



Reivax News

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The 3rd Edition of REIVAX NEWS, the quarterly newsletter for employees, customers and representatives, is highlighted with the Overspeed Mechanical Device, developed by REIVAX.

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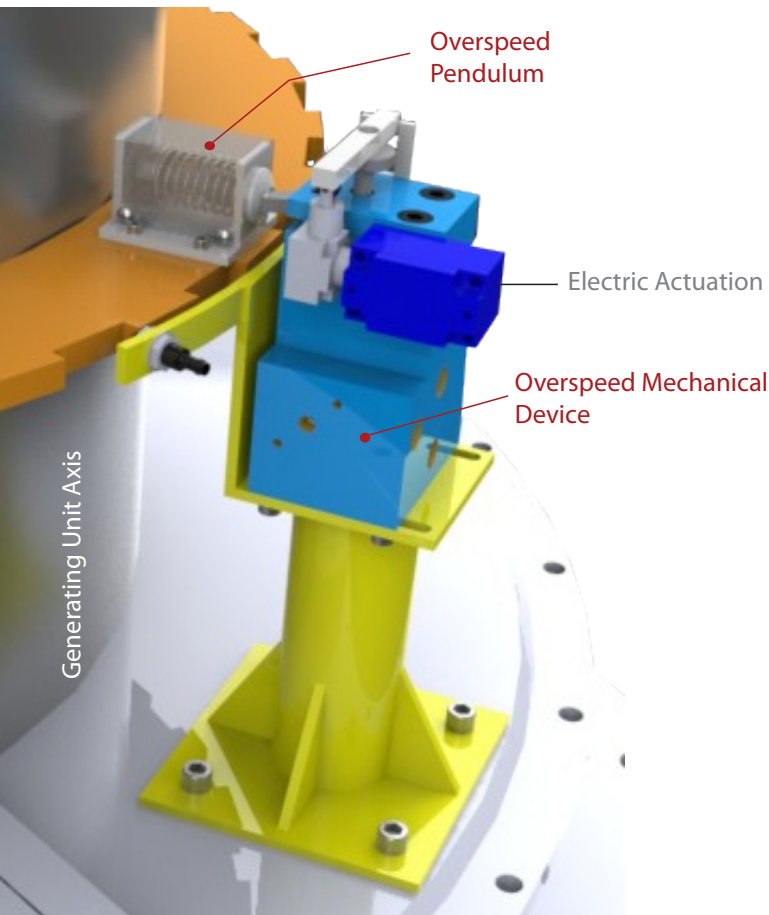
Reivax Training:
Regulating Systems
for Power Generation

Overspeed Mechanical Device

Among REIVAX products to Speed regulation, at this edition we highlight the Overspeed Mechanical Device.

Promoting reliable protection for Overspeed of the Generating Unit in any operating condition (normal or emergency), Overspeed mechanical device operates when it reaches the specified speed, closing the turbine and causing the arrest of Turbine Generator + group.

The Overspeed Mechanical Device is formed by a pendulum and a trigger, which are actuated according to the rotation speed of the turbine, it has the function to command and close the dispenser, regardless of electric control.



► Benefits and Characteristics

Risk Reduction:

Prevents against overspeed in all types of turbines (Francis, Pelton, Kaplan, Bulbo, among others)

Acting:

Hydraulic and Electric

Mechanical Drive:

Includes Overspeed Pendulum

Maximum Pressure:

500bar of Oil

Generating Units

REIVAX, present in more than **25 countries** in 4 continents, recently put into operation some very important **generating units**.

Yale | PacifCorp

Location: USA
Hydropower Plant
Equipament: RTX POWER
(Excitation System)
Turbine: Francis

HPP Henry Borden | EMAE

Location: Brazil | Cubatão - São Paulo
Hydropower Plant
Equipament: RVX POWER
(Speed Governor)
Turbine: Pelton
Generator Power: 66MW

HPP Canastra

Location: Brazil | Canela - RS
Hydropower Plant
Equipament: RTVX POWER + Mechanical Items
(Integrated voltage and speed regulating system)
Turbine: Pelton
Generator Power: 22MW

HPP Porto Primavera | CESP

Location: Brazil
Hydropower Plant
Equipament: RTVX POWER
(Integrated voltage and speed regulating system)
Turbine: Kaplan
Generator Power: 117MW

HPP Restitución | Electroperú

Location: Peru
Hydropower Plant
Equipament: RTX POWER G2
(Voltage Regulator)
Turbine: Pelton
Generator Power: 82,5MW

HPP Playas | EPM

Location: Colômbia
Hydropower Plant
Equipament: RTX POWER
(Voltage Regulator)
Turbine: Francis
Generator Power: 71,9 MW

Balsa Inferior | CNFL

Location: Costa Rica
Small Hydropower Plant
Equipament: RTVX POWER
(Integrated voltage and speed regulating system)
Type: Francis
Generator Power: 14MW

Daniel Gutierrez | CNFL

Location: Costa Rica
Small Hydropower Plant
Equipament: RTX ENERGY
(Voltage Regulator)
Turbine: Francis
Generator Power: 67MW

HPP Fortuna | ENEL

Location: Panamá
Hydropower Plant
Equipament: RTVX POWER
(Integrated voltage and speed regulating system)
Turbine: Pelton
Generator Power: 100MW

Sales

The main Sales for August and September



- **HPP Canoas II**
Customer: Votorantim Metais / CBA.
Location: Brazil
Hydropower Plant
Installed Capacity: 24 MW
Turbine: Bulbo
Equipament: 1 RTVX POWER
- **HPP Nilo Peçanha**
Customer: Light
Location: Rio de Janeiro - Brazil
Hydropower Plant
Installed Capacity: 65 MW
Turbine: Pelton
Equipament: 06 RVX POWER em placa de montagem
- **HPP Balbina**
Customer: Amazonas Energia
Location: Brazil
Hydropower Plant
Potência Instalada: 24 MW
Turbina: Bulbo
Equipament: 5 PWX POWER (PSS)
- **Aricota 1**
Customer: EGESUR
Location: Peru
Hydropower Plant
Installed Capacity: 11.9 MW
Turbine: Pelton
Equipament: RVX POWER
- **HPP Aguacate | Colotlipla**
Customer: Sigrama
Location: Mexico
Hydropower Plant
Installed capacity: 60,5 MW
Turbine: Francis
Equipament: 1 RTX ENERGY
 + 1 compact RVX ENERGY
 + Mechanical Parts
 + Spare Parts
- **HPP Chivor**
Client: C.H. Chivor
Location: Colombia
Hydropower Plant
Installed Capacity: 140 MW
Turbine: Pelton
Equipament: 4 RVX POWER
- **HPP Tasajera, Niquía and Ayurá**
Customer: EPM
Location: Colombia
Hydropower Plant
Installed Capacity: 131 MW
Turbine: Pelton
Equipament: 5 RVX POWER
- **Rio Amoyá | La Esperanza and Sogamoso Centrals**
Customer: ISAGEN
Location: Colombia
Hydropower Plant
Service: Modeling of Controllers and Generating Units
- **HPP WYNOOCHEE**
Customer: Tacoma Power
Local: USA
Hydropower Plant
Equipament: 1 RTX POWER
- **HPP Wonorejo Hydro**
Customer: TEGCControl
Location: Indonesia
Hydropower Plant
Equipament: Modules RTX Energy and RVX Energy

A photograph of a modern, multi-story building with a light-colored facade and large windows. The REIVAX logo, featuring a red square with a white line graph and the word 'REIVAX' in grey, is mounted on the building's exterior. In the foreground, there are several palm trees and a stone wall.

REIVAX

REIVAX introduces new CEO

REIVAX announces the engineer Nelson Zeni Jr. as its new CEO.

With over 35 years of experience in the power generation market, Nelson has served as Commercial Director in REIVAX, where he is also a member of the board and share holder.

Nelson Zeni Jr takes the role, committed to broadening participation of REIVAX position in the world market. *"We are expanding internationally and improving our solutions and services aimed at increasing the company's participation in the global market",* said Nelson.

Nelson Zeni Jr graduated as Electrical Engineer (UFRGS-1977) and got a Masters degree in Control Systems (UFSC - 1987). Worked as an engineer at CCEE (Energy Company in Brazil) from 1978 until 1998, when he joined the REIVAX. He was a professor in the area of Control Systems in the Engineering School at UFRGS in the period from 1978 to 1992 and PUC-RS (Pontifical Catholic University - RS) 1993-1994. He has international experience in implementing solutions for power control generation in many countries.

Brand New Website

We have launched our new Website. More modern and dynamic navigation, developed with a focus on better serving our customers.



Social Network

Like us on Facebook
[facebook/reivaxonline](https://www.facebook.com/reivaxonline)



Events

Next Events

- **October 19 - 21**
Ontario Water Power Association Conference
Niágara - Ontario
- **October 21 - 23**
Hydrovision Brasil
Transamérica ExpoCenter
São Paulo - SP
- **November 11 - 14**
REIVAX Representatives Meeting
Florianópolis - SC



REIVAX 2014 Representatives Meeting

REIVAX receives it's representatives on 11/11/14 until 14/11/14.

Aiming to improve the relationship between the representatives and REIVAX, the company promotes the meeting of representatives.

Besides the exchange of experiences, REIVAX will offer trainings on it's products.

Representatives from: Bolivia, Chile, Costa Rica, Ecuador, Peru and Paraguai, are already confirmed.

REIVAX attended

➤ 11º Navalshore

The event that happened on August 12 – 14 in the Sulamérica Events Center - Rio de Janeiro, was one of REIVAX strategies to improve the positioning of the company in the Oil and Gas market.

Reivax has launched its Low Voltage (INVX100A) and Medium Voltage Frequency Invertor (INVX 5000). Other products were also displayed such as the RTX Energy voltage regulator.



Regulating Systems for Power Generation:

module 1 and 2 courses

It is important to be qualified and improve the professional knowledge. The best way to stand out is joining courses and being in touch with professionals in energy generating area.

Having this in mind, REIVAX offers Training in **Power generation control systems** since 2012 and it already reached its 6th Edition.

TARGET AUDIENCE



The course was designed for Professionals of power generation companies:

- Owner Engineering;
- Professionals Involved in:
 - Technical Specification;
 - Studies;
 - Equipment Implementation;
 - Operation;
 - Maintenance.

HOURS



Duration: 5 days
Hours: 40 Hours

NEXT TRAININGS



October
20 - 24
Module 2

December
01 - 05
Module 1

REGISTRATIONS



www.reivax.com

Summary

Module 1

- Hydroelectric Power Plants
- Automatic Voltage Regulator
- Speed Governor
- Instrumentation
- Hydraulic systems

Module 2

- Control Systems and Servoactuators
- Power System Stability Analysis
- Generator and Automation System Studies
- Turbine and Speed Governor Studies
- Power System Stabilizers
- Coordinated Operation between Protection Systems and Excitation System Limiters
- Event Analysis via Oscilography Applied to Regulating Systems
- Maintenance tool (SEC) Applied to Oscilography
- REIVAX Cases



**CONTROLE, EXCITAÇÃO
E AUTOMAÇÃO DE
GERADORES E TURBINAS**

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