



AMERICAN DEVELOPMENT
INSTITUTE

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SUMMARY

ADI Energy was retained by The Kroger Company to perform an Engineering Assistance (EA) study to evaluate specific EEMs for The Kroger Company (Kroger) Smith's Foods Distribution Center facility in Layton, Utah. Specifically, ADI focused on quantifying the energy savings and project economics for EEMs associated with the refrigeration systems at the Utah facility.

Energy Efficiency Utah

Energy Efficiency Food Industry

Lifetime Savings: \$1,649,250

Total Electric Savings: 21,116,355 kWh

SERVICES

- Commercial energy services
- Industry energy services
- Energy engineering
- Energy analysis
- Energy savings analysis
- Energy reductions
- Utility reductions

MEASURES

- Energy Management System
- Refrigeration
- VFD

The Kroger Company Smith's Food Distribution Center Layton, Utah



UNIQUE VALUE TO CUSTOMER

ADI Energy conducted an Ammonia Refrigeration Master Controls assessment audit for The Kroger Company (Kroger) Smith's Foods Distribution Center facility in Layton, Utah. While the Layton facility consisted of seven major buildings, the assessment specifically focused on the following buildings at the Layton facility: Freezer #1, Freezers #2 & #3, Produce, and Meat/Deli. ADI visited the site, gathered information from facility personnel, and provided an energy savings analysis and investment recommendations.

After observing the existing equipment and operational strategies, ADI Energy determined that the current manual operation of the refrigeration system at The Kroger Company facility was efficient with respect to energy use. ADI Energy determined that a new Master Refrigeration Controls System would not be cost effective based on the high capital costs to install and to integrate this system with the existing equipment. In addition, minimal energy savings would result from the new system beyond the existing strategies that are already being implemented by the Layton facility maintenance staff.

Alternatively, ADI Energy recommended that The Kroger Company install variable frequency drives (VFDs) on all evaporators in some assessed locations; relocate one of freezer compressors; and interconnect the current R22 system operating two of the assessed freezers with the Ammonia System from the remaining freezer at the Layton facility. Based on ADI Energy's review of the available Rocky Mountain Power incentives these EEMs would qualify for a custom application, estimated at approximately \$0.12/kWh saved. The alternatives would also result in lifetime savings of \$1,649,250 with a lifetime reduction of 21,116,355 kWh.