Enclosure 1

SAFETY EVALUATION
CALLAWAY PLANT
DOCKET NO. 50-483

The low power license for the Callaway plant was issued on June 11, 1984. At that time, the licensee, Union Electric Company, had staffed for and planned to use a six-shift rotation schedule for plant operations. However, by letter dated August 8, 1984, the licensee advised that it had elected to change to a 4-shift operation, using 12-hour shifts. A meeting on this subject was held at the NRC Region III office on August 8, 1984, during which the licensee explained to Region III and NRR personnel the reasons for the change in shift scheduling.

The Callaway plant recently changed the operating staff's shift crew assignments to 4-shift crews working 12 hours on/12 hours off, 5 days on/ 2 days off through December 1984. Union Electric has stated that this shift schedule will more effectively support low power and power ascension testing. Other specific advantages to this shift schedule, as presented by Union Electric are: (1) more licensed supervisory and support personnel are available for each shift, (2) two shift changes (rather than three) increases ability to coordinate work activities between shifts and improves overall communication, (3) distributing licensed personnel among four shifts increases the participation and experience base of each individual during the initial start-up program, and (4) twelve-hour shift coverage essentially eliminates random, back-to-back eight-hour shifts. Double crew coverage on three days per week also allows for continuation of training and vacation time.

While this new schedule does not meet the objective of "a normal 8-hour day, 40-hour week while the plant is operating," as stated in Generic Letter 82-12, it does meet the guidelines for overtime to be used on a temporary basis in that letter. Although Union Electric used Duke Power as

an example of successful implementation of 12-hour shifts, it must be pointed out that Duke's scheduling is set up for five crews with a minimum of three days off between shifts. However, fuel loading and initial start-up testing at Duke's Catawba Station is planned to be conducted on a four-shift schedule. Other plants also have used this type of schedule during start-up and low power testing, for reasons much the same as those given by Union Electric. On balance, the staff feels that the added experience gained by the shift personnel, the improved coordination of work activities, the increased supervision of start-up activities, and the essential elimination of random need for overtime outweigh the negative aspects of the 12-hour days, 60-hour weeks. Accordingly, the staff recommends approval of the revised schedule.

However, use of this four-shift rotation must be done carefully and only for a limited period of time. Most of the data presently available indicates that this schedule would cause a great deal of fatigue, which could, in turn, cause performance decrements. Therefore, if the schedule were to continue beyond the time frame proposed by Union Electric, the staff would have to reevaluate it. In addition, the staff suggests that careful attention be paid to LERs involving personnel error to ensure that they do not increase with this schedule.