2017

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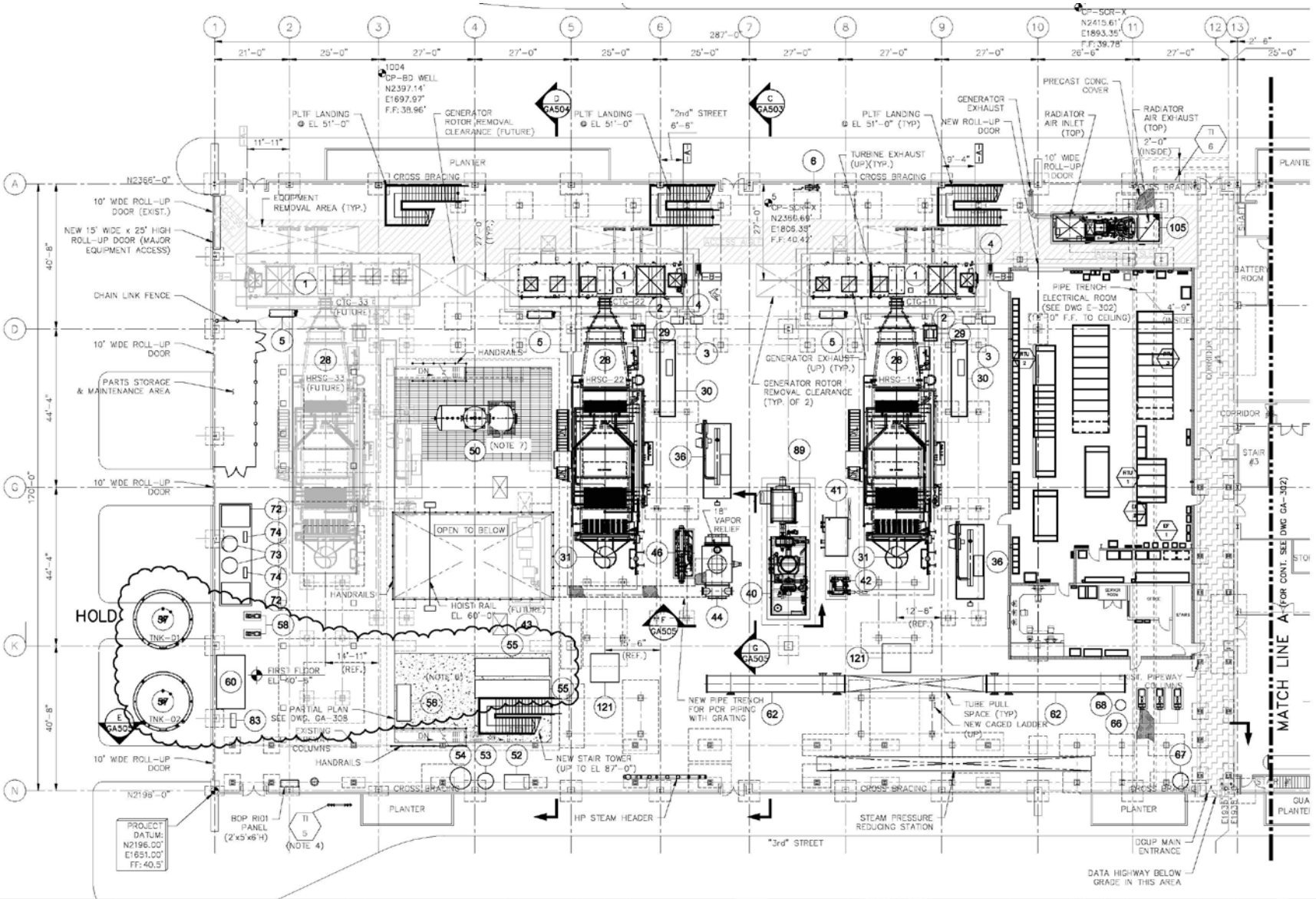
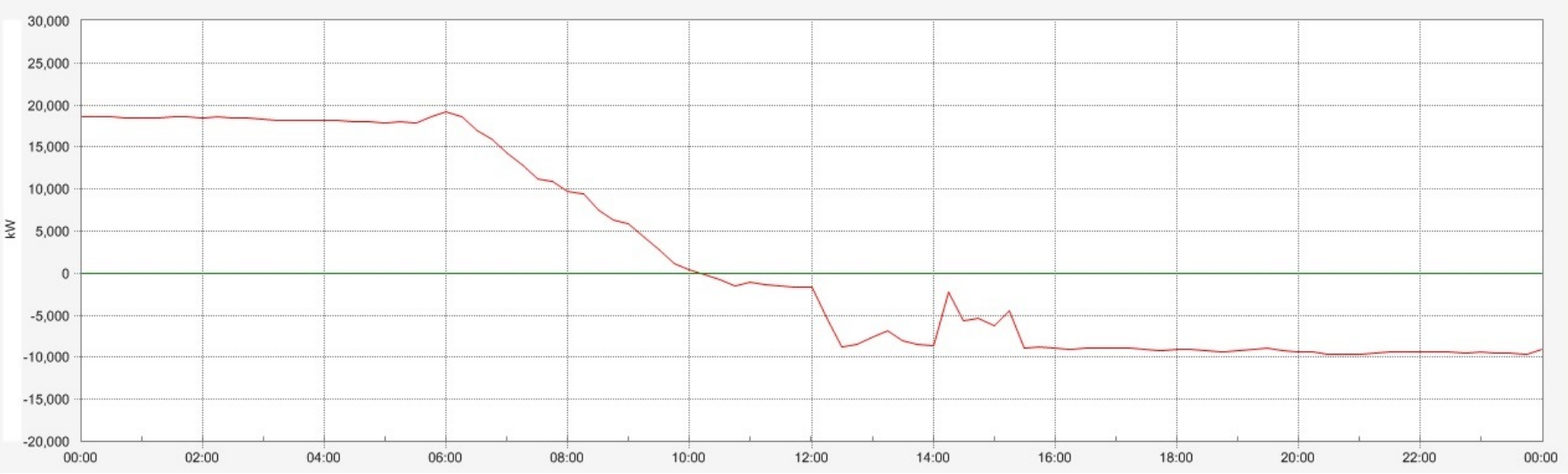
FUTURE COMBUSTION TURBINE GENERATOR 11MW



POWER CONSUMPTION AS RECORDED ON MARCH 28, 2017

From Importing 18 MW to Exporting 8 MW



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