without requiring the State agency to conduct nutrient analysis as part of its oversight responsibilities.

In designing the proposed changes, the Department employed a method that is consistent with that used to develop previous meal patterns and other food guides. Nutrient profiles were developed for each of the four food components. Then, using food consumption data from the School Nutrition Dietary Assessment (SNDA) Study (released in October, 1993), the Department estimated the type and frequency of foods consumed from each of the food components. With this information, the Department arrived at composites of estimated nutrient and caloric contributions of each component and calculated revised quantities for each component to achieve compliance with the nutrition standards for each age/grade group. (These groupings are discussed later in this preamble.)

For developmental purposes, the nutrient profiles for each meal component were calculated based on their lowest fat forms and on the assumption that they contained no added sugars. The profiles also maintained the approximate proportions of the main ingredients which, according to SNDA, were used to satisfy each component. For example, in the meat/meat alternate component, the approximate relative proportions of meat, eggs, beans, and cheese were maintained. After establishing that the vitamin, mineral and protein needs were met for each age/grade grouping, the Department determined the calorie levels of each food component and calculated the difference between these levels and the calorie needs of each age/ grade group.

Data from SNDA demonstrates that typical school meals already substantially exceed the target for protein. There would be little benefit, therefore, to raising calorie levels by increasing the size of the meat/meat alternate or milk components. Instead, the additional calories needed to make up the difference between the calorie levels of the lowest-fat versions of the meal components and the required calorie levels should come from carbohydrates and by using meat/meat alternate and milk that are somewhat higher in fat than the low-fat products used in the model. Moreover, the Department's analysis shows that nutrition standards can be met while using a variety of items within each component while still remaining within the Dietary Guidelines' recommendations for limiting calories from total fat to 30 percent and to 10

percent for saturated fat and attaining the RDA for specific nutrients.

For many schools, supplying onethird of the recommended energy allowance (calories) through lunches that provide no more than 30 percent of calories from total fat and 10 percent from saturated fat will require replacement of calories from fat with calories from other sources. Fat yields nine calories of food energy per gram, more than twice the food energy per gram provided by carbohydrates and protein, which each yield four calories per gram. The Menu Modification Demonstration Projects, conducted by the Department in 1990–92, showed that a common shortcoming in efforts to provide meals with a lower percent of calories from fat is the failure to maintain total calories (Fox and St. Pierre, 1993). In this demonstration project, where Federal technical assistance was minimal, three of the four NSLP demonstration sites substantially reduced total fat, but did not replace the lost calories. As a result, they failed to achieve their target goals for percent of calories from fat for the NSLP meal, and they fell short of providing one-third of the RDA for food energy. It is therefore appropriate for food-based menu systems to include increased servings for food components which can provide additional calories from sources other than fat while calories from fat are being reduced. (REFERENCE: Fox, M.K., and R. St. Pierre (1993). Menu Modification **Demonstration Grants: Evaluation** Results, Volume 1: Summary, Prepared by Abt Associates, Inc, under contract to the Department of Agriculture, Food and Nutrition Service.)

Age/Grade Groups for Nutrition Standards

The Department proposes to use age/grade groupings of kindergarten through grade 6 and grades 7 through 12 with an optional grouping for kindergarten through grade 3. The two required groups are designed to reflect the grade structures of the majority of schools. But, as some schools enroll children in kindergarten through grade 3, an optional standard is also proposed.

Establishing separate standards and meal patterns for younger versus older children recognizes the need to provide adequate energy and nutrients for growth based on their particular needs. Growth and maturation changes in adolescents require higher nutrient and energy levels than those for younger children. Nutrient and calorie levels designed for younger children are inappropriate for adolescents, as they fail to provide sufficient energy for

adolescents, especially for boys, as well as sufficient iron for adolescent females. A single nutrient standard that meets the needs of the adolescent will provide too many calories and too much fat for the younger child promoting either plate waste or excessive intake. In developing the calorie levels, the Department was also mindful of the need to *balance* the reduction in energy from calories from fat and saturated fat as advised by the Dietary Guidelines, with the need to maintain energy levels overall. Energy lost from reduced fat meals must be replaced by energy from carbohydrates.

To establish these levels, a table entitled "Calorie and Nutrient Levels for School Lunch" would be included at § 210.10(c)(2) and one entitled "Calorie and Nutrient Levels for School Breakfast" in § 220.8(a)(2). As discussed further, tables for the minimum quantities of the required food components are also proposed.

Changes to the NSLP Meal Components

The following are the specific changes the Department is proposing to the current meal pattern components. The Department wishes to emphasize that the principal differences between the proposed meal patterns and the current patterns reflect increases in the quantities of vegetables/fruits and breads/grains products. The Department is proposing no reductions to the current minimum quantity requirements for any components.

Meat/Meat Alternate Component

The Department is not proposing to change the minimum amounts of this component required for children in any age group. Nor are any changes being made to what constitutes the meat/meat alternate component. However, consistent with the Food Guide Pyramid, guidance materials issued by the Department in support of food-based menu planning systems will emphasize lower fat meat/meat alternates.

Vegetables/Fruits

The Department is proposing to increase the amount of fruits and vegetables made available over the course of a week. The Dietary Guidelines and the Department's Food Pyramid recommend a diet with a variety of vegetables, fruits and grain products. Moreover, the Department recognizes that fiber levels should be increased and calories from non-protein sources must be provided to replace those lost from the reduction in fat. The Department is proposing that the minimum servings for the vegetables/ fruits component would be three-fourths of a cup (currently one-half cup for