



## A Success Story Spanning Decades — Framatome & Dukovany NPS

Low-carbon energy production is too important an undertaking to leave anything to chance, and that goes double for the instrumentation and control (I&C) safety systems nuclear power plants depend on. But when you have a partner you can count on for long-term I&C service and support? That brings peace of mind to what might otherwise be a worrisome aspect of plant operation.

**That has been the basis for one of the longest business relationships in the history of the nuclear industry — one where high levels of trust earned and cultivated over decades have fostered collaboration, open communication, and shared goals, leading to an even stronger, more enduring partnership.**

### **Framatome I&C systems installed since the early 2000s at Dukovany**

Between 2000 and 2009, the Czechia utility ČEZ upgraded their original analog I&C systems at Dukovany Nuclear Power Station (NPS) to Framatome's digital platform Spline. As part of the Dukovany project, 175 electronic cabinets, containing about 5000 components (boards, power supplies, etc.), were installed. But more than that, a lasting partnership was established, one that is paying dividends today. After the massive renovation and I&C replacement at Dukovany, Framatome, ČEZ and I&C Energo signed a long-term service agreement (LTSA) in 2010 that covers, amongst other items:

- spare parts delivery and repairs
- obsolescence monitoring and management
- technical assistance
- competency management facilitating institutional knowledge transfer

And perhaps most importantly:

- regular presence at Dukovany NPS, with quarterly face-to-face meetings, an annual general meeting, and an annual report

This last piece of the LTSA is why Framatome's I&C team spends 5 weeks on site at Dukovany NPS annually, building the kind of unmatched customer knowledge and in-depth experience that proves invaluable as time goes on. These are just a few of the several hundred I&C maintenance visits performed per year by Framatome's experts in Europe alone. It's a big reason why many are later consulted by utilities to help craft their licensing applications, regulatory interactions and maintenance schedules.

Thanks to regular maintenance from I&C Energo and obsolescence management mandated by the Framatome-issued LTSA, along with high-quality, robust I&C technology, Dukovany's digital safety I&C systems have never failed in all their years of operation — no trips or failures due to a malfunction, no false actuations.

#### **Next steps: building for the future on the foundation of Framatome LTSAs**

In 2020, after ČEZ decided to extend the lifespan of Dukovany NPS, Framatome helped the utility define a strategy for operating and maintaining the plant's Spline I&C system until 2045. Initial analyses concluded it was possible to continue with both the original functional Spline architecture as well as a part of the initial Spline GEN III equipment until the end of plant lifetime. The rest of the equipment would be replaced with GEN IV Spline, fully compatible with GEN III, ensuring a smooth transition. This strategy, a combination of modernization

and maintenance actions spelled out by the LTSA, is a cost-effective way to keep the original equipment in operation as long as possible. Modifications were to be made gradually and implemented during outages over the following 10 years.

As part of their LTSA, Framatome hosts I&C training sessions for their customers, hundreds of them annually. In the first year of their upgrade program with ČEZ, Framatome held several of these instructional meetings featuring specialists who participated in the original 2000–2009 modernization project, for the purpose of first-hand knowledge transfer and retention. In fact, some specialists from that original project continue to work on this one and provide expert support, yet another way this extended partnership pays dividends.

It's important to note that much of the capacity for Framatome's support, supply and service of their I&C technology is baked into the systems themselves. All Framatome

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products were originally developed, designed and qualified in-house for the express intent of long-term operation and continuous obsolescence management, not possible for system integrators relying on third party products designed and manufactured by external manufacturers.

It's a major factor why, even though Dukovany's Spline equipment has been in operation since 2005, they have been able to avoid any major redesign in the 20 years since.

**“The continuous technical support that Framatome specialists provide to ČEZ and I&C Energo is highly appreciated in our company. For a mixed Czech/French team, communication is easier which really facilitates cooperation. Engineers and specialists from the supplier's side understand technical problems and are able to solve them together in a relatively short time. For me, as the manager of I&C systems of our power plant, this is a really useful service, without which the operation of these systems would certainly be more difficult!”**

**— Frantisek Sveda**  
I&C manager, Dukovany





**“Reliable long-term support of I&C systems is key for the safe and economic operation of nuclear power plants. Dukovany is a case in point where our Framatome I&C systems have been installed since the early 2000s. This new contract marks another important milestone in the longstanding cooperation between ČEZ and Framatome, and ČEZ knows they can count on Framatome to help safely bring Dukovany to the end of its planned service life.”**

**— Frédéric Lelièvre**

**Senior Executive Vice President, Sales, Regional Platforms and Instrumentation and Control Business Unit, Framatome**

In 2023, after more than 10 years of successful cooperation between ČEZ and Framatome on Spline support and services, Framatome contracted with ČEZ to modernize the existing Spline testers at Dukovany NPS. Framatome's engineering specialists redesigned, manufactured and validated the new Spline testers,

the first of which were installed mid-2024 during the Dukovany-2 planned outage. This project was the first step in the comprehensive modernization of the existing Spline safety I&C platform, which would allow ČEZ to operate Framatome systems until 2045. In October of 2024, the next step was taken with

a new Framatome-ČEZ contract for upgrades to Dukovany's existing safety I&C systems and software while keeping the existing cabinets. After this modification program ends around 2035, Dukovany's new system will operate until the end of the power plant's life.







### Long-term I&C support leads to valuable long-term partnerships

This type of close relationship between Framatome and one of its I&C customers is by no means unique. Looking back, Framatome's oldest I&C LTSA, contracted with EDF Pérennité, has been active since 1991 and is still in effect. Looking forward, through contracted LTSAs with 80 nuclear reactors worldwide, Framatome is committed to support, service and supply their I&C products until at least 2050.

All Framatome's I&C systems come with an offer of custom-tailored, comprehensive, long-term service agreements, built not just upon their quarter-century relationship at Dukovany NPS, but 50 years of experience servicing nuclear plants worldwide. Other vendors may come and go, but Framatome is the longstanding industry leader in quality I&C support and service, along with being a sole-source provider. Just as our partner ČEZ does, you too can depend on our experienced I&C specialists to exceed expectations and deliver the peace of mind you deserve.

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