



PROJECT BRIEF

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C Line Controls Upgrade project

Description: National Frozen Foods, headquartered in Seattle, Washington, is a global private-label producer of quality frozen vegetables. They make nearly 300 million pounds of product each year, including single-vegetable packages, blends, organics, and purees. National Frozen Foods must follow strict US Department of Agriculture guidelines, and they consistently receive top level food safety scores. Their goal of processing vegetables within 4 to 6 hours after harvest means National Frozen Foods must maintain rapid production rates and high efficiency.

National Frozen Foods' previous vegetable blending system in its Albany, Oregon, plant was imprecise, using a dial system to manage the ratio of vegetables. They wanted a more efficient, repeatable system for combining the vegetables and also sought enhanced diagnostics. Concept Systems provided both improvements during the C Line Controls Upgrade project.

National Frozen Foods' blending line consisted of a six-hopper/bin/feeder system, with each feeder able to supply a different vegetable to the mix. Concept System's upgraded system provided consistency and flexibility, allowing operators to enter the required vegetable ratios, adjust the master speed, and select the appropriate conveyor belt – all from the user-friendly HMI that Concept Systems also developed. Adjusting the master speed then changed the speeds of all associated feeders to maintain proper vegetable ratios. Diverter gates on the feeders could direct product to different processing lines, making the system very customizable depending on the blends being produced.

This upgrade involved new Allen-Bradley PowerFlex 40 Ethernet drives, a CompactLogix PLC, and an RSView ME based 10-inch PanelViewPlus station. One of the key HMI upgrades involved new screens focused on easier troubleshooting. When their old system had problems, National had limited diagnostics available to them. The new Status, Maintenance, and Diagnostics screens greatly improved that issue. Concept Systems worked closely with National Frozen Foods to ensure the screens met their needs.

The National Frozen Foods C Line Controls Upgrade provided increased consistency and flexibility while easing maintenance concerns. It helped National Frozen Foods maintain its position as one of the world's top-quality frozen vegetables producers.

Services Provided:

- PLC/HMI Programming
- Drives Configuration
- Start-up & Commissioning



Results:

- Improved vegetable blending consistency
- Increased flexibility of product output
- Reduced maintenance troubleshooting time through improved diagnostics

Technologies/Platforms Used:

- Allen-Bradley PowerFlex 40 Ethernet drives
- CompactLogix PLC
- RSView ME HMI
- PanelViewPlus (10-inch)