Application Note – Water/Wastewater OEM

Original equipment manufacturers (OEMs) build electrical automation products for the water/wastewater industry that include frequency inverters, power supplies, relays, sensors, telemetry instrumentation, Internet of Thing (IoT) components, servo/motion systems, cameras and video systems, PLCs, embedded controllers, remote I/O, starters, HMIs/operator terminals, PCs, SCADA systems, industrial networking devices, enclosures, cabling and connectivity devices. The brands and models OEMs use depend on end user requirements, applications, costs and personal preference.

OEMs either build a standard product or product line with little variation from customer-to-customer or they leverage a basic product design and customize it to its end users' specifications. If the water/wastewater end user or contracted engineering firm clearly specifies the brands and models, then that's what the OEM will use. If the specifications are less rigid emphasizing function, technical specifications and price, the OEMs can often build better, more flexible and less-costly products. There are advantages and disadvantages of both the incumbent model and the best-of-breed or open model.

Incumbent Electrical Controls Components

End users; i.e., water or wastewater plant engineers, IT and operations personnel – often driven by third-party engineering partners – typically specify the controls and instrumentation brands they are most familiar with or currently have installed. OEMs that use the established brands do so because of:

- Established supply channels, pricing and one-stop shopping.
- Component installation and programming familiarity.
- Simplicity and cost saving in common spare-parts.
- Comfort with the supply firms' personnel – sales, support and billing.
- Marketing benefits and comfort of using well-known or established brands.

However, on some occasions, the incumbent electrical and controls brands are insufficient for the goals of the end users because:

- Costs tend to be higher for brand-name products versus functionally-equivalent or better, non-brand-name products.
- Incumbent components may not be based on the latest proven technology.
- Operator efficiencies may not be achievable because of dated technology.
- Large manufacturers may be good with some product lines but poor in others.
- Technology may not be optimized for the evolving deployment and application requirements.

Best-of-Bred Electrical Controls Components

If the water/wastewater end user or contracted engineering firm does not mandate a specific brand or model, the OEM will build what makes sense. When referring to PLCs, HMIs, PCs and network switches, most OEMs have their favorites. They use components they are comfortable with, whether due to a familiarity with the programming interface, confident with product quality and product availability, or acceptance of the pricing. In a perfect world, OEMs would prefer the flexibility of standardizing on mix of preferred components. This open model gives OEMs the ability to:

- Have greater control over their brand and the offering's overall appeal and marketability.
- Get more favorable pricing.

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- Provide a more robust and feature rich product.
- Leverage the latest innovative technologies and capabilities.
- Ensure a more synergistic product offering by packaging a superior product made from superior components.

Why Should OEMs Consider Alternative Components?

There are a number of benefits OEMs can realize if they leverage a best-of-breed component selection approach to building water/wastewater products:

- **"Pain" management** – OEMs want quality, availability, support and fair prices from the components they integrate into their products. If any of these is lacking, the end user will let them know. It is painful to deal with unreasonable component failures, components that have long lead-times, support resources that are difficult to reach or lack the necessary product depth to quickly respond to problems.
- **New deployment environments** – the components used can limit the environments a product can be deployed into. If the OEM's current product offering limits the environments it can work in, will components that are designed to work in extreme temperatures, direct sunlight, wet, dusty, and high vibration environments open up new water/wastewater deployment options?
- **New product opportunities** – technology can be both enabling and limiting. Many water/wastewater facilities were designed decades ago, well before many of today's main-steam technologies. As OEMs offer products into new, expanded or retrofitted plants, some thought should be given to future-proofing the equipment.
    - What can be done for remote access and control by smart-phones, tablets and the next-gen mobile devices?
    - How can the OEM integrate best-of-breed security into the equipment?
    - How can the equipment be more green and reduce its energy consumption?
    - How can the OEM device work in the cloud – remote management, remote control, firmware/software upgrades, preventative maintenance notifications, etc.?
    - How can the electrical and controls footprint and build-costs be reduced with the latest technology packages?

Why Water/Wastewater OEMs Should Consider Beijer Electronics' Products?

For over 30 years, Beijer Electronics has designed and manufactured human machine interface (HMI) and industrial networking products for OEMs. Its best-of-breed products include operator panels, industrial panel PCs, automation software, and industrial networking switches, routers and converters. Beijer offers products for most industries but tends to focus on environmentally-challenging industries including water/wastewater, oil/gas, mining, heavy construction, marine, off-shore, transportation and industrial vehicles. The products are design to excel in environments prone to extreme operating and storage temperatures, water, humidity, dust, chemicals, combustion, high vibration, physical shock, and electrical interference. Beijer has shown water/wastewater OEMs that its delivers:

- A rugged broad product line for most OEM's size, connectivity, performance and price requirements.
- Excellent product quality, immediate product availability, and reliable technical support.
- Software that provides solid functionality and protocol support, state-of-the-art graphics, smart design and engineering tools, and an open platform.

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