

# Cook/Chill Centralized Food Service in Corrections

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**B**read, gruel, and water used to be the staples of correctional food service, but today a great variety of high-quality food is available, thanks to such technology as food factories, computerized menus, robot delivery systems, and centralized "cook/chill" processing.

Several factors underlie the need for corrections to try new, more efficient approaches to food service. These factors include jail crowding; the rapid growth in demand for food service; increasing food, labor, and supply costs; a shortage of trained personnel; and an increasing number of food service-related lawsuits throughout the nation.

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**Crowding was a primary reason for changes in San Diego's food service system.**

system. San Diego County's seven facilities were designed for a legal

capacity of 2,345. In 1989, these facilities were holding up to 4,500 inmates-and the numbers were climbing-giving San Diego the dubious distinction of being the most overcrowded system in the country.

To determine more effective ways of handling the increasing number of inmates, the county commissioned two external feasibility studies (1985 and 1989), as well as an internal study. With respect to food service, the findings of all the studies supported the creation of a centralized cook/chill system for the county's facilities.

## Cook/Chill Processing

Cook/chill is a technique for preparing food in large volume that extends its shelf life while maintaining product quality. Food is cooked conventionally to pasteurization temperature then chilled rapidly. The food is stored in a temperature-controlled environment above the freezing point (from 32 to 37 degrees Fahrenheit) and then reheated immediately before consumption. Rapid chilling inhibits the multiplication of bacteria, thus retarding the deterioration of food that occurs at normal temperatures.

There are two basic methods of cook/chill: cryo-vat (tumble chilling), and blast chilling.

**Cryo-vat processing.** In cryo-vat (tumble chill) processing, liquid or viscous products such as sauces, soups, stews, cereals, and salad dressings are prepared in specially equipped kettles and then pumped through a three-inch hose into polyethylene bags (usually two-gallon bags). The bags are vacuum-sealed and transferred to the chilling unit, either manually or by conveyor belt. The chiller is a perforated drum that rotates in a tank of circulating ice water. The bags of food are tumbled in the ice bath until their temperature is below 38 degrees. The cryo-vat process gives the product a shelf life of thirty to forty days.

**Blast-chilling.** Other foods, such as baked chicken, meat loaf, lasagna, and hamburgers, are cooked and then placed on carts in two-inch-deep pans and rolled into a "blast" chilling unit, which resembles a roll-in refrigerator box. The unit has the ability to rapidly circulate cold air around the pans until the food temperature has dropped below 38 degrees. Blast-chilling gives the product a shelf life of four to five days.

When the food products are needed, they can be transported to the facility, where they are heated and served. A more efficient alternative to shipping food in bulk is to

prepackage individual entree servings on trays before shipping.

Reheating is done in special “rethermalizing” units. These units bring food to the proper temperature

and then stop heating; the units are portable and do not require a hood and ventilation system. The advantages of cook/chill processing are outlined in Table 1.

**Table 1. Advantages of Cook/Chill Food Processing**

***Labor savings***

- Production staff can concentrate on specific tasks throughout the day with little or no peak meal-time tension.
- In most systems, seven days’ food can be prepared in a four- or five-day kitchen work week.
- Agencies can keep key cooking staff to a minimum by using relatively unskilled labor to reheat and serve food.

***Energy savings***

- More efficient use of production equipment can result in reduced energy costs.
- Because staff can prepare food over a four- or five-day work week to serve seven days, the kitchen can be shut down for two or more days, also resulting in energy savings.

***Consistency/quality control***

- Controlled, uniform production techniques assure that a product is the same each time it is made. National restaurant chains use this process to assure uniform high quality in their outlets across the country.
- In a properly supervised central kitchen cook/chill facility, it is easier to control quality, and there is less opportunity for inmate workers to tamper with the food.

***Service flexibility***

- Because products are maintained in inventory, special diets and off-peak feeding are simplified.

***Space savings***

- Because bulk production equipment is usually used, total kitchen space is reduced, despite the need for increased refrigeration.

***Equipment savings***

- Duplicate full kitchen equipment need not be purchased and maintained at each facility.
- Equipment maintenance is concentrated at the central kitchen, with minimum requirements at the rethermalization satellite kitchens.

***Management***

- Management functions are centered primarily in one kitchen operation with the appropriate technical/administrative support, an arrangement that helps to compensate to some degree for the shortage of qualified food service management personnel.

## San Diego's Food Services Center

To incorporate this new technology, a new, central food service production center is currently being constructed at San Diego County's East Mesa Detention Facility in Otay Mesa; it is scheduled to open early in 1991. The 38,000-square-foot center will encompass the latest developments in cook/chill technology, as well as a state-of-the-art bakery and a specially designed computer system.

The food production center will initially serve 2,000 staff and inmates and is designed to eventually produce 29,000 meals per day to accommodate 7,000 inmates and staff.

The facility will also feature a complete cold production center for preparing such foods as salads, vegetables, and sandwiches, and a tray line assembly system. A larger, separate ingredient control area will include more than 3,000 square feet of freezer capacity and 4,000 square feet of dry storage. By enabling the department to buy food in large quantities, the center will help reduce purchasing costs by at least 20 percent.

The center will operate ten hours per day, five days per week, which assures cost-efficiency as well as quality control. All menu components will be prepared to meet an inventory rather than specific meal requirements. The food

production center will initially serve 2,000 staff and inmates; however, it is designed to eventually produce 29,000 meals per day to accommodate 7,000 inmates and staff in the proposed honor camps and jails on the Otay Mesa site. San Diego is one of the first correctional agencies to use cook/chill processing, and will be the first to adopt a system of pre-packing entrees.

As a recent feasibility study has shown, with some additions and modifications the food production

center would be capable of serving other county detention facilities as well. This expansion would be

possible because of the versatility of the cook/chill food preparation system, used in conjunction with a distribution system for transporting the food to the other sites.

Based on the feasibility study, it has been recommended that San Diego County construct two more central food production centers by the year 2007 to handle the burgeoning inmate population. These centers will support numerous new facilities throughout the county, with only rethermalization units needed at each site.

**A**s outlined in this article, use of a centralized cook/chill approach to food service will generate a definite cost savings for

San Diego County. The technique has enabled some private industries to reduce labor costs by 40 percent. But most important, central food processing will allow the department to provide high-quality service in a consistent and professional manner.

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