ELSYCA IRIS

Effortless inductive and resistive interference studies

Ensuring safety through computational modeling and analysis of AC mitigation systems

Elsyca IRIS is a state-of-the-art graphical simulation platform for AC interference studies on pipelines, overhead power lines, buried AC cables and AC traction systems. Elsyca IRIS enables cost-effective mitigation designs compliant with international standards for corrosion and safety.

Key Benefits

Insightful

Elsyca IRIS computes the safety and corrosion risks on pipelines interfered with and affected by High Voltage AC (HVAC) power-lines, using a new stateof- the-art computational simulation platform.

User-friendly

Elsyca IRIS software combines a userfriendly interface, with exceptionally simple pipeline, HVAC power line and field data inputs from typical text, Google Earth and Excel file formats. The software is used by a loyal customer base for its user-friendliness and performance. GPS coordinates of pipeline and power line routings are readily imported into the software representing the real-life distances between pipelines and power lines.

An automatic converter creates common AC grounding systems from required resistance-to-earth.
The software is continuously improved based upon our user experiences and technical requests from customers.

Effective

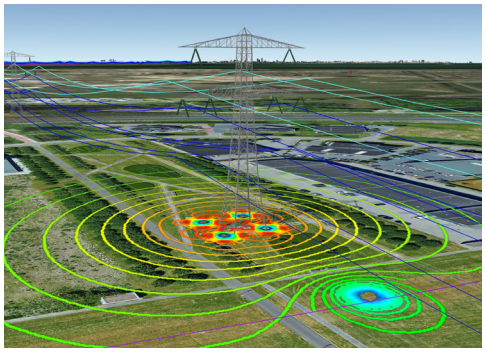
Convenient what-if studies and effective mitigation with wide range of measures such as resistive and direct bonds between pipelines, insulation joints, discrete grounds, distributed anode grounds, parallel mitigation wire, gradient control mats, decoupler devices, etc.,

IRIS enables the engineer to accurately and rapidly troubleshoot, assess and verify designs in compliance with local and international standards, thereby ensuring both the safe and cost effective operation of pipelines.

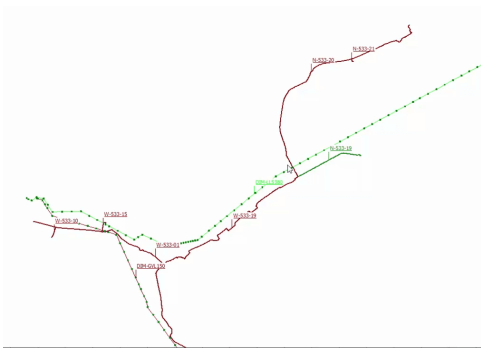
Prestigious

IRIS has an accurate and extremely fast numerical solver, with advanced pre/post-processing capabilities and impressive graphical visualization of the collocation geometry, pipeline and power line properties and simulation outputs.

IRIS is innovative technology which has been developed by Elsyca, and used by their own in-house AC interference experts, and world leaders in AC interference, which simply translates into a software solution of choice for anyone dealing with AC interference!



Detailed in-situ results vizualisation



Accurate modeling over networks

Get unprecedented insights

Elsyca's digital twin solution

- No limitation on number of pipelines, power lines and mitigation systems;
- No electromagnetic sectioning of pipelines based upon routing and/or interference collocations;
- Pipe details (diameter, wall thickness, coating resistance, soil resistivity,...) can be defined for any number of sections;
- High Voltage AC (HVAC) Tower details (configurations, position of phase/ shield wires, phase angle, sag,...) can vary for any number of sections;
- Single layer or double layer soil configuration and local soil resistivity data can vary along all individual pipeline and power line routes;
- Automated fault simulation: all towers of a given power line are automatically faulted while other power lines operate at a user defined or selected load;
- Automatic calculation of tower foot length and radius, matching the measured resistance-to-earth values;
- Resistive and direct bonds between pipelines, insulation joints, discrete grounds, distributed anode grounds, parallel mitigation wire, gradient control mats, ...)
- Calculation of transferred voltage, coating stress, remote earth potential, current density and longitudinal current on complete pipeline network;
- Calculation of ground potential rise on 2D grid/1D line; touch and step potentials; arcing distance;
- Calculation of currents in electrical network formed by shield wires, towers, tower poles and the earth for phase-to-ground resistive interference;earth for phase-to-ground resistive interference;
- Different mitigation systems (vertical grounds, parallel mitigation wires, gradient control mats,...) are automatically created/designed based on the required resistance-to-earth;
- Robust, very accurate and extremely fast solver for all computational calculations including very complex collocations (results in minutes);
- Visualization of all computed results (LEF, induced voltages/currents, current density, coating stress voltage, GPR) using 2D color plots and 1D developed length plots;
- Export to Google Earth, ASCII and SVG (Scalable Vector Graphics) files to allow printing on A0->A4,zooming and creation of PDF

> *Modeling with Elsyca IRIS ensures an immediate ROI. When questions arise, Elsyca's technical support team provides the answers you need to address critical issues.*

> *Elsyca has been a tremendous partner to us. Their advanced technical capabilities and software combined with their responsiveness has enabled us to better serve our pipeline clients in identifying and mitigating the threat of AC induced corrosion*

ANDY JENSEN

EXECUTIVE DIRECTOR, OIL & GAS STRUCTURAL INTEGRITY ASSOCIATES, INC.