



Customer-Inspired Solutions.

Independence Contract Drilling Case Study.





Partnership Pays.

Two years ago, Independence Contract Drilling (ICD) decided to make a strategic shift, leveraging external expertise and economies of scale available from component manufacturers in the design and construction of their rigs. This included outsourcing both the drilling power module and skidded assemblies, with the decision based on a potential partner's ability to work with ICD from design through manufacturing and testing, then following through with a complete support strategy.

Several factors were instrumental in the decision to choose Cummins. First, Cummins demonstrated an ability to listen carefully to ICD's input, and custom-design solutions that met its drilling power module specifications. Second, a detailed cost analysis on projected maintenance expense savings and life-to-overhaul projections convinced ICD of the value proposition. Cummins also demonstrated to ICD the ramp-up capabilities of the Cummins engine with respect to load changes and the Modular Common Rail Fuel System (MCRS). But it was the seamless coordination between the Cummins Houston Center Of Excellence (COE) and the local Cummins distributor – Cummins Southern Plains – ensuring that Cummins would be fully invested in maintaining and enhancing equipment uptime and productivity for ICD that clinched the deal.

- Where:** Houston, TX
- Application:** 1500-hp Drilling Rigs
- Project:** Dual Fuel Unit Engineering, Manufacturing, Testing and Support
- Results:** Industry-Leading Uptime, With Instantaneous 0%-100% Ramp-Up



**David Brown, Senior Vice President
of Construction and Engineering**

“Cummins is a highly responsive organization that really takes care of us, during both the design and manufacturing stages, but more important, by supplying service when we need it out in the field. Servicing the rigs so that there is no downtime is a priority. And those are two different significant issues. Our experience has been extremely favorable. Whenever we need help, we get it right away.”

Excellence In Engineering.

Skidded drilling power modules are used for ICD's 1500-hp drilling rigs, which run 24/7 during the well cycle. The power requirements for the rig will vary between two and three engines, depending on the total drilling depth and length of the lateral hole that is being drilled. ICD deployed 15 drilling power modules to the field, with 12 more sets to be deployed.

Lance McDonald, Director of Rig Assembly, notes that: “Since we've repowered to the Cummins, we've had zero issues, and they're performing great. The Cummins units are performing with such good response that we're not seeing any brownouts, any blackouts or any of that. I mean, they're running solid. We have 98.7 percent uptime on our engines.”

Customized To Meet Customer Needs.

ICD incorporates dual fuel systems on its rigs. So the first step was to develop a fully integrated dual fuel system with the Cummins engines, using a Hythane[®] OptiBlend[®] system. The Cummins engineering team developed a cooling system and exhaust strategy customized for the dual fuel system. Cummins also worked with ICD to develop a separate skid assembly specifically for the air-handling system.

The entire unit is designed and built to order as a turnkey package, per ICD specifications. Commonality across all rig packages has helped make rig moves more efficient. No matter what happens to any engine, ICD now has the ability to pull it out and replace it without missing a beat. That's one of the benefits of partnering with Cummins.

“The engines have been proven. The support staff have proven themselves. The engineering work has proven itself. And the engines have exceeded anything I ever thought.”

– Lance McDonald, Director of Rig Assembly




Better Reporting. Better Results.

Field support is a critical element in the success of this partnership – not only for ICD, but for its customers as well. That’s where Cummins service and support network adds significant value to the package. Cummins sends personnel to visit the rigs on location, download information from the engines and create reports that are sent to ICD on a regular basis. Cummins Southern Plains provides recommendations on the most economical and efficient ways to operate the engines, even training ICD employees on how to use them most productively.

Power On Demand.

One of the main benefits ICD has seen with Cummins engines has been the ability to ramp up from 0% to 100% power nearly instantaneously. The Cummins engine can ramp up to full power in one step, and does not require a phased ramp-up procedure. That responsiveness has given ICD the ability to use fewer engines and get more power. When ICD runs into a situation where a drill is getting stuck or it needs more power for a mud pump, it doesn’t have to get an additional engine online; ICD has all the power it needs with fewer engines.



**Philip Dalrymple,
Operations Manager**

“Cummins comes out and gives us feedback, and they give us reports on a monthly basis, which teaches us how to use the equipment better. We’re learning more about how to effectively use the engines, which is saving us diesel and making us more efficient.”



No Time For Downtime.

No matter how well a drilling package is engineered, problems still can occur. In the oil and gas market, how quickly and how well a company responds makes all the difference. David Brown notes: “Downtime is a measure that our customers use for future utilization. So it’s extremely important to us, especially in this competitive world that we find ourselves, we can rely on people to support us – and our customers. Whenever we have had a need and made the phone call, Cummins has responded immediately to help us get the rig back up and running. They give us the support we need to deliver a product that’s considered to be very high-end – and is extremely appreciated by our customers.”

Focusing On The Future.

David Brown reflects on ICD’s experience with Cummins: “When I think of Cummins, I really don’t think about the product of today. I think about the product of tomorrow. We’re looking at emissions. We’re looking at going green. We’re looking at noise abatement. Cummins is more than just power generation. It’s a complete product. And at Independence Contract Drilling, we’re very pleased with the outcomes that we’re seeing. I’m glad that we have partnered with Cummins for our power generation needs.”



Wes Kern, Director of Projects

“ICD relied heavily on Cummins throughout the engineering process and the construction process of the rig. They came over to our premises after they helped us engineer the system, and provided the information for us to review with our Rig Operations people to get approval for that system to be incorporated into our rig. That was a big, very important step in our process to make sure that whatever we constructed in our yard in Houston is efficient out in the field. That partnership faced a lot of challenges, and we’ve come out with a really good product that our operations people are very comfortable utilizing.”

Up Close And Online.

A video about ICD can be viewed on the Cummins YouTube channel, at youtube.com/cumminsengines.



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